



Arapahoe County

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Board Summary Report

File #: 25-300

Agenda Date: 5/27/2025

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To: Board of County Commissioners

Through: Bryan Weimer, PWLF, Director, Public Works & Development

Prepared By:

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Subject:

Request for Full Road Closure During Construction for Tempe Roundabout

Purpose and Request:

Arapahoe County Public Works and Development Staff are requesting the Board of County Commissioners (BOCC) to approve a full roadway segment closure for the duration of construction of the Tempe Street Roundabout located between Progress Avenue and Pennwood Avenue, which is approximately 0.2 miles. The closure would be for 74 calendar days (from May 27th through August 8th).

Background and Discussion: The *Versailles Corridor Study* (Study) was started in 2021 to identify potential improvement opportunities along the study area-the Study was from the intersection of Versailles Parkway and Smoky Hill Road and extending north to the intersection of Tempe Street and Copperleaf Boulevard.

The Study identified the intersection of Tempe Street and future Bellevue Avenue as a great location for possible intersection stop-control improvements. The Study then analyzed those options-including adding stop signs, a full traffic signal, and a roundabout. Of the options analyzed, the single-laned roundabout was anticipated to offer the best Level of Service (LOS) with the current traffic volumes, as well as, with the future predicted traffic volumes. Forecasted traffic volumes did account for the future Bellevue Ave. traffic when and if it is connected to Gun Club Rd. From that analysis, PWD staff contracted a design consultant to create a final design and prepare construction plans for the roundabout. Those plans included vehicle and pedestrian detour routes.

In regard to the project constructability, County staff discussed a number of items, specifically: construction approach, project timing, and construction access. The conclusion of the discussion was that a full closure of

the road segment would be the best approach for the construction of this roundabout. Specifically for the following reasons:

- Construction approach - A phased approach (only parts of the roadway are closed off at a time) would see a longer construction duration increasing impacts to the public^{*(1)}, would restrict trucks, buses, and large vehicles from traveling through the construction zone; and the increase in time, would cost more money. The extended construction would also impact school traffic.

**(1) It is estimated that the phased approach would be 2-3 months longer in duration than the full closure approach.*

A full closure approach would see a shorter construction duration; minimize interaction between construction and non-construction traffic and operations; provide the contractor with a staging area that does not disturb additional soil; and would allow for a better product in the end. The shorter construction duration would allow for school impacts to be minimized.

Additionally, County staff held a public meeting on November 8, 2023, to show the roundabout design and answer questions about the project. Staff displayed the phased approach compared to the full closure approach. It was generally agreed that, for construction, a shorter disruption was preferred to a longer, more drawn-out schedule.

- Project Timing - It is anticipated that full construction of the roundabout could occur between the end of the 2023 school year and the beginning of the 2024 school year. Thus, minimizing any impact to traffic for trips to or from school.
- Construction Access - As mentioned in the project approach, a full closure would allow for contractor personnel to access and work at the site and keep non-construction vehicular traffic away via the detours -this would greatly decrease potential conflict points between non-construction personnel and construction activities. Additionally, the area beyond the 'Road Closed' signs could be used for contractor personnel parking and contractor project staging which would reduce the overall footprint of the disturbed area for the project.
- Detours for the closure - A detour route will be required for the full closure approach. The fullest extent of the closure (driving from Pennwood at the south end around to Progress at the north end) is approximately 2.7 miles (or 6 min from Google Maps). The project will post detour signs to alert and divert drivers before dead-ending at a road closed sign. A detour map was created by the County's design consultant and will be shared on the project website and with the neighboring HOAs. Additional notifications could be made through staff connections with the HOA boards for Saddle Rock Ridge and Copperleaf communities.

PWD staff have reached out to South Metro Fire Rescue and have started coordination efforts.

This plan was supported by the Board on March 4, 2024, when it was presented in a study session. Due to staff vacancies and obtaining clearances and approvals through CDOT to receive federal funds, the project was not ready in time for construction during the 2024 season. It was decided to push the project to the 2025 construction season and coincide with summer 2025 after the 2024-25 school year ended.

Alternatives: The BOCC could deny the approval of this closure and work would proceed under a phased approach. The project would see a higher cost, a longer construction duration, a lesser quality project, and still would require intermittent minor closures.

Fiscal Impact: Granting this closure request would decrease the overall duration of the project, which would lessen construction costs, management and oversight costs, and reduce time demands on County staff. The full closure will allow for the project to remain on budget.

Alignment with Strategic Plan:

- ☒ Be fiscally sustainable
- ☒ Provide essential and mandated service
- ☒ Be community focused

Concurrence: None

Resolution: Attached is a copy of the draft resolution.