

SLIDE 1

This presentation is for the study of the NM 22 BIA 88 Interchange being done by the New Mexico Department of Transportation in collaboration with the Federal Highway Administration and Parametrix as the planning and engineering consultant. Please note that BIA 88 is referred to as Southern Pueblos or SP 88 in this presentation.

Phase I-A/B Study NM 22 BIA 88 Interchange

CN A301343

NEW MEXICO DEPARTMENT OF TRANSPORTATION

Public Meeting Online Presentation



Parametrix

SLIDE 2

The topics covered for the presentation begin with the project introduction, then the project development process, existing issues and constraints, the purpose and need for the project, concepts that were considered initially, design alternatives that were prepared, the analysis of those alternatives, the preliminary recommendation for the project, next steps, and how to provide input.

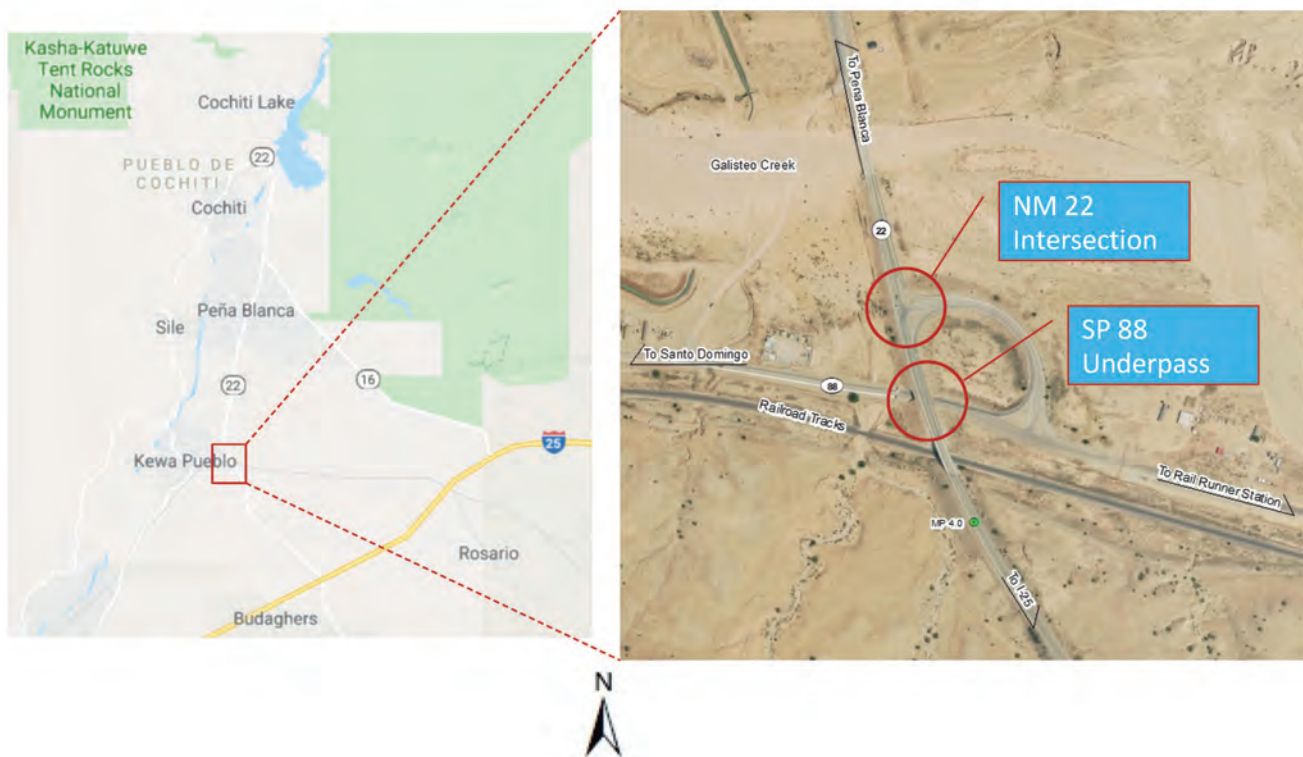
AGENDA

- Project Introduction
- Project Development Process
- Existing Issues and Constraints
- Purpose and Need
- Concepts
- Alternatives
- Alternatives Analysis
- Preliminary Recommendation
- Next Steps
- Input

SLIDE 3

NM 22 serves several communities and recreation areas along its route. These include the Santo Domingo Pueblo, Sile, Peña Blanca, Cochiti Pueblo and Cochiti Lake. The project is located where NM 22 crosses over SP 88 and the New Mexico Rail Runner Express tracks. This is also known as the Mateo Overpass and is located near the Santo Domingo Pueblo. The project focuses on two major areas of concern: first the SP 88 underpass below NM 22, and the NM 22 intersection with the loop ramp that connects to SP 88.

PROJECT LOCATION



SLIDE 4

The SP 88 underpass below NM 22 has several issues today. The existing height of the underpass is 13 foot 10 inches which will not allow for legal height vehicles that may be up to 14 feet tall to pass through. Large trucks and oversize loads must detour around the underpass. The lanes in the underpass are narrow with minimal shoulders, and also pedestrians use the path on the south side of the underpass.

EXISTING ISSUES – SP 88 UNDERPASS

- Existing height of 13'-10" will not allow for legal-height vehicles (14'-0"). Large trucks and oversize loads must detour around the underpass.
- Lanes are narrow, with minimal shoulders
- Pedestrians use the path on the south side



Existing underpass, looking west

SLIDE 5

There are also issues at the NM 22 intersection with the loop ramp that connects to SP 88. Left turn crashes are the main problem here with four crashes in a three year period. This crash rate is 41% higher than average for rural New Mexico roads. Contributing factors may include lane configurations, signs and markings, and vehicle speeds on NM 22.

EXISTING ISSUES – NM 22 INTERSECTION

- Left-turn crashes are prevalent, with four crashes at the NM 22/loop ramp intersection in 3 years
- Crash rate is 41% higher than average for rural NM roads
- Contributing factors may include lane configuration, signs and markings, and vehicle speed



SLIDE 6

Another issue with the interchange is that the acceleration and deceleration lanes are too short. There's not enough room for cars to slow down or speed up without interfering with through traffic on the major roadways.

EXISTING ISSUES – MERGE LANES

- Acceleration/deceleration lane lengths are deficient – there is not enough room to slow down or speed up without interfering with through traffic



NM 22 Location	Existing Length	Recommended Length	Existing % of Recommended
Northbound Decel	410'	730'	56%
Northbound Accel	440'	530'	83%
Southbound Decel	380'	550'	69%
Southbound Accel	350'	1290'	27%

SLIDE 7

There are several constraints for this project. The budget currently available for construction is \$3,599,000. If the cost will exceed this amount, additional funds will need to be found from other state, federal, and local sources. Second, the existing right of way is constrained. Third, the project must fit between two existing bridges at Galisteo Creek and the railroad tracks. These bridges can be repaired and do not need to be replaced at this time, and the roadway grade is set by these two structures.

PROJECT CONSTRAINTS

- Project funding is limited
- Existing right-of-way is constrained
- Project must fit between two existing bridges
 - Galisteo Creek Bridge and Railroad Bridge on either side of the interchange are in serviceable condition and do not need to be replaced
 - Roadway grade is set by these two structures

SLIDE 8

The purpose of this project is to improve access and safety at the NM 22/SP 88 interchange while maintaining pedestrian access. The need for these improvements is based on the high crash rate at the intersection and the deficient size of the existing underpass. This purpose and need statement is a federal requirement.

PROJECT PURPOSE AND NEED

- The project purpose is to improve access and safety at the NM 22/SP 88 interchange, while maintaining pedestrian access
- The need for improvements is based on:
 - The high crash rate at the intersection
 - The deficient size of the existing underpass
- This constitutes the “purpose and need” requirement of the National Environmental Policy Act (NEPA)

SLIDE 9

Several concepts were initially considered for the SP 88 underpass and the NM 22 loop ramp intersection. For the underpass, a new bridge or similar structure is being evaluated, which will include underpass lighting. The underpass may be realigned depending on the interchange layout, and a pedestrian path would be built along the south side of the underpass that would connect to the existing sidewalk and trail.

SP 88 UNDERPASS CONCEPTS

- A new bridge (or similar structure) is being evaluated, including sidewalk on the south side and lighting
- The underpass may be realigned, depending on the interchange layout
- Clearances will meet current design standards



SLIDE 10

For the NM 22 loop ramp intersection, design concepts that were considered include a roundabout, right-in right-out intersection, and directional ramps. Several concepts were also considered but were ruled out initially. These included a major realignment of NM 22, four way stop, traffic signal, or intelligent transportation system signage.

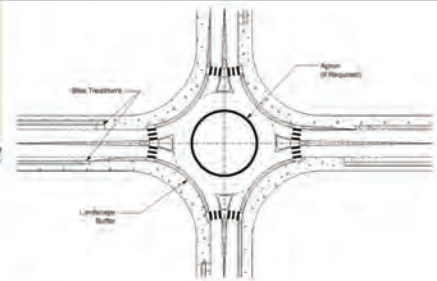
NM 22/LOOP RAMP INTERSECTION CONCEPTS

- Design concepts that were considered:
 - Roundabout
 - Right-turn only (right-in/right-out) intersection
 - Directional ramps
- Concepts considered but ruled out early:
 - Major realignment of NM 22
 - Four-way stop
 - Traffic signal
 - Intelligent transportation system signage

SLIDE 11

A roundabout was considered for this project for several reasons. It would have several benefits, including reducing vehicle speeds and conflicts at the intersection. It would not allow left turns, which would address current crash issues. It would provide for smooth traffic flow. Roundabouts can be designed for semis, RV's, and oversized loads that are anticipated. Also, they have been built along highways similar to NM 22, and they are recommended by the FHWA. Concerns with the roundabout at this location include the existing grade of NM 22 is steeper than typically desired for a roundabout. It would require traffic to slow down from 45 mph posted to 15 to 25 mph through the roundabout. It would require additional right of way easement, and driver education on roundabout use could be required.

WHY A ROUNDABOUT?

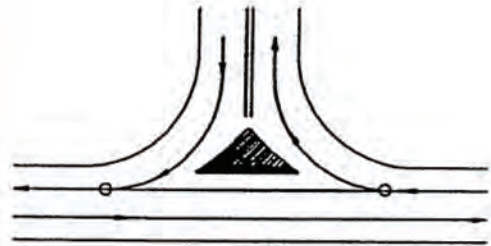


- **Benefits**
 - Reduces vehicle speeds and conflicts
 - No left turns – addresses current crash issues
 - Smooth traffic flow
 - Can be designed for semis, RVs, and oversize loads
 - They are recommended by FHWA for high-speed, 2-lane rural highways
- **Concerns**
 - Existing grade of NM 22 is steeper than typically desired for a roundabout
 - Requires traffic to slow from 45+ mph to 15-25 mph
 - Would require additional right-of-way easement
 - Driver education on roundabout use may be required

SLIDE 12

There are also several reasons that right-in right-out or ramps were considered at the intersection. These would eliminate left turn conflicts. They would provide for smooth traffic flow. They would accommodate all vehicle types, and they are traditional acceleration and deceleration lanes that people are used to driving. Concerns about right-in right-out and ramps include they do not address speeding concerns on NM 22. Merging with traffic is more difficult if speeds are high. More right of way is needed compared to other intersection types, and they have a higher cost and complexity to build, including widening reconstruction of the railroad bridge.

WHY RIGHT-IN/RIGHT-OUT/RAMPS?



- **Benefits**
 - Eliminates left-turn conflicts
 - Smooth traffic flow
 - Accommodates all vehicle types
 - Traditional acceleration and deceleration lanes
- **Concerns**
 - Does not address speeding concerns on NM 22
 - Merging with traffic is more difficult if speeds are high
 - More right-of-way is needed compared to other intersection types, like roundabouts
 - Higher cost and complexity to build, including widening/reconstruction of the railroad bridge

SLIDE 13

Design layouts to improve the underpass intersection and the interchange in general were developed. These layouts are called the project alternatives, which I will go over on the following slides.

PROJECT ALTERNATIVES

Design layouts to improve the underpass, intersection, and associated facilities were developed. These conceptual layouts are called the project **Alternatives**:

- No Build
- Alternative 1: Underpass and Three-Leg Roundabout
- Alternative 2: Underpass and Four-Leg Roundabout
- Alternative 3: Underpass and Right-In/Right-Out Ramps
- Alternative 4: Underpass and West Diagonal Ramps

SLIDE 14

First the No Build alternative represents minimal changes to the existing interchange. It is included in the study as a baseline for comparison with the proposed alternatives. It could be considered as a viable alternative if adequate funding is not available for the project.

NO BUILD



- Access would remain as it is today
- Minor safety improvements, such as signage, could be considered
- The interchange, including the SP 88 underpass box, would be maintained

SLIDE 15

For Alternative 1, the three-leg roundabout, a new roundabout would be constructed at the existing intersection with the loop ramp. The roundabout would be a single-lane type, with one circulatory lane. This alternative would reuse the grade of the existing loop ramp, and replacement of the SP 88 underpass with a new bridge is included in this and all of the alternatives. On the alternative maps, the blue lines represent the existing right-of-way easement limits for the interchange. The purple lines represent new right-of-way easement that would need to be dedicated for construction.

ALTERNATIVE 1 – 3-LEG ROUNDABOUT



- New SP 88 underpass bridge
- Grades would be flattened near the roundabout
- Roundabout would be designed to slow down traffic, with advance warning
- Minor utility impacts
- 0.7 acres of additional right-of-way
- Does not affect the existing RR bridge
- \$4.6 million preliminary cost

SLIDE 16

Alternative 2, the four-leg roundabout, would take the three-leg roundabout, and it would add a leg on the west side of the roundabout that would connect to SP 88. This roundabout would have a single lane. This alternative would also replace the existing underpass box with a new bridge.

ALTERNATIVE 2 – 4-LEG ROUNDABOUT



- New SP 88 underpass bridge
- Grades would be flattened near the roundabout
- Roundabout would be designed to slow down traffic, with advance warning
- More direct access to SP 88 west of NM 22
- Minor utility impacts
- 2.3 acres of additional right-of-way
- Does not affect existing RR bridge
- \$5.1 million preliminary cost

SLIDE 17

Alternative 3 is right-in right-out ramps. This would have new ramps east and west of NM 22 at the existing intersection. The ramps would be connected to SP 88. A curb or other type of barrier would be placed along the median of NM 22 to prevent left turns. Longer acceleration and deceleration lanes would be required and would require the NM 22 bridge over the railroad to be replaced with a wider bridge. This would also replace the SP 88 underpass with a new bridge.

ALTERNATIVE 3 – RIGHT-IN/OUT RAMPS



- New SP 88 underpass bridge
- Longer NM 22 accel/decel lanes
- Minor impacts to utilities
- 2.5 acres additional right-of-way
- Requires reconstruction of railroad bridge
- \$12.6 million preliminary cost

SLIDE 18

Alternative 4 has west diagonal ramps. It would use on and off ramps for southbound traffic on the west side of NM 22. Right-in right-out ramps for northbound traffic are located on the east side of NM 22 at the existing intersection. With longer acceleration and deceleration lanes, the NM 22 bridge over the railroad tracks would require replacement with a wider bridge. This would require realignment of the SP 88 underpass which again would have a new bridge.

ALTERNATIVE 4 – WEST DIAGONAL RAMPS



- New SP 88 underpass bridge
- More direct access to SP 88
- Steep southbound on-ramp with geometry constrained by railroad
- Utility relocations required
- 1.8 acres additional right-of-way
- Requires reconstruction of railroad bridge
- \$12.7 million preliminary cost

SLIDE 19

The alternatives were analyzed by considering a number of factors that are listed here. The analysis is summarized in the evaluation matrix in the following slides.

ALTERNATIVES ANALYSIS

- Alternatives were analyzed by considering a number of factors:
 - Consistency with the Purpose and Need
 - Traffic Operations
 - Drainage
 - Utilities
 - Right-of-Way
 - Railroad Aspects
 - Constructability
 - Maintenance
 - Preliminary Cost, Funding, and Implementation
 - Community Aspects
 - Environmental Aspects
- The analysis was summarized in the evaluation matrix

SLIDE 20

This matrix summarizes the results of the alternatives analysis. For several of the factors being considered the alternatives did not have major differences. The areas where there were important differences are discussed in the next few slides.

ALTERNATIVES ANALYSIS

Evaluation Matrix

Evaluation Criteria	No Build Alternative	Alternative 1 3-Log Roundabout	Alternative 2 4-Log Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Consistency with Purpose and Need	<ul style="list-style-type: none"> Makes minor safety improvements but does not eliminate left-turn conflicts Does not improve access through the SP 88 underpass 	<ul style="list-style-type: none"> Meets project purpose by improving access and safety for users Improves safety by reducing speeds on NM 22 	<ul style="list-style-type: none"> Meets project purpose by improving access and safety for users Improves safety by reducing speeds on NM 22 	<ul style="list-style-type: none"> Meets project purpose by improving access and safety for users 	<ul style="list-style-type: none"> Meets project purpose by improving access and safety for users
Traffic Operations	<ul style="list-style-type: none"> Does not address SP 88 underpass operational issues 	<ul style="list-style-type: none"> Operates acceptably for projected traffic Negligible added delays for NM 22 thru traffic 	<ul style="list-style-type: none"> Operates acceptably for projected traffic Negligible added delays for NM 22 thru traffic More direct connections to SP 88 	<ul style="list-style-type: none"> Operates acceptably for projected traffic More direct connections to SP 88 	<ul style="list-style-type: none"> Operates acceptably for projected traffic Most direct ramp connections to SP 88
Drainage	<ul style="list-style-type: none"> No drainage improvements 	<ul style="list-style-type: none"> Minor drainage improvements required 	<ul style="list-style-type: none"> Drainage improvements required 	<ul style="list-style-type: none"> Drainage improvements required 	<ul style="list-style-type: none"> Drainage improvements required
Utilities	<ul style="list-style-type: none"> No utility work 	<ul style="list-style-type: none"> Minor impacts to existing utilities 	<ul style="list-style-type: none"> Minor impacts to existing utilities 	<ul style="list-style-type: none"> Minor impacts to existing utilities 	<ul style="list-style-type: none"> Utility relocations required
Right-of-Way Acquisition	<ul style="list-style-type: none"> No additional right-of-way 	<ul style="list-style-type: none"> 0.67 acres 	<ul style="list-style-type: none"> 2.29 acres 	<ul style="list-style-type: none"> 2.54 acres 	<ul style="list-style-type: none"> 1.84 acres
Railroad Aspects	<ul style="list-style-type: none"> No work within railroad right-of-way 	<ul style="list-style-type: none"> No major construction within RR right-of-way 	<ul style="list-style-type: none"> No major construction within RR right-of-way 	<ul style="list-style-type: none"> Requires reconstruction of railroad bridge 	<ul style="list-style-type: none"> Requires reconstruction of railroad bridge
Constructability	<ul style="list-style-type: none"> No construction impacts 	<ul style="list-style-type: none"> NM 22 lane closures/detour during underpass construction 	<ul style="list-style-type: none"> NM 22 lane closures/detour during underpass construction 	<ul style="list-style-type: none"> NM 22 lane closures/detour during underpass construction 	<ul style="list-style-type: none"> NM 22 lane closures/detour during underpass construction
Maintenance	<ul style="list-style-type: none"> Age of existing SP 88 underpass will result in increased long-term maintenance 	<ul style="list-style-type: none"> Standard highway maintenance Roundabout will be designed for snowplow access 	<ul style="list-style-type: none"> Standard highway maintenance Roundabout will be designed for snowplow access 	<ul style="list-style-type: none"> Standard highway maintenance 	<ul style="list-style-type: none"> Standard highway maintenance
Preliminary Cost, Funding, and Implementation	<ul style="list-style-type: none"> No construction or right-of-way costs 	<ul style="list-style-type: none"> \$4,595,147 Project can be implemented in the near-term 	<ul style="list-style-type: none"> \$5,081,364 Project can be implemented in the near-term 	<ul style="list-style-type: none"> \$12,613,298 Project would be phased over the long-term 	<ul style="list-style-type: none"> \$12,739,952 Project would be phased over the long-term
Community Aspects	<ul style="list-style-type: none"> Does not address community concerns with the existing interchange 	<ul style="list-style-type: none"> Designed to slow down traffic Winter driving conditions would be similar to the existing intersection 	<ul style="list-style-type: none"> New ramp west of NM 22 enhances drivability Designed to slow down traffic Winter driving conditions would be similar to the existing intersection 	<ul style="list-style-type: none"> New ramp west of NM 22 enhances drivability Conventional intersection layout Winter driving conditions would be similar to the existing intersection 	<ul style="list-style-type: none"> New ramps west of NM 22 enhance drivability Conventional intersection layout Southbound on-ramp would be steep Winter driving conditions would be similar to the existing intersection
Environmental Aspects	<ul style="list-style-type: none"> Does not affect environmental resources 	<ul style="list-style-type: none"> Environmental aspects are not a differentiator 	<ul style="list-style-type: none"> Environmental aspects are not a differentiator 	<ul style="list-style-type: none"> Environmental aspects are not a differentiator 	<ul style="list-style-type: none"> Environmental aspects are not a differentiator

Legend
+ Better performance compared to other alternatives
- Similar performance to other alternatives
- Lower performance compared to other alternatives

SLIDE 21

The first evaluation criterion I'm going to discuss is consistency with the purpose and need for the project. You will recall that the purpose and need is to improve access and safety at the interchange and also to maintain pedestrian access along SP 88. Looking at the different alternatives, first the no build alternative does not improve access or safety at the interchange, so therefore it is not discussed further in this presentation. Alternatives 1 or 2, the three- or four-leg roundabout, would improve access and safety for interchange users, and they would also improve safety by reducing speeds on NM 22. Alternatives 3 and 4 would improve access and safety by eliminating left turns, but they would not reduce traffic speeds on NM 22 so they would not provide the same safety benefit.

ALTERNATIVES ANALYSIS

Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Consistency with Purpose and Need	- Makes minor safety improvements but does not eliminate left-turn conflicts - Does not improve access through the SP 88 underpass	◦ Meets project purpose by improving access and safety for users + Improves safety by reducing speeds on NM 22	◦ Meets project purpose by improving access and safety for users + Improves safety by reducing speeds on NM 22	◦ Meets project purpose by improving access and safety for users	◦ Meets project purpose by improving access and safety for users

Legend

+ Better performance compared to other alternatives

◦ Similar performance to other alternatives

- Lower performance compared to other alternatives

SLIDE 22

The next factor, railroad aspects, is important because the railroad carries significant passenger train traffic. Alternatives 1 or 2, the three- or four leg-roundabout would not require major construction within the railroad right of way, which is a benefit. Alternatives 3 or 4, however, would require reconstruction of the railroad bridge close to and over the tracks. This bridge could be repaired and maintained today, so replacing it would add costs and risks to the project.

ALTERNATIVES ANALYSIS

Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Railroad Aspects	◦ No work within railroad right-of-way	+ No major construction within RR right-of-way	+ No major construction within RR right-of-way	- Requires reconstruction of railroad bridge	- Requires reconstruction of railroad bridge

Legend

+ Better performance compared to other alternatives

◦ Similar performance to other alternatives

- Lower performance compared to other alternatives

SLIDE 23

The acquisition of right of way easement would be required for all of the alternatives. This acquisition would be obtained from the Santo Domingo Pueblo, and the NMDOT respects the Santo Domingo Pueblo's sovereignty and realizes this is an important consideration for the project. Alternative 1 requires the least right of way compared to the other alternatives, shown in purple below, although all of the alternatives' right-of-way acquisition would be relatively small compared to the size of the current interchange.

ALTERNATIVES ANALYSIS

Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Right-of-Way Acquisition	◦ No additional right-of-way	+ 0.7 acres	2.3 acres	2.5 acres	1.8 acres



Legend

- + Better performance compared to other alternatives
- Similar performance to other alternatives
- Lower performance compared to other alternatives

SLIDE 24

In terms of preliminary construction cost, funding, and implementation of the project, Alternatives 1 and 2 with roundabouts are estimated to have a construction cost less than half of what either Alternatives 3 or 4. This is important, because NMDOT has the ability to program the level of funding needed for Alternatives 1 and 2 in the next few years. However, Alternatives 3 and 4 would require additional funds that would need to be allocated from federal sources over a longer period of time. Based on the current funding forecasts, this could cause the project to be delayed indefinitely or canceled.

ALTERNATIVES ANALYSIS

Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Preliminary Cost, Funding, and Implementation	◦ No construction or right-of-way costs	+ \$4,595,147 + Project can be implemented in the near-term	+ \$5,081,364 + Project can be implemented in the near-term	◦ \$12,612,298 ◦ Project would be phased over the long-term	◦ \$12,739,952 ◦ Project would be phased over the long-term

Legend

+ Better performance compared to other alternatives

◦ Similar performance to other alternatives

- Lower performance compared to other alternatives

SLIDE 25

In terms of community aspects, Alternatives 2 or 3, the four-leg roundabout or the right-in right-out ramps would provide better access to the Santo Domingo Pueblo to the west. Alternative 2 would slow down traffic somewhat, while Alternative 3 would have a more conventional layout. All alternatives would function similarly to the existing NM 22 intersection during winter driving conditions.

ALTERNATIVES ANALYSIS

Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-In/Right-Out Ramps	Alternative 4 West Diagonal Ramps
Community Aspects	- Does not address community concerns with the existing interchange	+ Designed to slow down traffic ◦ Winter driving conditions would be similar to the existing intersection	+ New ramp west of NM 22 enhances drivability + Designed to slow down traffic ◦ Winter driving conditions would be similar to the existing intersection	+ New ramp west of NM 22 enhances drivability + Conventional intersection layout ◦ Winter driving conditions would be similar to the existing intersection	+ New ramps west of NM 22 enhance drivability + Conventional intersection layout - Southbound on-ramp would be steep ◦ Winter driving conditions would be similar to the existing intersection

Legend

+ Better performance compared to other alternatives

◦ Similar performance to other alternatives

- Lower performance compared to other alternatives

SLIDE 26

Based on the analysis, Alternative 2, the four-leg roundabout, has the most benefits of all the alternatives with no major disadvantages, so it is the preliminary recommendation of the NMDOT for this project. The basis for the recommendation is further explained in the following slides.

ALTERNATIVES ANALYSIS					
Evaluation Criteria	No Build Alternative	Alternative 1 3-Leg Roundabout	Alternative 2 4-Leg Roundabout	Alternative 3 Right-Turn Out Ramps	Alternative 4 West Diagonal Ramps
Consistency with Purpose and Need	- Makes minor safety improvements but does not eliminate left-turn conflicts - Does not improve access through the SP 88 underpass	+ Meets project purpose by improving access and safety for users + Improves safety by reducing speeds on NM 22	+ Meets project purpose by improving access and safety for users + Improves safety by reducing speeds on NM 22	+ Meets project purpose by improving access and safety for users	+ Meets project purpose by improving access and safety for users
Traffic Operations	- Does not address SP 88 underpass operational issues	+ Operates acceptably for projected traffic + Negligible added delays for NM 22 thru traffic	+ Operates acceptably for projected traffic + Negligible added delays for NM 22 thru traffic + More direct ramp connections to SP 88	+ Operates acceptably for projected traffic + More direct ramp connections to SP 88	+ Operates acceptably for projected traffic + Most direct ramp connections to SP 88
Drainage	- No drainage improvements	+ Minor drainage improvements required	+ Drainage improvements required	+ Drainage improvements required	+ Drainage improvements required
Utilities	- No utility work	+ Minor impacts to existing utilities	+ Minor impacts to existing utilities	+ Minor impacts to existing utilities	+ Utility relocations required
Right-of-Way Acquisition	- No additional right-of-way	+ 0.67 acres	+ 2.26 acres	+ 54 acres	+ 1.84 acres
Railroad Aspects	- No work within railroad right-of-way	+ No major construction within RR right-of-way	+ No major construction within RR right-of-way	- Requires reconstruction of railroad bridge	- Requires reconstruction of railroad bridge
Constructability	- No construction impacts	+ NM 22 lane closures/detour during underpass construction	+ NM 22 lane closures/detour during underpass construction	+ NM 22 lane closures/detour during underpass construction	+ NM 22 lane closures/detour during underpass construction
Maintenance	- Age of existing SP 88 underpass will result in increased long-term maintenance	+ Standard highway maintenance + Roundabout will be designed for snowplow access	+ Standard highway maintenance + Roundabout will be designed for snowplow access	+ Standard highway maintenance	+ Standard highway maintenance
Preliminary Cost, Funding, and Implementation	- No construction or right-of-way costs	+ \$4,595,147 + Project can be implemented in the near-term	+ \$5,081,384 + Project can be implemented in the near-term	+ \$12,617,299 + Project would be phased over the long-term	+ \$12,789,952 + Project would be phased over the long-term
Community Aspects	- Does not address community concerns with the existing interchange	+ Designed to slow down traffic + Winter driving conditions would be similar to the existing intersection	+ New ramp west of NM 22 enhances drivability + Designed to slow down traffic + Winter driving conditions would be similar to the existing intersection	+ New ramp west of NM 22 enhances drivability + Conventional intersection layout + Winter driving conditions would be similar to the existing intersection	+ New ramps west of NM 22 enhance drivability + Conventional intersection layout + Southbound on-ramp would be steep + Winter driving conditions would be similar to the existing intersection
Environmental Aspects	- Does not affect environmental resources	+ Environmental aspects are not a differentiator	+ Environmental aspects are not a differentiator	+ Environmental aspects are not a differentiator	+ Environmental aspects are not a differentiator

Alternative 2, the 4-leg roundabout, is the preliminary recommendation.

Legend	
+ Better performance compared to other alternatives	
- Similar performance to other alternatives	
- Lower performance compared to other alternatives	

SLIDE 27

Alternative 2 would meet the project goals by improving access and safety. It would replace the existing SP 88 underpass box with a new bridge. It would eliminate left turn conflicts along NM 22, and it would be designed to slow down traffic and improve safety. It would also be affordable compared to the other alternatives.

PRELIMINARY RECOMMENDATION

Alternative 2 – Four-leg roundabout

- Meets the project goals by improving access and safety
 - Replaces the existing SP 88 underpass box with a new bridge
 - Eliminates left-turn conflicts along NM 22
 - Designed to slow down traffic on NM 22
- Affordable

SLIDE 28

Several design elements would be included in the design of a new roundabout. First, the roundabout would have a single lane, so it would be straightforward for drivers to navigate. Warning signs would be placed to warn motorists that they are approaching a roundabout and need to slow down. The approaches themselves would be designed to reduce speeds, similar to this roundabout on New Mexico 585 near Taos. For this roundabout, traffic from the east approaches at a 55 mile per hour posted speed, and the speed limit is reduced near the roundabout. Curbs and geometric design also serve to inform motorists that they are approaching a roundabout and should slow down. Intersection lighting will be installed to make the roundabout more visible at night. The intersection also could have landscaping or places for artwork as part of a future project.

PROPOSED DESIGN ELEMENTS

- Single circulatory lane
- Advance warning signs
- Approaches designed to reduce speeds
- Intersection Lighting
- Potential for landscaping or artwork (under a separate project)



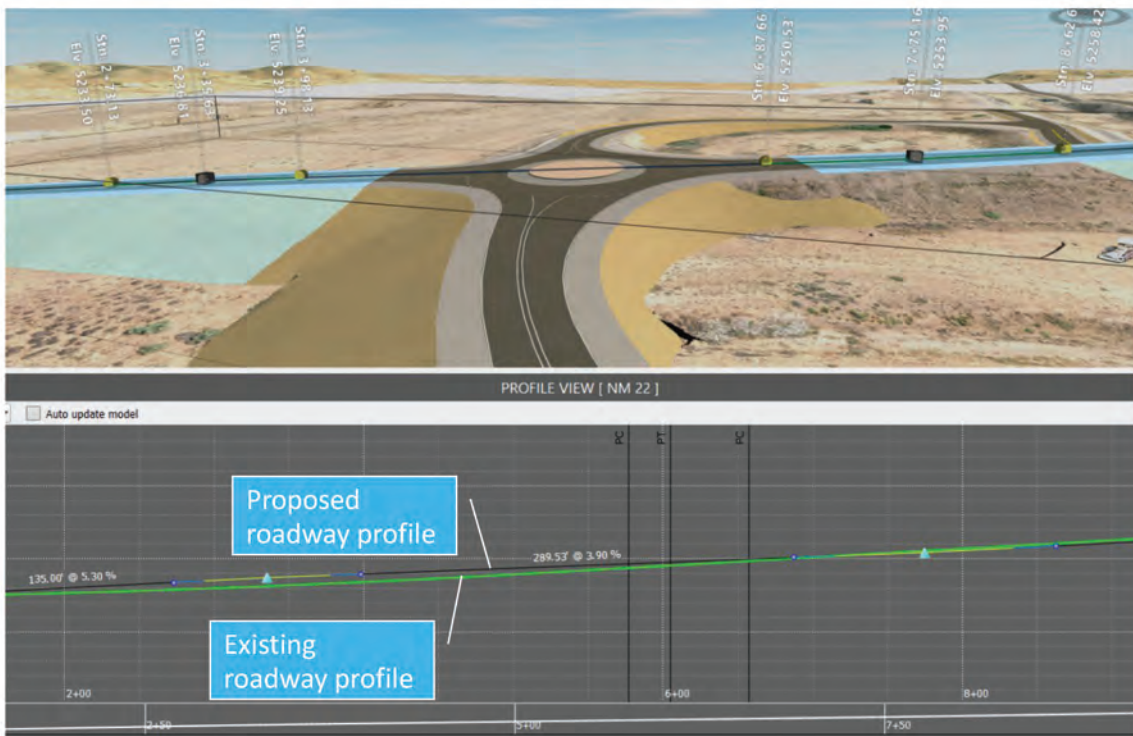
Roundabout on NM 585 near Taos

SLIDE 29

Flattening the grade or slope along NM 22 is also being proposed, which would give cars and trucks more level area to drive around the interchange. As shown on the profile view on the bottom of this slide, this would not require a major change to the existing level of NM 22.

PROPOSED DESIGN ELEMENTS

- Flatter grades near the roundabout



SLIDE 30

The roundabout would include truck aprons as shown in this video (<https://youtu.be/uHrw-RfdfY8>).

PROPOSED DESIGN ELEMENTS

- The roundabout will have truck aprons, which are paved areas specifically designed for semis and other large vehicles



SLIDE 31

Please provide us with any comments, questions, or concerns you have on the project. You can submit them by email, regular mail, or phone. We ask that you provide comments by July 17, 2020, and we will do our best to reply promptly.

PLEASE PROVIDE COMMENTS

- Please send us your comments by **July 17, 2020** in one of the following ways:
 - Email to NM22@parametrix.com (attn: Jim Buckman)
 - Regular mail to Attn: Jim Buckman, NM 22/SP 88 Project, 9600 San Mateo Blvd NE, Albuquerque, NM 87113
 - Call Munaf Alaloosi, NMDOT, (505) 228-8872

SLIDE 32

The next major step will be to finalize and obtain approval for the study report, which will allow funding to be set aside for project construction. Then the design, environmental documentation, and right-of-way maps will be completed.

NEXT STEPS

1. Finalize report and recommendations
2. Stakeholder coordination and study approval
3. Prepare preliminary design plans
4. Prepare an environmental document, expected to be a Categorical Exclusion (CE)
5. Prepare final plans, specifications, and estimate
6. Prepare right-of-way maps

SLIDE 33

In terms of construction, the current funding is for federal fiscal year 2023. This means construction could start in late 2022 or sooner if all the necessary steps can be completed in time. This slide shows the estimated length of construction as well as some of the potential temporary detour impacts that could occur.

CONSTRUCTION

7. Construction

- FY 2023 funding
- Schedule depends on funding, design, and right-of-way
- 12 to 18 months construction estimated
- Detours via NM 16 and SP 88 are expected
- Closures of NM 22 are possible during underpass replacement

SLIDE 34

For additional information on the project, please feel free to contact Munaf Alaloosi at the NMDOT Central Region Division at the email address and phone number listed below. Thank you!

THANK YOU

- For additional information, please contact
Munaf Alaloosi, NMDOT-Central Region Division
MunafM.Alaloosi@state.nm.us, (505) 228-8872