



PURPOSE AND NEED

May 13, 2004

Purpose of the Proposed Action

The purpose of the proposed action is to reduce congestion and improve operational conditions at the Interstate 5 (I-5) interchange with Fern Valley Road, on Fern Valley Road within the City of Phoenix Urban Growth Boundary, and on OR 99 near its intersection with Fern Valley Road. In addition, the Fern Valley Road Bridge over Bear Creek is proposed for replacement.

Need for the Proposed Action

The I-5 / Fern Valley Road interchange is experiencing increasing congestion due to continued growth in Phoenix and southeast Medford, the status of the Medford-Ashland area as a regional business destination, and a greater amount of through traffic on I-5. Increased use of the interchange by local residents, commuters, heavy trucks and regional traffic causes vehicles at the off-ramps to queue all the way to the freeway during times of heavy peak hour volumes. The capacity of the interchange is degrading rapidly, and traffic safety remains an ongoing concern.

An interim project (Phase 1) has recently been constructed at the I-5 / Fern Valley interchange to improve existing conditions in the short-term, but lacking further improvements, the interchange is projected to degrade to unacceptable levels of congestion (over the 0.85 volume-to-capacity [v/c] ratio standard) within 5 to 10 years. Recent ODOT traffic studies estimate that by 2012, vehicle queues at the ramp terminal intersections along Fern Valley Road would start blocking adjacent intersections and both ramp terminals would have a v/c ratio near or over 1.0. By 2022, if no new improvements are constructed, Fern Valley Road would be at or over capacity. Traffic studies also predict that queue on the northbound I-5 on-ramp would extend into the northbound through lanes of I-5, creating a much higher risk of rear-end collisions.

In 2022, all of the intersections on Fern Valley Road except for Luman Road are projected to have v/c ratios ranging from just over 1.0 to greater than 2.0. Fern Valley Road would be queued in both directions almost the entire distance between OR 99 and North Phoenix Road. Very long queues would also occur on OR 99, North Phoenix

Road, and Bolz Lane as the over-capacity signalized intersections on Fern Valley Road would meter traffic through this area.

The Fern Valley Road interchange does not meet current interchange design standards. The steepness of the approaches to the Fern Valley Road overcrossing limits the visibility of interchange traffic. This limited "sight distance" forces drivers to make unsafe turns onto Fern Valley Road. In addition, the length of the I-5 ramp tapers and acceleration lanes are substandard (425 feet vs. the ODOT standard of 525 feet), which results in short stopping and acceleration distances.

Fern Valley Road has substandard shoulders (4-foot shoulders on the overcrossing and 6-foot shoulders on the approaches vs. the ODOT standard of 8 feet) and does not have dedicated bicycle lanes. Sidewalks are discontinuous along Fern Valley Road, creating safety concerns for pedestrians. This poses particular problems on the overcrossing and from Bear Creek Bridge to OR 99, where there are no sidewalks, but where pedestrians need to be accommodated.

Fern Valley Road crosses Bear Creek between the I-5 interchange and OR 99. This narrow bridge is already becoming a bottleneck on Fern Valley Road. In addition, the bridge is over 50 years old and is structurally deficient and functionally obsolete. Even if the interchange were to be completely rebuilt, the two-lane bridge would still cause long queues to occur on Fern Valley Road, eventually impacting the ramp terminals and the function of the interchange.

The western terminus of Fern Valley Road, at its intersection with OR 99, is a substandard design with one leg serving a retail business parking lot. There are numerous accesses creating safety issues near the OR 99/Fern Valley Road intersection. The crash rate on OR 99 through the study area is double the published crash rates for primary non-freeway urban facilities. Most of the crashes are because of the closely-spaced driveways and intersections. In addition, OR 99 has no dedicated bike lanes or shoulders; it has 14-foot outside lanes where bikes share the roadway. The center-turn median is 14 feet (vs. the ODOT standard of 16 feet); it was reduced from standard in order to allow room for 14-foot outside lanes. There are no sidewalks on OR 99 north of Fern Valley Road except intermittently on business frontages.