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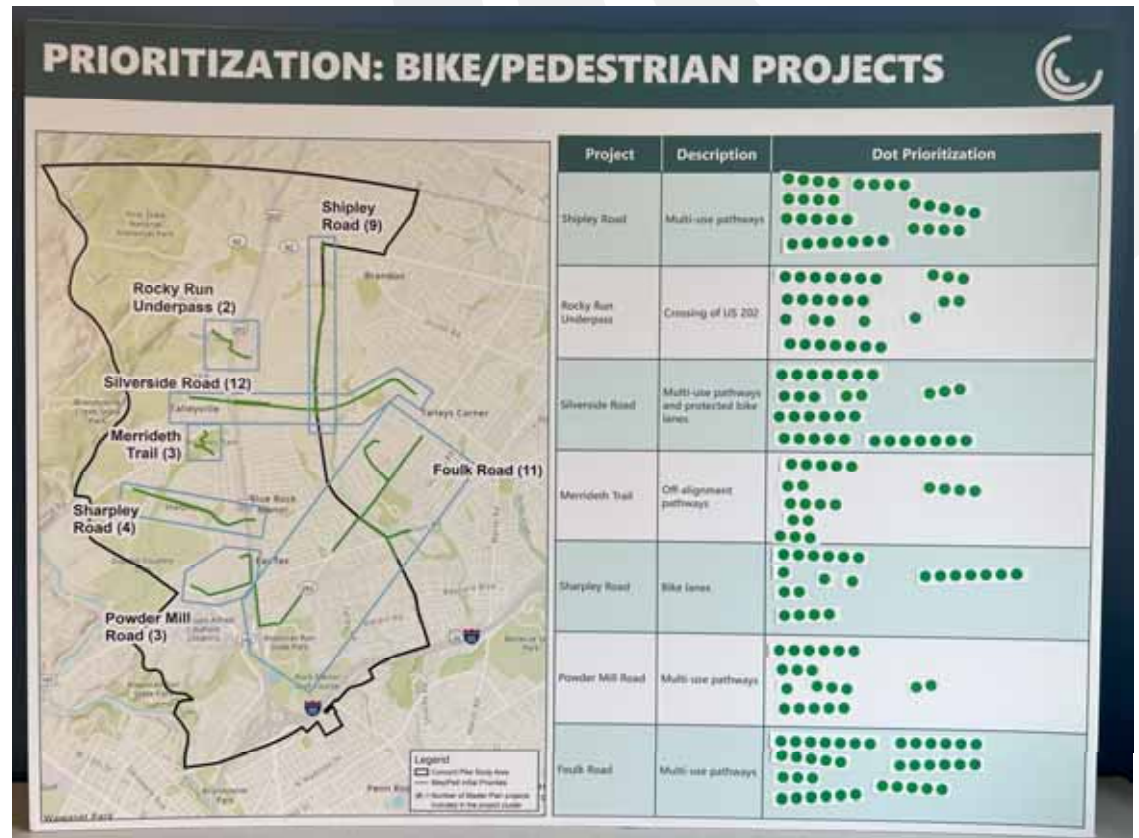
# SPOTLIGHT TOPIC: UNDERPASS NEAR ROCKY RUN



# 2023 PRIORITIZATION EXERCISE BIKE/PEDESTRIAN PROJECTS

## Bike/Pedestrian Priorities:

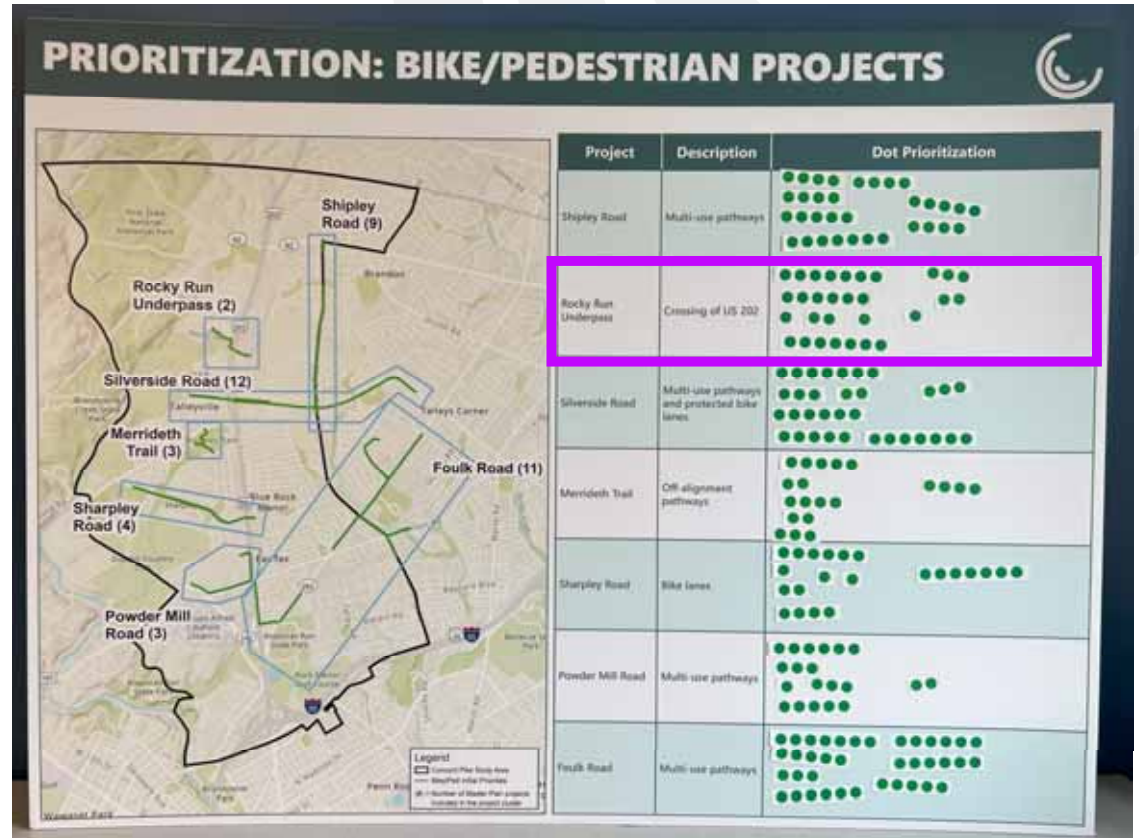
- Foulk Road multi-use pathways
- Silverside Road multi-use pathways and protected bike lanes
- Shipley Road multi-use pathways
- Rocky Run underpass



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## CULVERTS 101

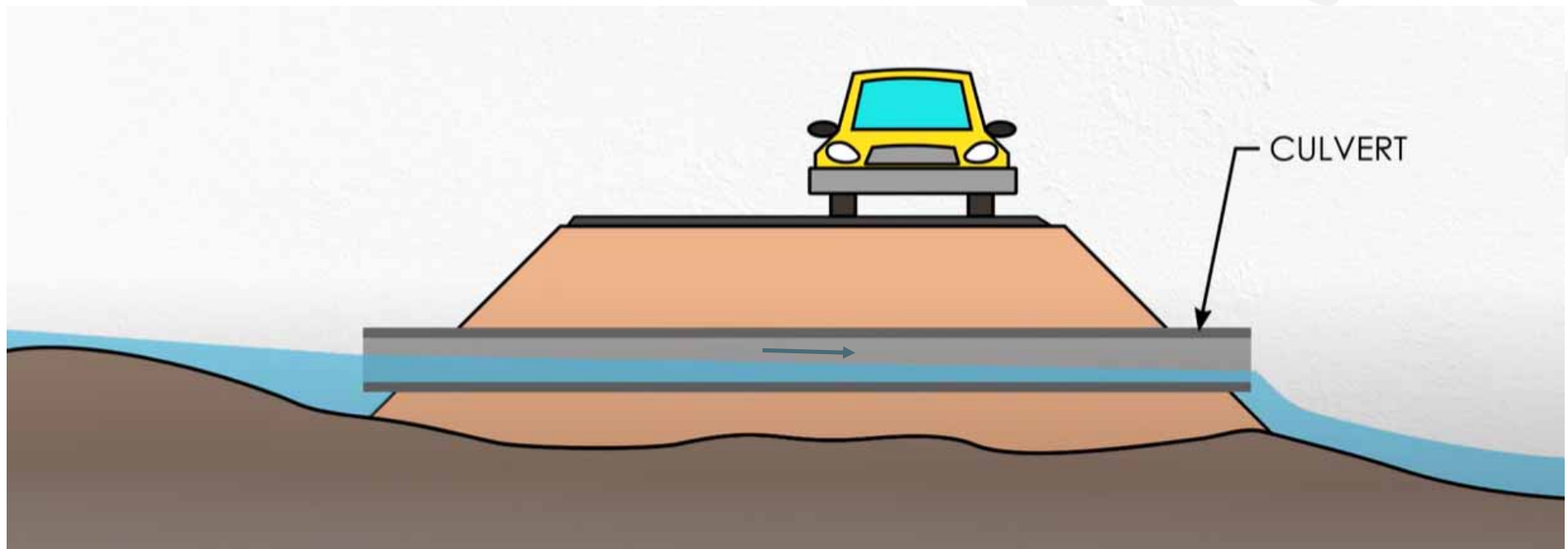
Generally, culverts serve two purposes

- Support loads from above (roadway, traffic)
- Transport the water below



BR 1-024

## HOW DO CULVERTS WORK?



Source: Practical Engineering, What Is a Culvert?

[https://youtu.be/15XJmawbYU?si=76cWI\\_DWYaKf\\_9Zj](https://youtu.be/15XJmawbYU?si=76cWI_DWYaKf_9Zj)

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## PRELIMINARY HYDRAULICS CHECK – BR 1-024

- DeIDOT's Bridge Section performed a preliminary check to determine whether one cell of the culvert could be repurposed
  - Structure is currently in **Good** condition
  - Initial results indicate one cell of the existing culvert could be closed
- Preliminary check was not a full model of reconfiguring the culvert to accommodate a pedestrian underpass
  - Project would need to be initiated by another DeIDOT Section
  - DeIDOT Bridge Section will continue to provide technical support

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## REDIRECTING WATER

- Would need to physically block water from entering area to be used for pedestrians



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## REDIRECTING WATER

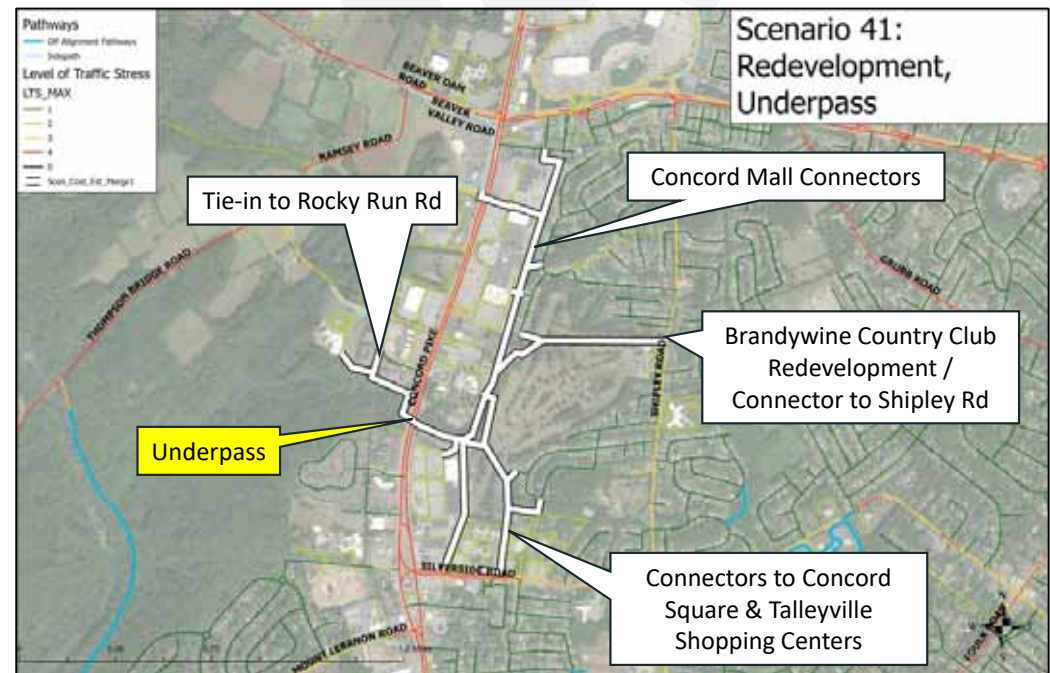
- Includes drainage from the roadway above



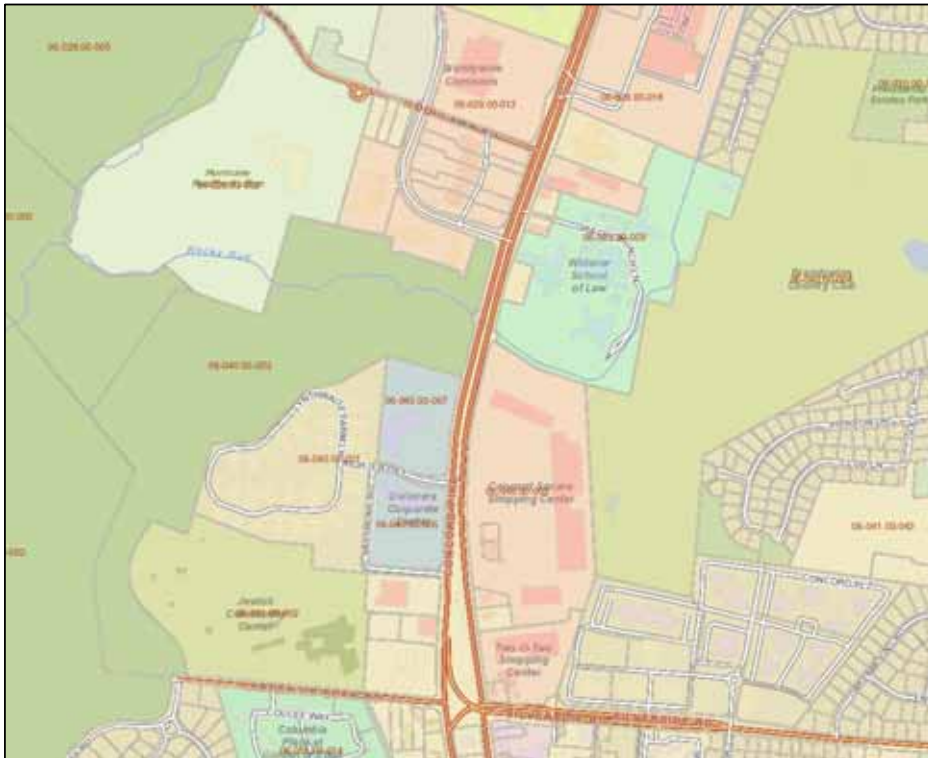


## VALUE OF PROPOSED UNDERPASS – CONNECTIVITY

- As a standalone project, underpass ranked #44 (of 55 projects evaluated)
- **Value relies on connectivity to other parts of network**
- When combined with other connectors, overall scenario was #3 high-value scenario



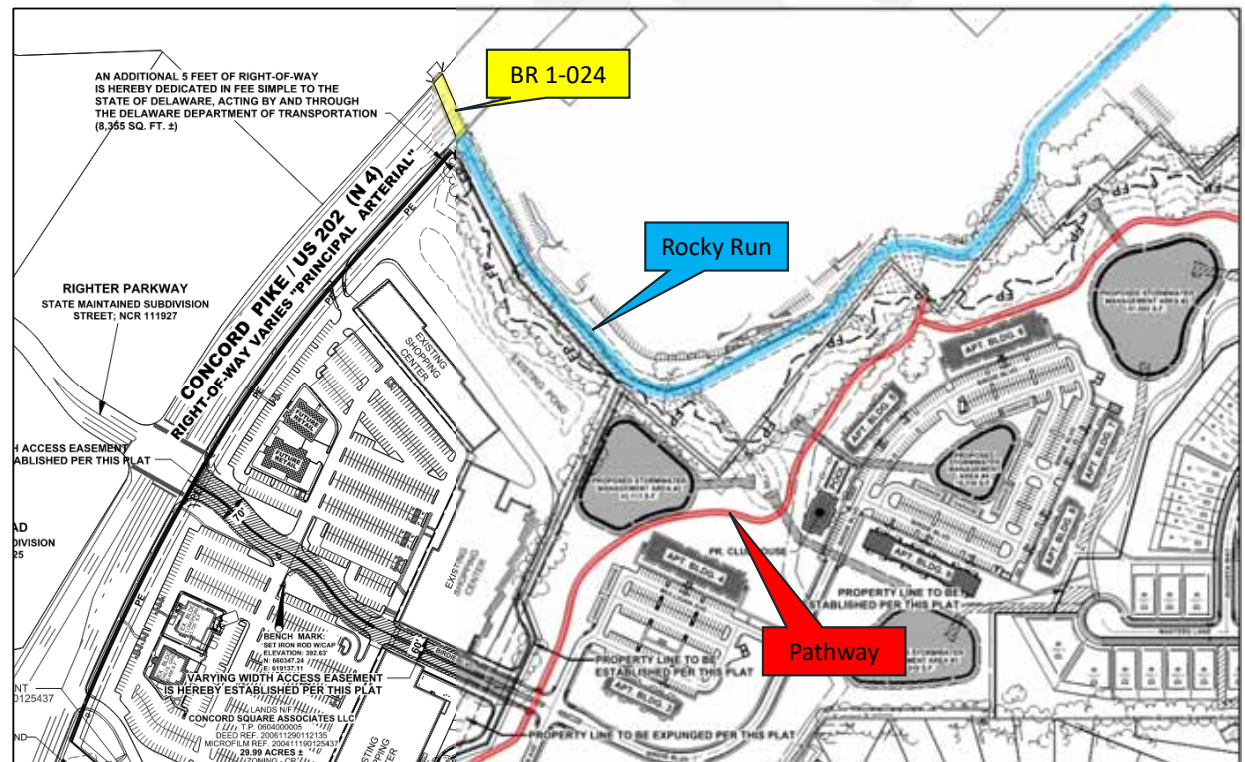
## COORDINATION WITH MULTIPLE PROPERTY OWNERS



- Woodlawn Trustees / First State National Historical Park
- Widener University
- Brandywine Country Club Redevelopment (Capano)
- Concord Square Shopping Center
- Talleyville Shopping Center
- Brandywine Commons / Marriott / Holiday Inn

# BRANDYWINE COUNTY CLUB REDEVELOPMENT

- Latest record plan includes:
  - Sidewalks to Shipley Road
  - Shared use paths that are near but do not connect to culvert area
- Additional connections through other private properties would be needed



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## ADA REQUIREMENTS

Both the underpass and connections must be accessible and usable by people with disabilities. Consider:

- Slopes/grades
- Widths
- Transitions
- And more



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**Not Optional:** Required under the ADA Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

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## ADDITIONAL SAFETY & SECURITY CONSIDERATIONS

- Pedestrian lighting
- Surveillance
- Bigger storm events – what happens downstream with Brandywine River



**Inside BR 1-024**

**Example pedestrian lighting in shared-use path underpass in North Carolina**





**QUESTIONS?**