

I-40 EXIT 102: JUNCTION WITH INDIAN SERVICE ROUTE 30 PUEBLO ACOMA, NEW MEXICO

Summary

The I-40 Exit 102 interchange provides access to the Pueblo Acoma reservation, the Cubero Land Grant, and nearby small agricultural communities. Existing physical deficiencies resulting in safety concerns, existing and projected traffic congestion, and the desire of the Pueblo to improve access to land for development led to efforts to improve the interchange. New Mexico DOT entered into a partnership with the Pueblo whereby the Pueblo provided nearly half (\$7 million) of the funds to construct the project. An extensive stakeholder involvement process over two years resulted in the construction of a new interchange just west of the existing interchange, which meets the project purpose and need while minimizing impacts to the community, cultural resources, and the natural environment.

Purpose / Need

The primary purposes of the I-40 / Exit 102 Interchange Project are to:

- Correct physical deficiencies at the interchange
- Reduce traffic congestion based on existing and project traffic demand
- Improve safety conditions and access while balancing these efforts equally with the concerns and desires of local communities. A secondary purpose of the project is to support economic development activities that are planned or may be desired in the future on lands by improving access to these lands through the implementation of the primary purposes

The Context. The interchange and local roadway networks provide access to a travel center/truck stop and parking area located northwest of the interchange, Acoma businesses including a casino and hotel located northeast of the interchange, and a NMDOT rest area located southeast of the interchange.

The Pueblo is planning to develop 437 acres of their land around Exit 102, known as Sky City Junction, for commercial land uses. Proposed development in this area will depend on direct access to I-40 at Exit 102. Nearby local communities — such as Acoma, Cubero, and San Fidel — are agricultural-based communities with low population densities and little commercial development.



Conditions. There are numerous physical deficiencies at the interchange which create safety concerns. Merging drivers do not have enough opportunity to locate gaps in mainline I-40 traffic, and large trucks cannot reach a safe merging speed. In addition, commercial trucks lack space for turning movements at the intersections; the bridge underpass has restricted vertical and horizontal clearances and limited intersection sight distance; and vehicle stacking occurs at the intersections because no turning lanes are provided; the sight distance for approaching the off-ramps is inadequate. Most crashes reported at the interchange were rear-end collisions or overturned vehicles.

Process. In 2004, the Pueblo of Acoma wanted to see larger-scale interchange improvements move forward in order to address safety concerns and facilitate the planned expansion of Sky City Junction, but NMDOT lacked adequate funding. The Pueblo offered to partner with NMDOT to fund 50% of the project costs, up to \$7 million, and provided right-of-way on their land at no cost to NMDOT, valued at \$500,000.

The project area occurs on NMDOT right-of-way, Cubero Land Grant lands, Pueblo of Acoma lands, and private lands. The Land Grant in particular wanted no net loss of their property and would not provide any right-of-way for the project. Stakeholders of the Land Grant feel that it has historically lost lands through land transactions that did not benefit the overall Cubero land community. NMDOT utilized the CSS process not only to engage these sets of stakeholders but to reduce conflict between them and overcome longstanding disputes.

The NMDOT staff engaged the stakeholders through three advisory groups:

- Technical and Access Control Study
- Technical Advisory Committee (TAC)
- Stakeholder

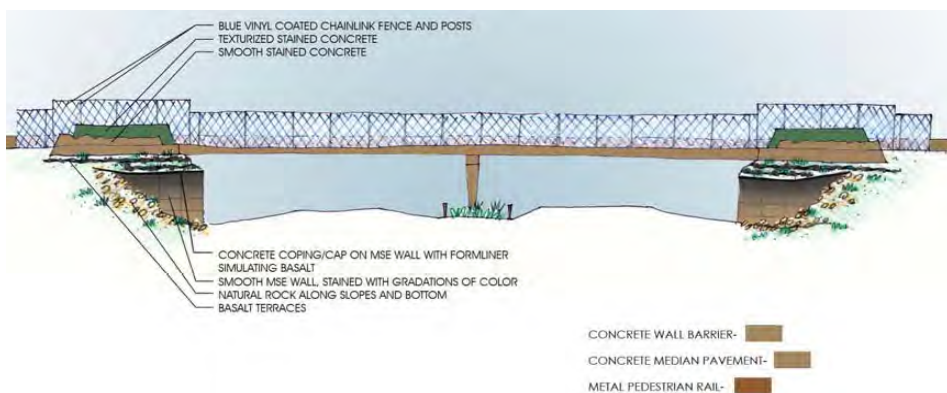
Stakeholder input focused on 17 major areas of concern including:

- Land Preservation / Rural Lifestyle
- Drainage Management
- Local Business / Acoma-Cañoncito-Laguna Hospital Access During Construction
- Pipeline Coordination / Innovative Design Concepts
- Construction Detours and Impact to Adjacent Interchanges and Roads (US 66)
- Casino Lighting Glare / Safety
- Congestion Management
- Long-term Emergency Response and School Bus Access through the Interchange
- Emergency Vehicle and School Bus Access During Construction
- Economic Development
- Water and Natural Resources
- Interchange Congestion Management
- Pedestrian Accessibility / Designated Routes
- Ramp Operations / Safety
- Cost
- Street Lighting (Old NM 124 [Spur] / SP-30) & Intersections for Pedestrian Safety
- Interchange Lighting for Vehicle Safety

Design Solution. After consideration of many alternative interchange designs, the selected alternative was to construct a new interchange with an overpass located approximately 1,500 feet west of the existing interchange. A roundabout intersection is planned where the new crossroad intersects with new connector road south of I-40.

A sidewalk would be constructed on the east side of the old NM 124 (Spur) / SP-30 to connect the Acoma businesses with the NMDOT rest area. Sidewalks would also be constructed on both sides of the new cross road and connector roads. The selected design would offer opportunities to improve the economic wellbeing of Acoma residents by improving access to Acoma lands north of I-40.

Landscape design utilized the colors of the surroundings in the pavement to reduce the visibility of the changes, and included planting the roundabout with vegetation. In addition, the NMDOT Project Development Engineer will give Pueblo of Acoma and Cubero Land Grant representatives the opportunity to review and provide ideas on bridge / landscape designs and visual enhancements.



Landscape design of bridge

NMDOT will use innovative bidding techniques, which may include incentive / disincentive clauses, to minimize the time period for construction activities. The construction contractor will coordinate with the local school districts regarding school activities and school bus scheduling. The construction contractor will also coordinate with local emergency management services and Acoma-Cañoncito-Laguna Hospital.

Historic, Cultural, and Natural Environment Resources

The project study area includes Archaic, Anasazi, and Pueblo cultural affiliation dating from 3000 BC to 1970 AD; however, three-fourths of the sites are Anasazi affiliation from 700 to 1300 AD.

CSS—The Bottom Line

NMDOT staff believe that because of the extensive and early stakeholder involvement, the project resulted in a better design and saved time in the long run. By partnering with the Pueblo and engaging their financial support, NMDOT actually saved money on the overall project.

Although the initial estimate of project cost was \$14 million in 2004, it was bid at about \$17 million, of which the Pueblo Acoma provided \$7 million.