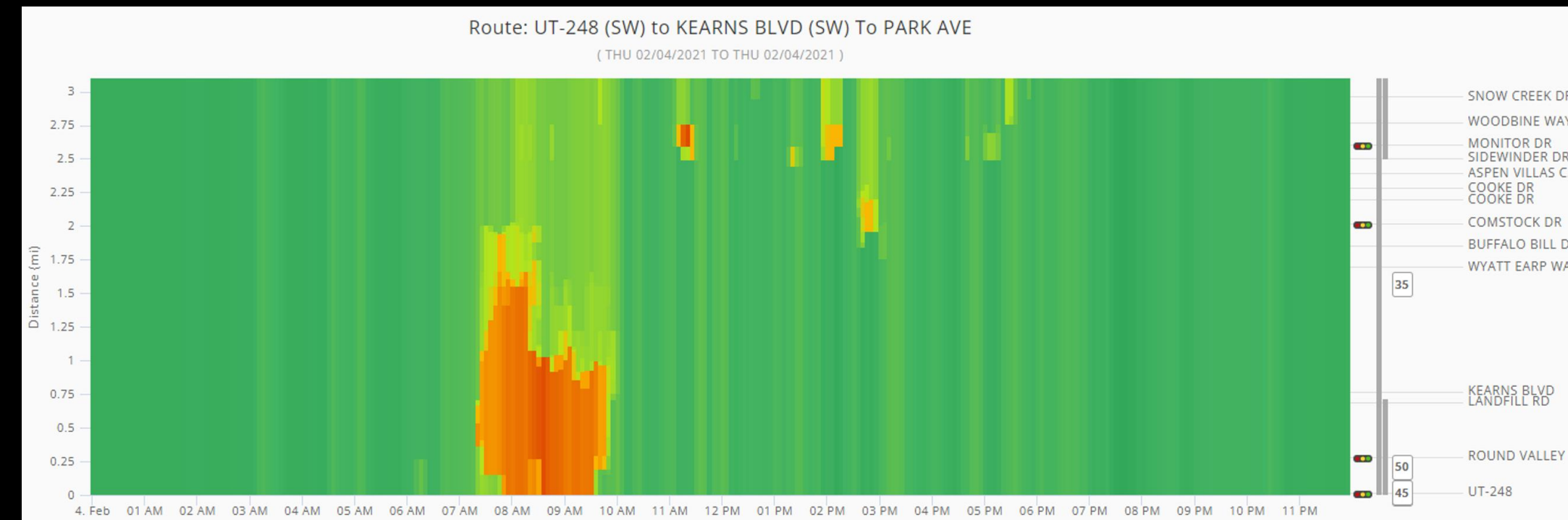
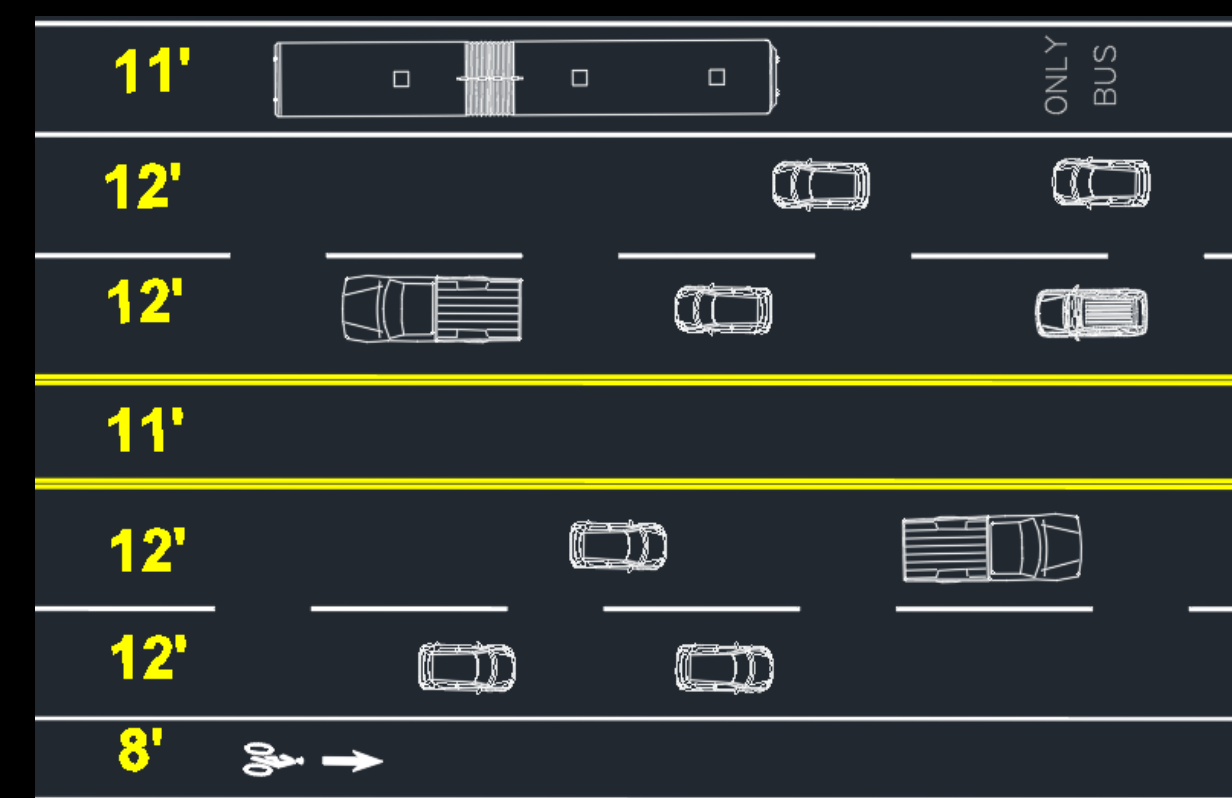


Traffic Analysis

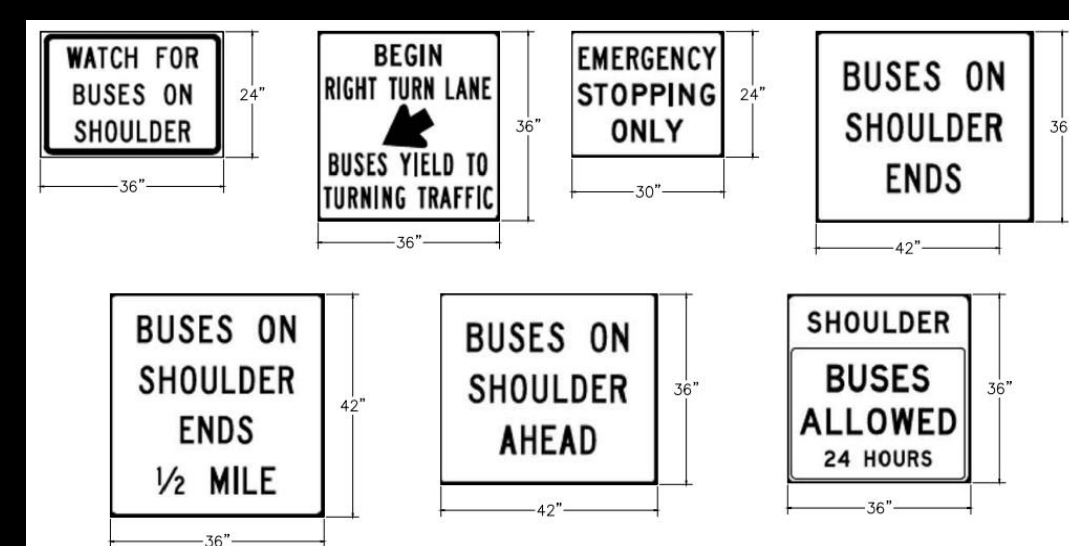
- Annual Average Daily Traffic: 11,744 vehicles (WB only)
- Free flow: 3.58 minutes, Peak Flow: 6.48 minutes
- End bus lane at Comstock, where traffic improves



Roadway Design



- Typical roadway plan view after the road diet design
- Signing and striping followed MUTCD and the UDOT RDM and BRT Standards



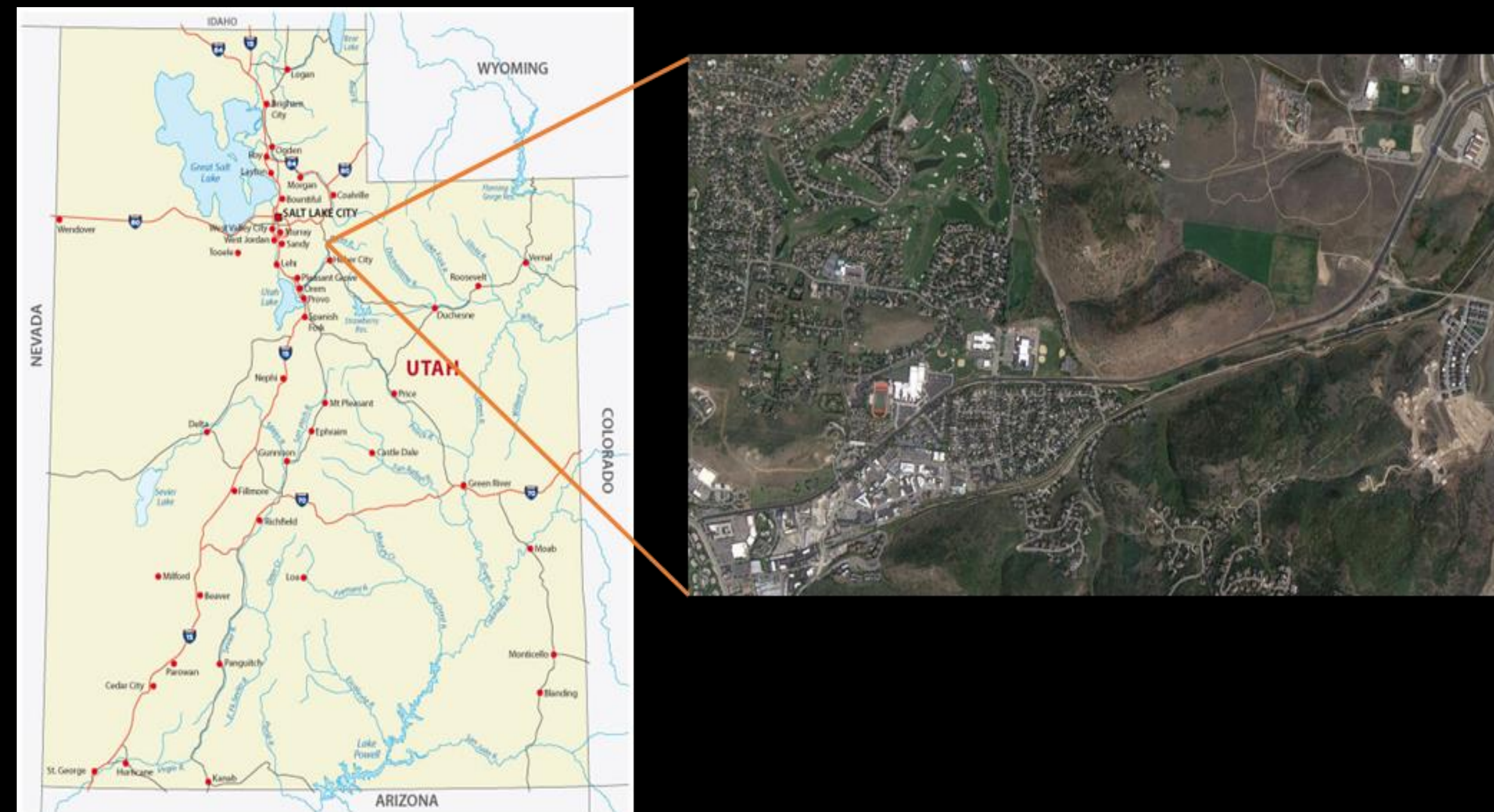
- Past Richardson Flat Intersection, there will be 648 CY of excavation that will extend 1000 ft along road
- Tapers off as roadway transitions to 2-lane



Objectives

- Add a free flow shoulder bus lane to encourage to improve travel times on the corridor
- Minimize widening due to environmental constraints
- Justify the project to the public with the amount of time drivers will save commuting

Project Background



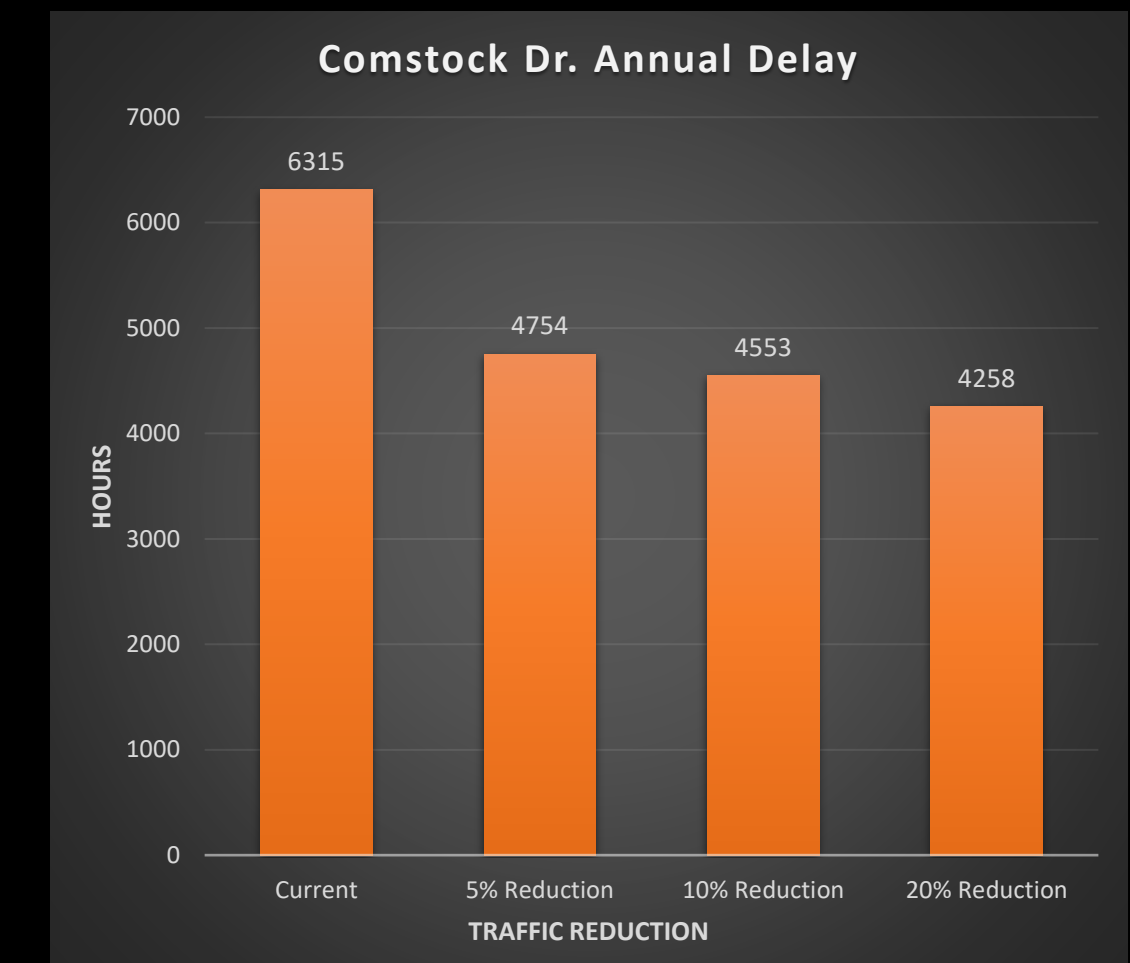
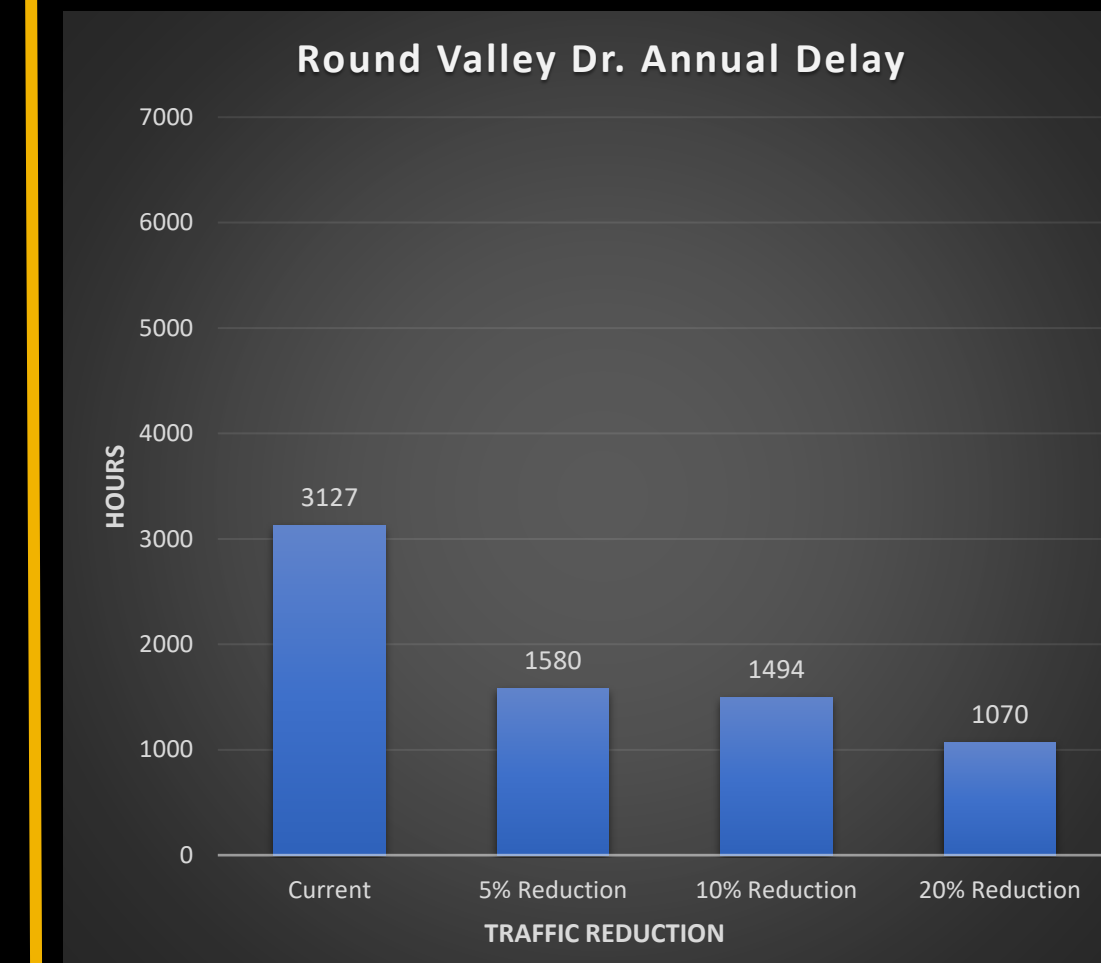
State Route 248 in Park City, Utah, experiences high westbound congestion, especially on the weekends due to recreational travel, that needs to be alleviated in the morning commute. To address this, a roadway rehabilitation and lane configuration project will be completed for the roadway that will include striping improvements and widening to add a westbound shoulder running bus lane from US-40 to SR-224, as well as two retimed intersections.

Cost Analysis

Roadway Costs: **\$823,913.09**
 Signage Costs: **\$73,143.60**
 Total Costs w/ 10% Contingency: **\$986,762.36**

Signal Timing

- Adjusted two intersection green times to accommodate for new flow
- Average delay decreases 13.1 seconds per vehicle at 20% reduction in vehicle demand



Construction

- Phases: excavation, paving, chip seal, striping and signage
- Lane closure may only occur when the traffic is less than 1200 vehicles per hour per lane
- Available time for lane closure is between 7 PM – 6 AM

Time Saving Per Vehicle

- UDOT User Cost: \$18.12 per hour per car and \$52.14 per hour per truck



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FACULTY ADVISOR: RICHARD NIELSEN, PH.D., P.E.