

MEMORANDUM

To: Town of Castle Rock, Public Works Department

From: Cassie Slade, PE, PTOE

Date: January 12, 2024

Project: Dawson Trails

Subject: Roundabout Relocation Request

Fox Tuttle Transportation Group has prepared this traffic memorandum and narrative for a request to relocate one of the proposed roundabouts on Dawson Trail Boulevard. The subject intersection is the third full movement roundabout south of Crystal Valley Parkway, which is adjacent to Planning Areas D and G-1a as shown in **Figure 1** (intersection #106).

The Town of Castle Rock has approved a variance in intersection spacing on Dawson Trails Boulevard since the full movement intersections will be constructed as roundabout instead of being signalized.

The Town of Castle Rock's Transportation Design Criteria Manual (TDCM) states that a

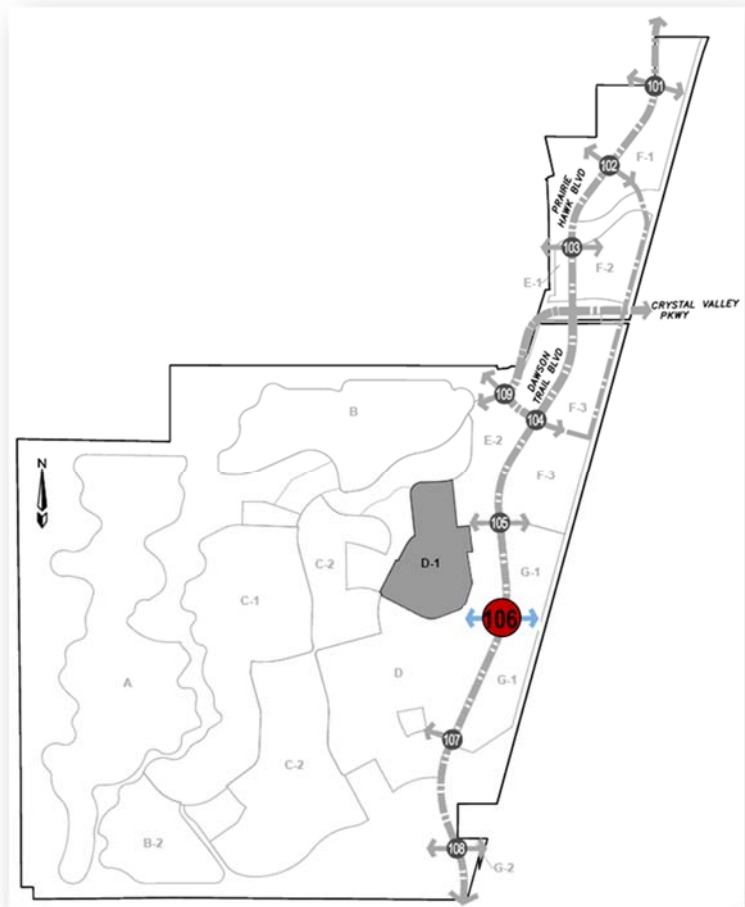


Figure 1. Location Map

minimum of ½-mile spacing (± 200 feet) is prescribed on major arterials in order to achieve “good speed, capacity and optimal signal progression” (Section TDCM 3.2.3.4, “Spacing and Signalization Criteria”). Refer to the separate letter (“*Dawson Trails Blvd. Access Spacing Variance – Updated Assessment*”, Fox Tuttle, April 28, 2022) for details on the supporting information for the proposed spacing on Dawson Trails Boulevard.

Requested Relocation in #106 Roundabout

As Planning Area D has been engineered, it was determined that the drainageway needs to be shifted and enlarged. This change impacted the #106 roundabout intersection location and requires this intersection to be shifted to the south by approximately 285 feet. This places the intersection nearly centered between the adjacent roundabout intersections north and south and improves the consistency of spacing on Dawson Trails Boulevard. Refer to **Figure 2** for an updated map of the spacing on the major arterial.

The relocation of the #106 roundabout is not anticipated to change the traffic volumes through the intersection; therefore, the operational analysis performed in the *Dawson Trails Master Transportation Study* (Fox Tuttle, June 2022) remains the same. The 95th percentile queue calculations on Dawson Trails Boulevard were determined to not impact upstream intersections, which will continue to be the case with the relocation of the #106 roundabout.

I hope the contents of this memorandum are helpful and we look forward to continuing to work with you on the development of this project.

/CRS

Attachments:

Figure 2 – Updated Full-Movement Intersection Spacing – Dawson Trails Blvd.

KEY

- X,XXX' INTERSECTION SPACING
- # FUTURE FULL-MOVEMENT INTERSECTION
- PROJECT BOUNDARY
- COLLECTOR 2-LANE ROADWAY
- ARTERIAL 4-LANE ROADWAY
- ARTERIAL 6-LANE ROADWAY
- NEW PROJECT TRAFFIC CONTROL

Note: Additional 3/4 movement access and right-in, right-out (RIRO) access on Arterials will be requested, located, and analyzed when site plans for specific users are solidified.

