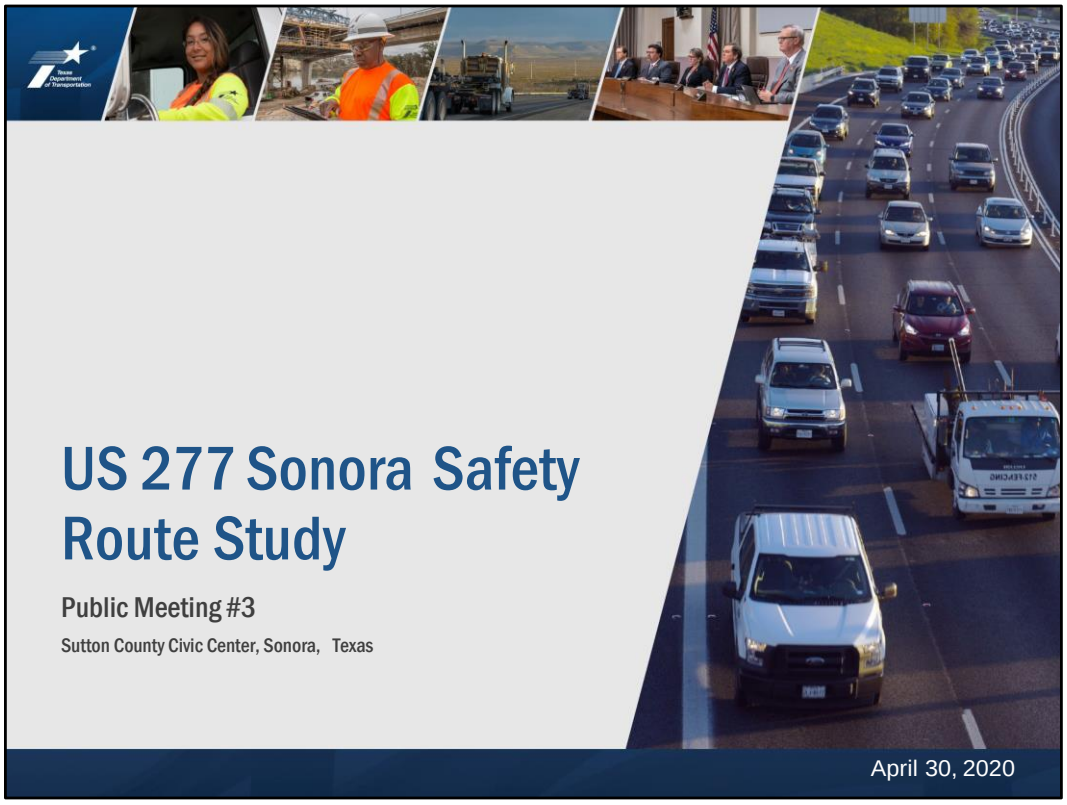
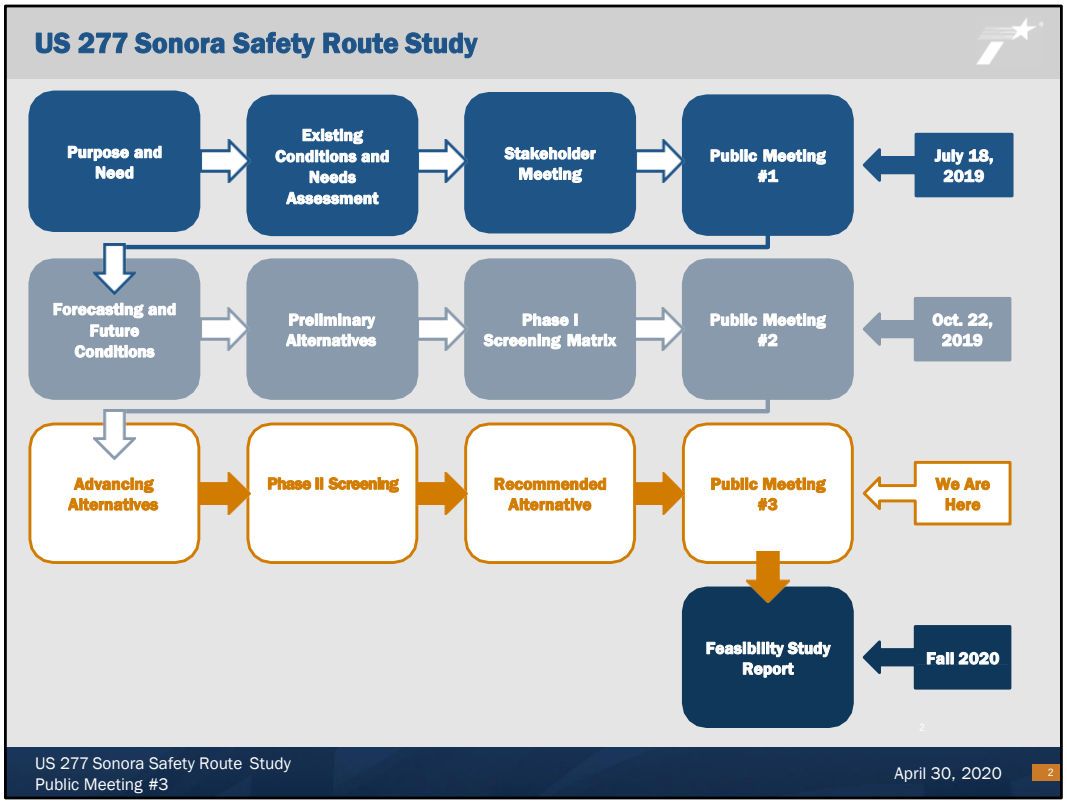


Welcome to public meeting for the US 277 Sonora Safety Route Study. This meeting is being hosted by the Texas Department of Transportation. This is the third public meeting held for the project. The public will be able to access this slide presentation and provide comments through May 15, 2020.



This slide presents the process used to study the US 277 Sonora Safety Route.

The first public meeting was held on July 18, 2019. At that meeting, TxDOT presented the purpose of the study, the study area, and the existing conditions and needs.

TxDOT asked for input on the study area.

The second public meeting was held on October 22, 2019. TxDOT presented the forecasted conditions, preliminary alternatives and a Phase I screening matrix evaluating the preliminary alternatives.

At the second meeting, TxDOT asked for input on the preliminary alternatives.

Following the second public meeting, TxDOT reviewed the public comments and performed a Phase II screening to identify the Advancing Alternatives.

The purpose of today's public meeting is to present the Recommended Alternative and to gather input from the public.

Summary of Previous Public Meeting

Public Meeting– October 22, 2019

- Presented traffic data (historic and 2019)
- Reviewed Preliminary Alternatives
- Reviewed Phase I Evaluation Matrix used to screen Preliminary Alternatives that will advance to Phase II Screening

Feedback from the Meeting:

- 64 comments received
- Majority of commenters preferred the purple alternative, followed by the green alternative
- General Comments included:
  - Avoid residences
  - Keep the corridor close to Sonora
- A Meeting Summary can be found on TxDOT.gov

US 277 Sonora Safety Route Study
Public Meeting #3

April 30, 2020 3

The second US 277 Sonora Safety Route Public Meeting was held October 22, 2019. TxDOT presented historic traffic data and population forecasts for Sonora.

Next, preliminary alternatives were reviewed. Each alternative was described in terms of location and environmental constraints.

Along with the preliminary alternatives, a Phase I Evaluation Matrix was presented to determine which of the preliminary alternatives would advance to the Phase II Screening.

Attendees were asked to fill out a comment form which included a question to indicate which alternative they preferred.

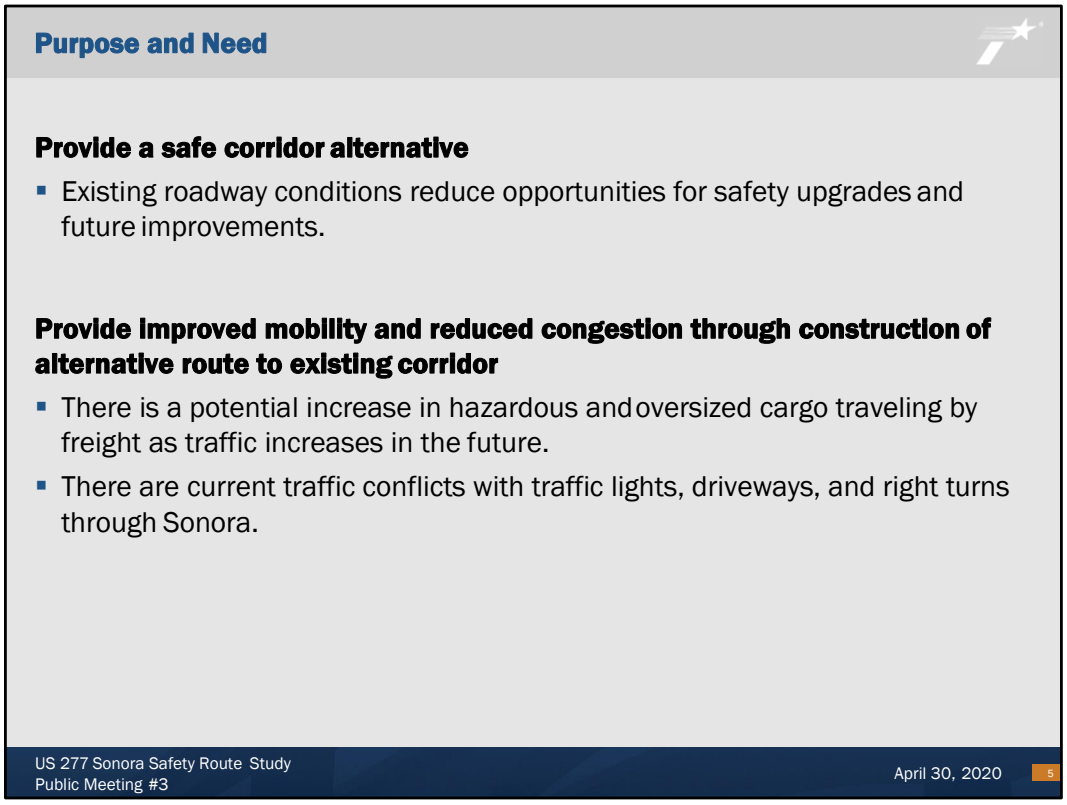
A total of 64 comment were received from the second meeting. Most of the commenters indicated a preference for the purple alternative, followed by the green alternative.

In general, comments included avoiding residences when selecting an alternative as well as suggesting to keep the corridor close to Sonora.

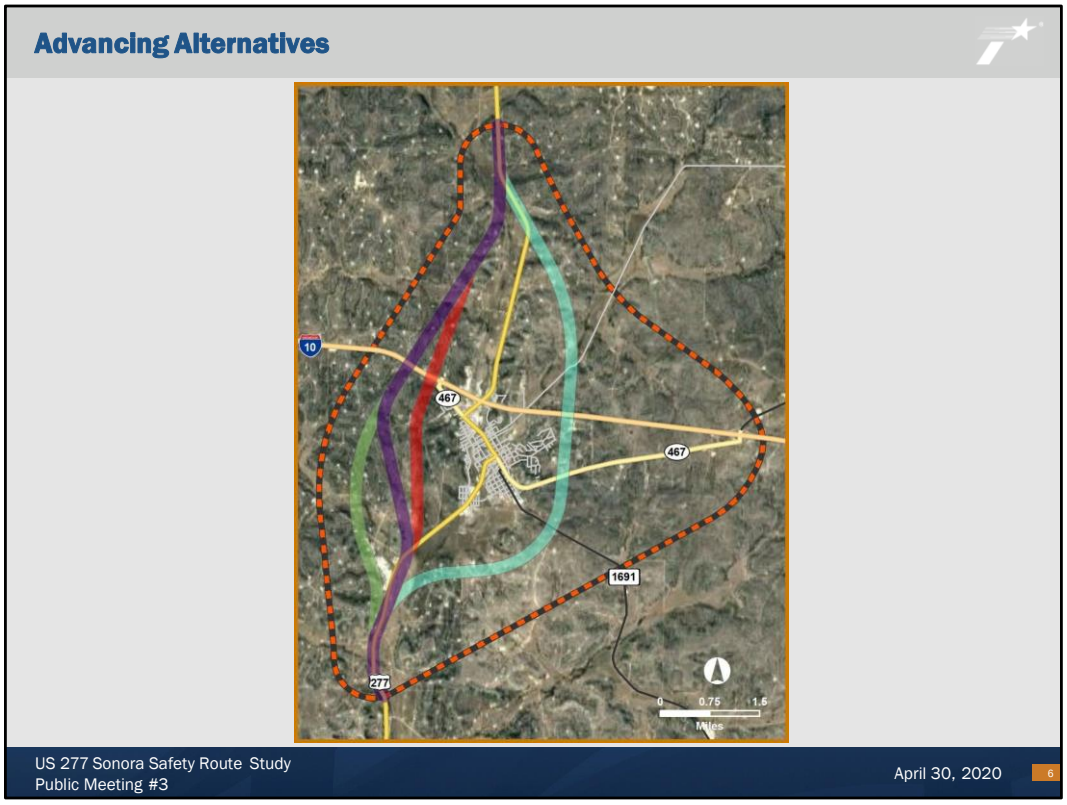
The summary of the meeting can be found on TxDOT.gov.

At todays' meeting, TxDOT will present the forecasted traffic data for the study and the alternatives that advanced to the Phase II Evaluation Matrix.

We will also review the Recommended Alternative and why it was chosen by TxDOT. We will also solicit your feedback on TxDOT's recommendation.



The purpose and need for the US 277 Sonora Safety Route is to provide a safer corridor alternative and to provide improved mobility and reduced congestion through the construction of an alternative route to the existing US 277 corridor.



This slide shows the four advancing alternatives. The alternatives that were advanced from the Phase I evaluation matrix include the green, purple, red, and teal alternatives

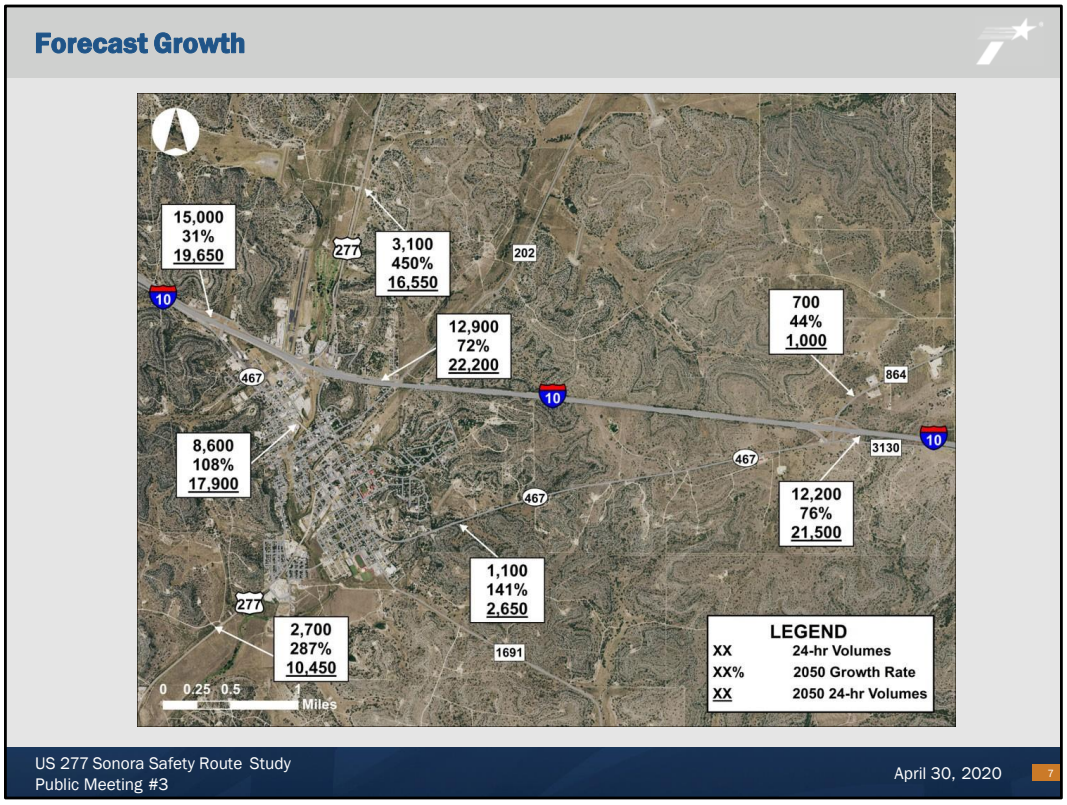
Three are to the west and one is to the east. We will describe these starting from west to east.

The green and purple alternatives are the farthest west, crossing I-10 approximately one and a quarter mile west of the existing US 277 interchange. Both the green and purple alternatives tie in at the same location to the north. They both continue south, crossing behind the dam.

The green alternative ties back into US 277 south of the existing industrial park, whereas the purple alternative ties in north of the Sonora Industrial Park.

The next alternative, the red alternative, ties in at the north end at the same location as the green and purple alternatives. It crosses I-10 approximately three quarters of a mile west of the existing US 277 interchange; near the existing overpass that ties into Loop 467/Crockett Avenue. The red alternative ties back into US 277 to the south just north of the Sonora Industrial Park.

The teal alternative routes traffic east of downtown Sonora. It crosses I-10 approximately one and a quarter mile east of the existing US 277 interchange. It ties back into US 277 to the north at approximately the same location as the three western alternatives and ties back into US 277 to the south near the Sonora Industrial Park.



Traffic forecasts for the study area were developed using statewide traffic growth from TxDOT's computerized statewide traffic forecasting model, and a local traffic model of Sonora developed especially for this study.

Most of the traffic growth is due to population and employment growth throughout Texas, growing international trade with Mexico, and interstate commerce.

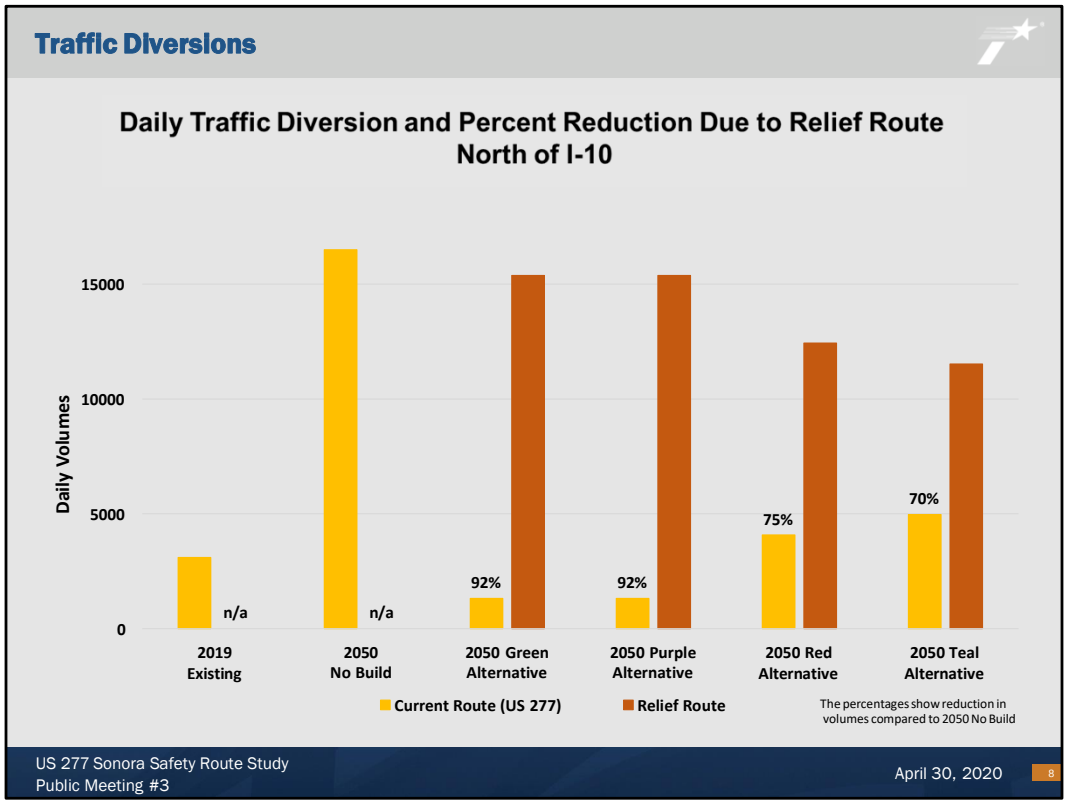
The forecasts assume that a plan to upgrade the Port to Plains corridor will be adopted, which will result in added traffic in the US 277 corridor through Sonora.

This map shows year 2019 average daily traffic counts at the top of each box, and year 2050 daily traffic forecasts at the bottom assuming no relief route is built.

The percentage increase between 2019 and 2050 is shown in between. This forecast establishes the "no build" condition, a basis from which the relief route options will be compared.

The current traffic volumes on US 277 are in the range of 2,700 to 8,600 vehicles per day in 2019, and grow to the range of 10,450 to 17,900 per day in 2050.

Current traffic on I-10 grows from 12,200 to 15,000 vehicles per day in 2019, to the range of 19,650 to 22,200 per day in 2050.



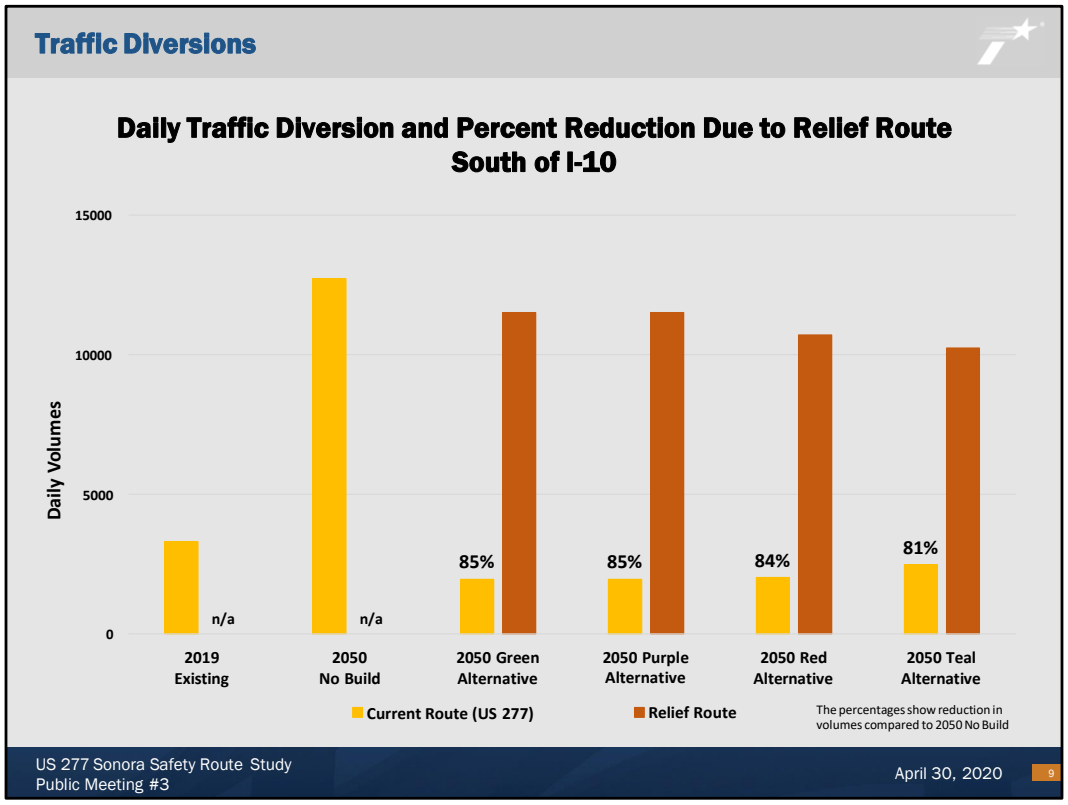
For each alternative, this graph shows the projected reduction in traffic on existing US 277 **North** of Sonora and the amount of traffic the proposed relief route is anticipated to draw from US 277 in 2050.

As discussed on the previous map, traffic on this section grows 450% to 16,600 vehicles per day in 2050.

The different relief route alternatives reduce the amount of traffic on US 277 by 92% for the Green and Purple alternative, 75% for the Red alternative, and 70% for the Teal alternative.

Traffic reductions vary by alternative due to trips that travel to and from different local destinations in and around Sonora, as opposed to those that travel all the way through.

Some alternatives provide more direct access to most of these destinations, while others like the Teal alternative pass too far from these destinations and thus would not draw as much traffic from existing US 277.



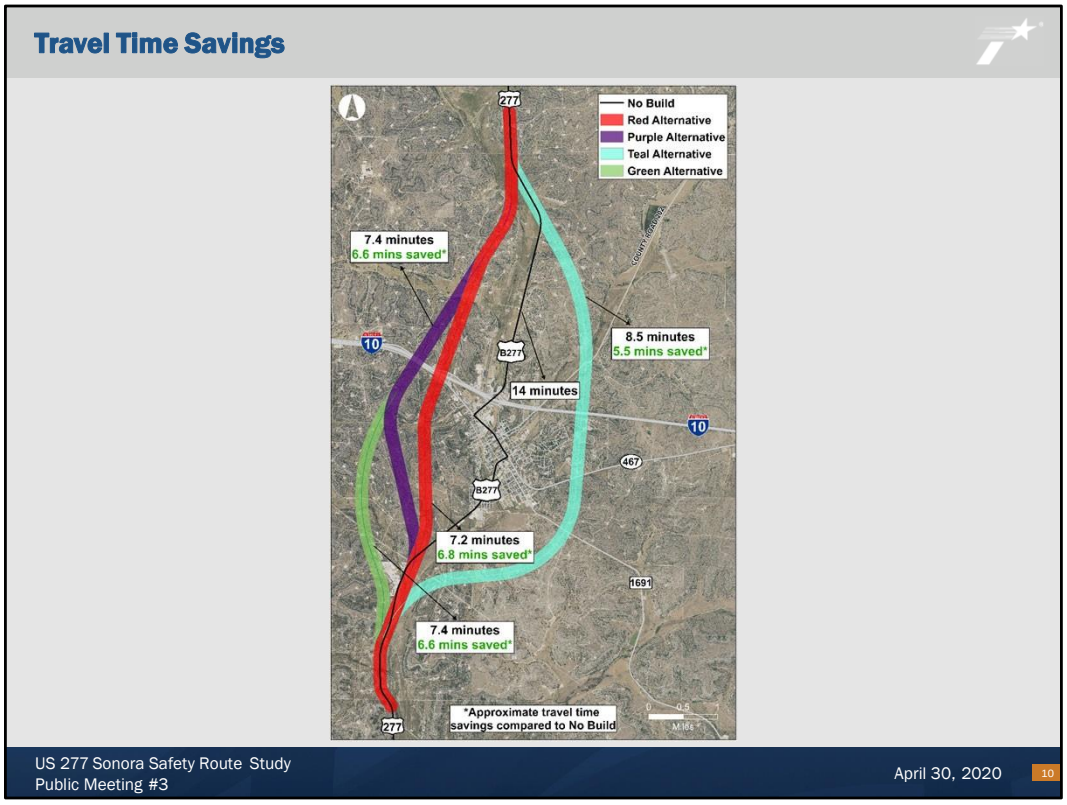
Similarly on this slide for each alternative, this graph shows the projected reduction in traffic on existing US 277 **South** of Sonora and the amount of traffic the proposed relief route is anticipated to draw from US 277 in 2050.

Traffic on this section grows 287% to 10,500 vehicles per day in 2050.

The different relief route alternatives reduce the amount of traffic on US 277 by 85% for the Green and Purple alternative, 84% for the Red alternative, and 81% for the Teal alternative.

Like US 277 north, traffic reductions on US 277 south were due to trips that were traveling to and from different local destination in and around Sonora.

Some alternatives provide more direct access to most of these destinations, while others like the Teal alternative pass too far from these destination and thus would not draw as much traffic from existing US 277.



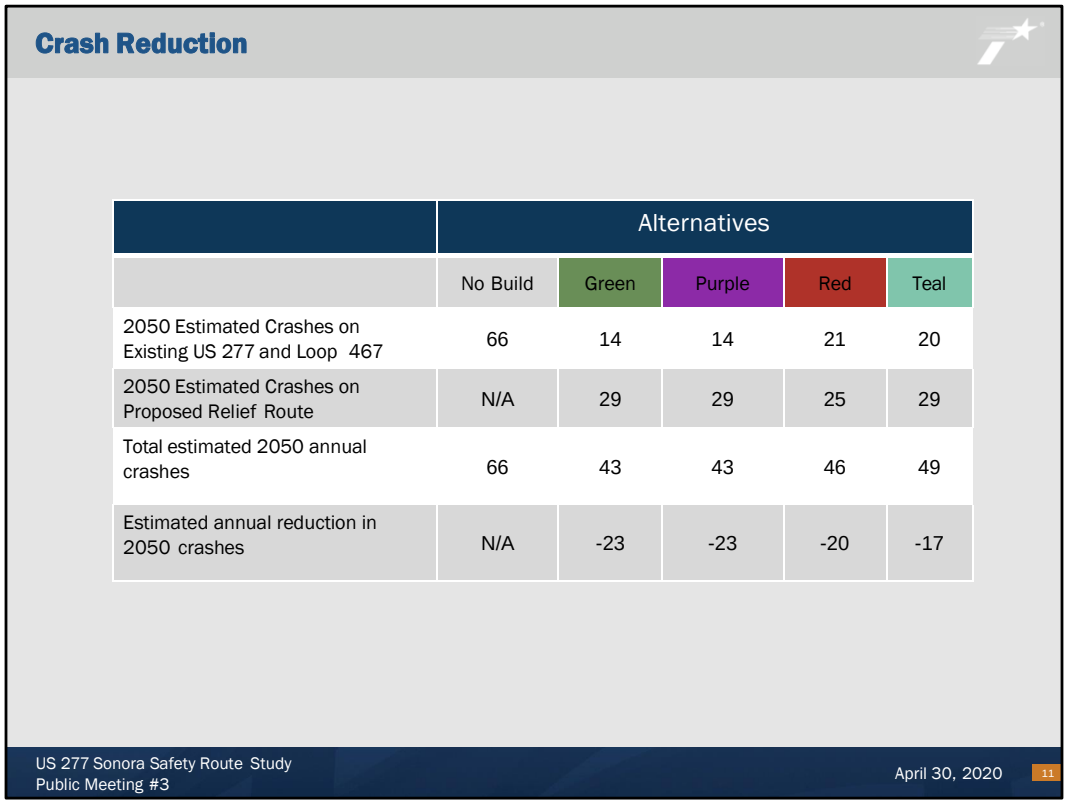
This map presents the travel time and time savings of the four advancing relief route alternatives.

The existing route of US 277 is about 10 miles long within the relief route study area, and existing travel times range from 12 to 16 minutes; averaging 14 minutes.

The relief route alternatives reduce study area travel time to the range of 7 to 8.5 minutes and save 5.5 to 7 minutes relative to the current average of 14 minutes.

All three west-side alternatives have similar travel times ranging from 7 to 7.5 minutes.

The longer east-side Teal alternative takes 8.5 minutes.



The reduction in crashes due to the relief route was estimated relative to no build using a combination of current crash rates and TxDOT average rates for highways similar to the relief route configuration.

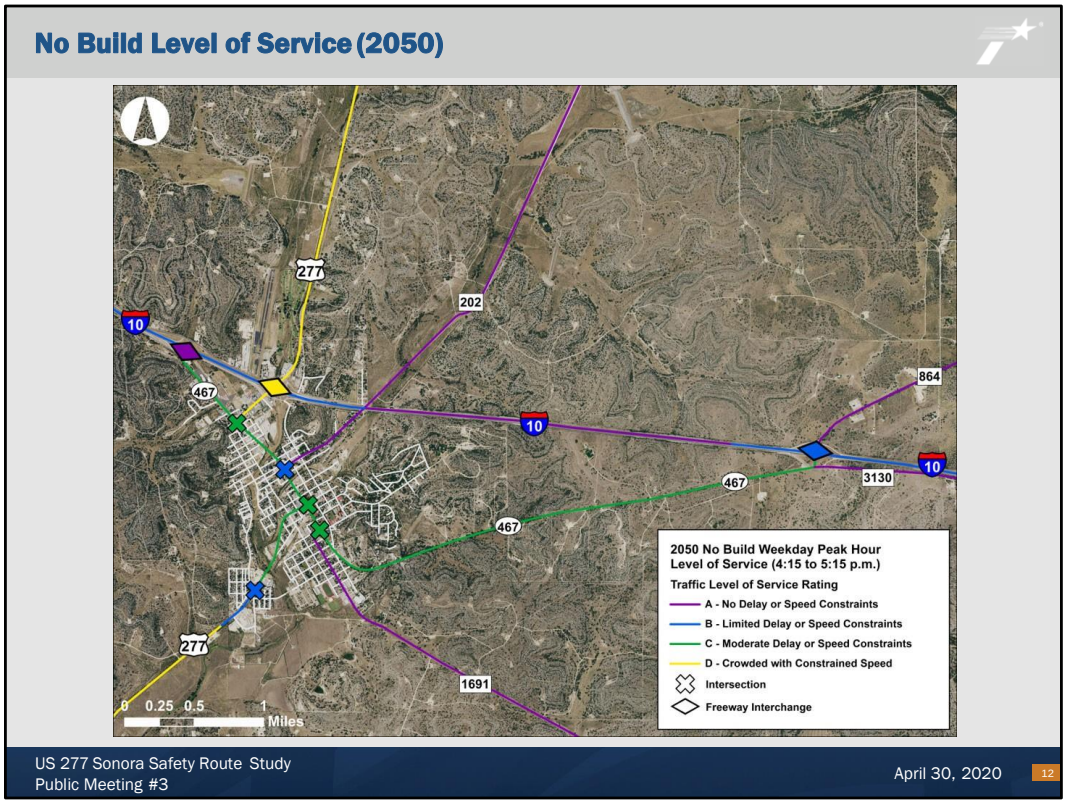
Crash rates for current roads around Sonora were computed using crash records representing the five-year period from 2014 to 2018.

Because the relief route will have lower crash rates than current roadways within Sonora, the movement of traffic from city streets to the relief route results in a net overall reduction in crashes.

Under the No Build in 2050, crashes would be estimated at 66 crashes per year. While under the four build alternatives, crashes would be reduced by 17 to 23 crashes to a total of 43 to 49 crashes per year in the study area. With the green and purple alternatives having the most reduction in estimated crashes.

Note that these reductions are based on current crash experience and known crash experience on roadways similar to the planned relief route.

Crash rates could change in the future due to unforeseen trends in vehicle safety technology and other factors.



The traffic effects of the relief route were measured by comparing the no build alternative to the worst-case alternative for the relief route, which is the Red alternative.

The other relief route alternatives result in similar traffic benefits.

Traffic performance is measured using a rating scale called “Level of Service”. Similar to grading scales in school, level of service ranges from A to F with A being the best quality of traffic flow and F is the worst.

In rural areas, level of service should be C or better, while in urban areas, D or better is acceptable.

Level of service is used to rate the traffic performance different roadway configurations including freeways, freeway interchanges, two-lane highways, intersections controlled by traffic lights or stop signs, and urban streets.

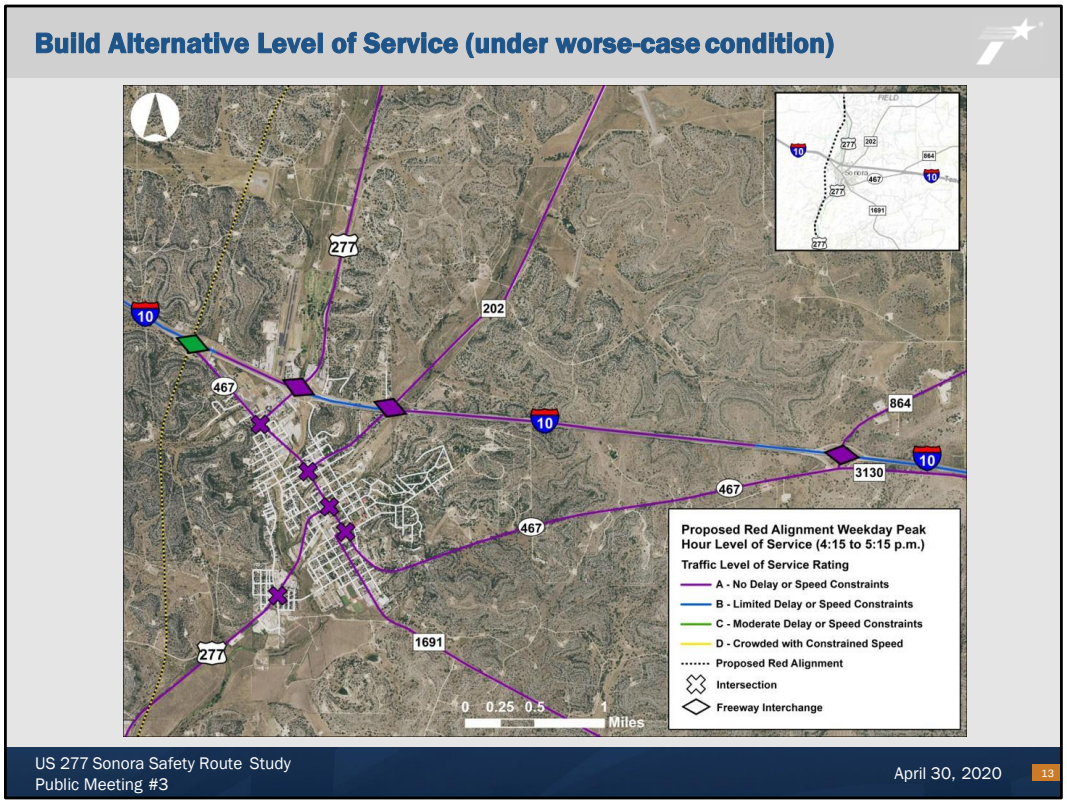
The above map illustrates estimated year 2050 level of service under the no build alternative.

Results show that intersections with traffic lights along US 277 operate at level of service B or C, and the interchange with US 277 and I-10 operates at level of service D.

The two-lane highways of US 277 north and south of Sonora also deteriorate to level of service D under the heavier traffic.

These results indicate that – even without the relief route – improvements will be needed to address future traffic in the corridor.

Recall that all of these roadway configurations operated at level of service A or B under year 2019 traffic.



This map illustrates the year 2050 level of service results under the Red alternative illustrated by the dotted line through the west Loop 467 interchange at I-10.

The results show that most urban streets, intersections, I-10 freeway segments and interchanges all operate at level of service A or B when the relief route is added.

Under the Red alternative, it will connect with I-10 via an expansion of the west Loop 467 interchange at Exit 399.

Even with the added traffic from the Red alternative, this interchange functions at level of service C.

The other three relief route alternatives result in construction of new interchanges along I-10, and all of these would operate at level of service A or B.

Level of service results along Loop 467 and US 277 would be the same under the other three alternatives.

Segments of all the relief route alternatives would function at level of service A or B in 2050 either as a four-lane divided highway, or a four-lane freeway.

Phase II Evaluation Matrix

CRITERIA	ALTERNATIVES			
	Green (8.08 miles)	Purple (7.74 miles)	Red (7.46 miles)	Teal (7.23 miles)
Safety				
Provides separate safety route for through traffic (yes/no)	Yes	Yes	Yes	Yes
Improves access of emergency services to emergency facilities (yes/no)	Yes	Yes	Yes	Yes
Improves access of motorists to emergency services (yes/no)	Yes	Yes	Yes	Yes
Reduces crashes (estimated change in 2050 crashes per year versus no build)	-23	-23	-20	-17
Mobility				
Reduces oversize traffic through downtown Sonora (yes/no)	Yes	Yes	Yes	Yes
Travel time savings (minutes)	6.6	6.6	6.8	5.5
Interstate compatibility (yes/ no)	Yes	Yes	Yes	Yes
Modifications to local connectivity and access (yes/no)	No	No	Yes	No
Cost (All costs are for planning purposes only. They are escalated to 2021 dollars and are not separated by funding source. Costs shown are not a guarantee that all project related costs will be funded by TxDOT.)				
Right-of-waycost (dollars)	500,000	451,000	446,000	563,000
Construction Cost (dollars)	510,400,000	451,900,000	476,300,000	610,800,000
Environmental (Within a 1,000-foot corridor, based on the typical section, an alignment would only require 400 feet of right-of-way within the 1,000-foot corridor.)				
Streams (linearfeet)	20,664	19,491	18,565	22,423
Oil and gas wells (counts)	37	31	28	31
Pipeline crossings (feet)	87,187	78,293	80,301	75,681
Residences (count)	0	0	1	4
Businesses (count)	1	2	3	1
Environmental Justice - low income and/or minority populations (within one mile)	yes	yes	yes	yes
Parks and Recreational areas (count)	0	0	0	0
Stakeholder Involvement				
Stakeholder Responses	17	29	7	6

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As you can see, this slide shows how we evaluated each of the alternatives. This is the Phase 2 evaluation matrix. Here we evaluated such things as safety, mobility, cost, environmental constraints, and stakeholder involvement.

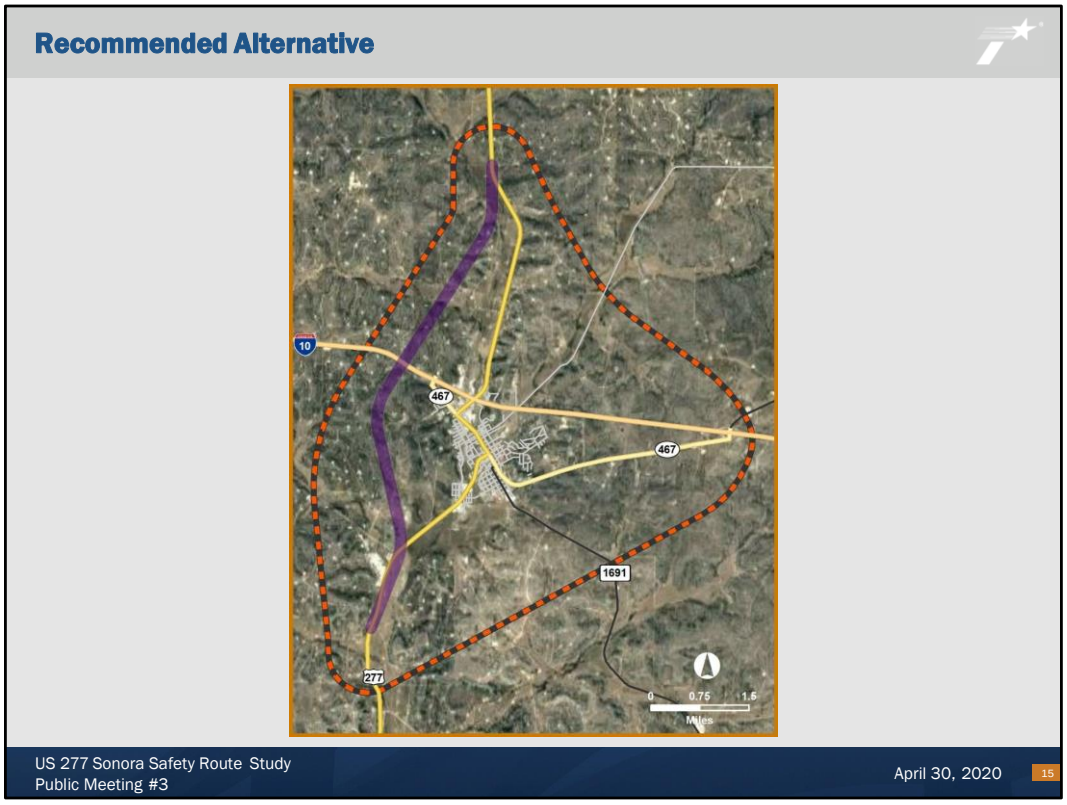
Under safety, the Purple Alternative has one of the highest reductions in crashes of all the alternatives.

For mobility, the Purple Alternative again tied for second highest in travel time savings, and has one of the least amount of impacts on local connectivity and access.

The Purple Alternative also has the lowest estimated cost.

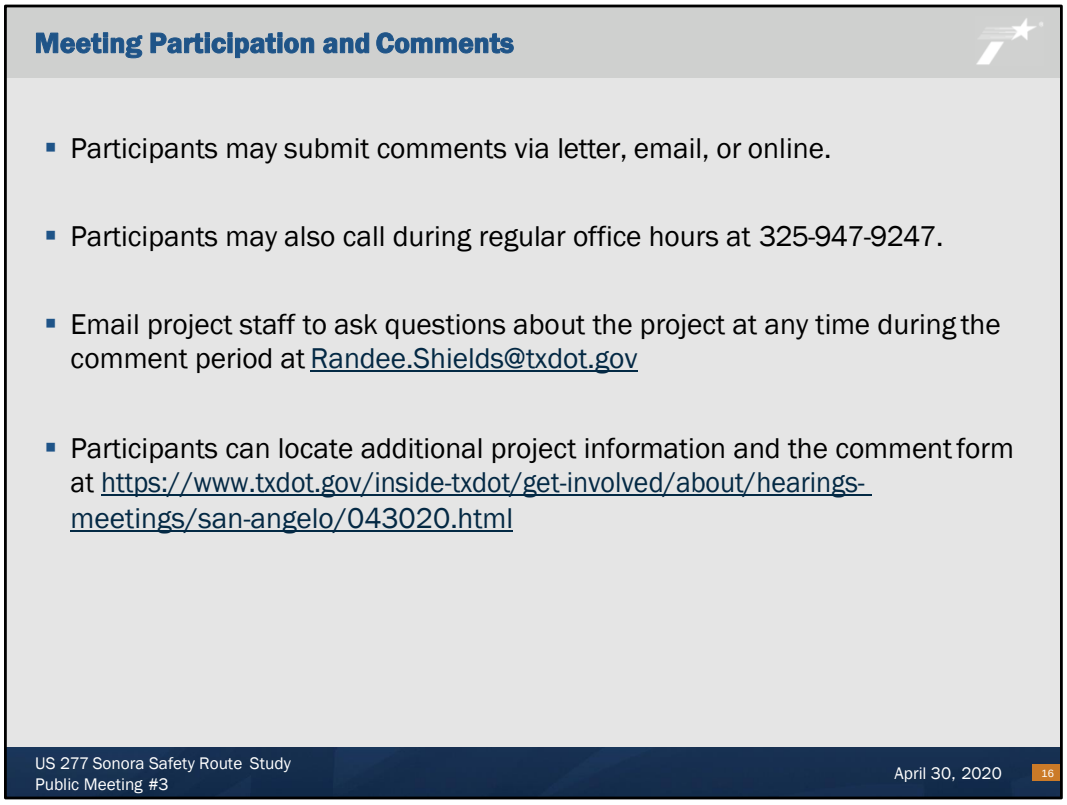
Under environmental, the Purple Alternative had either the least or second least amount of impacts, depending on the category.

And then lastly is stakeholder involvement. Out of all of the feedback received, the stakeholders indicated a preference for the Purple Alternative, the most of all of the other alternatives.



Therefore, TxDOT is recommending the Purple Alternative as the recommended alternative.

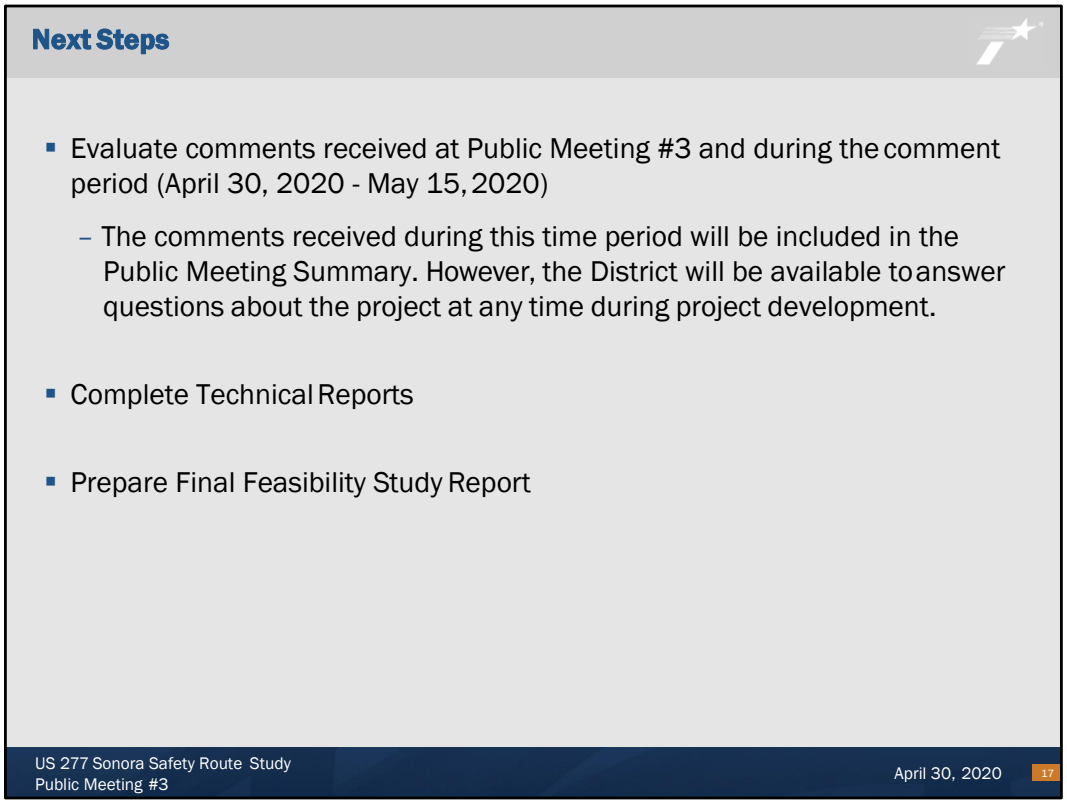
The Purple Alternative had the highest crash reduction, some of the least environmental impacts, the lowest cost, and the highest level of stakeholder support, therefore it is recommended that this alternative be advanced for further study



Okay, so now we would like to receive your input. If anyone would like to submit a comment, you may do so via letter, email, or online. You may also call during regular office hours at 325-947-9247 or email project staff to ask questions about the project at any time during the comment period.

The comment form may be found at https://www.txdot.gov/inside-txdot/get-involved/about/hearings-meetings/san-angelo/043020.html

Please note these comments shall be submitted between April 30, 2020 and May 15, 2020.



Just a reminder that comments for this Public Meeting #3 should be submitted during the public comment period, from April 30, 2020 - May 15, 2020. After the public comment period, TxDOT will evaluate any comments received then finalize the technical reports and complete the Feasibility Study.

Thank you for your time, and we look forward to hearing from you.