

Design for Reconstruction of an Interchange at I-5/Ortega Highway

Winter Design Review 2020

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Project Description

Improvements to the 1-5/Ortega Highway interchange are necessary to alleviate existing and future traffic congestion and delays within the interchange. The reconstruction of the highway interchange will be based on the existing highway design manual to increase the level of service at the interchange. The team will propose 3 or more alternatives with geometric design, cost estimate, land use, environmental constraints and future congestion expectations to the community. The team will then decide which alternatives will serve the best interest for the community and provide full design for the new highway interchange.

I-5/Ortega Highway Interchange



Project Objectives

- Improve the Level of Service of (LOS) of the interchange, which is currently at an F rating.
- Find a solution that reduces the amount of right of way, while following HDM standards.
- Limit cost of the project.
- Mitigating traffic congestion.

Project Constraints

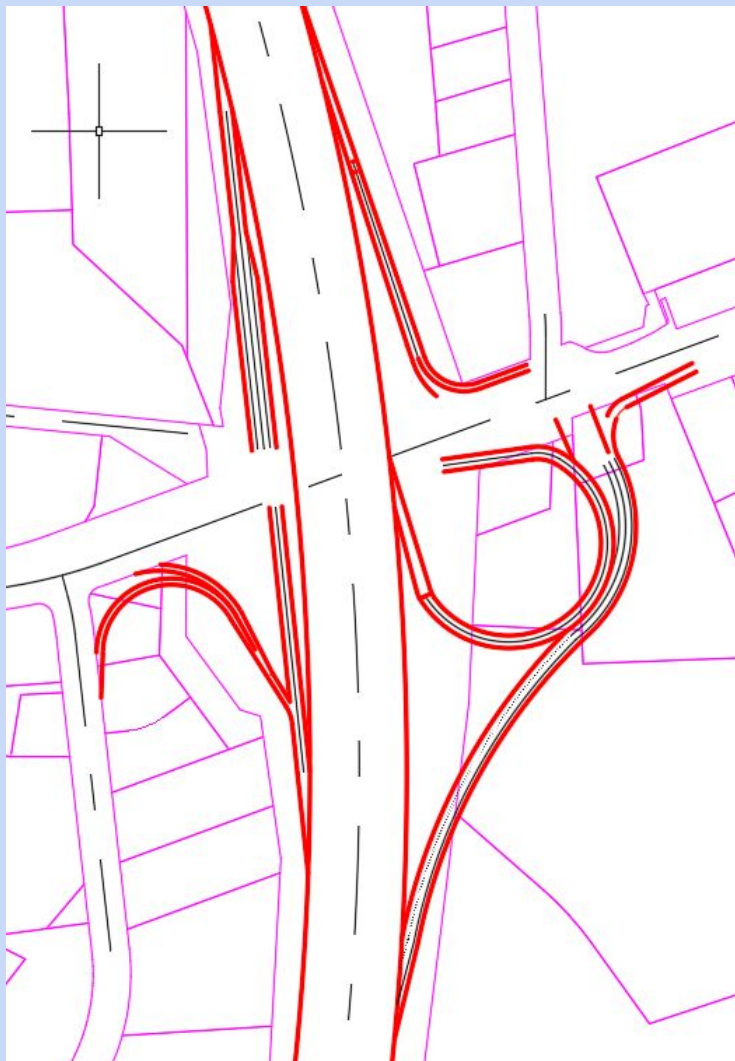
- Highway Design Standards
- School located by I-5 S Off-ramp
- Heavy traffic flow going into and out of the downtown area (SouthWest of Interchange)
- Right-of-way conflicts with expansion of interchange
- Environmental Impacts

Traffic Analysis

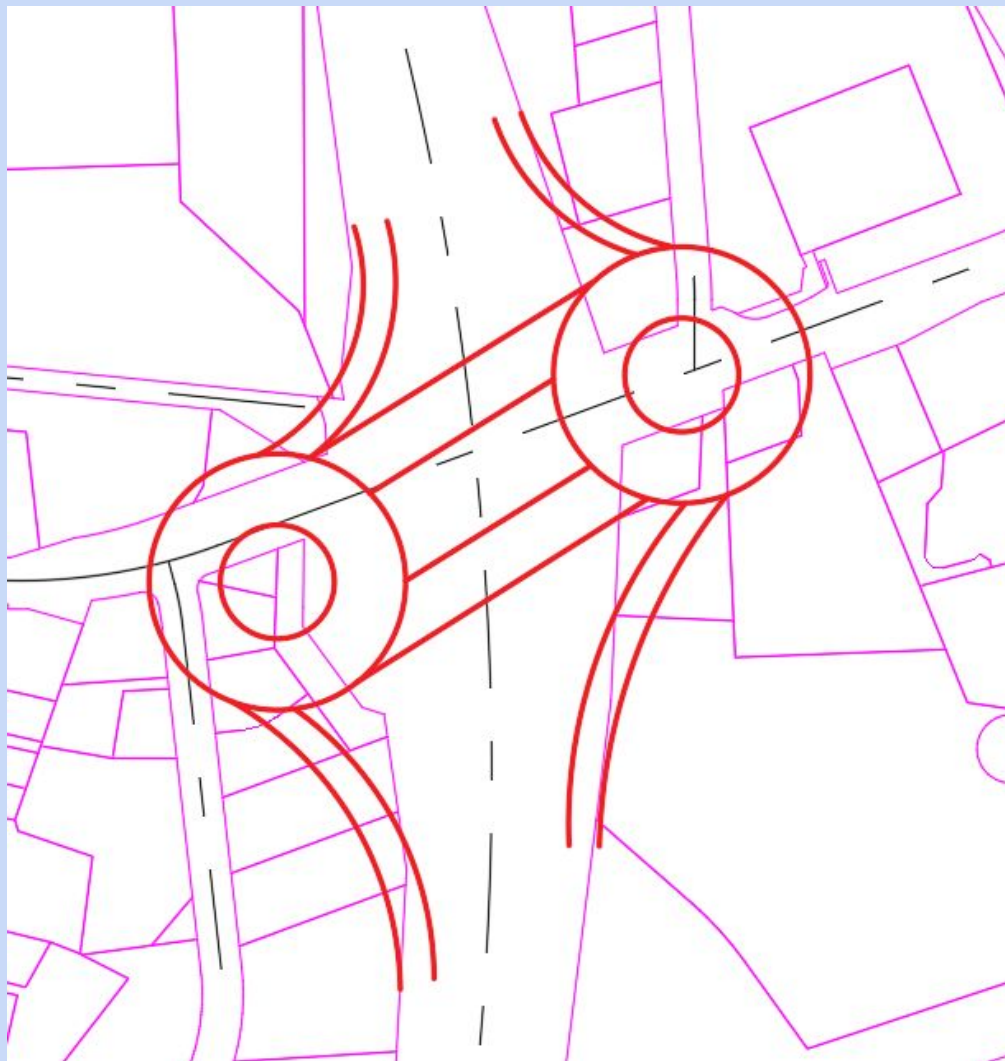
This Synchro model of worst case scenario back in 2006.



Design Alternatives



Alternative 1



Alternative 2



Alternative 3

Level of Service Comparison

Intersection	Existing	Alternative 1	Alternative 2	Alternative 3
Del Obispo & Ortega	F	C	WIP	C
I-5 SB & Ortega	F	D	WIP	E
I-5 NB & Ortega	F	C	WIP	D