

US 190 Feasibility Study



Meeting Minutes

U.S. 190 Working Group Meeting #4

April 4, 2018, 2:00 p.m. – 4:00 p.m.

▶ Opening Remarks & Introductions

Roger Beall • TxDOT

Roger Beall opened the meeting by thanking working group members for attending and KTMPPO for leading the US 190 Feasibility Study effort. He explained that the purpose of Working Group Meeting #4 would be to 1) review comments and survey results received from the public at the Nov. 30th Open House; 2) present the results of the technical and engineering study findings; and 3) gather feedback from the working group regarding the study findings.

He took a moment to remind the working group members that the purpose of the US 190 Feasibility Study was to be proactive and prepared for future growth in the area and to include the community in the planning process.

Copies of the meeting agenda and sign-in sheets are found in **Appendices A** and **H**, respectively. Working group members were provided a copy of the agenda, study fact sheet (**Appendix B**), and a comment form (**Appendix I**). The working group was shown a PowerPoint presentation, of which the slides can be found in **Appendix C**. Four boards were also set up around the room, copies of the boards can be found in **Appendix D**. Note: No comment forms were received from working group members or observers.

▶ Recap of Primary Alignment Options Presented to Public at Open House

Andy Atlas, AICP, Project Manager • CP&Y

Andy Atlas first thanked the working group for their participation in the Nov. 30th Open House and said that there were more than 200 attendees.

He reviewed the primary route options that were shown to the public at the Open House, the figures discussed can be found in **Appendix C**. The following were discussed:

PINK ROUTE

- The Pink Route encompasses the existing US 190/Loop 363 route.
- There are two options associated with the Pink Route, “Pink” and “Pink +2”. The only difference between the Pink and Pink + 2 scenarios is that the Pink +2 includes four lanes in each direction on I-35 from I-14 to Loop 363 while the Pink scenario includes three lanes in each direction.

BLUE ROUTE

- Runs along I-14, then turns north on I-35 before turning east along FM 93. It breaks off onto new location just east of the City of Temple jurisdictional boundaries until it joins existing US 190.

BROWN ROUTE

- Runs along FM 93 to existing US 190.

BLACK ROUTE

- Runs south down I-35 to Shanklin Road, then travels on new location to FM 436, which it follows until just east of the Leon River, where it follows new location around Little River-Academy to the north before joining existing US 190.

AQUA ROUTE

- Takes a greenfield route from I-14 at FM 1670 and cuts across I-35 at Shanklin Road before connecting to FM 436, which it follows until just east of the Leon River, where it follows new location around Little River-Academy to the north before joining existing US 190.

Atlas then gave an overview of the public comments that were received. He listed the following highlights:

- 207 Open House attendees
- 75 comment forms/emailed comments
- 428 MetroQuest Survey’s completed, with 750 visits to the site

Atlas then transitioned the discussion over to Lynda Rife for a more in-depth look at the survey and comment results.

► Overview of Public Comments & MetroQuest Survey Responses

Lynda Rife • Rifeline

Rife began by thanking the working group for encouraging the community to participate in the Open House. She then went over the results from the MetroQuest survey, as well as the comments and emails received from the open house.

The following are the data discussed, corresponding figures can be found in **Appendix C**:

- Priorities
- Travel Patterns
- Travel Frequency
- Travel Purpose
- Other Comments

Rife explained that according to the data received from the online survey, a majority of participants reported travelling between Belton and Rogers rarely and mostly for recreation. She said that according to the MetroQuest survey results, the community does not seem to see the project as something important for the community.

Rife then went over the data about the community's preferred routes.

The following is the data shown to working group participants, corresponding figures can be found in **Appendix C**:

- Open House Comment Forms and Emails
- Option Rankings
- Total In Favor and Opposed

Based on this data, Rife explained that the Pink Route was the most popular route option on the online survey and on the Open House comment forms and emails. The Black Route was the least favorable. She noted that while those who attended the Open House strongly opposed the blue and brown routes, Open House attendees only made up 26% of the survey respondents. She said that 74% of the survey respondents did not attend the Open House.

She pointed out that the Brown, Aqua, Blue and Black Routes were pretty close together in levels of support and opposition.

She then transitioned the discussion back to Atlas.

► **Review of Technical & Engineering Study Findings**

Andy Atlas, AICP, Project Manager • CP&Y

Atlas began by reviewing the goals and objectives identified in Working Group 2 and how those helped to the evaluate routes. He also noted that due to feedback from the working group, the width of the area evaluated for each route option was reduced from 600 feet to 400 feet. Copies of the Goals and Objectives and Evaluation Criteria charts can be found in **Appendices E** and **F**, respectively. The Evaluation Summary is included in **Appendix G**.

He then discussed the results of the goals and objectives screenings for each route.

The following are the results, corresponding figures can be found in **Appendix C**:

ENHANCE EAST/WEST CONNECTIVITY

- Atlas explained that routes that provided a new east-west route were ranked more favorably in the analysis. The Pink and Pink +2 routes were not ranked as well because they didn't provide a new route for east-west travel.

ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES

- Atlas explained all of the routes add extra capacity, though the Pink route adds the least since it does not add extra capacity on I-35. He stated that Pink +2 and Aqua reduce travel time the most overall.

ENHANCE SAFETY

- Atlas explained that the ranking for "Route avoids populated areas" was determined by the number of people who live around the route.

SUPPORT GROWTH AND ECONOMIC DEVELOPMENT

- Atlas pointed out that the goal stating "Minimizes use of existing roadways" is the opposite of the goal of "Maximizing use of existing roadways" identified under the ENHANCE EAST/WEST CONNECTIVITY goal.

PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY EFFICIENT OPTIONS

- Atlas explained that the Pink and Pink +2 routes outscore all other route options because they stay in the same right-of-way as existing US 190.

Atlas showed the working group members the Evaluation Summary (**Appendix G**) and said that the estimated costs for each route are as follows:

- Pink: \$356.1 million
- Pink +2: \$372.1 million
- Blue: \$513.9 million
- Brown: \$534 million
- Black: \$427.1 million
- Aqua: \$454.6 million

He then went over the Study Findings, which are as follows:

- Pink Route is the most supported and least opposed.
- General public does not see the need to relocate US 190.
- Pink+2 Route confirms regional planning efforts to add a lane in each direction of I-35. These improvements are capable of accommodating traffic projected through the 2040 planning horizon on I-35.
- The study confirms that future US 190 improvements are compatible with, and complement, the Rogers Relief Route.
- If, in the future, it becomes necessary to relocate US 190, a fresh look at the primary route options identified in this feasibility study is recommended to assess land use and environmental conditions at that time.

He then passed the discussion over to Rife, to facilitate a discussion about the Study Findings.

► Working Group Facilitated Discussion & Recommendations

Lynda Rife • Rifeline

Rife started the discussion by asking the working group if any of the information surprised them or if they had any questions.

The following are the questions and comments from the working group members, as well as responses from the project team, if necessary:

- What are the estimated costs of each route?
 - Pink: \$356.1 million
 - Pink +2: \$372.1 million
 - Blue: \$513.9 million
 - Brown: \$534 million
 - Black: \$427.1 million
 - Aqua: \$454.6 million
- Where did the cost estimates come from (TxDOT data or project team estimates)?
 - The project team generated the estimates based on available data.
- A member of the group said that the Primary Route Options Screening Results slide provided a lot of information to digest in such a short amount of time, and requested a second look at them.
 - A member of the group asked if anything had changed since the last time the working group met. Atlas explained that the traffic data and cost estimates were added.
- What is going to happen next?

- Beall explained that the findings are telling the team that the existing route is working okay as it is now and an extension is not an immediate need. He said that in the future, what was learned in this feasibility study should be considered.
- A member of the working group asked Beall to clarify what he meant when he said that US 190 is working okay as it is now.
 - Beall said that operationally, without any other future improvements taken into consideration, the road is working well today. He also said that it is important to consider if the community is ready for another construction project in the area.
- A working group member said that they think it's important to identify a preferred route for planning purposes.
 - Beall said that for planning purposes, based on public comment, the Pink +2 route is noted as the most publically supported route.
- A working group member asked if the study would have any results other than the findings.
 - Atlas explained that the study is not yet finalized and that the information that the working group is providing is relevant to the finalization of the study.
- Texas State Representative Hugh Shine, on behalf of US Congressman John Carter, explained that in conversations with the community, they looked at the situation through the lens that there is no funding yet, but that the Pink Route is what they are looking to support moving forward. If funding becomes available, they plan to support the Pink Route. He said that the I-14 portion of the road has a military and federal impact that they have been trying to move forward on.
- A working group member said it looks like the pink route is most favorable overall.
- Rife asked the group if they want to make a recommendation based on the findings, working group members said yes
- A working group member asked where the extra lanes for the Pink +2 would be going.
 - Atlas showed the map of the Pink +2 route and explained that the I-35 portion appeared to have enough existing right-of-way for the extra lanes.
- A working group member asked if the working group could provide a set of recommendations.
 - Beall said yes. Beall also explained the Project Development Process board, included in **Appendix D**. He said that since the public does not yet see a need as far as east-west connectivity in the area, the project will likely not progress in the immediate future.

Rife broke the working group members into two group to discuss if they wanted to give recommendations.

Rife reconvened the discussion after the groups were given an opportunity to discuss their preferences. The following are the recommendations from each group:

GROUP 1

TxDOT should submit any additional portions of the Pink +2 route to be introduced in the KTMP0 2045 master planning document in July 2018. A member said that some portion of the project is already on the Metropolitan Transportation Plan, and that all should be included.

The following activities should be added:

- Raising bridges
- Upgrading existing US 190 to interstate standards
- Adding 2 additional lanes to IH 35

GROUP 2

Agreed with Group 1, with the addition that Pink +2 is the Working Group's recommendation and that they move forward as funding becomes available. They recommended that all other options except for the Pink +2 route be closed for consideration.

Following the group presentations, Atlas explained that if something unexpected happens, it could be important to consider other options, but based on the Working Group input they can focus in on the Pink +2 route moving forward. A working group member explained that they have already done the feasibility study once before, and they don't want to have to do it again. They think it's very important to make a decision.

A working group member said that it is important to consider that the community doesn't see it as necessary to relocate US 190, but it is important to update US 190, rather than relocate it.

The working group also recommended that the last bullet ("If, in the future, it becomes necessary to relocate US 190, a fresh look at the primary route options identified in this feasibility study is recommended to assess land use and environmental conditions at that time.") be removed from the study findings.

▶ Next Steps

Roger Beall • TxDOT

Beall closed the meeting by giving the working group an overview of what would happen next. He explained that the feasibility study would be prepared by the project team and a final report with recommendations would be given to TxDOT and KTMPO. KTMPO would use the report to inform their planning and project development process.

Beall thanked the working group for their participation in the feasibility study.

Appendices

- Appendix A – Agenda
- Appendix B – Fact Sheet
- Appendix C – PowerPoint presentation
- Appendix D – Boards
- Appendix E – Goals and Objectives
- Appendix F – Evaluation Criteria
- Appendix G – Evaluation Summary
- Appendix H – Sign-in Sheets
- Appendix I – Comment Forms

Appendix A – Agenda

US 190 Feasibility Study

Agenda



U.S. 190 Working Group Meeting #4

April 4, 2018, 2:00 p.m. – 4:00 p.m.

- ▶ **Opening Remarks & Introductions**
Roger Beall • TxDOT

- ▶ **Recap of Primary Alignment Options Presented to Public at Open House**
Andy Atlas, AICP, Project Manager • CP&Y

- ▶ **Overview of Public Comments & MetroQuest Survey Responses**
Lynda Rife • Rifeline

- ▶ **Review of Technical & Engineering Study Findings**
Andy Atlas, AICP, Project Manager • CP&Y

- ▶ **Working Group Facilitated Discussion**
Lynda Rife • Rifeline

- ▶ **Next Steps**
Roger Beall • TxDOT

Appendix B – Fact Sheet

US 190 Feasibility Study

Fact Sheet



The US 190 Feasibility Study will evaluate options for upgrading, and possibly relocating, US 190 between FM 1670 and the Rogers Relief Route north of the city of Rogers in Bell County.

ABOUT THE STUDY

US 190 is a major east-west highway that serves Belton, Temple, and Rogers. At the request of local officials, the Killeen-Temple Metropolitan Planning Organization (KTMPO), with support from the Texas Department of Transportation (TxDOT), is conducting a feasibility study to explore options for upgrading, and possibly relocating, US 190 between FM 1670 (west of I-35) and the Rogers Relief Route north of the city of Rogers in Bell County.

KTMPO will investigate creating a more efficient connection to serve the community and improve local mobility. The study began in Spring 2017 and is anticipated to take approximately one year to complete.

COMMUNITY DRIVEN EFFORT

KTMPO has formed a working group specifically for the US 190 Feasibility Study.



The working group includes local county and city elected officials and agency representatives.



The working group has met throughout the duration of the project and has helped the project team identify problems and opportunities for transportation improvements. The working group has provided input on the study as it progressed, assisting the project team in narrowing the options.



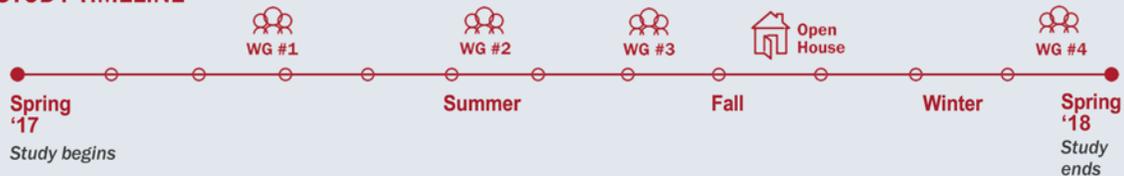
A community open house is being held on November 30, 2017, and an online survey is available to encourage additional input from the community.

STATUS OF THE FEASIBILITY STUDY

With input from the working group, project goals and objectives have been established, an environmental constraints map has been developed, and 40 route options have been narrowed down to the five primary route options that will be presented at the November 30th open house.

Public feedback gathered from the Open House will be considered, along with technical and engineering studies, to identify route options recommended for further study. These route options will be the starting point for any future phases of project development, including an environmental study, should the project advance.

STUDY TIMELINE



► Visit www.KTMPO.org for the most up-to-date information.

Last Updated: November 6, 2017



The study will take approximately one year to complete.

Frequently Asked Questions (FAQs)

What environmental factors will be considered in this study?

As part of this study, several factors are being considered including water resources, social and community impacts, land use and parkland, archaeological and historic resources, right of way (ROW) analysis and land cost, threatened and endangered species, vegetation and wildlife, hazardous materials, engineering analysis, and public input.

What happens after this Open House?

Public feedback gathered from the Open House will be considered, along with technical and engineering studies, to identify route options recommended for further study. Recommended route options will be the starting point for any future phases of project development, including an environmental study, should the project advance. The US 190 Feasibility Study is expected to be completed in Spring 2018.

After the US 190 Feasibility Study is completed, what's next?

The diagram below provides an overview of the steps required following the completion of the US 190 Feasibility Study and prior to the start of any future construction. There is currently no funding identified for an environmental study, which would be the next step. Each step will be dependent on available funding.



How does the US 190 Feasibility Study relate to the I-14 Study?

The purpose of the US 190 Feasibility Study is to investigate creating a more efficient connection to serve the community and improve local mobility. The I-14 study is a separate, independent study focused on serving regional priorities and initiatives. In the future, this section may become part of the I-14 project or may remain a distinct regional project.

How can I provide feedback on this project?

Your feedback will help the Killeen-Temple Metropolitan Planning Organization (KTMPPO) identify project goals and objectives, environmental constraints, and route options to recommend for further study. A final route will not be chosen at the end of this process.

Please share your thoughts by completing our online community survey, which can be found here:

<https://www.txdot.gov/inside-txdot/projects/studies/waco/us-190-feasibility-study.html>.

You can also provide general comments by completing a comment form.

How can I stay informed?

Please check the Killeen-Temple Metropolitan Planning Organization (KTMPPO) website for project updates: <https://ktmpo.org/roadway/us-190-feasibility-study/>.

US 190 Feasibility Study

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Welcome

Primary Route Options Review

Pink Route



Blue Route



Brown Route



Black Route



Aqua Route



Public Open House Highlights

- Attendees – 207
- Comment forms/emails – 75
- MetroQuest Surveys – 428 received (750 visits)

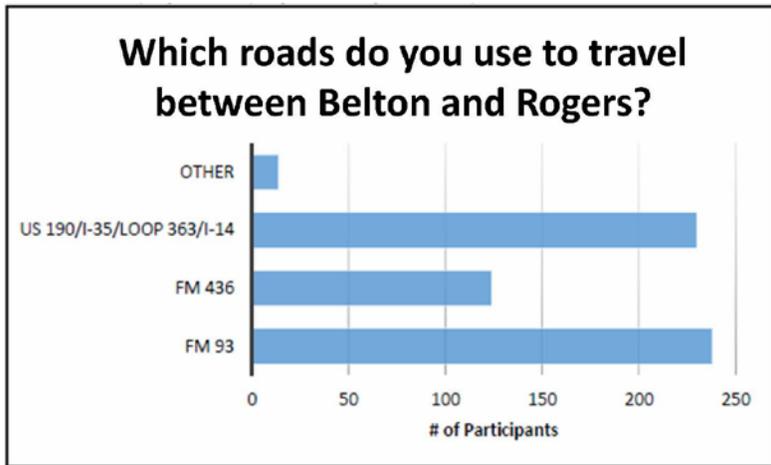
Public Comments



MetroQuest Survey Priorities

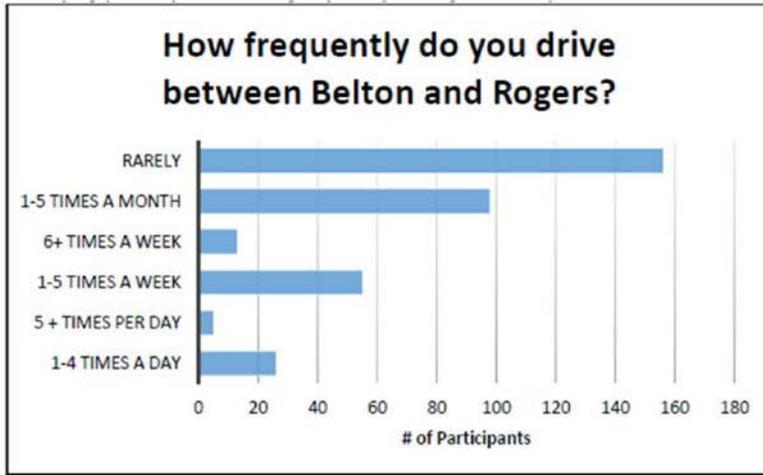
Priority	# of times ranked in Top 3	Percent of Total
Reduces community impacts	211	20.5%
Uses existing roadways	153	14.9%
Protects farmland	155	15.1%
Most direct route	100	9.7%
Reliable travel times	109	10.6%
Ensures good local access	114	11.1%
Spurs development	68	6.6%
Protects the environment	117	11.4%
Total	1027	100%

MetroQuest Survey Travel Patterns



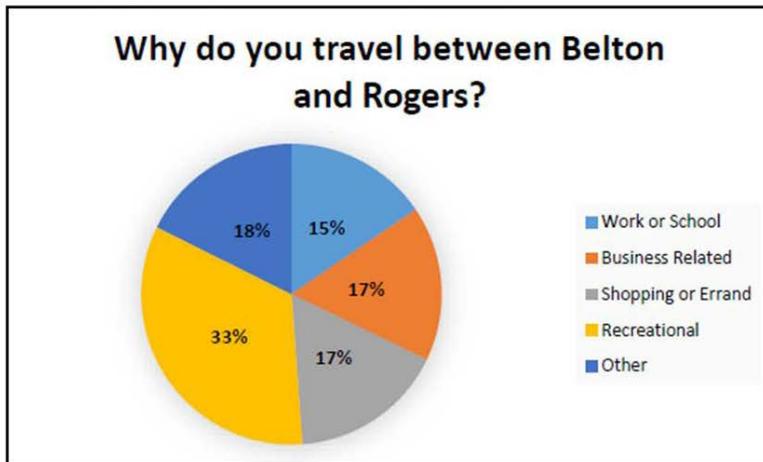
MetroQuest Survey

Travel Frequency



MetroQuest Survey

Travel Purpose



MetroQuest Survey

Other Comments

Comment General Category	# of comments	Percent
Not important/Unnecessary:	154	57.5%
Widen or utilize existing roadways	25	9.3%
Important	72	26.9%
Neutral	7	2.6%
Minimal to Somewhat Important	9	3.4%
Other	1	0.4%
Total	268	100%

Comment Forms & Emails

Primary Route Options	Total # of Comments in Favor	Total # of Comments Opposed
Pink Route	47	0
Blue Route	0	19
Brown Route	0	13
Black Route	4	6
Aqua Route	7	6

MetroQuest Survey

Option Rankings



Total In Favor and Opposed

Favor		
Pink	62%	275
Brown	25%	110
Aqua	23%	102
Blue	20%	88
Black	20%	87

Opposed		
Black	47%	208
Aqua	46%	205
Blue	43%	191
Brown	43%	189
Pink	24%	108

Technical & Engineering Study Findings

Primary Route Options Screening Goals & Objectives

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
ENHANCE EAST/ WEST CONNECTIVITY						
Results in improved access to Little River Academy and Rogers						
Maximize use of existing roadways						
Reduce AM peak roundtrip travel time between FM 1670 at I-14 to north of Rogers (minutes)						
Provides reliable travel times						
Results in enhanced access to schools, hospitals, and emergency services						
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES						
Provides additional capacity						
Reduces network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("Build" alternative compared to "No Build" alternative)						
ENHANCE SAFETY						
Route avoids populated areas						
Enhance access and reliability for first responders						
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT						
Promote economic development						
Minimizes use of existing roadways						
PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY-EFFICIENT OPTIONS						
Maximizes use of existing ROW (thereby, minimizing ROW required)						
Minimizes number of divided parcels						
Minimizes potential for residential displacements						
Minimizes potential for noise and neighborhood impacts						
Minimizes potential for non-residential displacements						
Minimizes potential impacts to floodplains (Acres)						
Minimizes potential impacts to creeks, rivers, and waterways (# of crossings)						
Minimizes potential impacts to wetlands (Acres)						
Minimizes impacts to natural (non-urban, non-cultivated) vegetation (Acres)						
Demonstrated Public Support						
ESTIMATED CONSTRUCTION COST						
Construction cost including ROW and DCs (\$-Millions)						

Primary Route Options Screening Evaluation Criteria

	Green	Yellow	Red
ENHANCE EAST/WEST CONNECTIVITY			
Results in improved access to Little River-Academy and Rogers	High - 5+sub Routes Low - Utilize existing roadways 75 percent or more	Medium - Central Routes Medium - Utilize existing roadways 75 - 74 percent	Low - Existing Route Utilizes existing roadways less than 25 percent
Maximize use of existing roadways	Low - Average AM & PM peak round trip travel times average less than 10 minutes	Medium - Average AM & PM peak round trip travel times average between 10 and 70 minutes	High - Average AM & PM peak round trip travel times average more than 70 minutes
Reduce travel time between FM 1670 at I-14 to north of Rogers	Low - Ratio of round-trip peak period travel time to free flow travel time along proposed route greater than 0.75	Medium - Ratio of round-trip peak period travel time to free flow travel time along proposed route between 0.65 and 0.75	High - Ratio of round-trip peak period travel time to free flow travel time along proposed route less than 0.65
Provides reliable travel times (2040)	High - Enhances access primarily by providing new location options and/or upgrading existing roadways to a higher speed/higher functioning facility	Medium - Enhances access primarily by improving existing higher speed, higher functioning roadways	Low - Does not enhance access
Results in enhanced access to schools, hospitals, and emergency services			
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES			
Provides additional capacity	Pass		Fail
Reduces network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("Build" alternative compared to "No Build" alternative)	Decreases VHT by more than 2 percent	Decreases VHT by 1 to 2 percent	Increases VHT by less than 1 percent
ENHANCE SAFETY			
Route avoids populated areas	Low - TADs adjacent to route have a projected (2040) population density of less than one person per acre	Medium - TADs adjacent to route have a projected (2040) population density between one and two people per acre	High - TADs adjacent to route have a projected (2040) population density greater than two people per acre
Enhance access and reliability for first responders	Pass		Fail
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT			
Promote economic development	Pass		Fail
Minimizes use of existing roadways	Low - Utilizes existing roadways less than 25 percent	Medium - Utilizes existing roadways 25 - 74 percent	High - Utilizes existing roadways 75 percent or more
PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY-EFFICIENT OPTIONS			
Maximizes use of existing ROW (whereby, minimizing ROW required)	High - Route utilizes existing roadways for 75 percent (or more) of overall length	Medium - Route utilizes existing roadways for 25 - 74 percent of length	Low - Route utilizes existing roadways for less than 25 percent of overall length
Minimizes number of divided parcels	Low - Route divides less than 10 parcels	Medium - Route divides between 10-20 parcels	High - Route divides more than 20 parcels
Minimizes potential for residential displacements	Low - Fewer than 25 residences located within 400' ROW corridor	Medium - Between 25 and 50 residences located within 400' ROW corridor	High - More than 50 residences located within 400' ROW corridor
Minimizes potential for noise and neighborhood impacts	Low - Fewer than 75 residences located within 100' of ROW corridor	Medium - Between 75 and 100 residences located within 100' of ROW corridor	High - More than 100 residences located within 100' of ROW corridor
Minimizes potential for non-residential displacements	Low - Fewer than 10 non-residences located within 400' ROW corridor	Medium - Between 10 and 25 non-residences located within 400' ROW corridor	High - More than 25 non-residences located within 400' ROW corridor
Minimizes potential impacts to floodplains (Acres)	Low - Less than 10 acres of floodplains within 400' (Right-of-Way) corridor	Medium - Between 10 and 75 acres of floodplains within 400' (Right-of-Way) corridor	High - Greater than 75 acres of floodplains within 400' (Right-of-Way) corridor
Minimizes potential impacts to creeks, rivers, and waterways (ft of crossings)	Low - Less than 15 creek/river crossings	Medium - Between 15 and 30 creek/river crossings	High - Greater than 30 creek/river crossings
Minimizes potential impacts to wetlands (Acres)	Low - Less than 10 acres of wetlands within 400' ROW corridor	Medium - Between 10 and 15 acres of wetlands within 400' ROW corridor	High - Greater than 15 acres of wetlands within 400' ROW corridor
Minimizes impacts to natural (non-urban, non-cultivated) vegetation (Acres)	Low - Less than 100 acres of natural vegetation within 400' ROW corridor	Medium - Between 100 and 200 acres of natural vegetation within 400' ROW corridor	High - Greater than 200 acres of natural vegetation within 400' ROW corridor
Democratized Public Support	High - Generally supported by public	Medium - Generally opposed by public	Low - Generally opposed by public
ESTIMATED CONSTRUCTION COST			
Construction cost including ROW and DCV (\$ Millions)			

Primary Route Options Screening Enhance East/West Connectivity

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
Results in improved access to Little River-Academy and Rogers						
Maximize use of existing roadways	100%	100%	82%	100%	51.20%	33.20%
Reduce travel time between FM 1670 at I-14 to north of Rogers (2040 AM peak)	79.4 minutes	76.6 minutes	69.5 minutes	69.3 minutes	66.3 minutes	59.2 minutes
Provides reliable travel times (2040)	0.7	0.65	0.67	0.67	0.70	0.76
Results in enhanced access to schools, hospitals, and emergency services						

Primary Route Options Screening Accommodate Existing and Projected Traffic Volumes

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
Provides additional capacity						
Reduces network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("Build" alternative compared to "No-Build" alternative)	-0.10%	-2.90%	-1.50%	-1.60%	-1%	-3.70%

Primary Route Options Screening Enhance Safety

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
Route avoids populated areas	2.3	2.3	1.9	2	0.7	0.4
Enhance access and reliability for first responders						

Primary Route Options Screening Support Growth and Economic Development

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
Promote economic development						
Minimizes use of existing roadways	100%	100%	82%	100%	51.20%	33.20%

Primary Route Options Screening Provide Cost-Effective & Environmentally-Efficient Options

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
Maximizes use of existing ROW (thereby, minimizing ROW required)	100%	100%	82.20%	100%	51.20%	33.20%
Minimizes number of divided parcels	0	0	2	0	25	36
Minimizes potential for residential displacements	16	16	27	32	32	69
Minimizes potential for noise and neighborhood impacts	83	83	90	95	54	111
Minimizes potential for non-residential displacements	12	12	17	18	11	17
Minimizes potential impacts to floodplains (Acres)	31.7	31.7	56.7	58.7	56.9	66.5
Minimizes potential impacts to creeks, rivers, and waterways (# of crossings)	12	12	18	17	20	25
Minimizes potential impacts to wetlands (Acres)	10.1	10.1	16.9	16.5	10.6	12.9
Minimizes impacts to natural (non-urban, non-cultivated) vegetation (Acres)	41.7	41.7	83.6	82.5	179.8	246.5
Demonstrated Public Support	2	2	6	5	10	6

Primary Route Options Screening Results

	PINK	PINK+2	BLUE	BROWN	BLACK	AQUA
ENHANCE EAST/WEST CONNECTIVITY						
Reduce travel time from I-35 to I-10 from Houston and Rogers						
Maintain use of existing roadways	100%	100%	80%	100%	11.20%	33.20%
Reduce AM peak travel time between I-35 and I-10 to north of Rogers (minutes)	51.8	76.8	60.3	69.2	66.1	56.2
Provides established times	0.7	0.65	0.67	0.67	0.78	0.75
Provides access to schools, hospitals, and emergency services						
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES						
Provide additional capacity						
Reduce network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("best" alternative only and by "best" alternative)	0.10%	2.90%	1.50%	1.60%	1%	3.20%
ENHANCE SAFETY						
Reduce accident-related areas	2.5	2.5	1.5	2	0.7	0.6
Enhance access and reliability for first responders						
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT						
Provide economic development						
Maintain use of existing roadways	100%	100%	80%	100%	11.20%	33.20%
PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY-EFFICIENT OPTIONS						
Minimize use of existing ROW (if needed, use new right-of-way)	100%	100%	83.30%	100%	11.20%	33.10%
Minimize number of right-of-way	0	0	2	0	25	36
Minimize potential for residential impacts	16	16	27	31	32	69
Minimize potential for noise and vibration impacts	83	83	90	96	94	111
Minimize potential for non-residential impacts	12	12	17	18	11	17
Minimize potential impacts to forests (2000)	31.7	31.7	46.7	46.7	45.9	66.5
Minimize potential impacts to creeks, rivers, and waterways (0 of connectivity)	12	12	13	17	20	25
Minimize potential impacts to wetlands (2000)	10.1	10.1	16.9	16.5	13.6	12.9
Minimize impacts to natural (non-urban, non-cultivated) vegetation (2000)	41.7	41.7	55.8	55.5	119.8	248.5
Demarcated Public Square	2	2	4	0	18	7
ESTIMATED CONSTRUCTION COST						
Construction cost including ROW and EOC (\$ Millions)	\$166.0	\$122.4*	\$51.8	\$63*	\$127.1	\$154.6

* If a road estimate includes 4 lanes in each direction, it is \$17.5

Primary Route Options Screening Study Findings

- Pink Route is the most supported and least opposed.
- General public does not see the need to relocate US 190.
- Pink+2 Route confirms regional planning efforts to add a lane in each direction of I-35. These improvements are capable of accommodating traffic projected through the 2040 planning horizon on I-35.
- The study confirms that future US 190 improvements are compatible with, and complement, the Rogers Relief Route.
- If, in the future, it becomes necessary to relocate US 190, a fresh look at the primary route options identified in this feasibility study is recommended to assess land use and environmental conditions at that time.

Group Discussion

US 190 Feasibility Study

Next Steps

Project Development Process



* Each step is dependent on available funding.

Thank you!



Appendix D – Boards

US 190 Feasibility Study Typical Project Development Process



US 190 Feasibility Study Working Group Membership



Thank you to our Working Group Members!

WORKING GROUP REPRESENTATION

Academy Independent School District
 Bell County
 Bell County Office of Emergency Management
 Belton Chamber of Commerce
 Belton Economic Development Corporation
 Belton Independent School District
 City of Belton
 City of Killeen
 City of Little River-Academy
 City of Rogers

City of Temple
 Environmental Justice Community
 Greater Killeen Chamber of Commerce
 Killeen Independent School District
 Rogers Independent School District
 Temple Chamber of Commerce
 Temple Economic Development Corporation
 Temple Independent School District
 Texas Farm Bureau



US 190 Feasibility Study

Primary Route Options



Northern Route Option

PINK ROUTE

21.9 Miles

- **About the Route:** Utilizes existing I-14 and I-35; up-grades existing Loop 363 and US 190 between I-35 and Rogers
- **Benefit:** Maximizes use of existing roadways (including I-14, Loop 363, and US 190)
- **Concerns:** Longest, least direct route and may impact businesses and apartments along US 190/Loop 363

Central Route Options

BLUE ROUTE

19.1 Miles

- **About the Route:** Follows existing I-14 north on I-35 to FM 93. Follows FM 93 and continues straight on an undeveloped land route to existing US 190
- **Benefit:** One of the most direct routes
- **Concerns:** Undeveloped land sections may increase potential for impacts to natural resources and may impact adjacent neighborhoods

BROWN ROUTE

19.3 Miles

- **About the Route:** Follows existing I-14 to north on I-35 to FM 93. Follows FM 93 from I-35 to existing US 190
- **Benefit:** One of the most direct routes
- **Concerns:** May impact adjacent neighborhoods

Southern Route Options

BLACK ROUTE

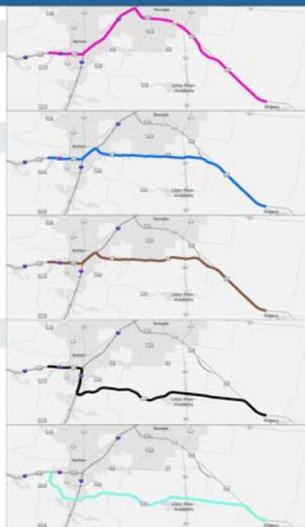
20.5 Miles

- **About the Route:** Follows existing I-14 to south on I-35. Briefly continues on an undeveloped land route to FM 436, and continues on an undeveloped land route north of Little River-Academy to existing US 190
- **Benefit:** Avoids heavily populated areas
- **Concerns:** Undeveloped land sections may increase potential for impacts to natural resources

AQUA ROUTE

19.6 Miles

- **About the Route:** Takes an undeveloped land route from I-14 at FM 1670 to existing Sharkin Road, crosses I-35 to connect to FM 436. Continues on an undeveloped land route north of Little River-Academy to existing US 190
- **Benefit:** Avoids heavily populated areas; routes traffic away from I-35
- **Concerns:** Undeveloped land sections may increase potential for impacts to natural resources



US 190 Feasibility Study

Environmental Thresholds



Primary Route Options Screening Criteria

	Green	Yellow	Red
ENHANCE EAST / WEST CONNECTIVITY			
Results to improved access to Little River Academy and Rogers	High - South Route	Medium - Central Route	Low - Existing Route
Maximize use of existing roadways	High - Utilizes existing roadways 75 percent or more	Medium - Utilizes existing roadways 50 - 75 percent	Low - Utilizes existing roadways less than 25 percent
Reduce travel time between FM 1670 at I-34 to north of Rogers	Low - Average AM & PM peak round trip travel times average less than 60 minutes	Medium - Average AM & PM peak round trip travel times average between 60 and 75 minutes	High - Average AM & PM peak round trip travel times average more than 75 minutes
Provides reliable travel times	Low - Ratio of round-trip peak period travel time to free flow travel time along proposed route greater than 0.75	Medium - Ratio of round-trip peak period travel time to free flow travel time along proposed route between 0.60 and 0.75	High - Ratio of round-trip peak period travel time to free flow travel time along proposed route less than 0.60
Results to enhanced access to schools, hospitals, and emergency services	High - Enhances access primarily by providing new location options and/or upgrading existing roadways to a higher speed/higher functioning facility	Medium - Enhances access primarily by improving existing higher speed, higher functioning roadways	Low - Does not enhance access
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES			
Provides additional capacity	Pass	Pass	Fail
Reduce network vehicle miles traveled (VMT) across the volume under future year (2040) volume levels ("Build" alternative compared to "No-Build" alternative)	Decreases VMT by more than 2 percent	Decreases VMT by 1 to 2 percent	Decreases VMT by less than 1 percent
ENHANCE SAFETY			
Route avoids populated areas	Low - TADs adjacent to route have a projected 2040 population density of less than one person per acre	Medium - TADs adjacent to route have a projected 2040 population density between one and two people per acre	High - TADs adjacent to route have a projected 2040 population density greater than two people per acre
Enhance access and reliability for first responders	Pass	Pass	Fail
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT			
Promote economic development	Pass	Pass	Fail
Maximize use of existing roadways	Low - Utilizes existing roadways less than 25 percent	Medium - Utilizes existing roadways 25 - 75 percent	High - Utilizes existing roadways 75 percent or more
PROVIDE COST EFFECTIVE AND ENVIRONMENTALLY EFFICIENT OPTIONS			
Maximize use of existing ROW (whereby, minimizing ROW required)	High - Route utilizes existing roadways for 75 percent (or more) of overall length	Medium - Route utilizes existing roadways for 25 - 74 percent of length	Low - Route utilizes existing roadways for less than 25 percent of overall length
Minimize number of divided parcels	Low - Route divides less than 10 parcels	Medium - Route divides between 10-20 parcels	High - Route divides more than 20 parcels
Minimize potential for residential displacements	Low - Fewer than 25 residences located within 400' ROW corridor	Medium - Between 25 and 50 residences located within 400' ROW corridor	High - More than 50 residences located within 400' ROW corridor
Minimize potential for noise and neighborhood impacts	Low - Fewer than 75 residences located within 100' of ROW corridor	Medium - Between 75 and 100 residences located within 100' of ROW corridor	High - More than 100 residences located within 100' of ROW corridor
Minimize potential for non-residential displacements	Low - Fewer than 10 non-residences located within 400' ROW corridor	Medium - Between 10 and 25 non-residences located within 400' ROW corridor	High - More than 25 non-residences located within 400' ROW corridor
Minimize potential impacts to floodplains (Acres)	Low - Less than 50 acres of floodplain within 400' (buffered) corridor	Medium - Between 50 and 75 acres of floodplain within 400' (buffered) corridor	High - Greater than 75 acres of floodplain within 400' (buffered) corridor
Minimize potential impacts to creeks, rivers, and waterways (if of crossing)	Less than 10 creek/river crossings	Medium - Between 10 and 20 creek/river crossings	High - Greater than 20 creek/river crossings
Minimize potential impacts to wetlands (Acres)	Low - Less than 50 acres of wetlands within 400' ROW corridor	Medium - Between 50 and 100 acres of wetlands within 400' ROW corridor	High - Greater than 100 acres of wetlands within 400' ROW corridor
Minimize impacts to natural (non-urban, non-cultivated) vegetation (Acres)	Low - Less than 100 acres of natural vegetation within 400' ROW corridor	Medium - Between 100 and 200 acres of natural vegetation within 400' ROW corridor	High - Greater than 200 acres of natural vegetation within 400' ROW corridor
Disseminate Public Support	High - Generally supported by public	Medium - Generally public neutral	Low - Generally opposed by public
ESTIMATED CONSTRUCTION COST			
Construction cost including ROW and DC's (B Millions)	Low	Medium	High

Appendix E – Goals and Objectives

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
ENHANCE EAST/ WEST CONNECTIVITY						
Results in improved access to Little River-Academy and Rogers						
Maximize use of existing roadways						
Reduce AM peak roundtrip travel time between FM 1670 at I-14 to north of Rogers (minutes)						
Provides reliable travel times						
Results in enhanced access to schools, hospitals, and emergency services						
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES						
Provides additional capacity						
Reduces network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("Build" alternative compared to "No-Build" alternative)						
ENHANCE SAFETY						
Route avoids populated areas						
Enhance access and reliability for first responders						
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT						
Promote economic development						
Minimizes use of existing roadways						
PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY-EFFICIENT OPTIONS						
Maximizes use of existing ROW (thereby, minimizing ROW required)						
Minimizes number of divided parcels						
Minimizes potential for residential displacements						
Minimizes potential for noise and neighborhood impacts						
Minimizes potential for non-residential displacements						
Minimizes potential impacts to floodplains (Acres)						
Minimizes potential impacts to creeks, rivers, and waterways (# of crossings)						
Minimizes potential impacts to wetlands (Acres)						
Minimizes impacts to natural (non-urban, non-cultivated) vegetation (Acres)						
Demonstrated Public Support						
ESTIMATED CONSTRUCTION COST						
Construction cost including ROW and DCs (\$ Millions)						

Appendix F – Evaluation Criteria

	Green	Yellow	Red
ENHANCE EAST/ WEST CONNECTIVITY			
Results in improved access to Little River-Academy and Rogers	High - South Routes High - Utilize existing roadways 75 percent or more	Medium - Central Routes Medium - Utilizes existing roadways 25 - 74 percent	Low - Existing Route Utilizes existing roadways less than 25 percent
Maximize use of existing roadways	Low - Average AM & PM peak round-trip travel times average less than 60 minutes	Medium - Average AM & PM peak round-trip travel times average between 60 and 70 minutes	High - Average AM & PM peak round-trip travel times average more than 70 minutes
Reduce travel time between FM 1670 at I-14 to north of Rogers	Low - Ratio of round-trip peak period travel time to free flow travel time along proposed route greater than 0.75	Medium - Ratio of round-trip peak period travel time to free flow travel time along proposed route between 0.66 and 0.75	High - Ratio of round-trip peak period travel time to free flow travel time along proposed route less than 0.66
Provides reliable travel times	High - Enhances access primarily by providing new location options and/or upgrading existing roadways to a higher speed/higher functioning facility	Medium - Enhances access primarily by improving existing higher speed, higher functioning roadways	Low - Does not enhance access
Results in enhanced access to schools, hospitals, and emergency services			
ACCOMMODATE EXISTING AND PROJECTED TRAFFIC VOLUMES			
Provides additional capacity	Pass		Fail
Reduces network vehicle hours traveled (VHT) across the subarea under future year (2040) volume levels ("Build" alternative compared to "No-Build" alternative)	Decreases VHT by more than 2 percent	Decreases VHT by 1 to 2 percent	Decreases VHT by less than 1 percent
ENHANCE SAFETY			
Route avoids populated areas	Low - TAZs adjacent to route have a projected (2040) population density of less than one person per acre	Medium - TAZs adjacent to route have a projected (2040) population density between one and two people per acre	High - TAZs adjacent to route have a projected (2040) population density greater than two people per acre
Enhances access and reliability for first responders	Pass		Fail
SUPPORT GROWTH AND ECONOMIC DEVELOPMENT			
Promote economic development	Low - Utilizes existing roadways less than 25 percent	Medium - Utilizes existing roadways 25 - 74 percent	High - Utilizes existing roadways 75 percent or more
Minimizes use of existing roadways	High - Enhances access primarily by providing new location options and/or upgrading existing roadways to a higher speed/higher functioning facility	Medium - Enhances access primarily by improving existing higher speed, higher functioning roadways	Low - Does not enhance access
PROVIDE COST-EFFECTIVE AND ENVIRONMENTALLY-EFFICIENT OPTIONS			
Maximizes use of existing ROW (thereby, minimizing ROW required)	High - Route utilizes existing roadways for 75 percent (or more) of overall length	Medium - Route utilizes existing roadways for 25 - 74 percent of overall length	Low - Route utilizes existing roadways for less than 25 percent of overall length
Minimizes number of divided parcels	Low - Route divides less than 10 parcels	Medium - Route divides between 10-20 parcels	High - Route divides more than 20 parcels
Minimizes potential for residential displacements	Low - Fewer than 25 residences located within 400' ROW corridor	Medium - Between 25 and 50 residences located within 400' ROW corridor	High - More than 50 residences located within 400' ROW corridor
Minimizes potential for noise and neighborhood impacts	Low - Fewer than 75 residences located within 100' of ROW corridor	Medium - Between 75 and 100 residences located within 100' of ROW corridor	High - More than 100 residences located within 100' of ROW corridor
Minimizes potential for non-residential displacements	Low - Fewer than 10 non-residences located within 400' ROW corridor	Medium - Between 10 and 15 non-residences located within 400' ROW corridor	High - More than 15 non-residences located within 400' ROW corridor
Minimizes potential impacts to floodplains (Acres)	Low - Less than 50 acres of floodplain within 400' (buffered) corridor	Medium - Between 50 and 75 acres of floodplain within 400' (buffered) corridor	High - Greater than 75 acres of floodplain within 400' (buffered) corridor
Minimizes potential impacts to creeks, rivers, and waterways (# of crossings)	Low - Less than 15 creek/river crossings	Medium - Between 15 and 20 creek/river crossings	High - Greater than 20 creek/river crossings
Minimizes potential impacts to wetlands (Acres)	Low - Less than 10 acres of wetlands within 400' ROW corridor	Medium - Between 10 and 15 acres of wetlands within 400' ROW corridor	High - Greater than 15 acres of wetlands within 400' ROW corridor
Minimizes impacts to natural (non-urban, non-cultivated) vegetation (Acres)	Low - Less than 100 acres of natural vegetation within 400' ROW corridor	Medium - Between 100 and 200 acres of natural vegetation within 400' ROW corridor	High - Greater than 200 acres of natural vegetation within 400' ROW corridor
Demonstrated Public Support	High - Generally supported by public	Medium - Generally public, neutral	Low - Generally opposed by public
ESTIMATED CONSTRUCTION COST			
Construction cost including ROW and DC's (\$ Millions)			

Appendix G – Evaluation Summary

	PINK	PINK +2	BLUE	BROWN	BLACK	AQUA
ENHANCE EAST/ WEST CONNECTIVITY						
Results in improved access to Little River-Academy and Rogers	100%	100%	82%	100%	51.20%	33.20%
Maximize use of existing roadways						

Appendix H



WORKING GROUP MEMBER SIGN IN SHEET

US 190 Feasibility Study – Working Group #4
 April 4, 2018 2:00 pm – 4:00 pm – KTMPD, 2180 N. Main St, Belton, TX 76513

	NAME	ORGANIZATION	INITIALS
1	Dr. Robin Battershell	Temple ISD	<i>RB</i>
2	Lynette Batts	Environmental Justice Representative	
3	David Blackburn	Temple Economic Development Corporation	<i>DL</i>
4	Bob Browder	Temple Chamber of Commerce	<i>BB</i>
5	Tim Brown	Bell County	
6	Jon H. Burrows	Bell County	
7	Brian Chandler	City of Temple	
8	Tammy Cockrum	Mayor, City of Rogers	<i>TC</i>
9	Joe Craig	Rogers Independent School District	<i>JC</i>
10	John Crutchfield III	Greater Killeen Chamber of Commerce	
11	Phyllis Gogue	Greater Killeen Chamber of Commerce	
12	Marion Grayson	Mayor, City of Belton	<i>MG</i>

- Sign-in Sheets



WORKING GROUP MEMBER SIGN IN SHEET

US 190 Feasibility Study – Working Group #4

April 4, 2018 2:00 pm – 4:00 pm – KTMP, 2180 N. Main St, Belton, TX 76513

NAME		ORGANIZATION	INITIALS
13	Michael Harmon	Bell County Office of Emergency Management	
14	Cynthia Hernandez	Belton Economic Development Corporation	CH
15	Rod Henry CCE, IOM	Temple Chamber of Commerce	RH
16	Chris Hill	City of Rogers	
17	John Kiella	Belton ISD Rep (Temple TIRZ)	
18	Dr. Susan Kincannon	Belton Independent School District	
19	Marilyn Krumnow	Temple ISD	
20	Drew Lanham	Little River-Academy, TX	
21	Sam A. Listi	City of Belton	
22	Michael Moon	Texas Farm Bureau	
23	Brynn Myers	City of Temple	BMY



WORKING GROUP MEMBER SIGN IN SHEET

US 190 Feasibility Study - Working Group #4
 April 4, 2018 2:00 pm - 4:00 pm - KTMPO, 2180 N. Main St, Belton, TX 76513

	NAME	ORGANIZATION	INITIALS
24	David Olson P.E., CFM	City of Killeen	
25	Randy Ramsey	Temple Chamber of Commerce (First State Bank)	RR
26	Gloria Ramos	Bell County	
27	Russell Schneider	Commissioner, Bell County	RS
28	Erin Smith	City of Round Rock	
29	Kevin Sprinkles	Academy Independent School District	KS
30	Nicole Stairs	Belton Chamber of Commerce	
31	Kirk Thomas	Killeen Independent School District	
32	John Fisher	Commissioner, Bell County	JF
33	Ana Borchardt	Belton Economic Development Corporation	
34	Jeremy Allamon	City of Belton	JAA



STAFF SIGN IN SHEET

US 190 Feasibility Study – Working Group #4
 April 4, 2018 2:00 pm – 4:00 pm – KTMPD, 2180 N. Main St, Belton, TX 76513

	NAME	ORGANIZATION	INITIAL
1	John Weber	KTMPD	JW
2	Kendra Coufal	KTMPD	KC
3	Jim Reed	KTMPD	
4	Susan Chavez	TxDOT	SC
5	Roger Beall, P.E.	TxDOT	RB
6	Michael Bolin, P.E.	TxDOT	
7	Susan Howard	TxDOT	SH
8	Kenneth Roberts	TxDOT	
9	Andy Atlas, AICP	CP&Y	AA
10	Stacey Benningfield	CP&Y	
11	Angela Gillmeister	CP&Y	AG
12	Jaime Aguilar, P.E.	CP&Y	
13	Andy Adams	CP&Y	AA
14	Michelle Neeley	CP&Y	MN
15	Lynda Rife	Rifeline	LR



STAFF SIGN IN SHEET

US 190 Feasibility Study - Working Group #4
 April 4, 2018 2:00 pm - 4:00 pm - KTMP, 2180 N. Main St, Belton, TX 76513

NAME		ORGANIZATION	INITIAL
16	Katy Nail	Rifeline	KN
17	Solomon Thomas	TxDOT	ST
18	JARED GOEBEL	TxDOT	JG
19	STAN SWIATEK	TxDOT	SS
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			



ELECTED OFFICIALS SIGN IN SHEET

US 190 Feasibility Study - Working Group #4

April 4, 2018 2:00 pm - 4:00 pm - KTMPD, 2180 N. Main St, Belton, TX 76513

	NAME	TITLE	PHONE	EMAIL
1	Bill Schumann	Bell County Commissioner P3	254 760 7922	
2	Jon Purrow	Bell County	933 5705	
3	Tim Drown	Co Commissioner	933-5102	
4	Cheryl Hossman	Congresswoman John R. Carter	254-933 1398	
5	Marion Grayson	Mayor -	254-718-7878	
6	Lynette Batts	Environmental Justice Rep	254-534-4217	
7				
8				
9				
10				
11				



OBSERVER SIGN IN SHEET

US 190 Feasibility Study - Working Group #4

April 4, 2018 2:00 pm - 4:00 pm - KTMPO, 2180 N. Main St, Belton, TX 76513

NAME		ORGANIZATION
1	LEROY MEYER	SPRINGWOOD CT.
2	Angellica Poinits	CO Belton
3	LAMAR LEWIS	Rep Spive's ofc
4	Wendell Williams	TBL
5	Wendell Williams	TBL
6	GARY SUSHELL	TX REA
7	GARY SUSHELL	I-14/GCSH
8		
9		
10		
11		

