U.S. Department of Transportation
Federal Highway Administration

Colorado Division

12300 W. Dakota Ave., Ste. 180
Lakewood, Colorado 80228
720-963-3000

May 20, 2014

Don Garcia
Project Manager, Region II – South Program Engineering
Colorado Department of Transportation
905 Erie Avenue
Pueblo, Colorado 81001

Subject: Request for Concurrence of no Adverse Impact - Pueblo I-25 Minor Interchange Modification Request for I-25 between Santa Fe Avenue and 1st Street Interchanges. (19205)

Dear Mr Garcia:

The purpose of this letter is to approve the Minor Interchange Modification Request at I-25 between Santa Fe Avenue and 1st Street Interchanges as requested by the Colorado Department of Transportation (CDOT).

FWHA grants CDOT authorization for minor modification to the subject project. Recently, CDOT has initiated the I-25 Ilex Design-Build Project which upgrades existing facilities and improves the safety and operations of traffic throughout this area. This project reconstructs approximately a half-mile stretch of I-25, four I-25 bridges, realigns Ilex street, lengthens the southbound onramp and northbound offramp at the 1st street interchange, and ties the modified ramps into the existing ramp terminals at 1st Street interchange.

This request is approved based on:

- Any ATCs/ACCs accepted on this project which alter this request shall submit a revised request (MIMR) or IAR to FHWA for review and approval.
- There are no adverse impacts to the operation of the interstate with the installation of these features
- There are no access-line modifications needed for the project

If you have any questions or need additional assistance, please contact Josh Kiel at (720) 963-3018.

Sincerely,

John M. Cater, P.E.
Division Administrator

By: Joshua Kiel
Operations Engineer, Region II

Introduction

This minor Interchange Modification Request (MIMR) is being submitted for the Pueblo I-25 bridge replacement project between the Santa Fe Avenue and 1st Street interchanges. This improvement was identified in the *I-25 Improvements Through Pueblo EIS*, September 2013, CH2M Hill. The full EIS Preferred Alternative includes reconstruction of I-25 from US 50/SH 47 (milepost 101) to just south of Pueblo Boulevard (milepost 94) in Pueblo, Colorado, a distance of approximately seven miles. The project includes widening to six lanes from 29th Street to Indiana Avenue, the straightening of I-25 through downtown, the relocation of I-25 to the east between Abriendo Avenue to Indiana Avenue, and the reconfiguration of 1st Street to 13rd Street to a split diamond interchange configuration. **Figure 2** describes elements of the Preferred Alternative.

The scope of the project for I-25 between the 1st Street and Santa Fe Avenue interchanges is shown in **Figure 1** and consists of the following elements:

- Reconstruction of an approximate half-mile stretch of I-25
- Four I-25 bridge structures
- Realignment of Ilex Street under I-25
- Lengthening of the southbound on ramp and northbound off ramp at the 1st Street interchange
- Tying modified ramps into the existing ramp terminals at the 1st Street interchange

All improvements will be constructed according to current design standards. Lanes will be 12 feet, shoulders will be 10 feet on both the left and right sides and grades will be less than 4 percent.

This MIMR for the work shown in **Figure 1**, per FHWA direction, will address FHWA Policy Points 2, 3, 7 and 8, as well as Policy Points 5 and 6 as appropriate. A more detailed Interchange Access Request (IAR) will be initiated for the first I-25 project in Pueblo that substantially changes the I-25 access.

With regard to traffic volumes, this effort collected new traffic counts on I-25 and at the 1st Street and Santa Fe Avenue interchange ramp terminals. Theses counts were used for the existing conditions and implementation year operational analyses. The Year 2035 analysis was based on EIS 2025 traffic projections that were factored up by 20 percent per the analysis of the *Addendum to the Traffic Report Technical Memorandu*m, *September 2004 I-25 New Pueblo Freeway – 2025 vs. 2035 Traffic Assessment* (CH2M Hill, December 2010) provided in the EIS documentation. This addendum compared 2025 and 2035 demographic forecasts for the region and used the growth observed in these forecasts to derive the 20 percent growth factor for the 2035 time horizon.

Policy Point #2

> *All reasonable alternatives for design options, located and transportation system management type improvements (such as ramp metering, mass transit, and HOV facilities) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.*

The improvements planned are consistent with the preferred alternative of the EIS. The EIS went through an evaluation of a full range of alternatives. Chapter 2 of the EIS describes the alternatives considered and the process for screening of these alternatives. All reasonable alternatives were

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considered including bypass routes, mass transit, transportation system management and safety improvements.

Policy Point #3

> *The proposed access point does not have a significant adverse impact on the safety and operation of the Interstate facility based on an analysis of current and future traffic. The operational analysis for existing conditions shall, particularly in urbanized areas, include analysis of sections of Interstate to and including at least the first adjacent existing or proposed interchange on either side. Crossroads and other roads and streets shall be included in the analysis to the extent necessary to assure their ability to collect and distribute traffic to and from the interchange with new or revised access points.*

Operational analyses were conducted for I-25 and the ramp terminals at the adjacent intersections for existing conditions, implementation year (2014) and the design year (2035). **Figure 3** shows existing operational conditions. Freeway analyses show ramp merge and diverges operating at LOS D or better during the peak hours and the mainline operating at level of service B or C during the peak hours. Ramp terminals at the 1st Street and Santa Fe Avenue interchanges consist of signalized and stop-controlled intersections. Signalized intersections operate at LOS B during the peak hours. At stop-controlled intersections most movements operate at LOS D but the left turn movement from Ilex Street to Santa Fe Avenue operates at LOS F in the AM peak and LOS E in the PM peak. At stop-controlled intersections to high volume arterials it is expected that left turn movements from the stop-controlled approach would experience longer delays resulting in LOS E or F conditions. However, in the case of the Santa Fe / Ilex intersection the left turn volume is low and as a result the 95th percentile queues are only two vehicles. This suggests that significant congestion does not occur for the left turn movement and that the ramp length is sufficient to prevent vehicle queues from extending into the I-25 mainline.

Implementation year operational analysis results with the proposed improvements in place are shown in **Figure 4**. The difference between the implementation year and existing conditions is that the lengthening of the south ramps at the 1st Street interchange reduces the length of the segment of I-25 between 1st Street and Santa Fe Avenue to a 1,500 foot weaving section southbound and a 2,100 foot weaving section northbound. As shown in **Figure 4**, this new weaving segment is expected to operate well at LOS B in both directions during both the AM and PM peak hours.

In addition to the mainline improvements, the Ilex Street alignment shifts north to intersect Santa Fe Avenue at D Street. To eliminate confusion at this new intersection for Ilex Street, Clark Street from the southwest will no longer intersect Santa Fe Avenue and will end at a cul-de-sac. This new intersection is anticipated to be stop-controlled. **Figure 4** shows expected operations at this intersection. Just as with the existing condition, the left turn and through movements from Ilex Street to Santa Fe Avenue are expected to operate at LOS E or F during both peak hours but 95th percentile queue lengths are expected to be only two to three vehicles. Shifting the Ilex Street alignment north and improving the Ilex Street approach geometry significantly increases the storage on Ilex Street which will easily accommodate the expected queue length on the ramp.

Figure 5 shows Year 2035 traffic operations. The analysis assumes no additional mainline or interchange improvements beyond those constructed in the implementation year. By Year 2035, the level of service for the weaving segment between the Ilex Street and Santa Fe Avenue interchange is anticipated to drop to LOS D in the AM peak hour and LOS E in the PM peak hour. In addition, a LOS E condition in the PM peak is expected at the Santa Fe Avenue ramp terminals.

If Preferred Alternative improvements south of 1st Street are in fact implemented by Year 2035, then additional mainline lanes and an improved Santa Fe Avenue interchange relocated approximately 0.5 miles south of the current interchange location would improve I-25 operations. The mainline weave would be eliminated and both the mainline and ramp merge and diverge points would operate at LOS C or better. In addition, the ramp terminals at the relocated and reconfigured Santa Fe Avenue interchange would also operate at LOS C or better.

The *Accident Analysis Update Addendum to Traffic Report Technical Memorandum, July 2011, CH2M Hill,* classified the I-25 segment between 1st and Santa Fe Avenue as having a poor accident rating. This means the recorded accident rate for this segment was more than three times higher than the statewide average for urban interstates. The EIS states that this higher accident rate is likely the result of inadequate geometric features such as tight curves, inadequate stopping sight distance, narrow shoulders, inadequate acceleration and deceleration lengths and steep grades.

This proposed project will improve the deficient geometric features on I-25 between the 1st Street and Santa Fe Avenue interchanges. When complete, the proposed project I-25 will have wider shoulders, longer curves, flatter grades and longer acceleration and deceleration lanes. Therefore, the proposed project is consistent with the EIS objective of improving safety by upgrading geometric features that contribute to higher than average accidents in the Pueblo I-25 corridor.

Policy Point #5

The proposal considers and is consistent with local and regional land use and transportation plans. Prior to final approval, all requests for new or revised access must be consistent with the metropolitan and/or statewide transportation plan, as appropriate, the applicable provisions of 23 CFR part 450 and the transportation conformity requirements of 40 CFR parts 51 and 93.

The EIS is expected to have a phased record of decision (ROD) with Phase 1 including the project discussed in this MIMR and additional improvements between the 1st Street and 29th Street interchanges. (See **Figure 6** for Phase 1 improvements.) The project covered by this MIMR is consistent with the EIS and fully compatible with the additional planned phase 1 improvements north of 1st Street and future phase 2 improvements south of Ilex Street.

Phase 1 of the ROD is in the Pueblo Area Council of Governments Regional Transportation Plan. The proposed improvements between the 1st Street and Santa Fe Avenue interchanges has both Bridge Enterprise and RAMP funding construction dollars for 2014.

Policy Point #6

In areas where the potential exists for future multiple interchange additions, all requests for new or revised access are supported by a comprehensive Interstate network study with recommendations that address all proposed and desired access within the context of the long-term plan.

Both the EIS and the phased ROD covers the entire I-25 corridor through Pueblo from US 50/SH 47 (milepost 101) to just south of Pueblo Boulevard (milepost 94). The Preferred Alternative does not include any new additional interchanges but relocates access points and combines closely spaced interchanges with split diamond configurations to both consolidate interstate access and to provide better ramp spacing through the study area.

Policy Point #7

> *The request for a new or revised access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.*

The planned improvements do not change or generate new access points to I-25. The proposed improvements that are the subject of this MIMR are compatible with the planned I-25 improvements for the seven mile stretch of I-25 from US 50/SH 47 to Pueblo Boulevard that is the subject of the EIS and Phases 1 and 2 of the ROD.

Policy Point #8

The request for new or revised access contains information relative to the planning requirements and the status of the environmental processing of the proposal.

In August 2013 the Final EIS was completed and ROD is anticipated to be signed in April 2014 for I-25 improvements through Pueblo. The ROD will be a phased ROD with phase 1 (see **Figure 6**) for improvements generally between the 29th Street and Santa Fe Avenue interchanges and with phase 2 for improvements south of Santa Fe Avenue to Pueblo Boulevard.

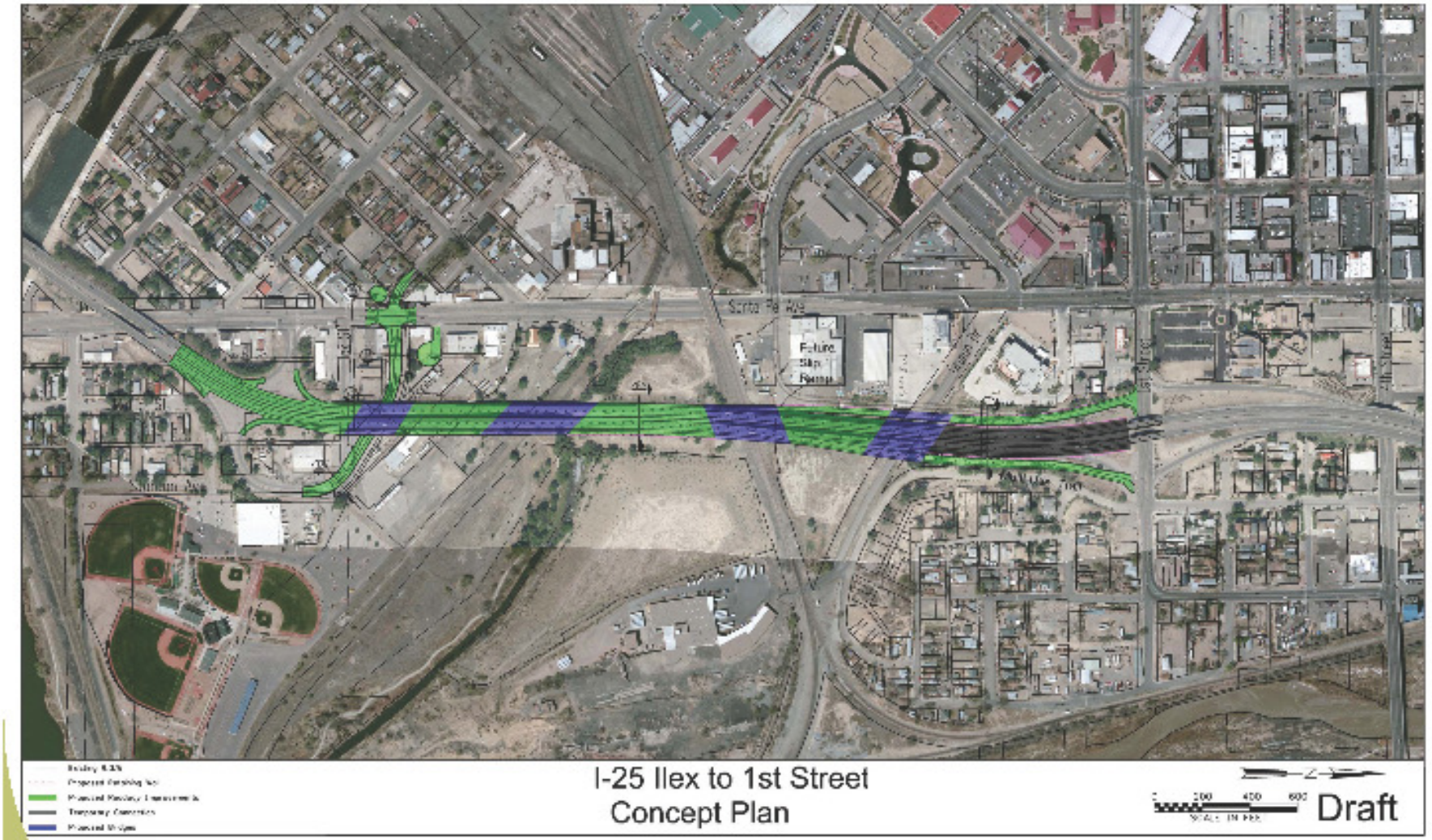

Figure 1
Ilex to First

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I-25 Roadway Features

Six lanes (three in each direction) just north of 29th Street to Indiana Avenue

Standard shoulders and acceleration/deceleration lanes

1. Straighten I-25 through downtown
2. Relocate I-25 to the east between Abriendo Avenue to Indiana Avenue to eliminate relocation of the Union Pacific Railroad

Interchange Features

3. Diamond interchange at US 50B with one-way frontage roads to 29th Street
4. Split-diamond interchange between 13th Street and 1st Street with one-way frontage roads between ramps; additional southbound and northbound exit ramps near 6th Street
5. Split diamond interchange between Abriendo and Northern Avenues with one-way frontage roads connecting the ramps
6. Single-point diamond interchange at Indiana Avenue
7. Partial cloverleaf interchange at Pueblo Boulevard

Network Features

8. Extend Dillon Drive south from 26th Street to US 50B
9. Connect Abriendo Avenue and Santa Fe Drive (US 50C)
10. Extend Santa Fe Avenue from Ilex Street to Minnequa Avenue
11. Rebuild Stanton Avenue south over the Arkansas River, intersect with Santa Fe Drive and connect to Santa Fe Avenue

Bicycle and Pedestrian Features

12. Build sidewalks along Dillon Drive extension and US 50B bridge
13. Expand sidewalks on the Mesa Avenue overpass to connect Benedict Park to the west side of I-25
14. Build sidewalks along Stanton Avenue to connect to the HARP trail and Benedict Park
15. Build trail from just north of US 50B bridge to Mineral Palace Park
16. Construct a bike/pedestrian bridge between Mineral Palace Park and the Fountain Creek trail
17. Build trail between Runyon Field and J.J. Raigoza park

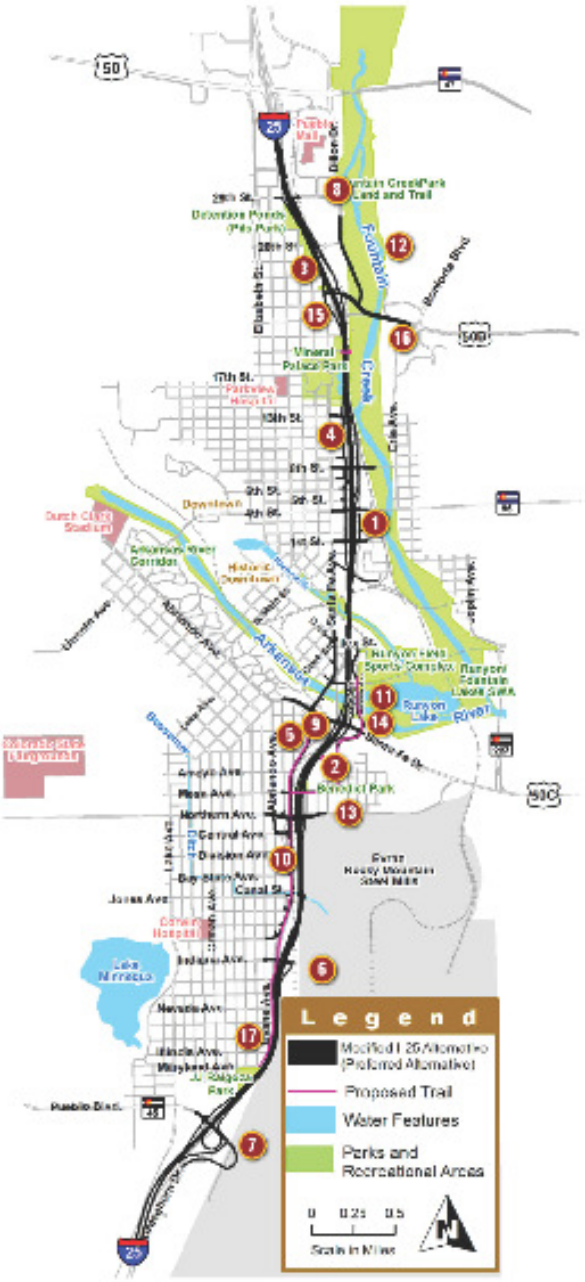
Other Features

Accommodates Circulator Bus System

Transportation Systems Management (TSM)

Travel Demand Management (TDM) (By Others)

Intelligent Transportation Systems (ITS)



*Detailed maps of the Modified I-25 Alternative are available in Appendix E.

Figure 2
Preferred Alternative Summary

NORTH

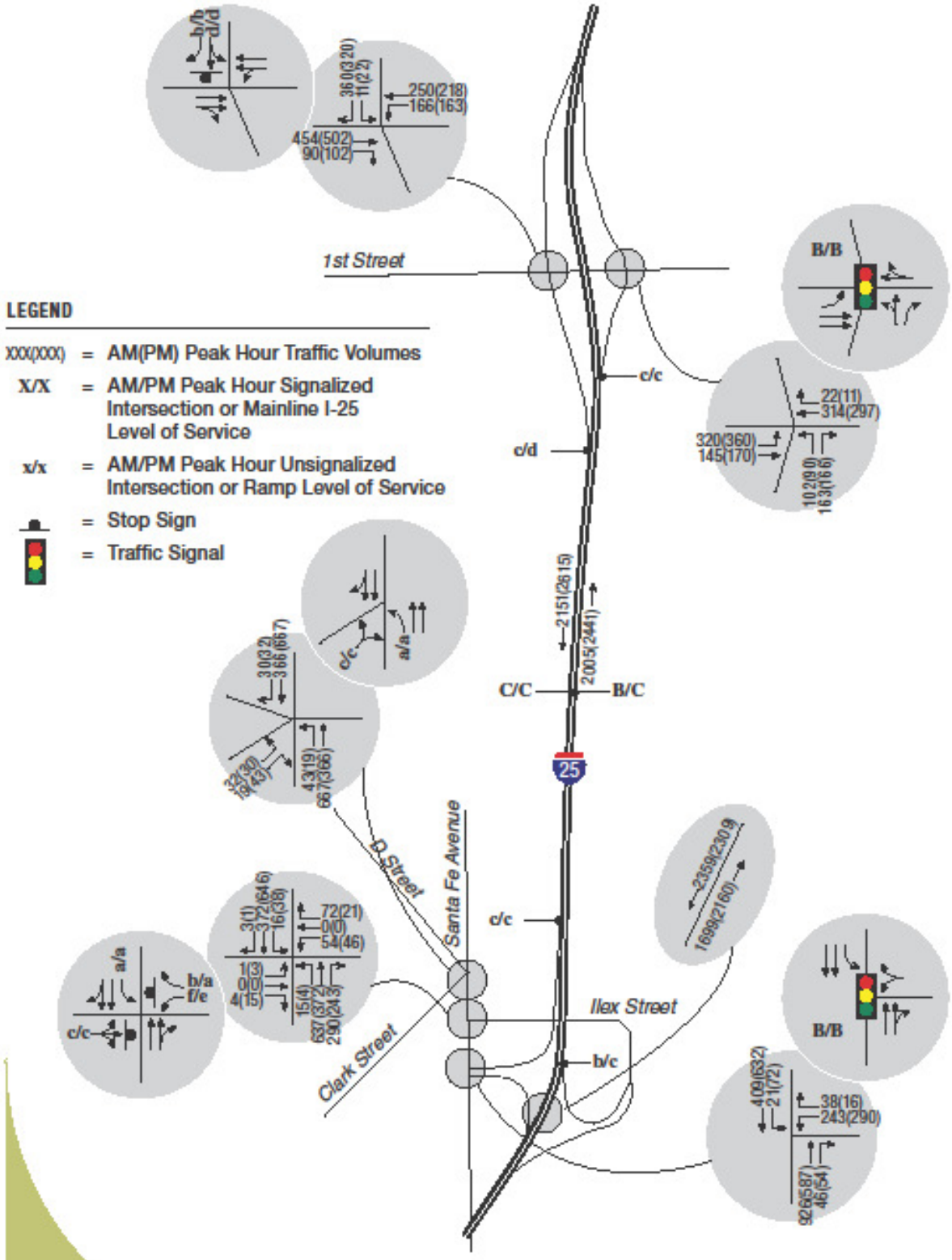


Figure 3
Existing Conditions

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NORTH

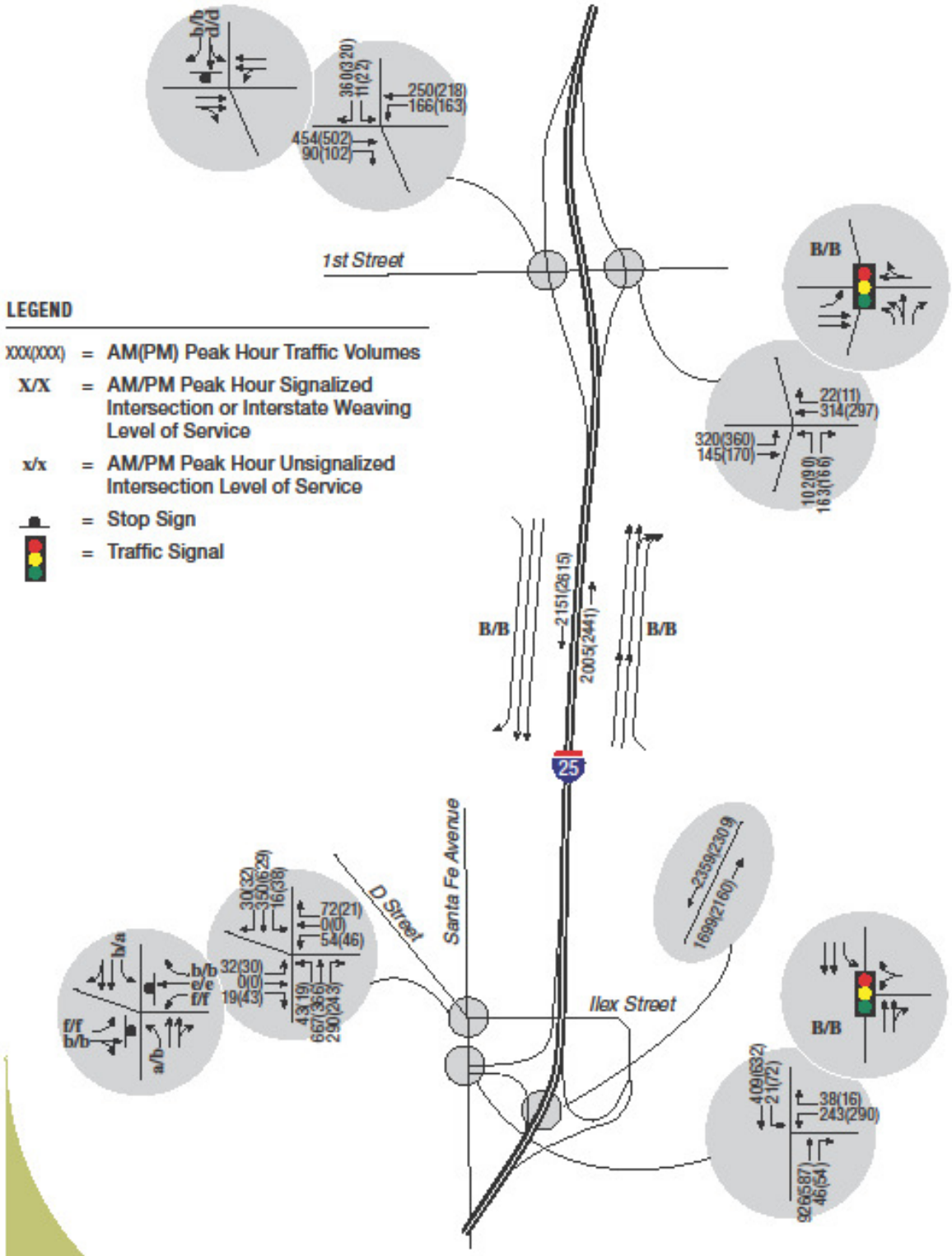

Figure 4
Implementation Year

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NORTH

Pueblo I-25 MIMS, 12280-11, 12/17/13

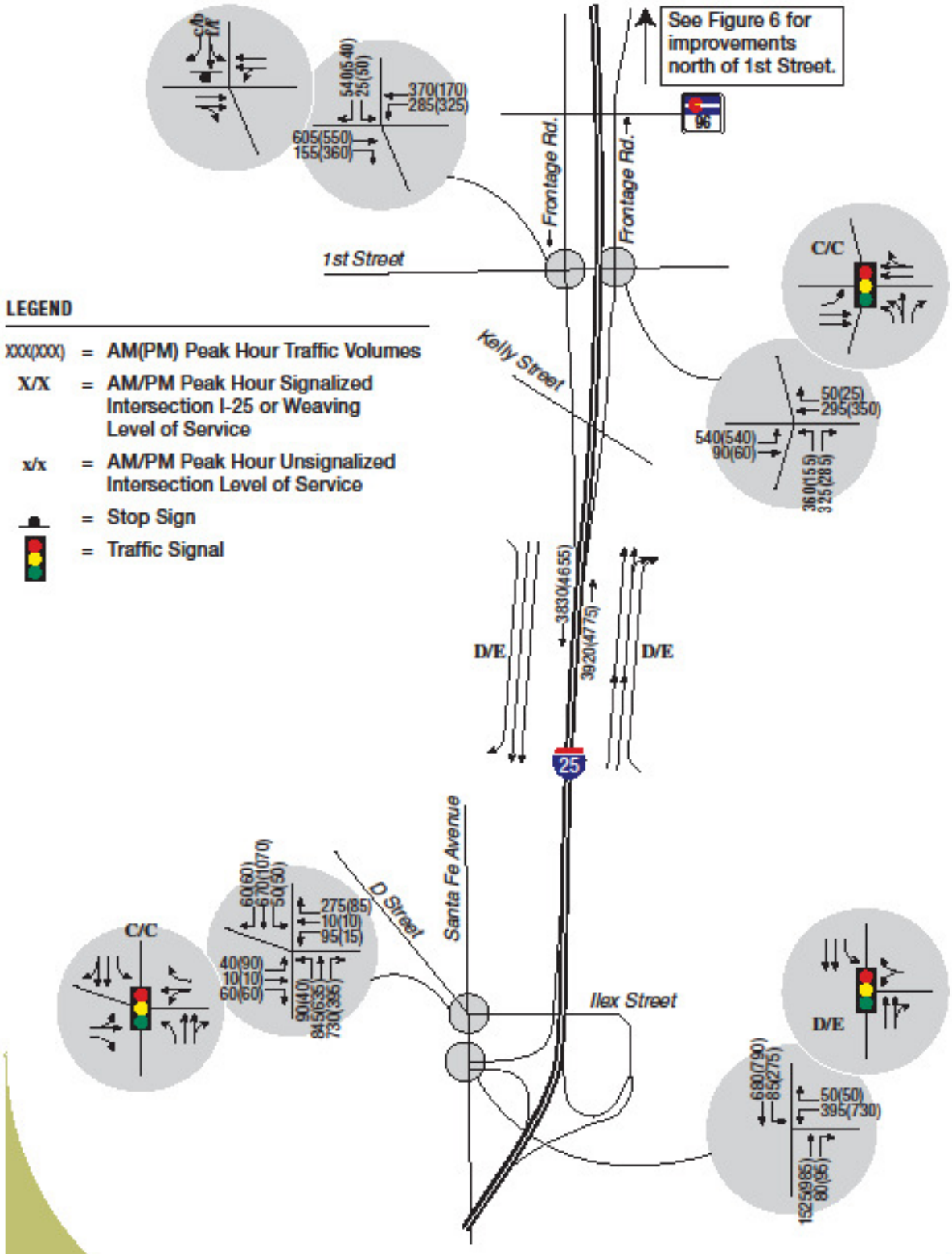

Figure 5
Year 2035 Conditions

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Figure 6
Year 2035 Improvements (ROD)

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