



## Overview

The Arizona DOT (ADOT) recognized that a significant portion of fatal crashes were roadway departures along rural two-lane highways. They took a systemic approach to review these highways with a high risk for run-off-roadway crashes. Based on that review, ADOT identified State Route 264 (SR 264), a 25-mile corridor from Burnside Junction to Summit One as a priority corridor for shoulder widening and slope flattening as a project to address the high crash rate.

## Project Development

Utilizing a Performance-Based Practical Design (PBPD) approach to maximize the return on investment while recognizing the needs of the overall transportation system, ADOT developed and evaluated possible solutions that would improve the safety and operational performance of the corridor over the no-build condition while recognizing the need to address and accommodate non-motorized vehicles. The ADOT:

- Developed and evaluated two alternatives
  - Alternative A:** Widen existing roadway to 34 feet; 12 foot lanes, 5 foot shoulders, add centerline and shoulder rumble strips, flatten side slopes, install guardrail, etc. *The 5 foot shoulder incorporates a 4 foot bikeable width outside of the rumble strip.*
  - Alternative B:** Widen existing roadway to 40 feet; 12 foot lanes, 8 foot shoulders, add centerline and shoulder rumble strips, flatten side slopes, install guardrail, etc.
- Performed safety analysis using Highway Safety Manual predictive method procedures and the Interactive Highway Safety Design Model
- Performed a benefit-cost ratio analysis to assist selecting an alternative

## Results

By using a PBPD approach, ADOT was able to quantify the safety and operational deficiencies of the corridor, target safety and operational improvements while incorporating and accommodating bicyclists in the final design. The ADOT selected Alternative A with the lower overall cost and higher benefit-cost ratio. The savings realized by using the PBPD approach can now be used on other similar highway corridor projects.

View the full report at: <http://www.fhwa.dot.gov/design/pbpd/documents/fhwahif15014.pdf>

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