



November 15, 2022

## AGENDA ITEM 7B

### STADIUM DRIVE AT LAKE BRADFORD ROAD INTERSECTION

TYPE OF ITEM: Action

#### **STATEMENT OF ISSUE**

Capital Region Transportation Planning Agency (CRTPA) staff and RS&H staff (the Project Team) will be presenting the preferred alternative for the Stadium Drive at Lake Bradford Road Intersection project.

#### **CRTPA COMMITTEE ACTIONS**

##### **Technical Advisory Committee (TAC)**

The CRTPA Technical Advisory Committee voted unanimously to recommend the CRTPA approve Alternative 8B at their November 1 meeting.

##### **Citizens Multimodal Advisory Committee (CMAC)**

The CRTPA's Citizen's Multimodal Advisory Committee approved Alternative 8B with a vote of 4-3. CMAC concerns are presented on page 4.

#### **RECOMMENDED ACTION**

Option 1: Recommend approval of Alternative 8B - Eppes Extension and Quadrant Reduced Build.

#### **INTRODUCTION**

At the [March 15, 2022 CRTPA Board meeting](#) the Lake Bradford Road/Stadium Drive intersection alternatives were presented to Board members. These alternatives are outlined in [Attachment 1](#) for reference (this includes a brief description and links for visualization purposes).

Other materials that were presented at the March meeting include:

- [Existing Conditions Report](#)
- [Future Year Traffic Analysis – Level of Service](#)
- Alternatives [Comparison Matrix](#), and
- Alternatives [Matrix Results](#)

With these materials as background information, the three highly viable alternatives included:

- Alternative 3 - Quadrant System (16 points)
- Alternative 8A - Eppes Extension and Quadrant “Full Build-out” (16 points)
- Alternative 8B - Eppes Extension and Quadrant Reduced Build (16 points)

## **COMPARING ALTERNATIVES**

There are a number of factors from the operational analysis to consider when comparing various alternatives. Typically, level-of-service is one of the top considerations and while it’s an important indicator of how the vehicular traffic flows, it is not the sole determinant of evaluating various alternatives. Other factors for the Stadium Drive at Lake Bradford Road intersection included:

- Bike and Pedestrian System Improvement
- Vehicle Safety
- Bike and Pedestrian Safety
- Timeline for Implementation
- Construction Complexity
- Driver Perceived Complexity

In addition to the above information, the cost of each alternative was developed for presentation purposes based on [October 2022 estimates](#). As with all projects, these estimates are “planning level” costs and will change as the project progresses.

- Alternative 3 - Quadrant System - \$1,600,000

[Overhead Image](#)

[Zoomed in configuration](#)

[Stadium Drive at Lake Bradford Road Rendition](#)

- Alternative 8A - Eppes Extension and Quadrant “Full Build-out” - \$3,900,000

[Alternative 8A Overhead](#)

[Alternative 8A Zoomed in Configuration](#)

- Alternative 8B - Eppes Extension and Quadrant Reduced Build - \$3,600,000

[Alternative 8B Overhead](#)

[Alternative 8B Zoomed in Configuration](#)

### **Why Recommend Alternative 8B**

Based on the evaluation of the three alternatives for consideration the Project Team is recommending approval of the hybrid alternative 8B – Eppes Drive Extension and Quadrant Reduced Build. This recommendation is based on the alternative addressing vehicle, bike and pedestrian safety and improving the overall transportation system in the area while minimizing the impacts to the intersection of Jackson Bluff Road at Lake Bradford Road (as compared to Alternative 8A). The Jackson Bluff intersection (8A and 8B) are shown on **Figure 1** and **Figure 2** respectively.



Figure 1 – Alternative 8A Jackson Bluff Road at Lake Bradford Road



Figure 2 – Alternative 8B Jackson Bluff Road at Lake Bradford Road



## **Citizens Multimodal Advisory Committee (CMAC) Discussion**

CMAC members had concerns about several components of the project, and these are presented below.

### **Integration of bike lanes to the east along Gaines Street and Jackson Bluff Road**

There is the potential to incorporate this into the process. The inclusion of bike lanes would depend upon the availability of right of way and on Gaines Street they would terminate prior to the roundabout at Woodward Avenue and Gaines Street.

### **Bike and Pedestrian project scoring was subjective based upon who performed the review**

Improving the bike and pedestrian systems is created by the removal of slip lanes, conflict points and shortening the distance for crossing the intersection by both bike and pedestrians. The three alternatives (3, 8A, and 8B) improve upon the existing system with Alternatives 8A and 8B providing the same improvements at the intersection of Stadium Drive and Lake Bradford Road. Alternative 8B goes further by keeping the intersection at Lake Bradford Road and Jackson Bluff Road as it is today and not expanding the distance bikes and pedestrian must cross.

### **Minimum intersection improvements versus the cost of the project**

From the very beginning of this effort, the Project Team has stated that improvements at this intersection will be hard to come by. The development of alternatives relied on removing movements to help improve the intersection level of service, and multimodal and transportation system needs. The removal of these movements provides an acceptable level of service through the horizon year of the project (2045).

### **Signage for safety**

The signage component of the project would be incorporated into the design phase, but the recommendation would include appropriate signage to reduce driver confusion.

## **NEXT STEPS**

There are a couple steps that would be potential next steps including further intersection analysis at Jackson Bluff Road and Hayden Street, Jackson Bluff Road and Eppes Drive, and Eppes Drive at Airport Road. The analysis of these intersections was proposed by the Technical Advisory Committee (TAC). Additionally, after this analysis the project would move into a public engagement phase for input. Concurrently, the Project Team would continue coordination with FDOT on intersection improvements.

**OPTIONS**

Option 1: Recommend approval of Alternative 8B - Eppes Extension and Quadrant Reduced Build.  
(Recommended)

Option 2: CRTPA Board Discretion.

**ATTACHMENTS**

Attachment 1 – Stadium Drive at Lake Bradford Road Alternatives



**ALTERNATIVES DEVELOPMENT**

After completing the Existing Conditions analysis in July of 2021, the Project Team initiated the Alternatives Development phase of the project. This effort built on the data that was gathered (for modeling purposes) to evaluate eleven (11) alternatives for the Stadium Drive at Lake Bradford Road intersections. The Project Team has provided links for a visual rendition of each improvement.

**Alternative 1 No-Build**

- Existing conditions maintained in the design year of 2045

[Intersection Image](#)

**Alternative 1B No-build – Slip Lane Removal**

- Removal of the northbound right slip lane at the study intersection
- Replaced with an exclusive northbound signalized right-turn lane

[Overhead image](#)

[Slip Lane removal \(northbound Lake Bradford Road turning right onto Stadium Drive\)](#)

**Alternatives 2A and 2B - Eppes Drive Extension**

Extension of Eppes Drive to create either

- A direct connection with Hendry Street (2A).
- Improved existing connection with Jackson Bluff Road via W Eppes Drive (2B).

Optional: Hendry Street intersection improvements

- Adds capacity to the southern leg of the Hendry Street and Stadium Drive intersection .
- Additional northbound lane (Hendry Street), while also converting the current right-turn lane to a shared through/right lane.
- Two exclusive left-turn lanes (Hendry Street) while also accommodating an exclusive left-turn phase.

[Overhead Image](#)

[Hendry Street Improvement](#)

[Eppes Drive Improvement](#)

[Hendry Street and Eppes Drive Rendition](#)

### **Alternative 3 - Quadrant System**

Closes the northbound-to-westbound and eastbound-to-southbound movements at the Stadium Drive/Lake Bradford Road intersection, diverting the corresponding traffic to a quadrant system via Hendry Street and Jackson Bluff Road.

#### **Stadium Drive at Lake Bradford Road**

- Removes eastbound right-hand turn from Stadium Drive onto Lake Bradford Road. Under this configuration, this movement is made at the Hendry Street and Stadium Drive intersection.
- Removes direct access to Checkers from Stadium Drive and limits access to right-in and right-out only onto Lake Bradford Road.

#### **Stadium Drive and Hendry Street intersection**

- Add northbound lane (Hendry Street) with the exclusive right-turn lane converted to a shared through/right lane.

#### **Jackson Bluff Road and Lake Bradford Road intersection**

- Add exclusive southbound right-turn lane (from Lake Bradford Road turning onto Jackson Bluff Road).
- Add exclusive westbound left-turn lane (at Jackson Bluff Road and Hendry Street).
- Add dual northbound left and eastbound right-turn lanes (from Lake Bradford Road turning onto Jackson Bluff Road).

[Overhead Image](#)

[Zoomed in configuration](#)

[Stadium Drive at Lake Bradford Road Rendition](#)

### **Alternative 4 - East-West Overpass**

This alternative proposes a single-lane grade-separated overpass that bypasses the Stadium Drive and Lake Bradford Road intersection. The eastbound and westbound through movements at the study intersection are diverted through the overpass, and the remainder of the geometry is maintained from existing conditions.

[Overhead Image](#)

[Zoomed in Configuration](#)

[Overpass Rendition](#)

### **Alternative 5 - Existing Intersection 'Build-Out'**

The purpose of this alternative is to achieve LOS D at the study intersection without diverting traffic

#### **Stadium Drive and Lake Bradford Road intersection**

- Additional through lane is added in all four directions.
- Exclusive left-turn lanes are provided at the northbound and southbound approaches to accommodate exclusive phases for those movements (split-phasing is currently provided).

#### **Jackson Bluff Road and Lake Bradford Road intersection**

- Exclusive right-turn lane is provided to prevent queue spillback to Stadium Drive.

[Overhead Image](#)

[Zoomed in Configuration](#)

[Build-out Rendition](#)

### **Alternative 6 - Two-Lane Roundabout**

Proposes a two-lane roundabout at the intersection of Stadium Drive at Lake Bradford Road.

- Right-turn bypass (slip) lanes are provided for the northbound, southbound and eastbound right-turning movements.

[Overhead Image](#)

[Zoomed in Configuration](#)

[Roundabout Rendition](#)

### **Alternative 7 - Realignment**

Proposes median and roadway realignment at the study intersection to reduce complexity and improve the bike/ped experience.

- All existing vehicle movements are maintained.

[Overhead Image](#)

[Zoomed in Configuration](#)



### **Alternatives 8A and 8B - Eppes Extension and Quadrant “Full Build-out”**

Proposes a hybrid alternative which combines the Eppes Drive extension along West Eppes Drive. Closes the northbound-to-westbound and eastbound-to-southbound movements at the study intersection, diverting the corresponding traffic to a quadrant system via Hendry Street and Jackson Bluff Road and the Eppes Extension. Since the traffic diversion is enough to provide LOS D or better at the Jackson Bluff Road / Lake Bradford Road intersection, an iteration was performed maintaining the existing geometry at that location. An additional “Full Buildout” was also assessed, which carries over all capacity improvements from the original Quadrant alternative.

### **Alternatives 8A & 8B - Hendry Street and Stadium Drive intersection**

- Add NBL lane, while also converting the current right-turn lane to a shared through/right lane.
- Two exclusive left-turn lanes while also accommodating an exclusive left-turn phase.

### **Alternative 8A – Jackson Bluff Road and Lake Bradford Road intersection**

- Alternative 8A
  - Add exclusive southbound right-turn lane.
  - Add exclusive westbound left-turn lane.
  - Add Dual northbound left and eastbound right-turn lanes.
- Alternative 8B
  - Jackson Bluff Road and Lake Bradford maintain existing conditions.

[Alternative 8A Overhead](#)

[Alternative 8A Zoomed in Configuration](#)

[Alternative 8B Overhead](#)

[Alternative 8B Zoomed in Configuration](#)