

Blueprint Intergovernmental Agency Technical Coordinating Committee Agenda Item #2

February 12, 2024

Title: Consideration of Traffic Control Plans for the New Roundabout at Bannerman Road/Orchard Pond Parkway and Meridian Road

Category: General Business

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STATEMENT OF ISSUE:

This agenda item presents for discussion by the Blueprint Technical Coordinating Committee, traffic control plan (TCP) options for the construction of a new roundabout at the intersection of Bannerman Road/Orchard Pond Parkway and Meridian Road. This intersection improvement is part of the Northeast Connector Corridor: Bannerman Road project, currently in design. The recommended TCP for the new roundabout construction includes vehicle detours to preserve the existing tree protection area on Meridian Road, reduce impacts to private property and homes, minimize the construction of temporary access, and avoid disturbances to a cemetery.

FISCAL IMPACT:

This item does not have a fiscal impact. The traffic control plan options for construction of the Meridian Road roundabout presented herein may have fiscal impacts for the project, which has been fully funded at \$98.9 million.

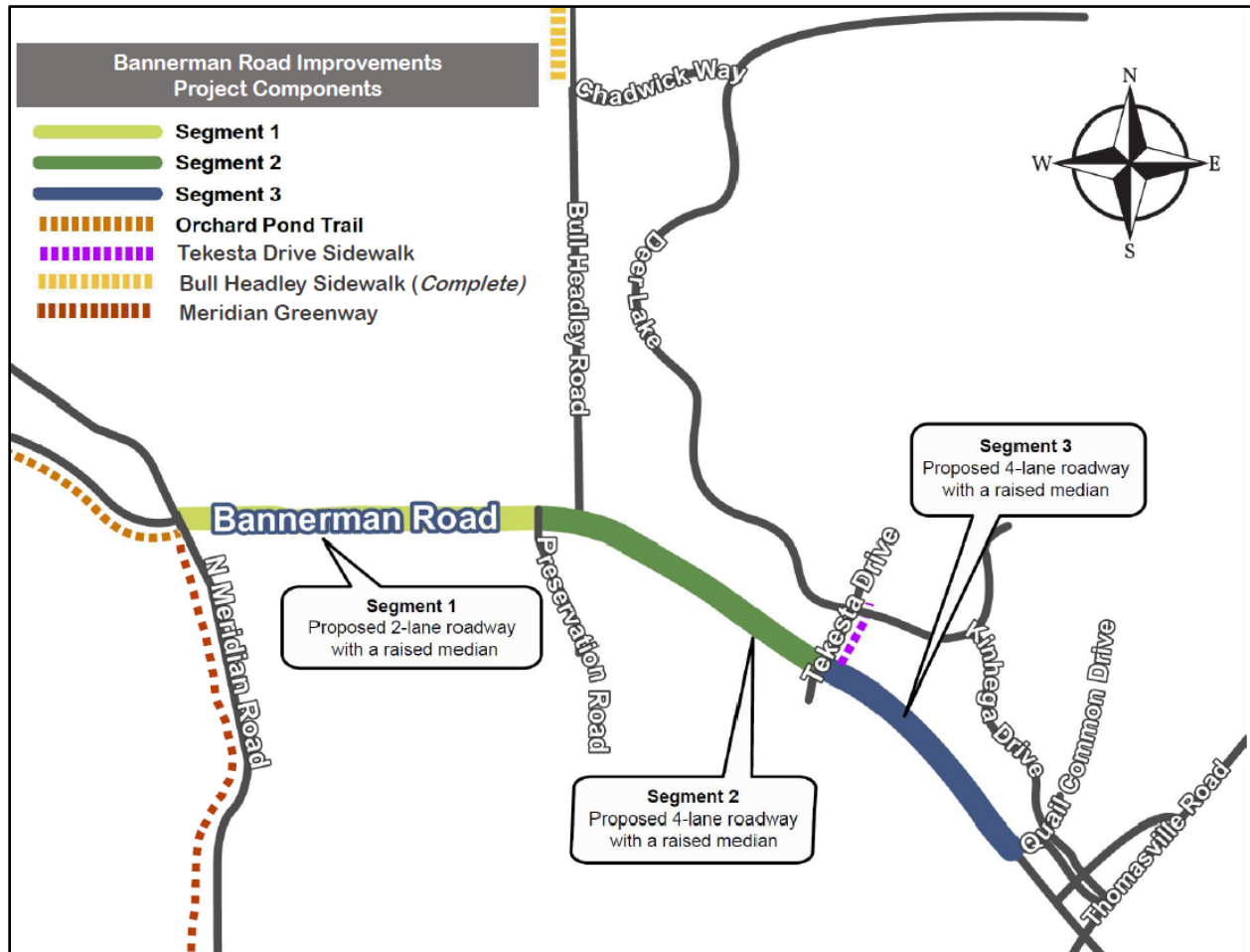
SUPPLEMENTAL INFORMATION:

BACKGROUND

The Northeast Connector Corridor project enhances a four-mile section of Bannerman Road, and both compliments and completes prior Leon County improvements, by widening Bannerman Road to four lanes from Quail Common Drive to Preservation Road along with adding a landscape median to accommodate operational and pedestrian safety improvements such as turn lanes and crosswalks from Quail Common Drive to Meridian Road. Improvements also include new multimodal facilities along the north and south sides of Bannerman Road to improve accessibility and safety for people walking and biking, two neighborhood sidewalk projects (one along Tekesta Drive and the other at

northern Bull Headley Road), and two greenway projects (the Meridian Greenway and Orchard Pond Trail Extension). A map of the project area is provided in Figure 1, below:

Figure 1. Northeast Connector Corridor: Bannerman Road Project Map



The purpose of the Northeast Connector Corridor project is to improve regional mobility and enhance connectivity for motorized and non-motorized users. Operational improvements will provide additional traffic efficiency in a holistic manner enhancing water quality, safety, and aesthetics along the corridor. The additional lane capacity on the roadway will ultimately ease traffic congestion between two arterial roadways: Thomasville Road and North Meridian Road. The project is needed to provide additional capacity along Bannerman Road to accommodate current and projected future uses, provide improved multimodal access and facilities, and safety improvements to reduce crashes/severity, between Thomasville Road and the scenic North Meridian Road.

The current estimated cost of the Northeast Connector Corridor: Bannerman Road project is \$98.9 million. This will fund capacity/operational and multimodal improvements along the four-mile corridor including the widening Bannerman Road to four lanes from Quail Common Drive to Preservation Road and adding a landscape median and multimodal enhancements along the entire corridor. Also funded through the Northeast Connector Corridor project are construction of two sidewalk projects: Tekesta

Drive (Deer Lake to Bannerman Road) and Bull Headley Road (Chadwick Way to Boat Landing). The Bull Headley sidewalk project was completed in November 2023. Lastly, a 1.5-mile extension of the Orchard Pond Trail from Meridian Road to the current trailhead on Orchard Pond Parkway will be completed through this project, as well as portions of the Meridian Greenway south of Orchard Pond Parkway.

Based on the updated traffic study demonstrating the need to widen Bannerman Road to four lanes from Tekesta Drive to Preservation Road, the Blueprint Intergovernmental Agency Board of Directors (IA Board) approved the final project scope at the September 20, 2020 meeting. At the December 9, 2021 meeting, the IA Board received a presentation on the Final Engineering Report (FER), which includes field survey and technical analyses, intersection evaluation, environmental assessment, and stormwater planning. The FER included the recommendation to replace the existing signalized intersection at Bannerman Road/Orchard Pond Parkway and Meridian Road with a single-lane roundabout. The roundabout is being designed to allow for an additional lane within the proposed facility that will realize a total of two-lanes in the future, with expansion towards the inside. Blueprint has been coordinating with the property owner, Orchard Pond, LLC, regarding the property needs for the roundabout.

MERIDIAN ROUNDABOUT AND TRAFFIC CONTROL PLAN OPTIONS

The construction of the roundabout at the intersection of Bannerman Road, Meridian Road and Orchard Pond Parkway, currently signalized, requires several considerations to maintain adequate traffic flow in the area. Meridian Road is a Leon County Canopy Road which requires that all trees within 100 feet of the centerline of the roadway be preserved or mitigated. On the west side of Meridian Road south of Bannerman Road is the Carr Cemetery which contains approximately 200 graves dating back to the mid-19th century. Bannerman Road and Meridian Road approach the intersection with steep grades. The design of the roundabout has taken these considerations into account. The alignment of Meridian Road has been shifted to the west to limit the impacts to the existing tree canopy and avoid the cemetery. The location of the roundabout permits the construction of large amounts of the new intersection during the first construction phase without changing the existing traffic pattern. The roundabout has been raised to accommodate the steep approach grades on Bannerman Road and Meridian Road. Subsequent phases require the use of temporary roadways and detours to complete the work.

With every roadway construction project, a traffic control plan (TCP) is required to ensure that traffic continues to flow safely throughout the construction zone. Legal requirements and guidance for developing TCPs are found in FDOT's Standard Plans for Road Construction (Standard Plans), the Florida Design Manual (FDM) and the Florida Greenbook. Project-specific TCPs are created using a combination of Standard Plans and project specific designs prepared by a professional engineer. Each TCP is separated in specific phases. Each phase outlined in the design plans implements a different part of the project sequentially until the entire project is completed. Large, complex projects have many phases and often require the construction of temporary roadways or detours to maintain traffic during construction.

In the analysis of the Meridian Road roundabout TCP condition, seven options were prepared that cover the following three central concepts: close Bannerman Road, close Meridian Road, and keep both roads open using temporary accesses. The analysis/decision matrix presented herein includes additional criteria such as scheduling, right of way impacts, and impacts to existing features around the intersection. Based on our analysis of these alternatives the preferred option (Option #1) combines the aspects of the options described.

Option #1, the recommended TCP for the new roundabout construction (Attachment #1), includes detours to preserve the existing tree protection zone on Meridian Road, reduce impacts to private property and homes along the corridor, minimizes the construction of temporary roadways, and avoids disturbing a cemetery and unmarked gravesites on the west side of Meridian Road. Option #1 would be implemented over approximately 39 days and alternates the closure of Bannerman Road and Meridian Road in two phases to complete construction of the roundabout. Both closures use a detour via Oak Grove Road during this time to maintain access.

Five additional TCP options were developed that reduce or eliminate detours and/or road closures. However, summarized in Table 1 below, these options all require additional right-of-way acquisition, and some options result in significant impacts to the canopy protection zone, which the NE Connector Project has worked to preserve, or the Carr Cemetery on the west side of Meridian Road. To avoid these impacts, Option #1 is the recommended TCP for the new roundabout.

Table 1. Summary Matrix of Traffic Control Plan Options

Option	Schedule (DAYS)	Detour due to Road Closure	Impacts			Additional Information
			Private Property	Canopy Protection Zone	Cemetery	
1	39	☒				Detour via Oak Grove Road
2	40		☒	☒	☒	2765 sq. ft. ROW acquisition
3	34	☒	☒	☒		1866 sq. ft. ROW acquisition, Detour via Oak Grove Road
4	45		☒			13,168 sq. ft. ROW acquisition, impacts occupied residential properties
5	31	☒	☒		☒	900 sq. ft. ROW acquisition, Detour via Oak Grove Road
6	29	☒	☒	☒		451 sq. ft. ROW acquisition, Detour via Oak Grove Road, Requires full-time flagger

The six TCP options, summarized in Table 1, are further detailed below:

- Option #1 (Recommended TCP – 39 days): Phased detours to complete roundabout construction. No right-of-way acquisition required. (Attachment #1)
 - Phase 1 (19 Days): Temporary closure of Meridian Road south of intersection to complete construction with detour via Oak Grove Road. All other roads (Bannerman Road/Orchard Pond Parkway and Meridian Road north of intersection) always remain open.
 - Phase 2 (20 days): Temporary closure of Bannerman Road east of intersection to complete construction with detour via Oak Grove Road. All other roads (Orchard Pond Parkway and Meridian Road north and south of intersection) always remain open.
- Option #2 (40 days): All roads remain open during construction. To maintain continuous access without detour, this option requires right-of-way acquisition for the construction of temporary roadways along Bannerman Road and Meridian Road. On Bannerman Road, the temporary roadway will have impacts to canopy trees at the intersection within the Canopy Protection Zone (CPZ). On Meridian Road, the temporary roadway will have Carr Cemetery impacts.
- Option #3 (34 days): Maintains two-lane access along Bannerman Road/Orchard Pond Parkway at all times, but requires detour along Meridian Road. This option requires right-of-way acquisition and the construction of a temporary roadway along Bannerman Road, which will have impacts to the canopy trees at the intersection within the CPZ. Additionally, this option will require a detour of Meridian Road south along Oak Grove Road to complete construction.
- Option #4 (45 days): All roads remain open during construction, at all times. To maintain continuous access without detour, this option requires right-of-way acquisition for the construction of temporary roadways along Bannerman Road and Meridian Road. On Bannerman Road, the temporary roadway will have impacts to the canopy trees at the intersection within the Canopy Protection Zone (CPZ). On Meridian Road, the temporary roadway will have impacts to existing residential properties.
- Option #5 (31 days): Maintains two-lane access along Meridian Road south but requires detour of Bannerman Road. This option requires right-of-way acquisition and the construction of a temporary roadway along Meridian Road south, which will have impacts to Carr Cemetery.
- Option #6 (29 days): Maintains single-lane access along Bannerman Road at all times but requires detour along Meridian Road. This option requires right-of-way acquisition for the construction of a temporary roadway along Bannerman Road, which will have impacts to the canopy trees at the intersection within the CPZ. Impacts to the CPZ are reduced due to the single-lane configuration, but does require a full-time flagger for the temporary roadway until construction is complete. Additionally, this option will require a detour of Meridian Road South along Oak Grove Road to complete construction.

NEXT STEPS

Based on the existing project schedule and project progress to date, the following milestones are anticipated for Bannerman Road over the next 18-24 months:

Spring 2024:	60% plans complete; right-of-way acquisition begins.
Fall 2024:	Construction of the Orchard Pond Trail extension and stormwater pond expansion.
Mid/Late 2025:	Construction begins on Bannerman Road.

CONCLUSION

This agenda item presents for discussion by the Blueprint Technical Coordinating Committee TCP options for the construction of a new roundabout at the intersection of Bannerman Road/Orchard Pond Parkway and Meridian Road. This intersection improvement is part of the Northeast Connector Corridor: Bannerman Road project, currently in design. The recommended TCP for the new roundabout construction includes detours to preserve the existing canopy zone on Meridian Road, reduce impacts to private property and homes along the corridor, minimizes the construction of temporary roadways, and avoids disturbing a cemetery and unmarked gravesites on the west side of Meridian Road.

Attachment

1. Recommended Traffic Control Plan (Option #1) for the New Roundabout at Bannerman Road/Orchard Pond Parkway and Meridian Road

