



## *Fairground Road Intersection Improvements and Extension Project*

Board of Supervisors Meeting  
September 5, 2017

### Why is the County Improving the Intersection?

- Existing Fairground Rd/Sandy Hook Rd intersection
  - The intersection is difficult to use today and cannot support current peak traffic volumes and already approved future development
- Safety concerns
  - #8 on the list of top 10 accident sites
  - VDOT Report = 13 crashes between 2012 and 2016
    - 27 crashes were within the study area
  - No pedestrian crosswalks

Fairground Road /  
Sandy Hook Road  
Intersection



## Why is the County Improving the Intersection?

- Turning left or right onto Sandy Hook is difficult at peak times
- Traffic flow from adjacent parcels add a layer of difficulty
- Traffic backs up during peak times

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## History

2008

- Roundabout proposed as part of VDoT pilot program
- Funding was removed due to recession

2013

- Fairground/Sandy Hook intersection added to County's Secondary Six Year Plan (SSYP) program

2014

- VDoT Study: "Four Intersections", recommended a future study to determine which options are most suitable for the intersection

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## History

2016

- VDOT Study: “Fairground/Sandy Hook Road Alternatives”
  - Review 5 options for the intersection and/or extension
  - Board requested traffic signal consideration in addition to a roundabout
- Intersection with Extension added to County’s Secondary Six Year Plan (SSYP) program
- Board approved the Extension in 2016 (SSYP) to open up access to central parcels
- The Intersection has been in the Capital plans since 2007
- The Extension has been in the Comprehensive Plan since the 1980’s

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## Road Extension – Already Approved

- Extension to River Rd:
  - Goochland to apply for VDOT’s revenue sharing program
  - 50/50 State/Local - Total of \$3.9M
  - All monies have been identified
  - Application approval for revenue sharing – September 5



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## Project - Extension

- Independent of the intersection decision, the existing ball field has already been approved to be relocated to Central High School on Dogtown Road
  - Students and the public can use this ball field or Hidden Rock Park fields
  - There will be ongoing coordination with the school system



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## Project

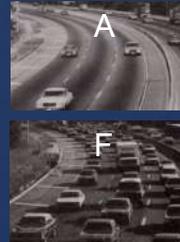
- Timeline for either option
  - Engineering/Design: FY18-FY20
  - Right of Way Acquisition: FY20-FY21
  - Construction: FY21-FY22 (est. <1 year)
    - Both options will impact the intersection and could require detours and rerouting of traffic



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# Project

- VDOT Design Metrics
  - Safety, Benefit/Cost, Right of Way Impacts, and Level of Service\* to name a few
  - Safety is the most important metric used
  - \*Level of Service (LoS)
    - A 'convenience' metric that measures how comfortable and convenient a road or intersection is. Grades A-F.
    - LoS A – Free-flow traffic
    - LoS B – Stable traffic; some influence from drivers
    - LoS C – Restricted flow; comfort noticeably declines
    - LoS D – High-density flow; restricted freedom
    - LoS E – Unstable flow; poor comfort
    - LoS F – Flow exceeds what can be served



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# Project

2017

- VDOT Study: Fairground Road/Sandy Hook Road Alternatives Analysis
  - States that a Roundabout or a Traffic Signal is warranted but VDOT recommends Roundabout as preferred option
  - Estimated completion = 2022



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## Project - Intersection

- VDOT has \$3.6M allocated
  - Money dissolves if the project is not approved by the September 5, 2017 BOS meeting
  - County projects adding between \$160K and \$455K for extending another 400 feet to rear of Exxon
  - Estimated completion = 2022; **Construction = <1 year**



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## Project – Traffic Signal or Roundabout

### Traffic Signal

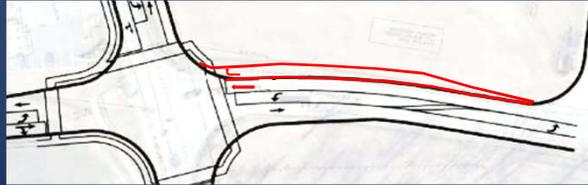
- Pros
  - Less expensive to construct - \$3.3M
  - More familiar to the public
- Cons
  - Less safe
  - Less efficient in off-peak hours
  - West-bound lane will operate at a Level of Service D but our goal is maintain a C or better (see next slide)
  - Traffic stacking will be increased on Sandy Hook Road
- Note
  - Annual maintenance is approximately \$1,500; borne by VDOT
  - Land impacts are similar in both options



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## Project – Traffic Signal or Roundabout

- Staff was asked to obtain, as best they can prior to design, the impacts of adjusting the west-bound lane to obtain a Level of Service C
- After speaking with consultants, this would require an additional lane (estimated: 250' long x 12' wide = 0.7 Acres) (estimated cost increase: \$120,000)
- The additional lane would impact the marketable acreage of the County owned property to the north by an additional 0.7 acres whereas the original layout and the Roundabout impacts were estimated at 0.25 acres.



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## Project – Traffic Signal or Roundabout



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# Project – Traffic Signal or Roundabout

- Roundabout (Single-lane)
- Pros
  - Proven by VDOT to be safer
  - More efficient in off-peak hours
  - May be a landmark for the Courthouse
  - Operate at a Level of Service A
  - Provides free flowing traffic
  - Is sized for large trucks (i.e. lumber trucks)



- Cons
  - More expensive to construct - \$3.6M
  - Less familiar to the public
- Note
  - Annual maintenance is approximately \$1,500; borne by VDOT
  - Land impacts are similar in both options
  - Is sized for large trucks (i.e. timber trucks)



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## Nearby Roundabouts

POWHATAN



NEW KENT



CHESTERFIELD



LOUISA - RTE 250 – GUM SPRING (APPROVED)



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## Existing Goochland County Roundabouts

THE PARKE AT CENTERVILLE



CAPITAL ONE



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## Community Meeting

- A Community Meeting was held on August 24, 2017
- 27 residents were in attendance
- There was substantial feedback for and against both options

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## Miscellaneous

- Goochland County Fire Chief supports the roundabout due to the free flow of traffic which eliminates the traffic stacking
- The County Sheriff identifies the need for action at the intersection and supports a decision to improve the safety

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## Recommendation

- From VDOT's Engineer:
  - Benefit/Cost Ratio: "Comparison of Advanced Alternatives" takes into account life-cycle costs, safety, and operational performance. Analytics strongly support the roundabout.
  - As the County grows, semi-truck volumes will increase and eat up the 'storage lengths' faster than passenger vehicles and could affect economic development of adjacent parcels.

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## Next Steps

- September 5 Board Meeting
  - Decision and Appropriation: Roundabout or Traffic Signal with funds for a stub extension to the rear of the Exxon parcel
  - Resolution: Application for Revenue Sharing

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## Questions

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