

SH21 CORRIDOR SUPPORT SERVICES

CDOT Project No.: STM 021A-007 (23074)

AECOM Project No. 60508778

Memorandum

Date: April 21, 2022
To: Andy Stecklein, PE
From: Joe Roerkohl, PE, CFM
Subject: SH21 and Proby Interchange

AECOM was tasked by CDOT with providing a review and summary of the Powers Boulevard (SH21) Environmental Assessment (STU R200-109 (13589), April 2010) as it relates to the identified interchange at Milton E. Proby (Proby) Parkway.

Introduction

The EA was prepared by FHWA and CDOT in 2010 to address the problem of current and future traffic congestion on Powers Boulevard. In 2010, peak-period congestion was experienced on six miles of Powers Boulevard, between Barnes Road and Fountain Boulevard. By 2035, the congestion was anticipated to extend to 11 miles, from Woodmen Road to Proby. At the time, the portion south of Proby was not expected to be congested by 2035.

The EA identified that congestion was expected as a result of the following:

- Corridor Population – the EA anticipated El Paso County's population to be approximately 936,000 residents by 2035, an increase of 370,000 residents over 30 years. (EA Report, p. 1-3)
- Increased Traffic Volume – the EA anticipated an increase in traffic volume of approximately 88% by 2035. At Proby, the vehicle traffic volumes were anticipated to increase from approximately 30,000 between Hancock and Proby in 2005, to over 40,000 in 2035. Between Proby and Grinell, the traffic volumes were anticipated to increase from less than 20,000 in 2005 to over 40,000 in 2035. (EA p. 1-4)
- Congested Intersections – the EA indicated that the Proby intersection was not congested in 2005; having a level of service (LOS) C. By 2035, the intersection was anticipated to be congested, having a LOS of E or F. (EA p. 1-5)
- Increased Travel Time – the EA anticipated an increased travel time along the corridor of 79% by 2035. (EA p. 1-6)

Proposed Action

- Geometry - utilize the freeway concept.
 - 6 through lanes (3 each direction) plus acceleration lanes, including Proby (EA p. 3-8, 3-12)
 - Transition to 4 through lanes (2 each direction) south of Proby (EA p. 3-12)
 - Posted speeds ranging from 55 to 65 mph (EA. P. 3-8)
 - Replacement of existing expressway median with median barrier and paved inside shoulder north of Proby. (EA p. 4-33)

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- Simple diamond interchange was proposed at Proby, selected to be compatible with a future loop configuration if needed. (EA p. 3-12) The diamond and loop are both shown in Exhibit 3-11. The diamond interchange would need approximately 500-foot ramp terminal spacing (Appendix B, p. 4-46)
 - The EA report indicates that the diamond interchange would be adequate to meet projected traffic demand through 2035, based on the PPACG regional traffic model, but as future traffic warrants, the loop interchange could be added. (EA p. 5-5)
 - The EA indicates that construction of the interchange upgrade is not part of the Proposed Action (EA p. 5-5).
 - The 2035 daily forecasts for the no action and proposed action are 42,000 VPD and 49,000 VPD north of Proby, and 44,000 VPD and 45,000 VPD south of Proby. (Appendix B, Figure 8-3, 8-4)
 - EA Appendix B suggests that the transition from the diamond to the flyover and loop is dependent on the Colorado Springs Airport (COSA) master plan and business park development but does not identify a specific trigger. (Appendix B, p. 6-10)
 - The COSA master plan indicates an addition of over 90,000 daily trips, including nearly 50,000 daily trips in proximity of Proby (Appendix B 6-10).
 - A second loop, in the Northeast quadrant, is identified as “do not preclude”.
 - The EA suggests that an interchange at Hancock could increase traffic at the north ramps of Proby by providing a shortcut for Powers Blvd traffic. Through traffic on Proby west of Powers Blvd could be reduced with an interchange at Hancock. (Appendix B, p. 4-42)
 - Appendix B includes discussion of weaving between the Hancock and Proby interchanges, looking at diamond interchanges, as well as the flyover alignment. The report identifies that between Fountain Blvd and Proby, Powers will need 3 general purpose lanes in each direction with auxiliary lanes between Hancock and Proby due to the close spacing of these interchanges (Appendix B, p. 4-46, 5-1 Figure 4-21, 5-2, 6-7).
 - The EA includes both the Hancock and Proby interchanges together in a potential construction package, and lists a cost of \$100 million (EA Exhibit 3-15)

ROW

- Appendix G identifies areas of parcel impact outside of the existing ROW at each corner (4 total) of the Proby interchange location. The NE and NW areas of impact extend to Hancock Expy. The SE and SW areas of impact extend to Grinnell and further south. (Appendix G, Exhibit 8 of 12)
- While the EA indicates that the roadway footprint would not change south of Proby, ROW should be preserved for long-range transportation planning. (EA p. 4-12)

Noise

- Southeast Community Park (now known as Sky View Community Park) and Clear View Estates are identified in the no-action plan, but mitigation is not recommended (EA p. 4-20, Exhibit 4-12)

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Air Quality

- The proposed action would result in Carbon Monoxide emissions less than the EPA allowable limits, as well as resulting in less Carbon Monoxide emissions in the existing condition identified at the time of the EA. (EA p. 4-26)

Parks and Recreation Facilities

- Southeast of Proby, the EA identifies the future golf course in the Airport Business Park (EA p. 4-28, Exhibit 4-15)
- Northwest of Proby, the Southeast Community Park (Sky View Community Park) was planned (EA p. 4-28, Exhibit 4-15)

Water Resources

- The Proby interchange is within the Cheyenne Mountain Watershed. Runoff discharges into Windmill Gulch. The ultimate receiving water is Fountain Creek. (Appendix N, Exhibit 5)
- Windmill Gulch is designated as a Zone AE floodplain with Floodway. (Appendix M, Exhibits 8 of 12 and 9 of 12)
- Drainage design is described from Drennan (Proby) to Grinnell in Appendix N. The design identifies use of pipes, open ditches, and 6 EDDBs (extended detention basins) in the area of Drennan (Proby). The drainage is intended to outfall into Windmill Gulch. (Appendix N, p. 48)
 - Only 5 areas are shown on the water quality concept exhibit in Appendix N. (Appendix N, pdf p. 81)
 - The EA report identifies 5 water quality areas. (EA p. 4-46, Exhibit 4-25)
- The EA calls for coordination with the City and County for the design and implementation of the BMPs. (EA p. 4-46)

Environmental

- Cultural Resources – there are almost no historic or agricultural resources remaining. (EA p. 2-11)
 - The EA noted that there is a 39.62 acre parcel west of Powers at the intersection with Grinnell that includes a natural drainage area that was not surveyed. (EA p. 4-58)
- Ecological Resources – existing resources and species are identified in the “remaining grasslands” area that begins at Proby and extends south to Fontaine Blvd. (EA p. 4-47, Exhibit 4-26) Areas include:
 - Windmill Gulch wetlands southwest of the Proby intersection. Raptor nests have been observed in this area. The wetland moisture is supplied from a drainage culvert running east to west under Powers, south of Proby. (EA p. 4-51)
 - The anticipated wetland loss at Windmill Gulch (W8) is 0.01-0.02 acres. (Appendix L, p. 9)
 - Water of the US impacts (OW8) are anticipated to be 0.0 acres. (Appendix L, p. 12)
 - Tallgrass prairie southeast of Proby and extending east of Grinnell (EA p. 4-50, Exhibit 4-28)

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- Prairie dog colonies between Grinnell and Bradley Rd (Colorado Species of Special Concern). Predators include Colorado Species of Special Concern (Burrowing Owl) and State Threatened species (Bald Eagle) (EA p. 4-50, Exhibit 4-28 / 4-29)
- Native American Consultation – no impacts anticipated. (EA p. 4-60)
- Hazardous Materials – no impacts identified near Proby. (EA p. 4-61, Exhibit 4-32)
- Paleontological Resources – 4 sites were identified in the EA, but locations are not provided to protect the areas. (EA p. 4-63/64) The EA indicates that the potential for impacts is higher between Platte Ave. and Proby. South of Proby, no impacts are expected if only ROW preservation occurs. (EA p. 4-64)

Available topography data

- AECOM survey – Fountain to Bradley (included separately)
- COSA developer survey – SE corner of Proby intersection (included separately)
- El Paso County LiDAR (included separately)