



City of Willcox

CIRCULATION STUDY

Prepared for:



Prepared by:



Expect More. Experience Better.



Final Report

JANUARY 2022

Willcox Circulation Study

FINAL REPORT

JANUARY 2022

Prepared for:

Arizona Department of Transportation
Multimodal Planning Division
206 S. 17th Avenue
Phoenix, AZ 85007

Prepared by:



1001 W. Southern Ave., Suite 131
Mesa, AZ 85210

In Association with:



2540 N. Tucson Blvd.
Tucson, AZ 85716



2803 N. 7th Ave.
Phoenix, AZ 85007

Contents

Executive Summary	1
1. Introduction.....	10
2. Public and Stakeholder Engagement.....	15
3. Current and Future Conditions.....	20
4. Alternatives Analysis.....	52
5. Preferred Alternative Implementation Plan	78
Appendices	94

Pursuant to Title VI of the Civil Rights Act of 1964, and the Americans with Disabilities Act (ADA), and other nondiscrimination laws and authorities, ADOT does not discriminate on the basis of race, color, national origin, age, sex, or disability. Persons who require a reasonable accommodation based on language or disability should contact the Spanish/English Project Information Line at (855) 712-8530. Requests should be made as early as possible to ensure the state has an opportunity to address the accommodation.

De acuerdo con el título VI de la Ley de Derechos Civiles de 1964 y la Ley de Estadounidenses con Discapacidades (ADA por sus siglas en inglés) y otras normas y leyes antidiscriminatorias, el Departamento de Transporte de Arizona (ADOT por sus siglas en inglés) no discrimina por raza, color, nacionalidad, edad, género o discapacidad. Personas que requieren asistencia (dentro de lo razonable) ya sea por el idioma o por discapacidad deben ponerse en contacto con Línea de información de proyectos en español / inglés al (855) 712-8530. Las solicitudes deben hacerse lo más pronto posible para asegurar que el equipo encargado del proyecto tenga la oportunidad de hacer los arreglos necesarios.

This report was funded in part through grants from the Federal Highway Administration, U.S. Department of Transportation. The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data, and for the use or adaptation of previously published material, presented herein. The contents do not necessarily reflect the official views or policies of the Arizona Department of Transportation or the Federal Highway Administration, U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation. Trade or manufacturers' names that may appear herein are cited only because they are considered essential to the objectives of the report. The U.S. government and the State of Arizona do not endorse products or manufacturers.

Executive Summary

Study Background

The Arizona Department of Transportation (ADOT) and the City of Willcox initiated the Willcox Circulation Study to identify and evaluate issues relating to and affecting freight traffic in Willcox and the resulting quality of life impacts to Willcox residents.

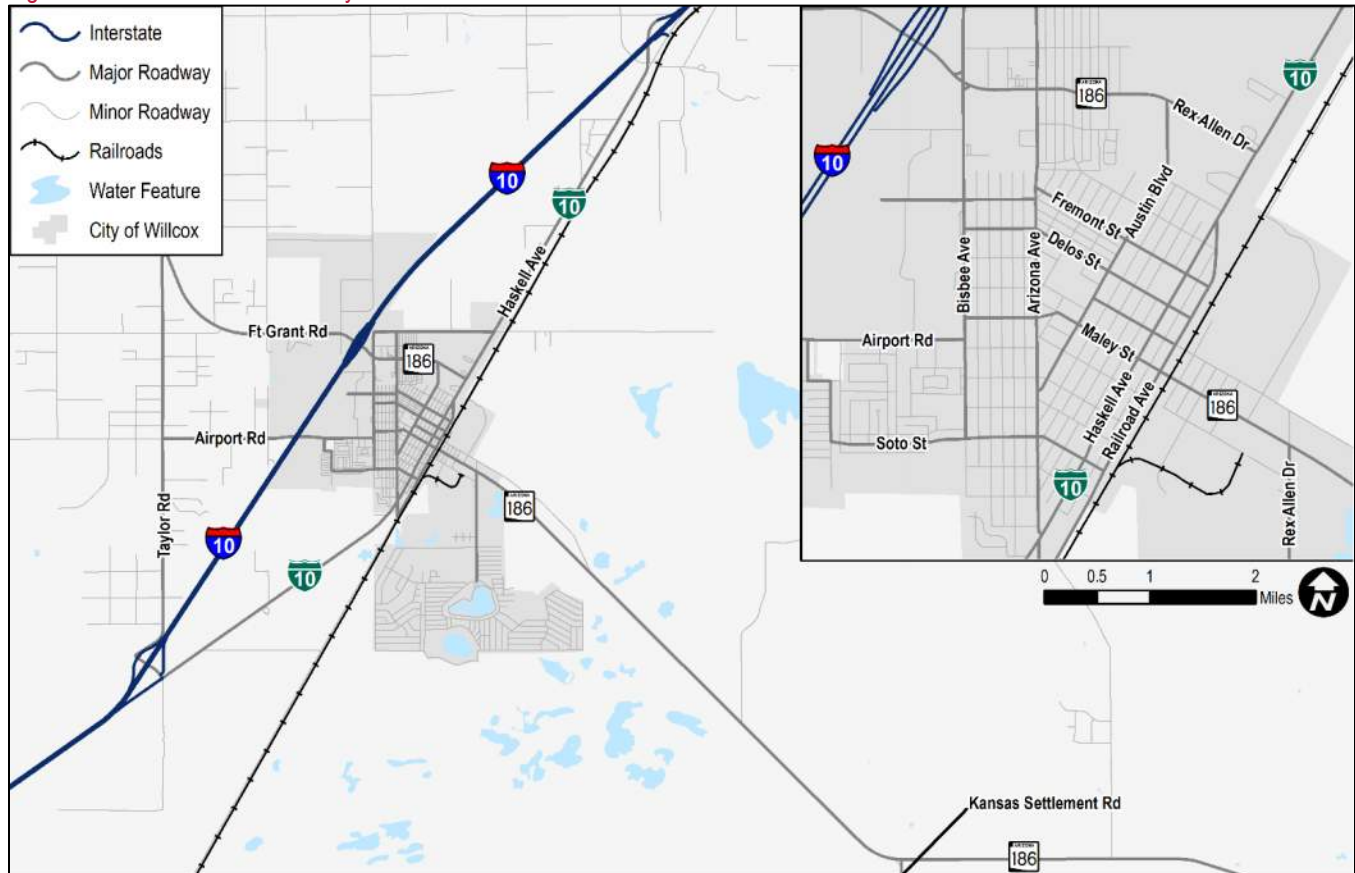
A majority of current and anticipated freight generators surrounding Willcox are located on the southeast side of the city, along the State Route (SR) 186 corridor. However, most freight trips enter or leave the area via Interstate 10 (I-10), located on the western side of the city.

The Union Pacific Railroad (UPRR) separates residential and commercial portions of the city from the industrial and agricultural portions to the east. Currently, the only paved crossings of the railroad lead directly into downtown Willcox, forcing large trucks through the historic downtown and the surrounding residential street grid with a high density of intersections and driveways. The intersection of Maley Street (SR 186) and Haskell Avenue (Business Route 10 [B-10]) is of particular concern for freight operators due to tight turns, on-street parking, and the proximity of historic buildings to the intersection.

Study Area

The Willcox Circulation Study area includes the entirety of the City of Willcox along with the surrounding areas of unincorporated Cochise County as shown in **Figure 1**.

Figure 1. Willcox Circulation Study Area



Source: ADOT, US Census Bureau

Study Goals

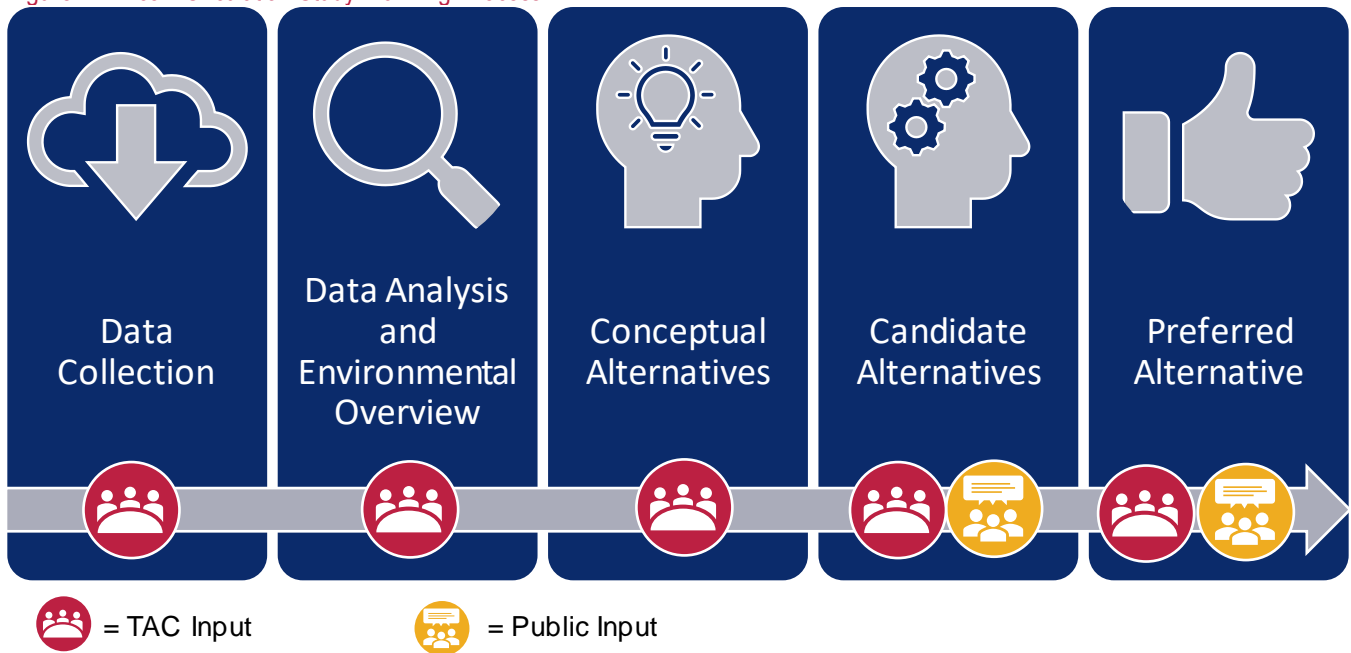
The Willcox Circulation Study identifies solutions to mitigate the freight-related issues around trucks within the study area with the aim of attaining the following goals:

- Develop alternatives that allow freight operators an alternative to making tight turns at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).
- Avoid additional negative impacts to Willcox residents, historic resources, and other environmental constraints.
- Accommodate anticipated increases in freight traffic from growing industrial and agricultural commerce east of downtown Willcox.
- Improve roadway safety, particularly involving truck traffic, with future improvements in the study area.
- Improve travel time and reliability for freight operators traveling through Willcox.

Planning Process

The Willcox Circulation Study planning process is divided into five main phases, as shown in **Figure 2**. A project Technical Advisory Committee (TAC) was also formed to inform decision-making at key points during the project. There were also two rounds of public engagement that informed the preferred alternative selection. These input touchpoints are also shown in **Figure 2**.

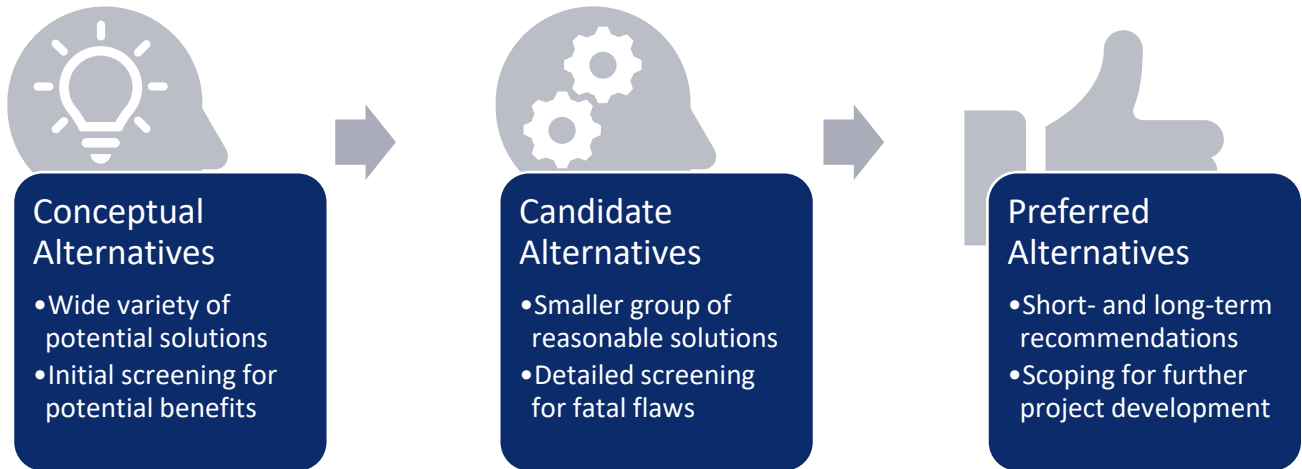
Figure 2. Willcox Circulation Study Planning Process



Alternatives Analysis

The alternatives analysis process for the Willcox Circulation Study was broken into three phases: Conceptual Alternatives, Candidate Alternatives, and Preferred Alternatives. **Figure 3** provides an overview of the alternatives analysis steps.

Figure 3. Alternatives Analysis Process



Conceptual Alternatives

The following Conceptual Alternatives were the initial alternatives presented to the TAC. Improvement alternatives were grouped into the following categories:

- No-Build Alternative
- Geometric Intersection Improvements (three alternatives)
- Operational Intersection Improvements (two alternatives)
- Truck Route Improvements (three alternatives)
- New Street Improvements (three alternatives)

Conceptual Alternatives Evaluation Methodology

The Conceptual Alternatives were evaluated to best identify those that have the most positive impact on Willcox and the associated truck traffic. They were evaluated by applicable categories, which were scored to qualitatively show how the alternative would likely impact Willcox. The categories used to evaluate the Conceptual Alternatives included:

- **Historic District/Properties.** This category measured the impact the alternative has on the historic district and properties in Willcox. Alternatives can have a negative impact (0), minimal impact (1), or positive impact (2).
- **Cost.** This category ranked alternatives on the estimated relative cost of implementation. Alternatives can have a high cost (0), moderate cost (1), or low cost (2).
- **Travel Pattern Disruption.** This category evaluated alternatives by the concept’s impact on the travel patterns for either truck traffic or all vehicle types. Alternatives can have high disruption (0), moderate disruption (1), or low disruption (2).
- **Operational Efficiency.** This category ranked alternatives on the functionality and efficiency of the roadway network. Alternatives can have negative impact on efficiency (0), minimal impact on efficiency (1), or positive impact on efficiency (2).
- **Safety.** This category evaluated alternatives’ impact on safety for users. Alternatives can have a negative impact (0), minimal impact (1), or positive impact (2).

Conceptual Alternatives Evaluation Results

Assessment of the Conceptual Alternatives was done using the criteria above. The evaluation matrix, including the scoring breakdown for each alternative, is shown in **Table 1**. Based on the total score for each evaluation, six Conceptual Alternatives were preliminarily selected as possible Candidate Alternatives (Alternatives 1, 2A, 2B, 2C, 4A, and 5B).

Table 1. Conceptual Alternatives Evaluation Matrix

Conceptual Alternative	Description	Historical District/ Properties	Cost	Travel Pattern Disruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
3A	Operational: One-Way Streets	0	2	0	1	1	4
3B	Operational: Relocate Truck Turns from Haskell Ave (B-10) and Maley St (SR 186)	1	2	0	0	0	3
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
4B	Truck Route: Arizona Ave and Maley St	0	1	0	2	1	4
4C	Truck Route: Grant St and 2nd Ave	1	0	0	0	2	3
5A	New Street: Patte Rd to Maley St (SR 186)	2	0	0	0	2	4
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	2	0	1	2	2	7
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186)	2	0	0	0	2	4

TAC Input

The TAC recommended that Alternative 2A be removed from the list of preliminary Candidate Alternatives because the alternative’s impact on the historic properties in downtown Willcox would be significant and not something the City or its citizens would likely support. The TAC also recommended that Alternative 5B be split into two options – one with an at-grade railroad crossing and one with a bridge over the railroad.

Candidate Improvement Alternatives

The resulting Candidate Alternatives after incorporating the TAC input are shown in **Table 2**. The project IDs were changed from the Conceptual Alternative numbers to a new set of sequential Candidate Alternative IDs, also shown in **Table 2**.

Table 2. Candidate Alternatives

Conceptual Alternative ID	Description	Candidate Alternative ID
1	No-Build: Existing Conditions	A
2B	Geometric: Roundabout at Haskell Avenue (B-10) and Maley Street (SR 186)	B
2C	Geometric: Reconfigure Haskell Avenue (B-10) and Maley Street (SR 186)	C
4A	Truck Route: Stewart Street and Railroad Avenue	D
5B-1	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass w/ at-grade railroad crossing	E
5B-2	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass w/ grade-separated railroad crossing	F

Candidate Alternatives Evaluation Methodology

The five Candidate Alternatives, along with the No-Build alternative, were evaluated using several evaluation criteria. The No-Build alternative represents the scenario where no improvements are made to any of the existing features or infrastructure in the study area.

The evaluation criteria included the following:

- **Historic District/Properties.** How the alternative will affect Willcox’s historic district or historic properties in the study area.
- **Protected Populations.** How the alternative will impact traditionally underserved populations as defined in the Public Involvement Plan, including Limited English Proficiency persons, minority populations, and low-income populations.
- **Travel Pattern Change.** How much the alternative changes existing travel patterns, such as extra turns that must be navigated, or extra distance that must be traveled.
- **Traffic Operations.** How efficiently the alternative will be able to accommodate heavy/large trucks as well as other vehicles.
- **Safety.** How the alternative changes the estimated risk of crashes.
- **Economic Impacts.** How the alternative changes the estimated economic impact of travelers in downtown Willcox.
- **Biological Impacts.** How likely an alternative is to impact existing natural biological resources in the environment such as animals and plants.
- **Jurisdictional Complexities.** The jurisdictional coordination required between agencies such as ADOT, the City of Willcox, Cochise County, and UPRR.
- **Implementation Feasibility.** The feasibility of implementing the alternative in terms of the likelihood of obtaining funding, satisfying jurisdictional requirements, and being politically supported.
- **Total Cost.** The planning-level cost of each alternative.
- **Right-of-Way.** How much additional right-of-way will likely be required to implement the alternative and other potential impacts associated with right-of-way acquisition.
- **Stakeholder Acceptability.** Support for the alternative based on TAC input.
- **Public Acceptability.** Support for the alternative based on public input received through the first round of public engagement.

Some of the evaluation criteria listed above do not lend themselves to numerical quantification, so the evaluation was performed on a “qualitative” basis using the following descriptors to describe the relative impacts of each of the Candidate Alternatives plus the No-Build alternative:

- Strong Advantage;
- Advantage;
- Neutral;
- Disadvantage; and
- Strong Disadvantage.

Candidate Alternatives Evaluation Results

Based on the Candidate Alternatives evaluation, the public engagement results, and discussions with the TAC, Candidate Alternative E (East Bypass with At-Grade Railroad Crossing) was selected as the Ultimate Preferred Alternative. Additionally, a modified version of Candidate Alternative C (Reconfigure) was recommended to be implemented in the near-term as the Interim Preferred Alternative to partially address some of the study goals and take advantage of an upcoming pavement preservation project on Haskell Avenue (B-10). Factors that contributed to the decision on these alternatives include:

- **Candidate Alternatives Analysis.** Table 3 shows Alternatives E and F scored the best in the analysis, particularly in terms of preserving historic resources and improving safety, two of the primary goals of the study.

Table 3. Candidate Alternatives Evaluation Summary Matrix

Evaluation Criterion	Alt A (No-Build)	Alt B (Roundabout)	Alt C (Reconfigure)	Alt D (City Streets)	Alt E (East Bypass – At-Grade)	Alt F (East Bypass – Grade-Separated)
Historic District/Properties	⦿	⦿	⦿	○	●	●
Protected Populations	⦿	⦿	⦿	⦿	⦿	⦿
Travel Pattern Change	○	○	○	⦿	○	○
Traffic Operations	⦿	⦿	●	⦿	⦿	●
Safety	●	⦿	○	⦿	●	●
Economic Impacts	○	○	○	○	●	●
Biological Impacts	○	○	○	○	⦿	⦿
Jurisdictional Complexities	○	○	○	●	●	●
Implementation Feasibility	○	⦿	⦿	⦿	●	●
Total Cost	○	○	○	⦿	⦿	●
Right-of-Way	○	○	○	⦿	⦿	⦿
Stakeholder Acceptability	⦿	⦿	⦿	⦿	⦿	⦿
Public Acceptability	⦿	●	⦿	⦿	⦿	⦿

Strong Advantage ● Advantage ⦿ Neutral ○ Disadvantage ⦿ Strong Disadvantage ●

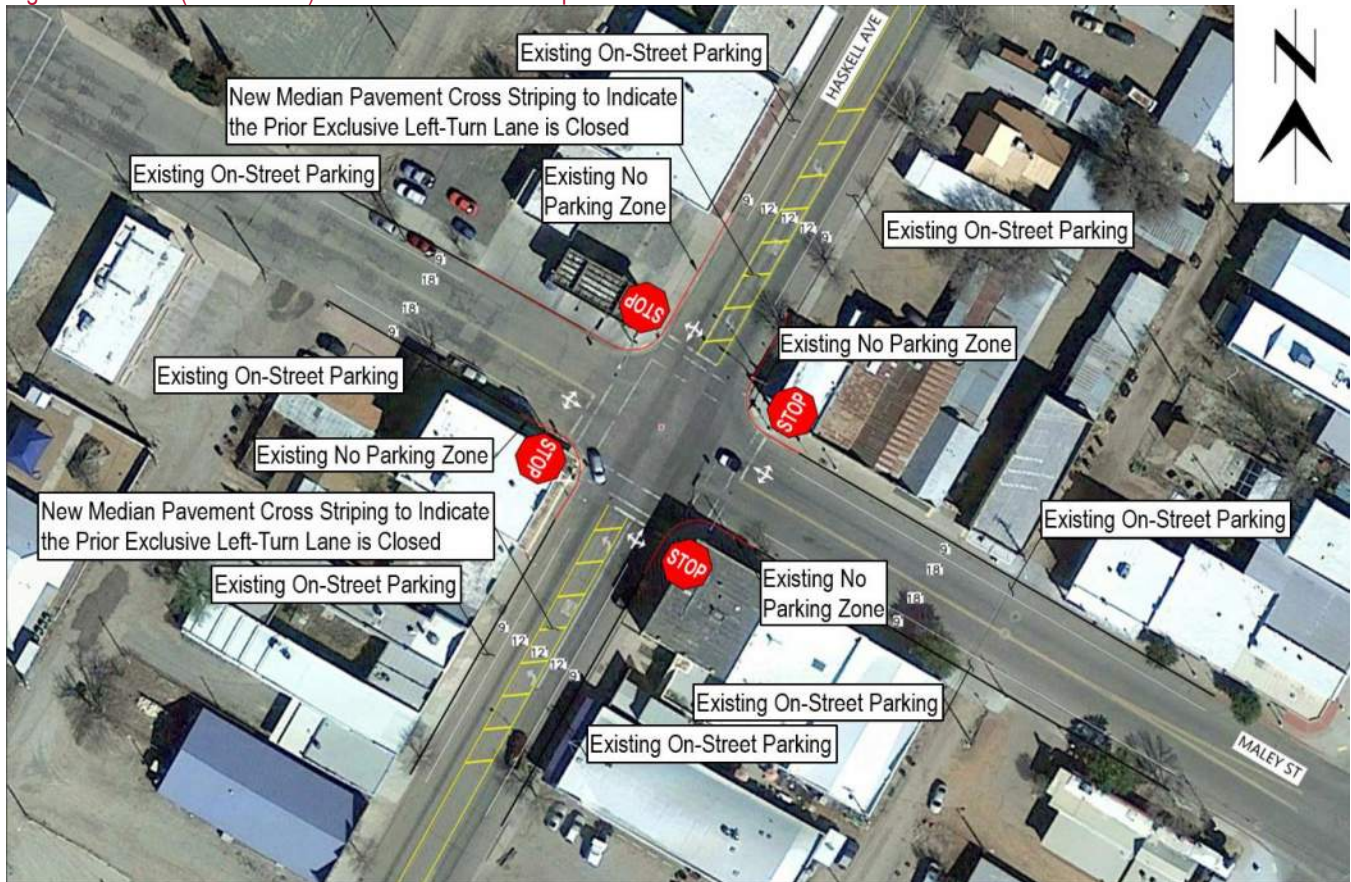
- **Public Engagement Results.** Alternatives E and F scored significantly better than the other Candidate Alternatives in the public survey conducted in August of 2021.
- **Discussions with the TAC and Local Stakeholders.** After being presented with the Candidate Alternative analysis and public engagement results, the TAC elected to recommend Alternative E (East Bypass with At-Grade Railroad Crossing) as the Ultimate Preferred Alternative. The TAC and stakeholders advised that the modified version of Candidate Alternative C (Reconfigure) should be pursued in cooperation with an upcoming resurfacing project on Haskell Avenue.

Preferred Alternative Implementation Plan

Interim Preferred Alternative Improvements

ADOT and the City of Willcox recently obtained funding to resurface Haskell Avenue (B-10) and Rex Allen Drive (SR 186). This resurfacing project provides an opportunity to implement a modified version of Candidate Alternative C (Reconfigure) that includes only the striping changes on Haskell Avenue (B-10). **Figure 4** shows the recommended Interim Preferred Alternative improvements at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).

Figure 4. Interim (Short-Term) Preferred Alternative Improvements



Proposed changes to the intersection include:

- Striping out the existing left-turn lanes on Haskell Avenue (B-10) with diagonal cross-hatching to prohibit vehicles from using these lanes when striping the roadway during the resurfacing project. This configuration provides more space for trucks to turn and accommodates turning movements for almost all truck sizes. Additionally, no reduction in the on-street parking is anticipated to be necessary to implement these improvements.
- Changing the intersection from traffic signal controlled to stop-controlled. The current intersection operates at a Level of Service (LOS) A in both the AM and PM peak hours. However, required changes to signal phasing with the interim improvements would degrade the LOS to a B in the AM peak hour and a C in the PM peak hour. However, converting the intersection to an all-way stop would maintain LOS A in both peak hours, similar to the current condition.

Preliminary cost estimates were developed for the interim improvements for both the conversion to an all-way stop and maintaining a signalized intersection:

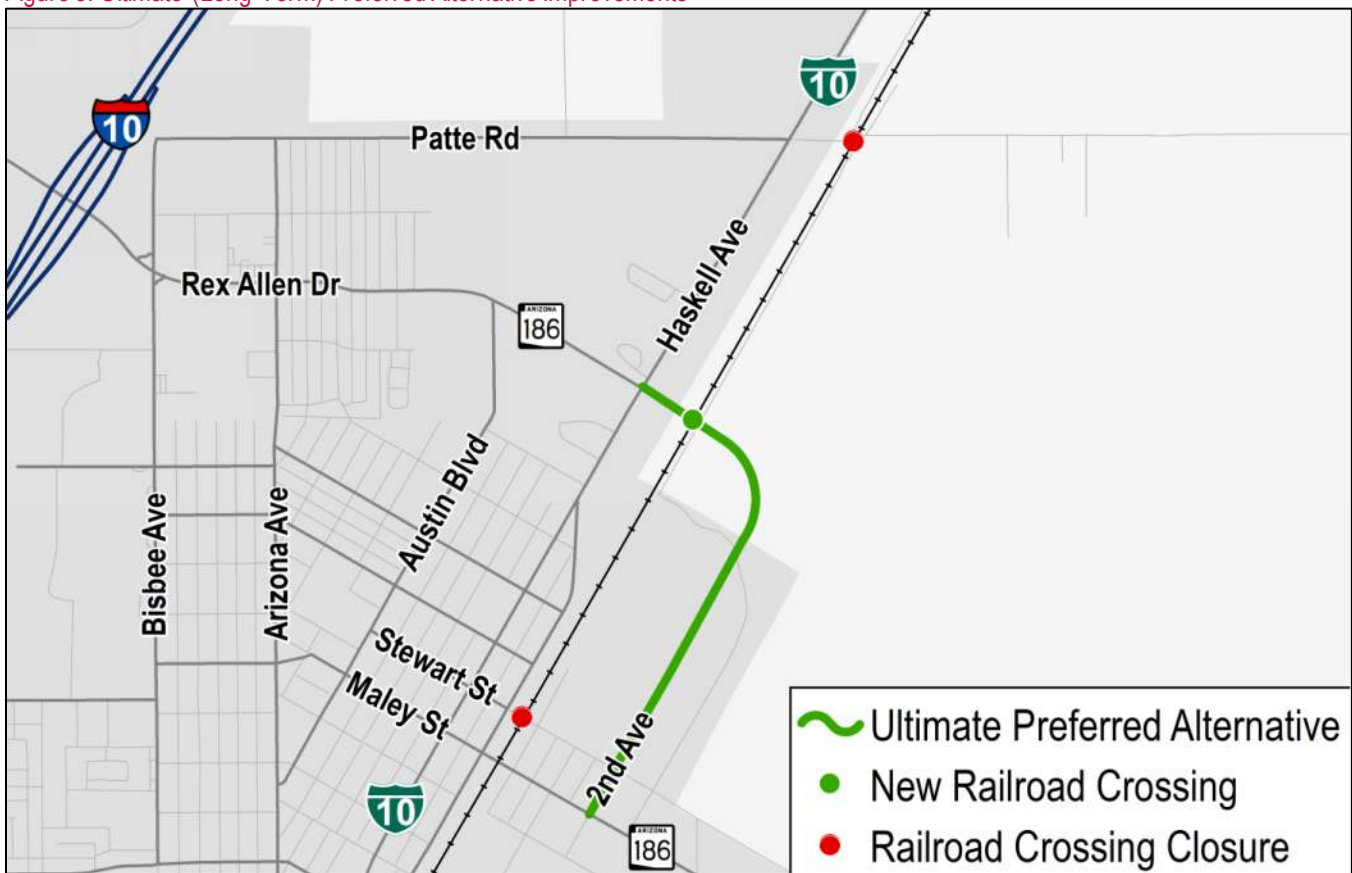
- Stop Control: \$45,000
- Signalized: \$35,000

It is anticipated that this cost could easily be absorbed into the upcoming resurfacing project. However, if the improvements are not included in the resurfacing project, ADOT and/or the City of Willcox will need to identify alternative funding.

Ultimate Preferred Alternative Improvements

The Ultimate Preferred Alternative involves constructing a new roadway to divert truck traffic around downtown Willcox. The roadway would begin at the intersection of Maley Street (SR 186) and 2nd Avenue and travel northeast along the existing alignment of 2nd Avenue, parallel to the railroad for approximately 3,000 feet. The roadway would then curve westward 90 degrees to a new at-grade railroad crossing perpendicular to the railroad and intersect Haskell Avenue (B-10) at the intersection of Rex Allen Drive (SR 186). The alignment of the new roadway is conceptual in nature and may need to be refined during final design. **Figure 5** shows the Ultimate Preferred Alternative improvements. The anticipated cost for the Ultimate Preferred Alternative is approximately \$5,000,000.

Figure 5. Ultimate (Long-Term) Preferred Alternative Improvements

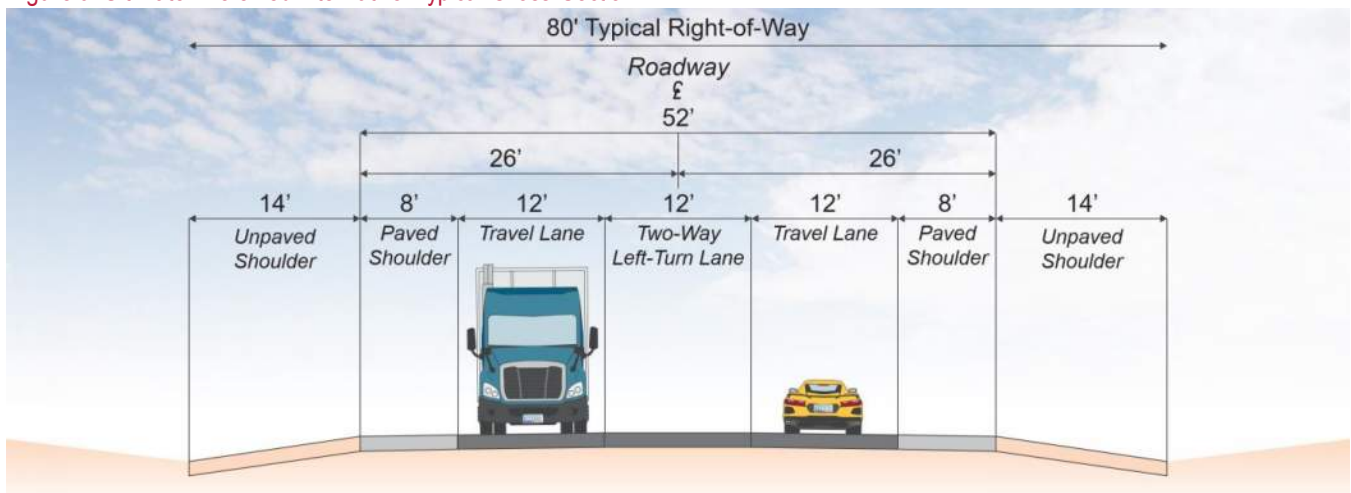


Based on a preliminary traffic analysis, both terminal intersections (Haskell Avenue [B-10]/Rex Allen Drive [SR 186] and Maley Street [SR 186]/2nd Avenue) are anticipated to operate at a LOS A with two-way stop control.

To create a new at-grade railroad crossing, UPRR typically requires the closure of two existing at-grade railroad crossings. Based on the existing roadway network, the Ultimate Preferred Alternative will likely require the closure of the existing Stewart Street and Patte Road railroad crossings. Minor roadway changes will be required near these existing crossings to provide access to nearby properties.

While exact right-of-way acquisition needs will be explored further during the project development phase, it is currently anticipated that there are nine parcels from which varying amounts of right-of-way will be required to implement the desired 80-foot right-of-way for the Ultimate Preferred Alternative. The proposed cross-section for the Ultimate Preferred Alternative is shown in **Figure 6**. A total of approximately 250,000 square feet, or 5.8 acres, may be needed.

Figure 6. Ultimate Preferred Alternative Typical Cross-Section



The City of Willcox will likely be the primary party responsible for advancing the Ultimate Preferred Alternative forward in the project development process. Major steps to implement the project include:

- Identification and programming of funding
- Project scoping/development
- Railroad coordination
- Public engagement
- Preliminary design
- Final design
- Environmental clearances
- Right-of-way acquisition
- Utility relocation
- Construction advertising and procurement
- Construction

1. Introduction

Study Background

The Arizona Department of Transportation (ADOT) and the City of Willcox initiated the Willcox Circulation Study to identify and evaluate issues relating to and affecting freight traffic in Willcox and the resulting quality of life impacts to Willcox residents.

A majority of current and anticipated freight generators surrounding Willcox are located on the southeast side of the city, along the State Route (SR) 186 corridor. However, most freight trips enter or leave the area via Interstate 10 (I-10), located on the western side of the city.

The Union Pacific Railroad (UPRR) separates residential and commercial portions of the city from the industrial and agricultural portions to the east. Currently, the only paved crossings of the railroad lead directly into downtown Willcox, forcing large trucks through the historic downtown and the surrounding residential street grid with a high density of intersections and driveways. The intersection of Maley Street (SR 186) and Haskell Avenue (Business Route 10 [B-10]) is of particular concern for freight operators due to tight turns, on-street parking, and the proximity of historic buildings to the intersection. Once in downtown Willcox, trucks have three options for accessing I-10, all of which involve multiple turns and slow speeds.

As freight traffic continues to increase along SR 186, safety issues and negative externalities (such as noise, diesel emissions, etc.) from heavy freight traffic through central Willcox become more critical for the residents of the city as well as freight operators. Mitigating these issues or identifying a feasible alternative to traveling through central Willcox could improve the quality of life for residents and improve travel reliability for drivers.

Study Area

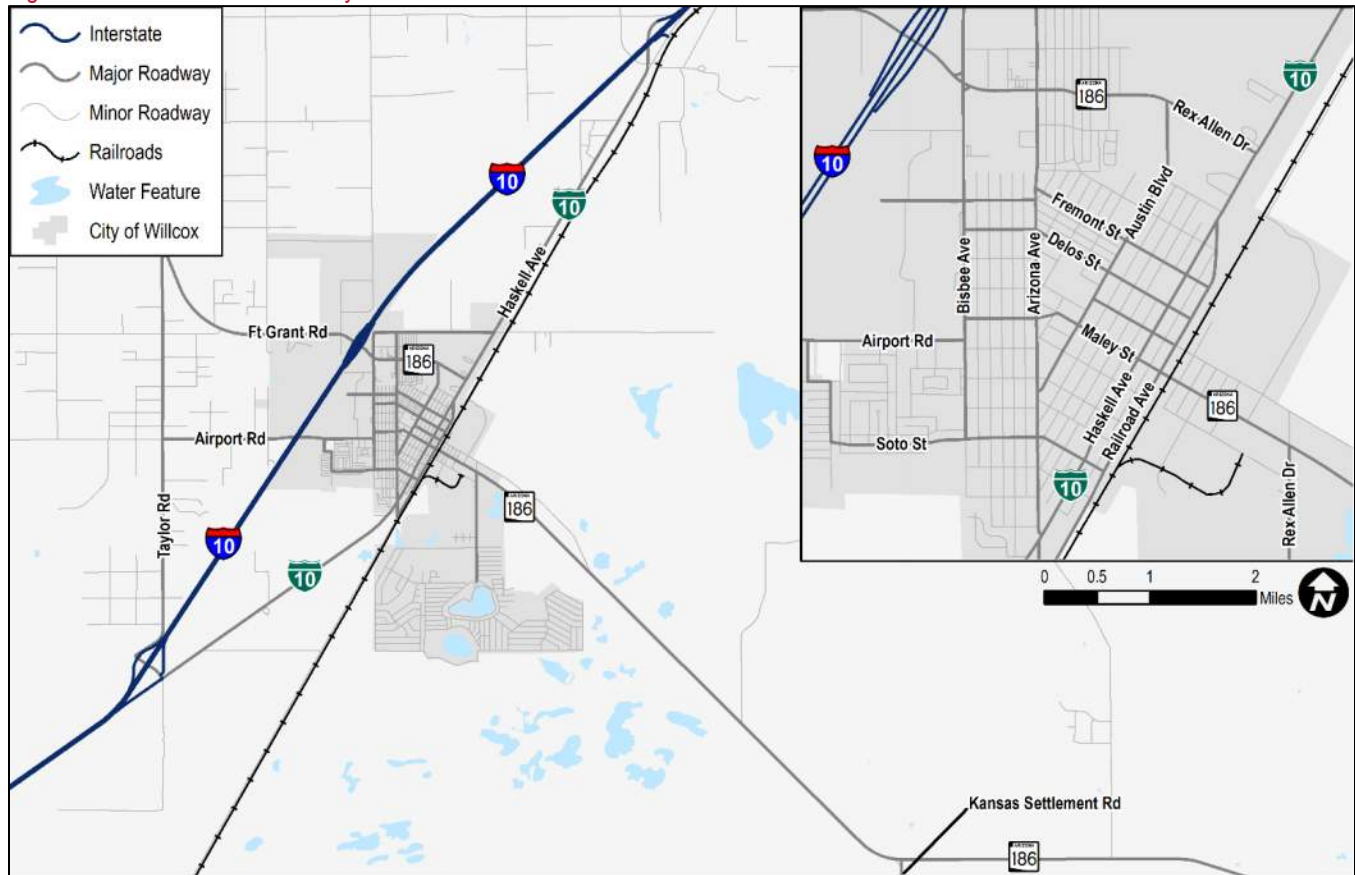
The City of Willcox is located along I-10 approximately 80 miles east of Tucson and 50 miles west of the Arizona/New Mexico border. The Willcox Circulation Study area includes the entirety of the City of Willcox along with the surrounding areas of unincorporated Cochise County as shown in **Figure 7**.

There are three roadways under the jurisdiction of ADOT within the study area:

- I-10, which runs in a northeast-southwest direction in the western portion of Willcox and the study area.
- Haskell Avenue (B-10) follows a similar path as I-10 but runs directly through downtown Willcox.
- SR 186 runs roughly perpendicular to I-10 and B-10 from the traffic interchange (TI) between I-10 and SR 186 just north of central Willcox on Rex Allen Drive, through downtown Willcox, and eastward into unincorporated Cochise County on Maley Street.

Several other roadways under the jurisdiction of the City of Willcox and Cochise County provide additional connectivity throughout the study area. The UPRR travels through central Willcox, parallel and adjacent to Haskell Avenue (B-10), limiting east-west connectivity within the study area.

Figure 7. Willcox Circulation Study Area



Source: ADOT, US Census Bureau

Study Goals

The Willcox Circulation Study identifies solutions to mitigate the freight-related issues around trucks within the study area with the aim of attaining the following goals:

- Develop alternatives that allow freight operators an alternative to making tight turns at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).
- Avoid additional negative impacts to Willcox residents, historic resources, and other environmental constraints.
- Accommodate anticipated increases in freight traffic from growing industrial and agricultural commerce east of downtown Willcox.
- Improve roadway safety, particularly involving truck traffic, with future improvements in the study area.
- Improve travel time and reliability for freight operators traveling through Willcox.

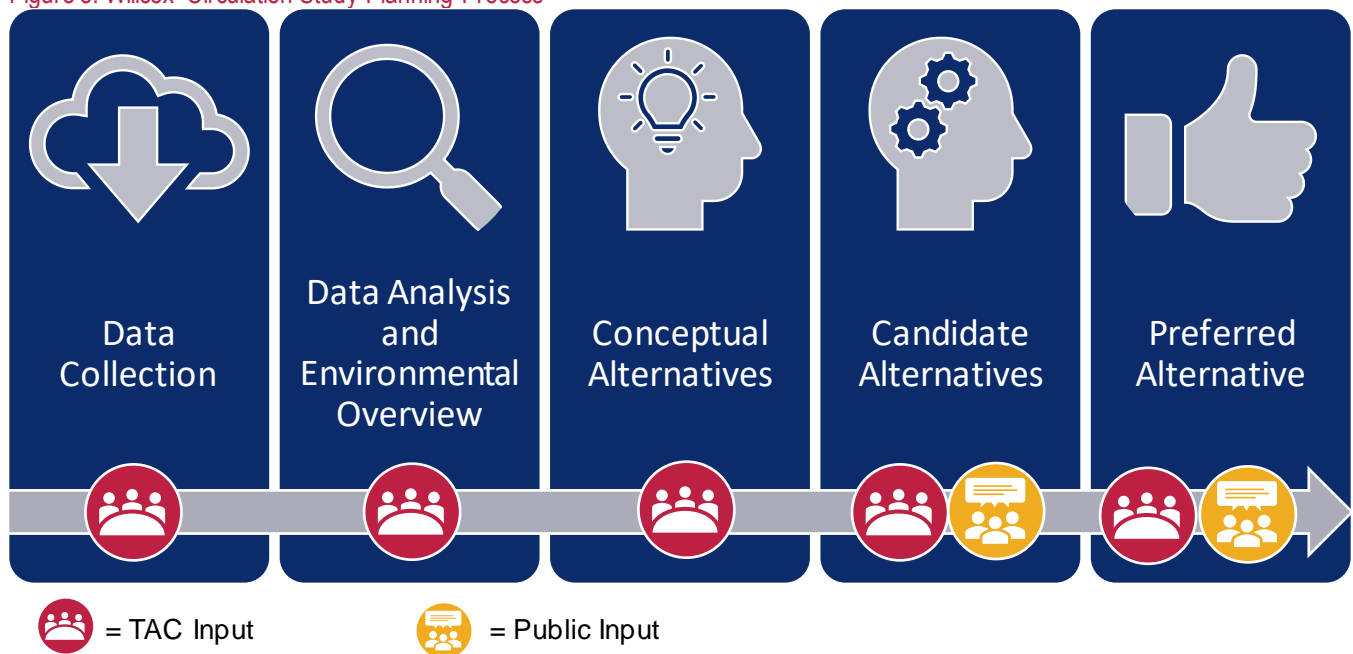
Projects have been recommended to address the above issues. Planning-level costs for the improvements will be included. The improvement projects will be packaged to be part of the Planning to Programming (P2P) process to compete for future funding.

Planning Process

The Willcox Circulation Study planning process is divided into five main phases as shown in **Figure 8**. A project Technical Advisory Committee (TAC) was also formed to inform decision making at key points during

the project. There were also two rounds of public engagement that informed the Preferred Alternative selection. These input touchpoints are also shown in **Figure 8**.

Figure 8. Willcox Circulation Study Planning Process



- **Data Collection.** The study team collected and compiled a wide variety of datasets that would inform subsequent steps of the planning process. Data was collected from various ADOT sources, the City of Willcox, and Cochise County. The study team also collected traffic count data throughout the study area.
- **Data Analysis and Environmental Overview.** The data collected in the previous phase was analyzed to identify existing and forecasted transportation deficiencies as well as potential threats to project implementation from known environmental hazards or protected species.
- **Conceptual Alternatives.** The study team developed a wide variety of potential solutions to the transportation deficiencies identified during the Data Analysis phase, as well as a methodology for screening the Conceptual Alternatives to isolate the ones with the greatest potential benefit.
- **Candidate Alternatives.** After screening the Conceptual Alternatives, a smaller set of Candidate Alternatives was put through a more intensive analysis to identify fatal flaws and gauge public acceptability.
- **Preferred Alternative.** The Conceptual Alternatives were narrowed to one short-term and one long-term Preferred Alternative, which was further scoped and refined to best meet the project goals and prepare the Preferred Alternative for future steps in ADOT's project development process.

Working Papers

This Final Report for the Willcox Circulation Study is a compilation of previously completed Working Papers that were developed throughout the study process. Four working papers, along with an Environmental Overview, were created during the study and provide more detail on each individual step than this Final Report document. A brief description of each working paper is provided below:

- **Working Paper 1 – Current Conditions.** Working Paper 1 provided a summary of existing data to provide a baseline of information from which the subsequent steps in the study have been built. These datasets were organized into four major groups:

- *Recent Planning Initiatives.* Plans performed in the recent past that provide future planned transportation enhancements anticipated to be completed by the City of Willcox, Cochise County, and ADOT.
- *Current Roadway Conditions.* A review of existing datasets that may impact the development of project alternatives such as traffic volumes, anticipated growth in traffic, roadway geometric constraints, and roadway safety statistics.
- *Current Railroad Conditions.* A review of datasets relating to the UPRR line through Willcox, which has an impact on travel reliability, safety, and will limit the range of feasible alternatives.
- *Land Use and Demographics.* Recent and anticipated trends in the population of the study area, major activity centers, and the location of potential constraints related to protected structures, vulnerable populations, or utilities.
- **Working Paper 2 – Data Analysis.** Working Paper 2 provided additional analysis of the data presented in Working Paper 1 to identify transportation deficiencies that influence the proposed alternatives. The analyses were organized into three primary groups:
 - *Traffic Analysis.* Existing corridor levels of service, future traffic volume projections and anticipated levels of service, and an analysis of railroad delays were analyzed to identify potential capacity and travel reliability issues within the study area.
 - *Critical Location Safety Analysis.* This section analyzed in more detail the study area-wide safety data to identify key trends and causes of safety issues at critical intersections and corridors.
 - *Truck Route Analysis.* Comparisons between truck volumes collected earlier in the planning process and existing roadway conditions, including functional classifications, pavement conditions and thicknesses, and roadway rights-of-way, were analyzed to identify mismatches between overall truck flows through the study area and the intended use of roadways within the system.
- **Environmental Overview.** The Environmental Overview includes descriptions of the existing environmental resources within the project limits as well as potential known environmental issues, constraints, and opportunities, which served as a tool during the alternatives analysis process. A large set of environmental data sources were reviewed to document potential known environmental impacts for:
 - Biological resources
 - Water resources
 - Cultural resources
 - Socioeconomic impacts
 - Quality of life
 - Hazardous materials
- **Working Paper 3 – Alternatives Analysis.** Working Paper 3 provided an initial list of alternatives to meet the project goals and the screening processes to narrow those alternatives down to a Preferred Alternative. The working paper was broken into three main sections:
 - *Conceptual Alternatives.* This section contained the initial Conceptual Alternatives developed to address the issues identified in the previous working papers. This section also included the initial screening methodology used to identify fatal flaws and the most Conceptual Alternatives to be advanced to the Candidate Alternatives analysis.
 - *Candidate Alternatives.* This section provided additional detail on the five Candidate Alternatives, plus the no-build alternative, as well as the evaluation methodology. Scoring and results of all six alternatives were provided along with conclusions to inform the Preferred Alternative.
 - *Public Engagement – Round 1.* The process, results, and advertisement from the first round of public engagement which focuses on the five Candidate Alternatives, plus the no-build

alternative. This round of engagement involved a public survey presenting the Candidate Alternatives and gauging the public acceptability of each of the alternatives to inform the Preferred Alternative.

- **Working Paper 4 – Preferred Alternatives.** Working Paper 4 focused on the process of identifying the Interim and Ultimate Preferred Alternatives and further scoping of those alternatives. The working paper was broken into four main sections:
 - *Preferred Alternatives Selection.* This section provides the reasoning for choosing the Preferred Alternatives from the Candidate Alternatives.
 - *Interim Preferred Alternative Improvements.* An upcoming resurfacing project on Haskell Avenue (B-10) provides an opportunity to implement minor, short-term changes at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) for a minimal cost. This section provides an overview of those changes and implementation steps.
 - *Ultimate Preferred Alternative Improvements.* A longer-term ultimate solution consists of a new bypass roadway east of downtown Willcox that would connect from Maley Street (SR 186) at 2nd Avenue to Haskell Avenue (B-10) at Rex Allen Drive (SR 186), including a new at-grade railroad crossing. This section provides additional analysis and detail of the Ultimate Preferred Alternative.
 - *Public Engagement – Round 2.* The process, results, and advertisement from the second round of public engagement which focuses on the public acceptability of the Preferred Alternative.

2. Public and Stakeholder Engagement

Engagement with those outside of the study team is critical to providing a well-rounded and balanced analysis of the potential alternatives as well as finding acceptable solutions to those who would be frequent users of future transportation improvements in the study area. The general public within the study area, a committee of technical experts, and the Willcox City Council were engaged throughout the study process. A Public Involvement Plan was developed at the outset of the study to guide the engagement process, which has been included as **Appendix A**.

Public Engagement

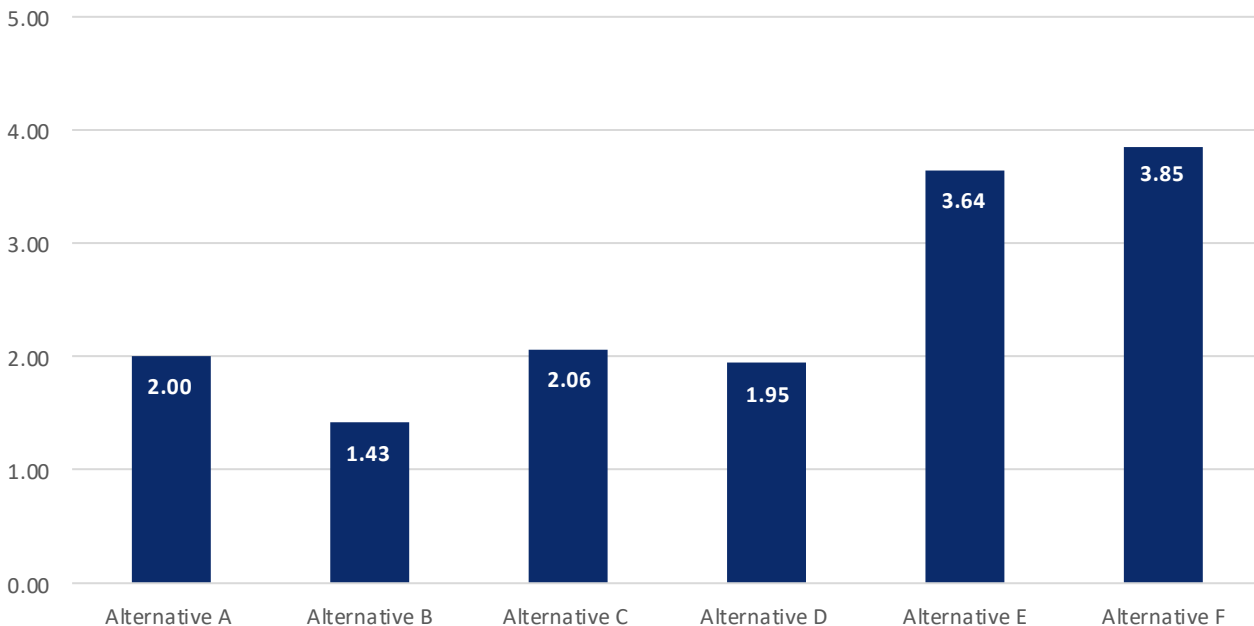
Two rounds of engagement with the general public, targeted to those that live or work in the study area, were undertaken to get feedback on the Candidate Alternatives as well as the Interim and Ultimate Preferred Alternatives.

Round 1 – Candidate Alternatives

A public survey was available virtually and in person between August 1 and August 31, 2021 in English and Spanish language versions. The online survey utilized the SurveyMonkey platform and was accessed via the ADOT project website. A paper version of the survey was available at the Willcox City Hall and Elsie S. Hogan Community Library. The public survey received 182 responses, all of which were electronically submitted. There were 162 responses in English and 20 responses in Spanish. Additional detail on the first round of public engagement is provided in **Appendix B**.

The primary goal of the public survey was to present the Candidate Alternatives and solicit feedback from the public on their views and preferences on each Candidate Alternative. Survey respondents were asked to rank each Candidate Alternative on a scale of 1 to 5, with a score of one indicating they strongly oppose the alternative and a score of 5 indicating they strongly support the alternative. A summary of the average scores of the six Candidate Alternatives is shown in **Figure 9**.

Figure 9. Public Survey Average Candidate Alternative Score



Alternatives B (Roundabout) and D (City Streets) scored worse than Alternative A (No-Build), indicating little public support for those Candidate Alternatives. Alternative C (Reconfigure) scored only slightly better than

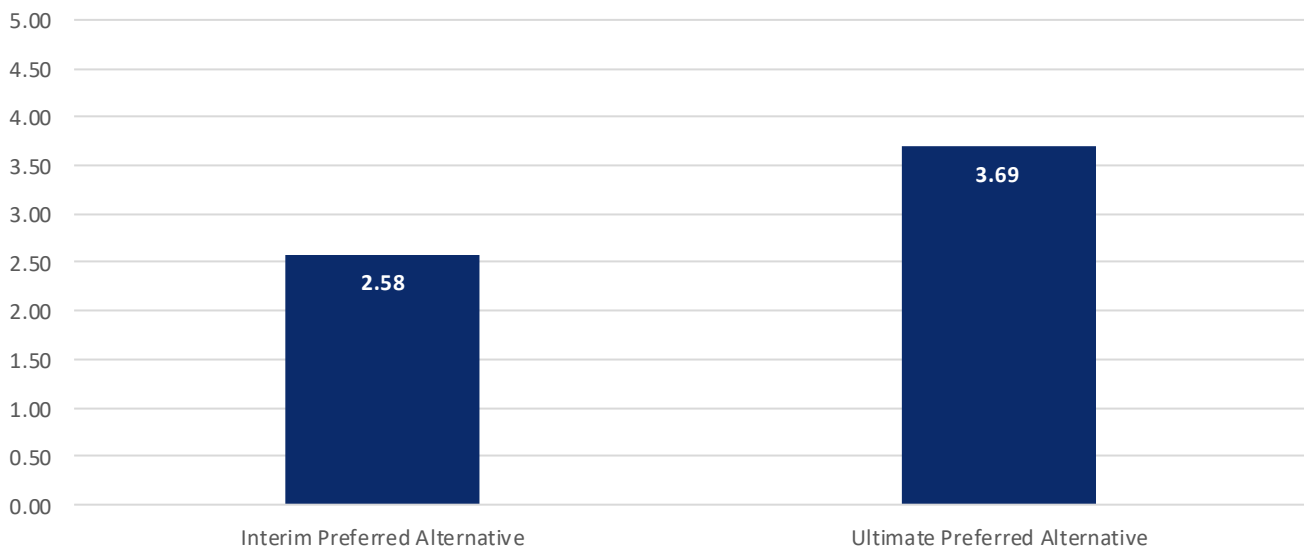
the No-Build. Alternative E (East Bypass with At-Grade Railroad Crossing) and Alternative F (East Bypass with Grade-Separated Railroad Crossing) scored significantly better than the other Candidate Alternatives, indicating relatively high public support for those alternatives. Alternative F scored slightly better than Alternative E.

Round 2 – Preferred Alternatives

A second public survey was available virtually and in person between October 29, 2021 and November 30, 2021 in English and Spanish language versions. The online survey utilized the SurveyMonkey platform and was accessed via the ADOT project website. A paper version of the survey was available at the Willcox City Hall and Elsie S. Hogan Community Library. The public survey received 67 responses, all of which were electronically submitted in English. Additional detail on the second round of public engagement is provided in **Appendix C**.

The primary goal of the public survey was to present the Interim and Ultimate Preferred Alternatives to solicit feedback from the public. Survey respondents were asked to score the Interim and Ultimate Preferred Alternatives on a scale of 1 to 5, with a score of 1 indicating they strongly oppose the proposed improvements and a score of 5 indicating they strongly support the proposed improvements. The average scores for the Interim and Ultimate Preferred Alternatives are shown in **Figure 10**.

Figure 10. Public Survey 2 Average Preferred Alternative Score



Overall, survey respondents were more supportive of the Ultimate Preferred Alternative than the Interim Preferred Alternative. Approximately 53% of respondents opposed the Interim Preferred Alternative while 31% supported it and 16% were neutral. Approximately 67% of respondents supported the Ultimate Preferred Alternative while 24% opposed it and 9% were neutral.

It should be noted that the Interim Preferred Alternative was a revised version of the Candidate Alternative known as Alternative C, which in the first survey had an average score of 2.06, suggesting respondents are more supportive of the Interim Preferred Alternative than they were of Alternative C.

Similarly, the Ultimate Preferred Alternative was a revised version of a Candidate Alternative known as Alternative E, which in the first survey had an average score of 3.64, suggesting respondents are slightly more supportive of the Ultimate Preferred Alternative than they were of Alternative E.

Comments were provided suggesting that the Interim Preferred Alternative does not address the existing truck-turning issues as well as the Ultimate Preferred Alternative. Comments were generally in support of the Ultimate Preferred Alternative.

Public Engagement Advertisement

The public surveys were advertised in a variety of methods to reach a wide array of audiences, including residents, workers, and travelers in the study area. Three primary methods were used to advertise the public survey – an insert in City of Willcox utility bills, the email list from the project website, and through the TAC.

- **Utility Bill Inserts.** A half-page insert was included in the July 2021 and October 2021 utility bills (sent in early August and November, respectively), which are sent to every utility customer served by the City of Willcox. The insert informed residents of the study and the opportunity to participate in the surveys virtually or in-person. The utility bill inserts were in the format of a postcard in both English and Spanish, informing residents of the request for public input. The English version of the utility bill insert is shown in **Figure 11**.

Figure 11. Utility Bill Insert from Public Engagement Round 1

The graphic is a utility bill insert with a grey header and footer. The header contains the text: "Tell us what you think! Help us reduce the impact of truck traffic through downtown Willcox." The main body of the insert is white with a thin border and contains the following text: "The Arizona Department of Transportation (ADOT), in collaboration with the City of Willcox and area businesses, is working to reduce the impact of heavy truck traffic through downtown Willcox and would like your input. Currently, heavy trucks from businesses on the southeast side of the city (along State Route 186) must go through downtown to access Interstate 10, creating congestion and safety issues. Visit www.azdot.gov/willcoxstudy to take a brief survey about the potential improvement alternatives. A paper version of the survey is available at the locations below. The survey ends Tuesday, August 31, 2021." Below this text are two bullet points: "▶ Willcox City Hall, 101 S. Railroad Avenue B" and "▶ Elsie S. Hogan Community Library, 100 N. Curtis Avenue". The ADOT logo is positioned in the bottom right corner of the insert.

- **Project Website and Email List.** ADOT established a project website for the public to find information and updates on the Willcox Circulation Study, including a project fact sheet. The fact sheet is provided in **Appendix D**. This website provided contact information as well as a link to subscribe to receive study information and updates by email. Notice of the public survey and a survey link were provided to subscribers of the project email list.
- **Technical Advisory Committee.** The study team asked the TAC to share the survey through their respective organizations, social groups, and social media. This effort was meant to reach a wider variety of community members than might otherwise be engaged in the project.

Technical Advisory Committee

The TAC comprised ADOT staff, City of Willcox staff, and local stakeholders. ADOT organized the TAC with input from the City of Willcox. TAC members are listed in **Table 4**.

Table 4. TAC Members

Name	Organization
Felicia Beltran	Civil Rights – ADOT
Caleb Blaschke	City Manager – City of Willcox
Dan Coxworth	Development Services Director – Cochise County
Tazeen Dewan	Project Manager – ADOT
Jay Gomes	Regional Traffic – ADOT
Brent Haas	Riverview Dairy
Brandi Hall	Civil Rights – ADOT
Bill Harmon	Southeast District – ADOT
Jason Hart	Southeast District – ADOT
Mark Hoffman	Multimodal Planning – ADOT
Sayeed Hani	Railroad Liaison – ADOT
Brian Jevas	Southeast District – ADOT
Peggy Judd	County Supervisor – Cochise County
Mike Laws	Mayor – City of Willcox
Carlos Lopez	Multimodal Planning – ADOT
Kathy Mendez	Mesquite Ranch Realty
Julia Mendoza	Roadway Pre-Design – ADOT
Jerimiah Moerke	Communications – ADOT
Cheryl Moss	Maid Rite
James Norwood	Southeast District – ADOT
Ahnaf Nur	Civil Rights – ADOT
Mary Peterson	Willcox Chamber of Commerce and Agriculture
Christina Pippin	Permitting – ADOT
Katie Rodriguez	Environmental Planning – ADOT
Jeff Stoddard	Public Works Director – City of Willcox
Jackie Watkins	Planning and Zoning – Cochise County
Kendrick Wiley	Isabel's/Big Tex BBQ
Robert Wisler	Assistant to the City Manager – City of Willcox

Six TAC meetings were held throughout the study to get input from technical experts and local stakeholders. The dates and topics discussed at each TAC meeting are described below:

- **Wednesday, March 31, 2021.** The project team provided an overview of the project scope of work, anticipated public engagement activities, the project schedule, and information presented in Working Paper 1.
- **Tuesday, May 11, 2021.** The project team provided an overview of Working Paper 2 and the Environmental Overview, as well as initial public engagement efforts, such as developing a project fact sheet and website and writing a Public Involvement Plan. The TAC provided input on the types of improvements that could be considered as Conceptual Alternatives.
- **Thursday, June 10, 2021.** The project team presented the Conceptual Alternatives and the results of the initial screening of these alternatives. Based on TAC discussion, six Conceptual Alternatives were advanced to become Candidate Alternatives for further screening.
- **Wednesday, July 21, 2021.** The project team presented the methodology used to evaluate the Candidate Alternatives and preliminary results. The TAC was also given a preview of the public engagement to be conducted in August of 2021 and was asked to promote the survey.
- **Tuesday, September 21, 2021.** The project team presented preliminary recommendations for an Ultimate Preferred Alternative for TAC discussion. The TAC was also presented with the option for an

Interim Preferred Alternative that is a scaled-down version of one of the Candidate Alternatives to take advantage of a resurfacing project on Haskell Avenue (B-10).

- **Thursday, December 9, 2021.** The project team presented the Interim and Ultimate Preferred Alternatives, including roadway geometrics, traffic analyses, surrounding roadway network changes, potential property impacts, estimated costs, and implementation steps. Results from the second round of public engagement were also provided to the TAC.

Summary notes from each of the six TAC meetings are provided in **Appendix E**.

Willcox City Council Presentation

A presentation on the findings and recommendations of the Willcox Circulation Study was provided to the Willcox City Council on December 16, 2021. The slides from this presentation are provided in **Appendix F**. The City Council approved a motion to support ADOT in implementing the Interim Preferred Alternative. It was also discussed with the City Council that the City would likely need to take the lead in identifying future funding for the Ultimate Preferred Alternative.

3. Current and Future Conditions

To develop transportation recommendations that are in alignment with other plans covering the study area and address existing and anticipated transportation deficiencies, a comprehensive existing and future conditions analysis was performed. Several topics were explored, including recent planning initiatives, roadway conditions, railroad characteristics, land use and demographics, and environmental factors.

Recent Planning Initiatives

A review of planning efforts within the study area is important in understanding where future transportation improvements may be planned or programmed, which could impact future travel patterns.

City of Willcox General Plan

The City of Willcox 2040 General Plan aims to protect and preserve Willcox's heritage and ensure compatible and managed growth.

The General Plan identifies current circulation issues in relation to road maintenance, transit, road network design, pedestrian and bicyclists, rail travel, and air travel. A major circulation issue emphasized in the General Plan's Circulation Element is that roadways intersecting the railroad are often blocked by trains, leading to traffic delays between downtown and southeastern Willcox.

While the General Plan does not identify any specific future transportation enhancements, it does define three circulation-related goals:

- Provide a comprehensive, convenient, accessible, and safe vehicular transportation network that meets the needs of residents.
- Provide a comprehensive, convenient, accessible, and safe non-vehicular transportation network that meets the needs of citizens.
- Enhance the City's economic competitiveness through projects and policies that are intended to increase the continuity and the viability of freight.

Cochise County Long-Range Transportation Plan

The Cochise County 2040 Long-Range Transportation Plan (LRTP) was adopted in 2015. This plan outlines overall recommendations for the county relating to the roadway network, bridges and culverts, the transit system, the bikeway system, the pedestrian system, the aviation system, and the railroad system conditions.

Recommended upgrades, including adding/upgrading turn lanes, improved shoulders or bike lanes, and improvements to roadway surfaces are recommended on the following four corridors within the study area:

- Fort Grant Road between I-10 and the Graham County line.
- Taylor Road between I-10 and Fort Grant Road.
- Airport Road between the Inde Motorsports Ranch and I-10.
- Kansas Settlement Road between US 191 and SR 186.

ADOT Five-Year Program

The 2021-2025 Five Year Transportation Facilities Construction Program was produced by ADOT and adopted in 2020. Two preservation projects are planned to rehabilitate overpasses over I-10: the B-10 west interchange in Fiscal Year (FY) 2021 and the B-10 east interchange in FY 2025.

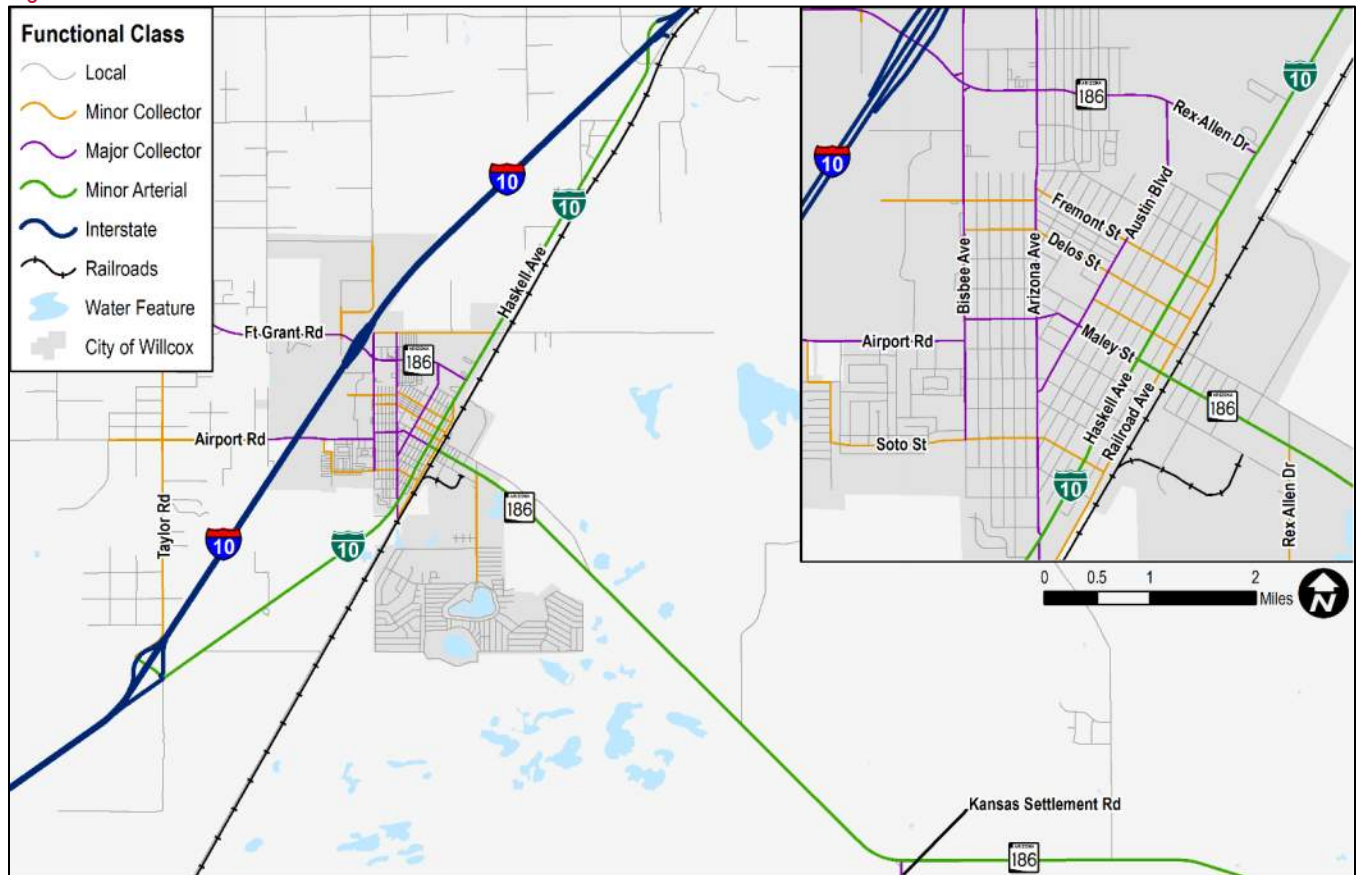
Current and Future Roadway Conditions

Roadway Characteristics

Functional Classification

Roadway functional classes categorize roadways based on the type of traffic they are intended to serve. Classification is divided into three roadway types: arterial, collector, and local roadways. Arterial roadways are intended to have the ability to move vehicles over long distances and at higher speeds within or between cities. Collector roadways have lower speeds than arterials and span shorter distances. They are meant to connect travelers to the arterials. Local streets have very low speeds, extend short distances, and provide direct access to properties. The federal functional classification for the roadways in the study area is shown in **Figure 12**.

Figure 12. Functional Classification



Source: ADOT

Laneage

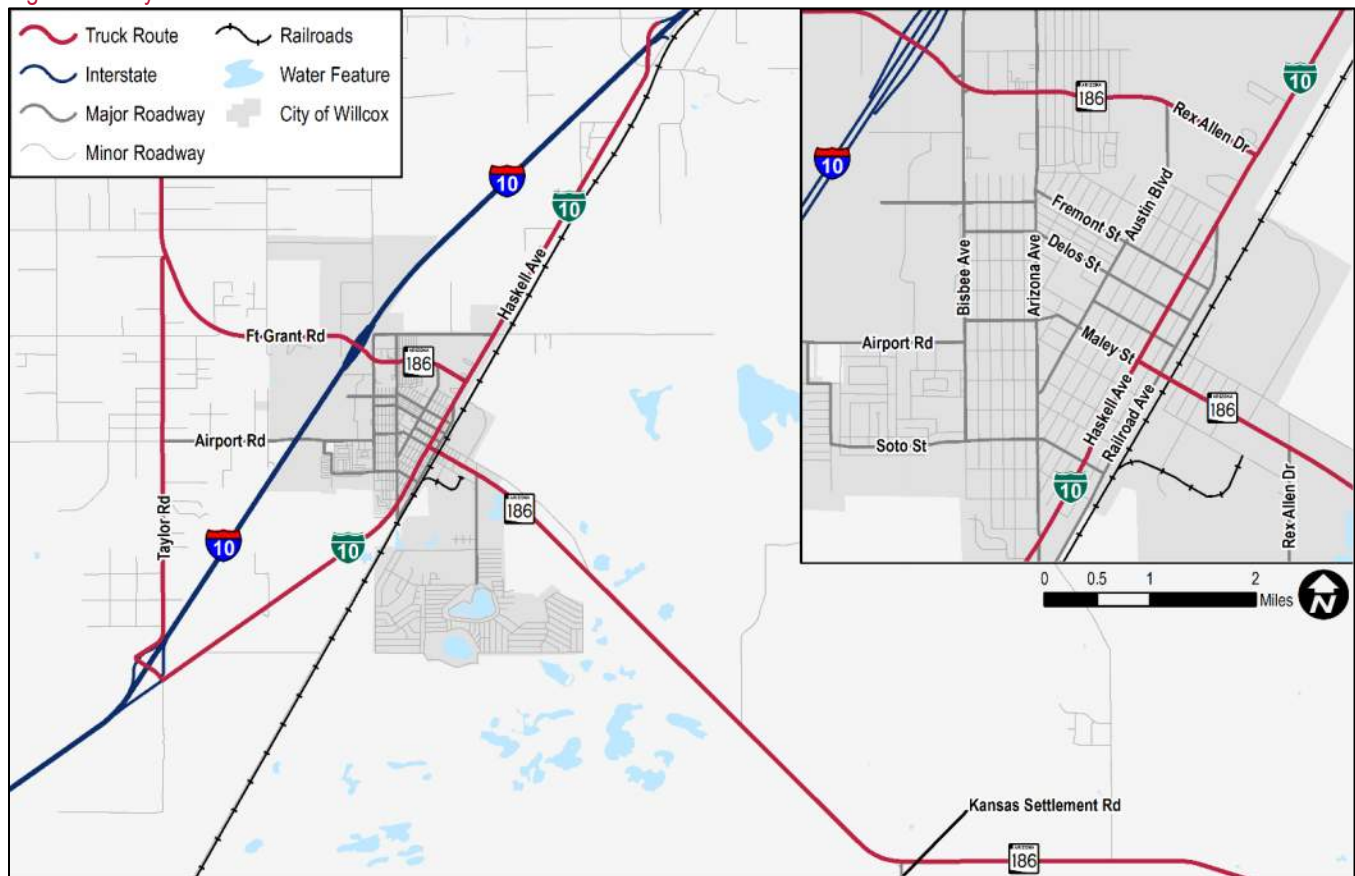
Roadways within the City of Willcox and the surrounding study area do not vary in laneage significantly. Roadways are typically two-lane roadways apart from the following two roadways:

- Rex Allen Drive (SR 186) is a five-lane roadway (two lanes in each direction plus a two-way left-turn lane (TWLTL)) west of Haskell Avenue (B-10).
- Haskell Avenue (B-10) is a three-lane roadway (one lane in each direction plus a TWLTL) north of Lewis Street.

Truck Routes

In January 2021, the City of Willcox issued Ordinance 12.06, which limits through truck traffic on most city-maintained roadways. Truck routes are limited to Fort Grant Road, Taylor Road, I-10, Haskell Avenue (B-10), Rex Allen Drive (SR 186), and Maley Street (SR 186). Trucks are only allowed to use other local roads when necessary to complete deliveries, pickup, or services for local businesses. **Figure 13** shows the truck routes established by the ordinance.

Figure 13. City of Willcox Truck Routes

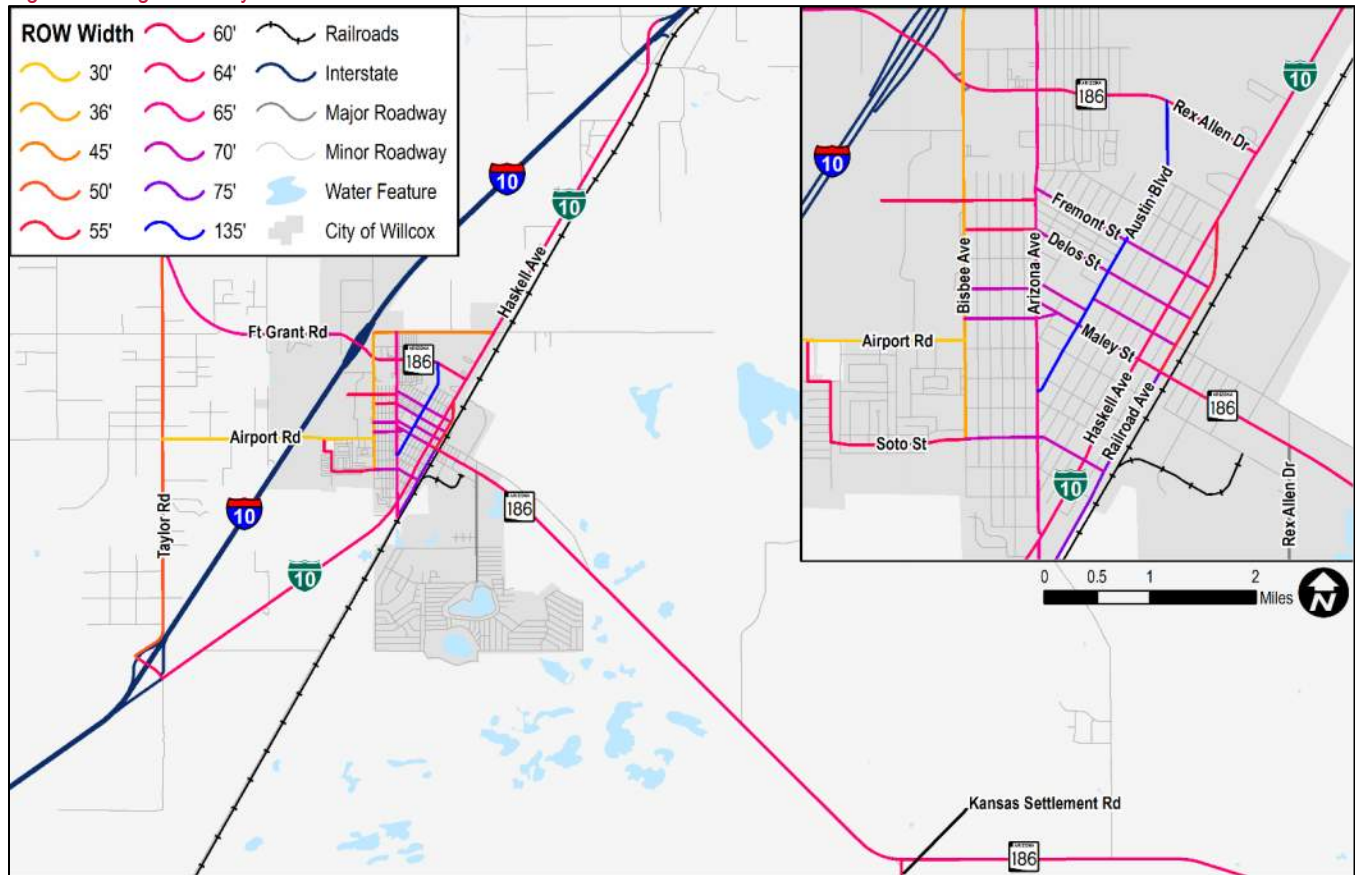


Source: City of Willcox

Right-of-Way and Intersections

Roadway right-of-way (ROW) widths within the study area vary from 30 feet on small local roadways to over 100 feet on major roadways. The roadways designated as the truck routes have relatively wide ROW widths of approximately 75 feet. **Figure 14** shows the ROW widths on the classified roadways throughout the study area.

Figure 14. Right-of-Way Widths



Source: ADOT, Cochise County

Intersection curb radius returns along ADOT roadways and locations where truck routes intersect have been collected. This information is used to determine if truck turning movements are being appropriately accommodated at these locations. Intersection curb radii are shown in **Table 5**.

Table 5. Truck Route Curb Radius Returns

Roadway	Cross Street	Curb Radius (feet)
SR 186 (Malesy St)	B-10 (Haskell Ave)	18
SR 186 (Rex Allen Dr)	B-10 (Haskell Ave)	32
SR 186 (Rex Allen Dr)	I-10 Eastbound Ramps	60
SR 186 (Rex Allen Dr)	I-10 Westbound Ramps	60
Fort Grant Rd	Taylor Rd	20
B-10 (Haskell Ave)/Taylor Rd	I-10 Eastbound Ramps	30
B-10 (Haskell Ave)/Taylor Rd	I-10 Westbound Ramps	30
B-10 (Haskell Ave)	I-10 Frontage Road/Old Stewart Rd	60

Source: ADOT, Cochise County

Truck Turns at Haskell Avenue (B-10) and Malesy Street (SR 186)

The Haskell Avenue (B-10) and Malesy Street (SR 186) intersection in downtown Willcox has been identified as a critical intersection related to truck-turning maneuver impediments. Due to the tight intersection geometry with historic buildings located at the back of the sidewalks, many turning trucks must either run up on the curbs and sidewalk ramps with their back tires (which causes damage to curbs and sidewalk ramps and is a potential safety conflict with pedestrians) or swing out into opposing lanes of traffic (which is a potential safety conflict with vehicles and affects intersection traffic operations).

AutoTURN, a software used to model vehicle path analysis on roadway networks, was used to simulate the path of trucks making left and right turns at each leg of this critical intersection. For purposes of this study, American Association of State Highway Transportation Officials (AASHTO) design vehicle WB-67 was used to simulate the truck paths at the intersections. The profile of the WB-67 design vehicle is shown in **Figure 15**.

Figure 15. WB-67 Design Vehicle Dimensions

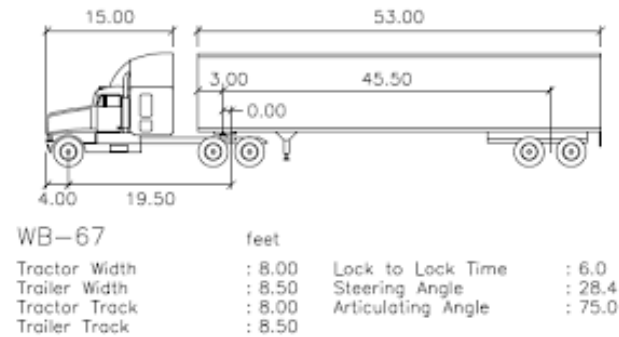


Figure 16 and **Figure 17** show the paths of WB-67 trucks making right turns and left turns, respectively, on all approaches of the Haskell Avenue (B-10) and Maley Street (SR 186) intersection. The following conflicts at the intersection have been identified:

- **Northbound Right Turn** – Rolling over curb and encroaching into westbound left-turn lane
- **Eastbound Right Turn** – Rolling over curb and encroaching into northbound left-turn lane
- **Southbound Right Turn** – Encroaching into eastbound left-turn lane
- **Westbound Right Turn** – Encroaching into southbound left-turn lane
- **Northbound Left Turn** – Encroaching into eastbound left-turn lane
- **Eastbound Left Turn** – Encroaching into southbound left-turn lane
- **Southbound Left Turn** – Encroaching into westbound left-turn lane
- **Westbound Left Turn** – Encroaching into northbound left-turn lane

Figure 16. WB-67 Right Turns at Haskell Avenue (B-10) and Maley Street (SR 186)

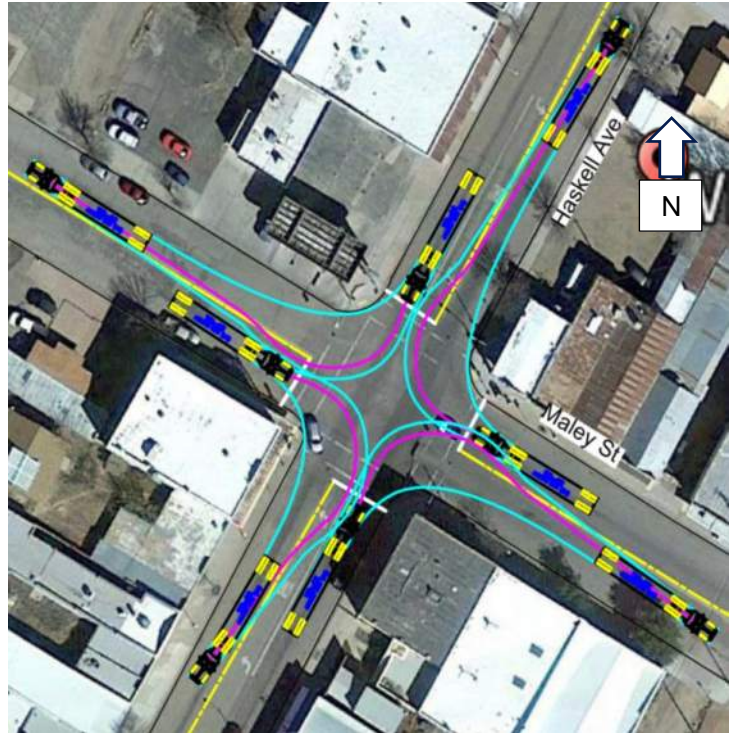
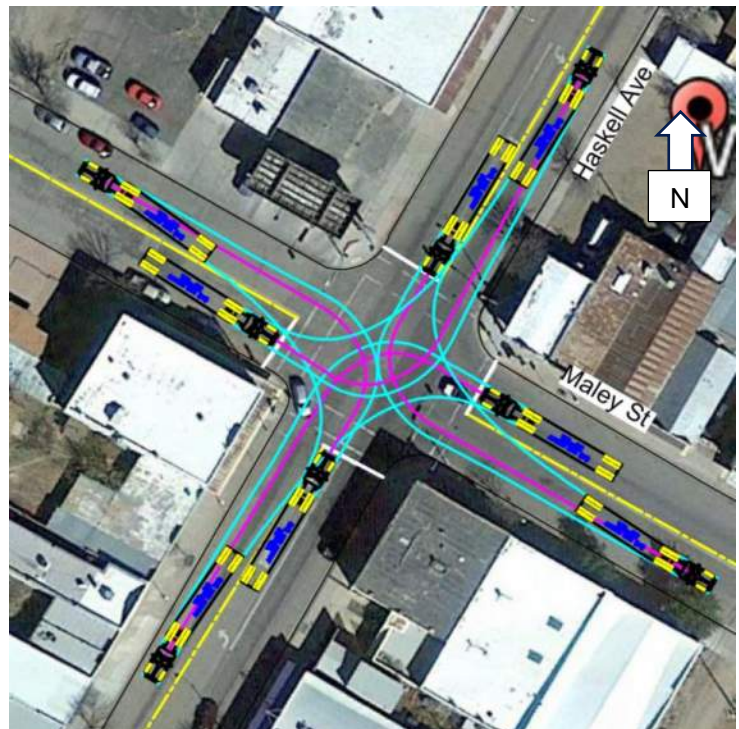


Figure 17. WB-67 Left Turns at Haskell Avenue (B-10) and Maley St (SR 186)

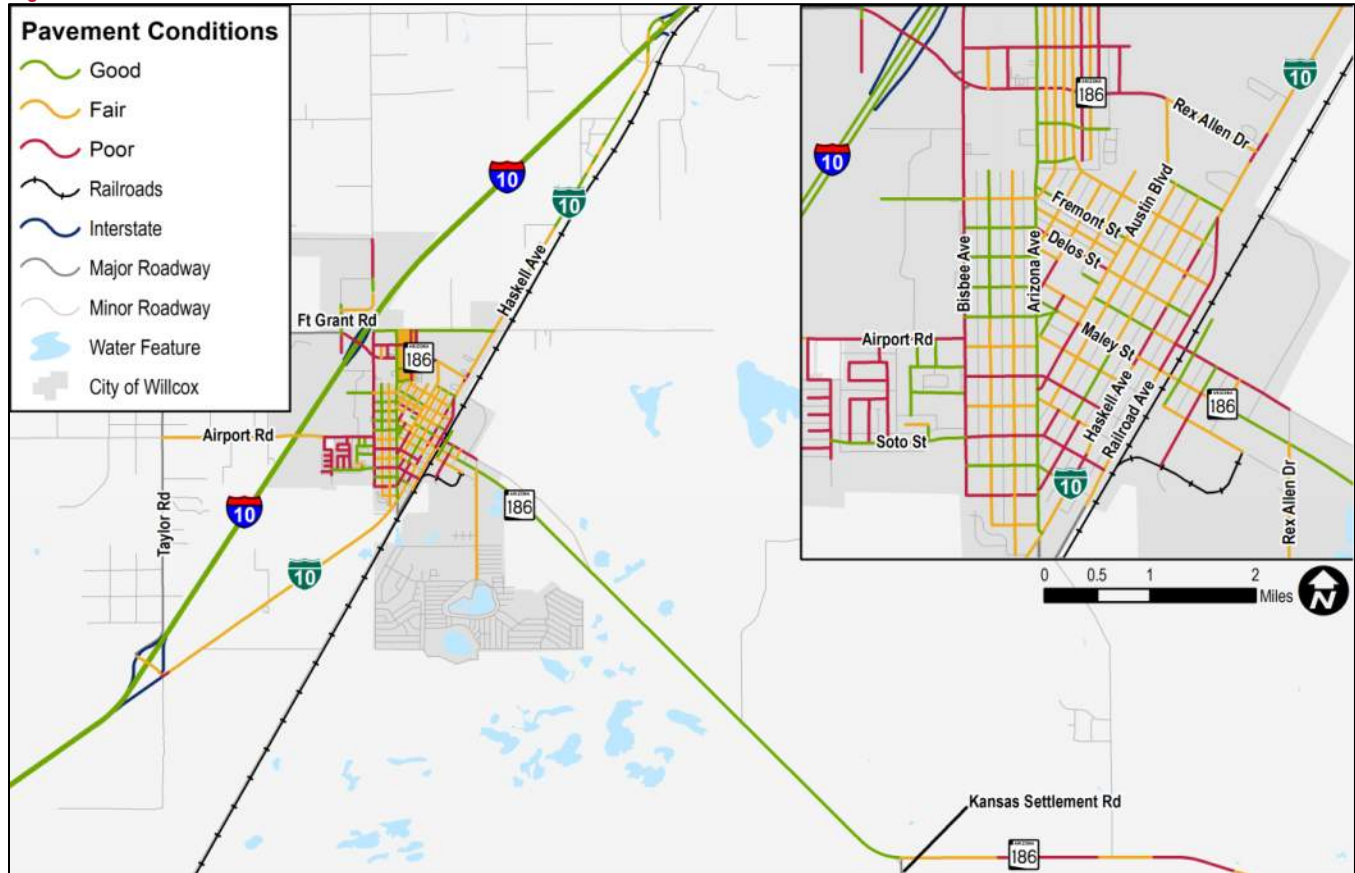


Pavement Conditions and Thickness

All users benefit when roadways are maintained in a safe and serviceable condition. Pavement condition data for I-10 and Haskell Avenue (B-10) was provided by ADOT. Pavement conditions for roadways under the jurisdiction of the City of Willcox was obtained from the recently completed General Plan update.

The City of Willcox has identified pavement conditions in their General Plan as a current obstacle and has adopted a goal of maintaining good pavement conditions. However, many City roadways have chip seal surfaces and inadequate sub-bases to handle heavy trucks. **Figure 18** shows the pavement condition of the roads within the study area.

Figure 18. Pavement Conditions



Source: ADOT, City of Willcox

Traffic Signals

ADOT maintains five traffic signals within the study area, all along the SR 186 corridor. Four of the traffic signals are along the Rex Allen Drive/Fort Grant Road corridor near the I-10 TI:

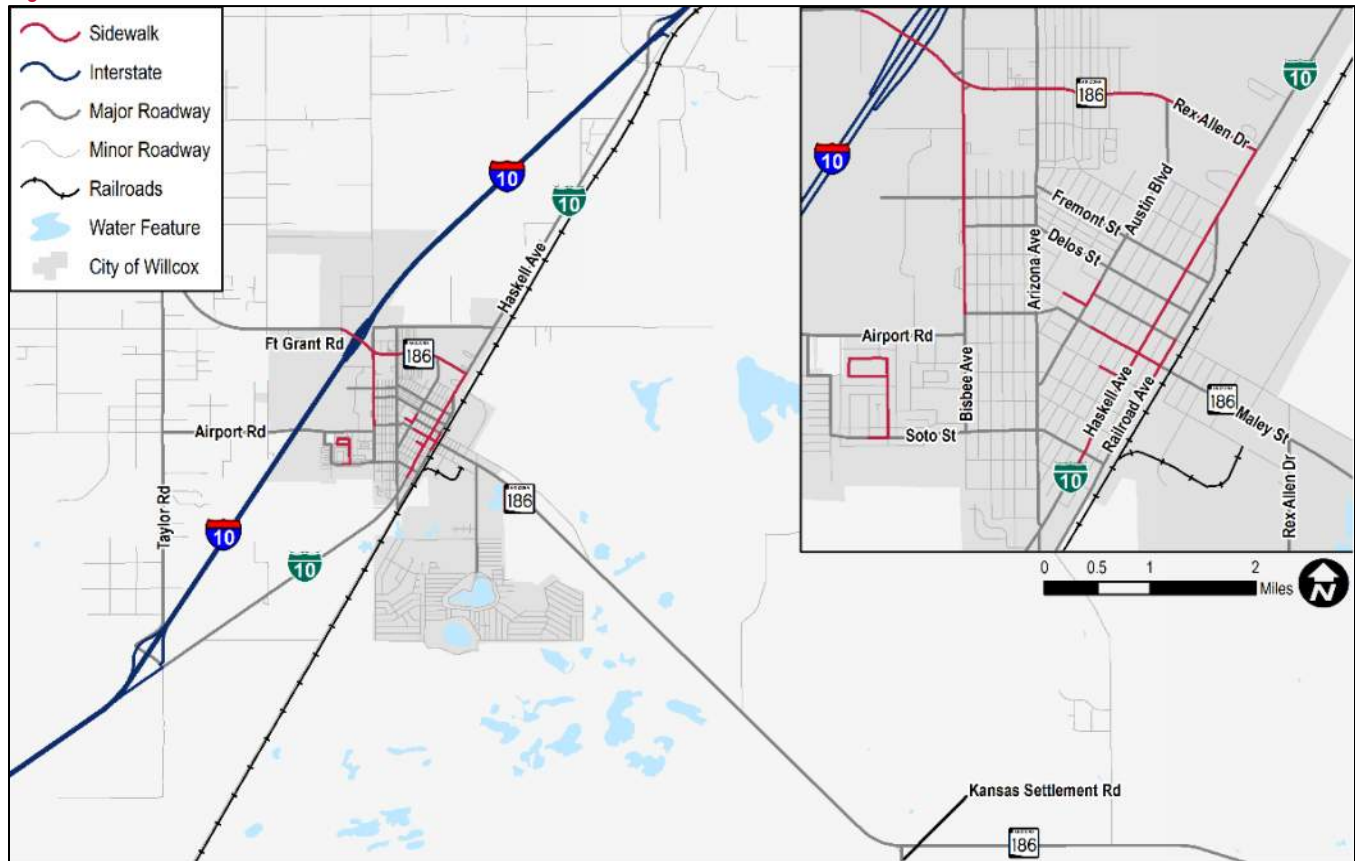
- Virginia Avenue
- I-10 Westbound Ramps
- I-10 Eastbound Ramps
- Bisbee Avenue

The remaining traffic signal is at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) in downtown Willcox.

Bicycle and Pedestrian Facilities

The sidewalk infrastructure within the study area is shown in **Figure 19**. The roadways with sidewalk along at least one side of the street are shown in red. Continuous sidewalks are limited to Rex Allen Drive (SR 186) and Haskell Avenue (B-10). Isolated segments of sidewalk also exist on a handful of blocks around downtown Willcox and near schools. The City is planning to construct sidewalk on Bisbee Avenue and Maley Street in fiscal year 2022-2023 to make a continuous sidewalk loop with Haskell Avenue (B-10) and Rex Allen Drive (SR 186).

Figure 19. Sidewalk Infrastructure



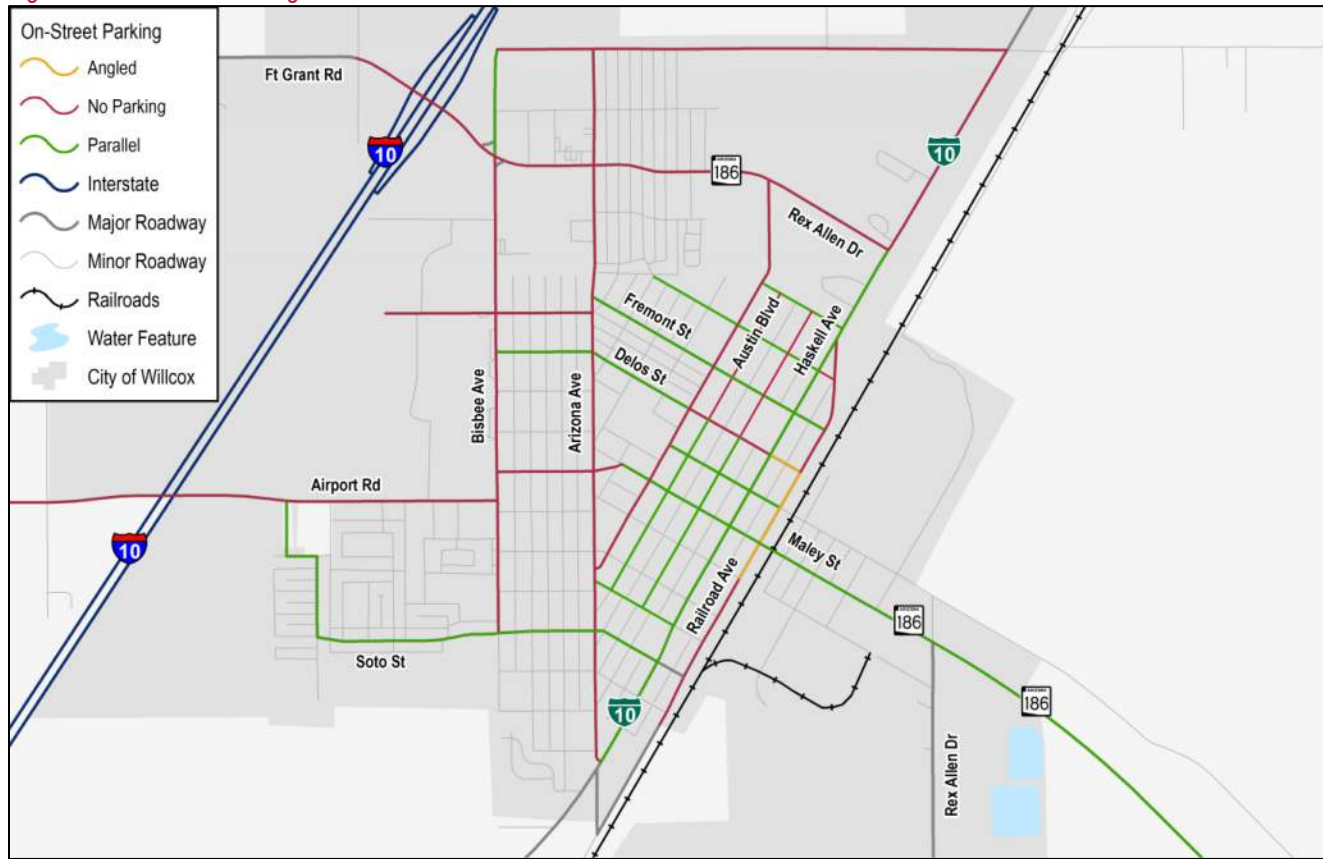
Source: ADOT, Google Aerial Imagery

On-Street Parking

The study area was analyzed to determine if there are locations where on-street parking may interfere with truck operations. **Figure 20** shows on-street parking within the central Willcox area.

The major roadways within the downtown area of Willcox allow on-street parallel parking, including Maley Street (SR 186) and Haskell Avenue (B-10). Angled parking is allowed on portions of Railroad Avenue and Delos Street. While on-street parking has generally been shown to benefit adjacent businesses, it should be noted that vehicles entering or exiting on-street parking stalls can interrupt through traffic flow temporarily, increasing travel time and the potential for crashes.

Figure 20. On-Street Parking



Source: Google Aerial Imagery

Roadway Conditions

Roadway conditions have been documented for the major truck routes and other roads trucks are known to travel on. **Table 6** shows the Average Daily Truck Traffic (ADTT), functional classification, pavement condition, surface cross-section (AC=asphalt concrete; AB=aggregate base; CTB=cement-treated base), and ROW width for these roadways.

Haskell Avenue (B-10) from Maley Street (SR 186) to Rex Allen Drive (SR 186), Maley Street (SR 186) from Haskell Avenue (B-10) to Kansas Settlement Road, and Rex Allen Drive (SR 186) from I-10 to Haskell Avenue (B-10) have the highest heavy truck volumes in the study area. The pavement condition on these roadways ranges from poor to good. The pavement surface cross-section appears adequate to accommodate current truck volumes.

The City-owned roadways typically have low heavy truck volumes, poor to fair pavement condition, and a thin chip seal pavement surface. The thickness of the surface cross-section of the City-owned roadways is unknown, but City staff has indicated that these roadways would likely require reconstruction with more substantive roadway bases and surfaces to accommodate high heavy truck volumes.

Table 6. Roadway Conditions

Route	From	To	ADTT	Functional Classification	Pavement Condition	Surface Cross-Section	ROW
Haskell Ave (B-10)	Maley St (SR 186)	Rex Allen Dr (SR 186)	338	Minor Arterial	Poor-Fair-Good	4" AC/ 6" AB	64'
Maley St (SR 186)	Haskell Ave (B-10)	Rex Allen Dr	233	Minor Arterial	Fair-Good	5" AC	64'
Rex Allen Dr (SR 186)	I-10	Haskell Ave (B-10)	214	Major Collector	Poor-Fair	6" AC	64'
Maley St (SR 186)	Rex Allen Dr	Kansas Settlement Rd	213	Minor Arterial	Good	5" AC	64'
Haskell Ave (B-10)	Rex Allen Dr (SR 186)	I-10 East TI	168	Minor Arterial	Fair-Good	4" AC/ 6" AB	64'
Fort Grant Rd	I-10	Study boundary to the west	168	Major Collector	Unknown	6" AC/ 7" CTB	65'
Haskell Ave (B-10)	I-10 West TI	Arizona Ave	110	Minor Arterial	Poor-Fair	4" AC/ 6" AB	64'
Haskell Ave (B-10)	Arizona Ave	Maley St (SR 186)	94	Minor Arterial	Poor-Fair	4" AC/ 6" AB	64'
Railroad Ave	Maley St (SR 186)	Haskell Ave (B-10)	75	Minor Collector	Poor	Chip seal	56'
Taylor Rd	I-10	Fort Grant Rd	28	Minor Collector	Unknown	Chip seal	50'
Railroad Ave	Soto St	Maley St (SR 186)	27	Minor Collector	Fair	Chip seal	35'
Airport Ave	Taylor Rd	Bisbee Ave	10	Major Collector	Poor-Fair	Chip seal	30'
Stewart St	Haskell Ave (B-10)	Rex Allen Dr	9	Minor Collector	Poor-Fair	Chip seal	44'
Other Downtown Streets	N/A		< 50	Local/Minor Collector	Poor-Fair	Chip seal	25'-56'

Source: ADOT, City of Willcox, Cochise County, Google Aerial Imagery

Current and Future Traffic Analysis

Existing Corridor Levels of Service

Level of Service (LOS) is a quantitative classification of quality of service based on six letter grades, A through F, indicating best to worst service, respectively.

Existing corridor LOS was estimated using Maricopa County Department of Transportation's (MCDOT's) "Generalized Annual Average Daily Service Volumes" (shown in **Appendix G**). This methodology provides an appropriate level of detail for this study to determine if there are any congestion-related constraints in the transportation network. LOS is based on the Average Daily Traffic (ADT) and the following roadway characteristics:

- Area type (urban or rural)
- Functional classification
- Number of lanes
- Median type
- Annual average daily volumes

A capacity and LOS analysis was conducted for major roadway segments in the study area. The area type for all street segments is "rural" based on the population of the study area. The results of the analysis are shown in **Table 7**. Detailed traffic count sheets for these major roadways are provided in **Appendix H**.

Table 7. Existing Levels of Service

Segment	Functional Classification	No. of Lanes*	Median Type^	2020 ADT	Level of Service
Maley St (SR 186) from Haskell Ave (B-10) to Rex Allen Dr	Minor Arterial	2	Undivided	2,824	A
Haskell Ave (B-10) from Arizona Ave to Maley St (SR 186)	Minor Arterial	2	Divided	5,189	A
Haskell Ave (B-10) from Maley St (SR 186) to Rex Allen Dr (SR 186)	Minor Arterial	2	Divided	5,189	A
Haskell Ave (B-10) from Rex Allen Dr (SR 186) to Patte Ave	Minor Arterial	2	Divided	5,189	A
Rex Allen Dr (SR 186) from I-10 to Haskell Ave (B-10)	Major Collector	4	Divided	5,187	A
Haskell Ave (B-10) from I-10 to Arizona Ave	Minor Arterial	2	Undivided	1,756	A
Haskell Ave (B-10) from Patte Ave to I-10	Minor Arterial	2	Divided	1,493	A
Maley St (SR 186) from Rex Allen Dr to Kansas Settlement Rd	Minor Arterial	2	Undivided	1,866	A

*Number of lanes refers to through lanes, not turn lanes; ^Divided medians include raised medians and two-way left-turn lanes for purposes of this analysis.

In addition to a segment LOS, turning movement counts (TMC) were collected at 19 intersections within the study area. Detailed TMC information is provided in **Appendix H**. No intersection-related capacity issues were identified.

Future Traffic Volumes

A future capacity and LOS analysis was conducted for the same segments as in the previous section to determine if any capacity constraints are anticipated in the future. The 2040 ADTs were obtained from the ADOT Highway Performance Monitoring System (HPMS). The results of the analysis are shown in **Table 8**. All corridor segments included in the analysis are anticipated to continue to operate with acceptable LOS A with 2040 volumes.

Table 8. Future Levels of Service

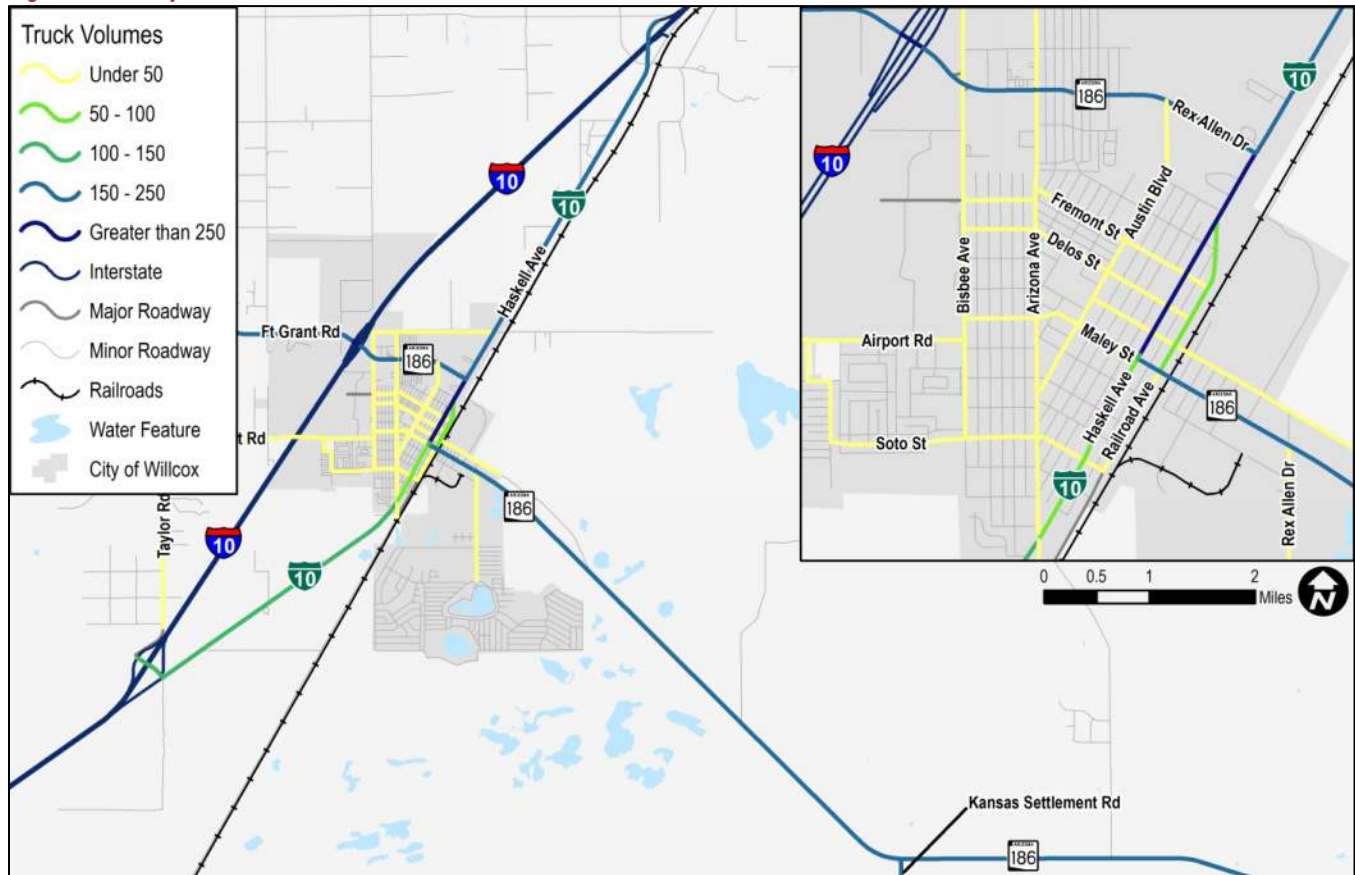
Segment	Functional Classification	No. of Lanes*	Median Type^	2040 ADT	Level of Service
Maley St (SR 186) from Haskell Ave (B-10) to Rex Allen Dr	Minor Arterial	2	Undivided	2,888	A
Haskell Ave (B-10) from Arizona Ave to Maley St (SR 186)	Minor Arterial	2	Divided	5,637	A
Haskell Ave (B-10) from Maley St (SR 186) to Rex Allen Dr (SR 186)	Minor Arterial	2	Divided	5,637	A
Haskell Ave (B-10) from Rex Allen Dr (SR 186) to Patte Ave	Minor Arterial	2	Divided	5,637	A
Rex Allen Dr (SR 186) from I-10 to Haskell Ave (B-10)	Major Collector	4	Divided	6,436	A
Haskell Ave (B-10) from I-10 to Arizona Ave	Minor Arterial	2	Undivided	2,358	A
Haskell Ave (B-10) from Patte Ave to I-10	Minor Arterial	2	Divided	1,813	A
Maley St (SR 186) from Rex Allen Dr to Kansas Settlement Rd	Minor Arterial	2	Undivided	1,930	A

*Number of lanes refers to through lanes, not turn lanes; ^Divided medians include raised medians and two-way left-turn lanes for purposes of this analysis.

Truck Route Analysis

Current truck route patterns for trucks (those with three axles or more) were analyzed using counts collected in March of 2021 as a part of this study effort. Heavy truck volumes are presented in **Figure 21**.

Figure 21. Heavy Truck Volumes



Source: March 2021 Traffic Counts

SR 186 (both Rex Allen Drive and Maley Street) have relatively high heavy truck volumes throughout the study area, connecting the agricultural areas to the southeast and northwest of Willcox with I-10. Haskell Avenue (B-10) also has relatively high heavy truck volumes throughout the study area, particularly between the two SR 186 intersections at Maley Street and Rex Allen Drive. The high heavy truck volumes on this segment of Haskell Avenue (B-10) indicate a strong pattern of trucks utilizing Haskell Avenue (B-10) to get between the two segments of SR 186 (Maley Street and Rex Allen Drive) rather than diverting to side streets or traveling on local roadways through central Willcox.

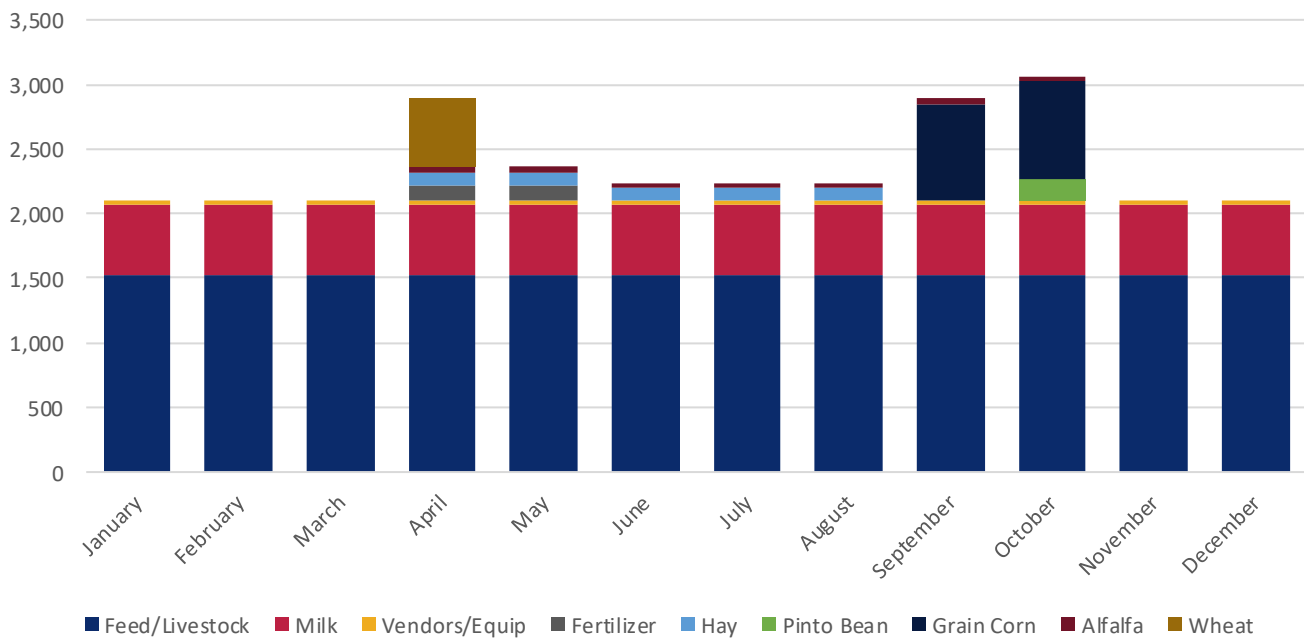
The truck volumes above represent an average daily volume; however, because of the agricultural nature of the Willcox area, truck traffic fluctuates greatly based on harvests and processing times. Truck traffic generated by the Riverview Dairy operation, the largest freight generator in the study area, is a prime example of these trends. **Table 9** below shows the estimated annual truck volumes and various seasonal fluctuations that support this operation. **Figure 22** shows the estimated average monthly truck volumes over the course of the year. The graph shows that there are two distinct seasonal peaks: the first in April, which is approximately 2,900 monthly vehicles; and the second in September and October, which is approximately 2,900-3,100 monthly vehicles.

Table 9. Riverview Dairy Seasonal Operations

Activity	Annual Truck Volume	Time frame
Wheat Harvest	530 trucks	Mid-April (within 3-4 days)
Alfalfa Harvest	300 trucks	7 times between April and October
Grain Corn Harvest	1,500 trucks	September 20 through October 10
Pinto Bean Harvest	175 trucks	October 1 through October 20
Hay Harvest	500 trucks	April through August
Fertilizer Trucks	250 trucks	April 1 through June 1
Vendors/Equipment Shipments	300 trucks	Entire Year
Milk Trucks	6,570 trucks (18/day)	Entire Year
Feed/Livestock Trucks	18,250 trucks (50/day)	Entire Year
Total	28,375 trucks	

Source: Riverview Dairy

Figure 22. Riverview Dairy Estimated Monthly Truck Traffic



Source: Riverview Dairy

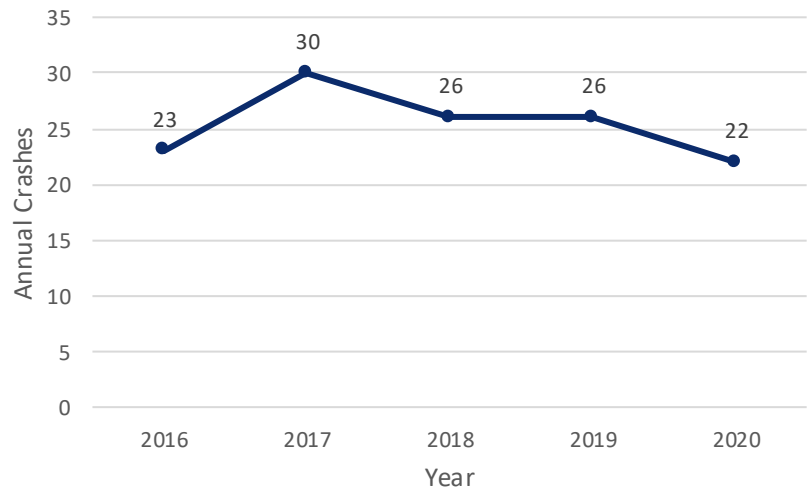
Safety Assessment

Crash history for the study area roadway network, excluding I-10, was analyzed using data provided from ADOT's Arizona Crash Information System (ACIS) for the most recent five-year period available (2016-2020). Crashes have been stratified in multiple ways to identify high-level trends to inform recommendation development.

The areas with the highest number of crashes include major roadways such as Rex Allen Drive (SR 186) and Haskell Avenue (B-10). Crashes have generally remained consistent between 2016 and 2020. There was an increase in crashes between 2016 and 2017 and a decrease in crashes between 2017 and 2018 and also between 2019 and 2020.

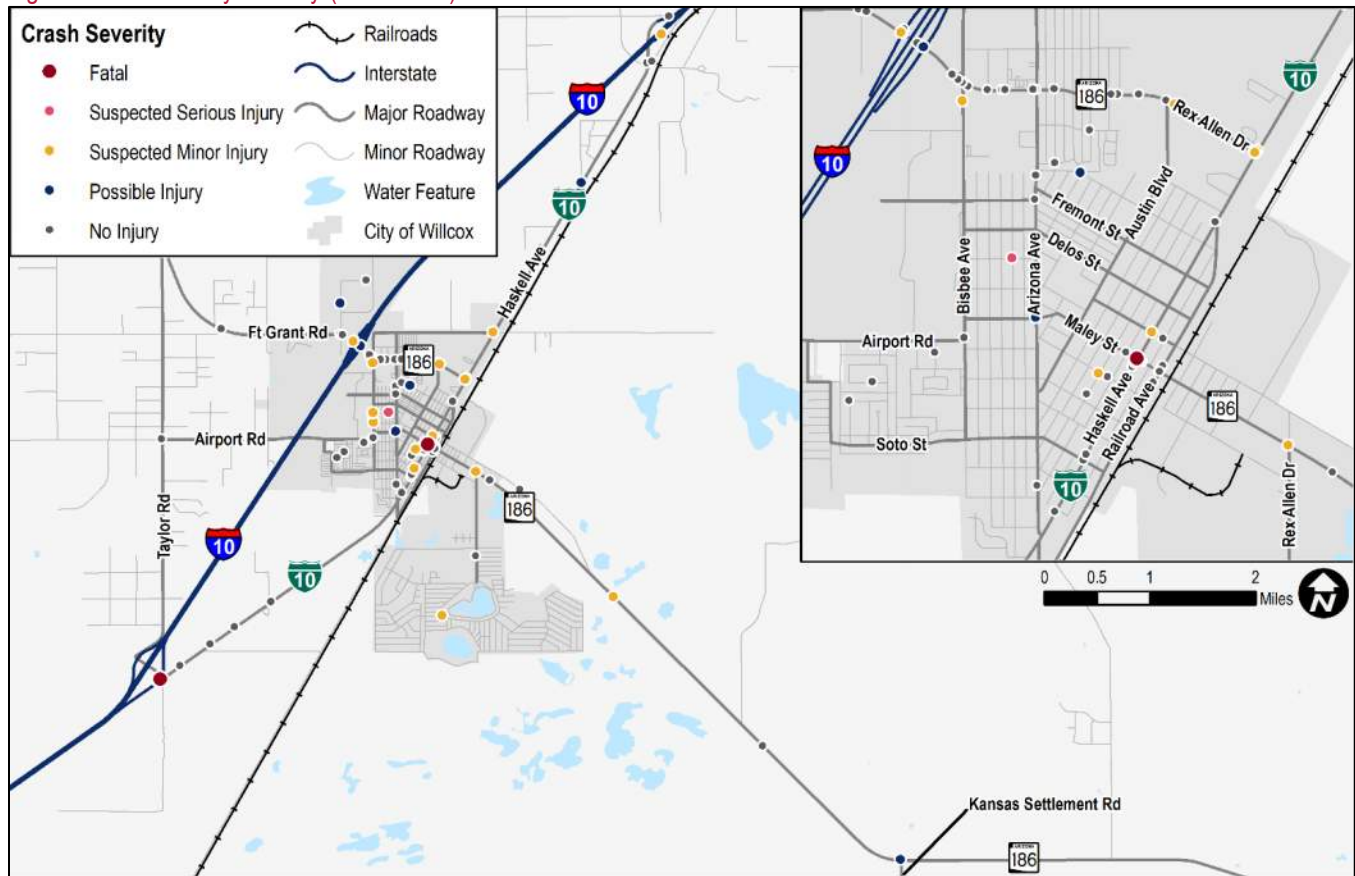
The annual number of crashes in the study area is shown in **Figure 23**. **Figure 24** shows the geographic distribution of crashes by severity.

Figure 23. Annual Crashes (2016-2020)



Source: ADOT

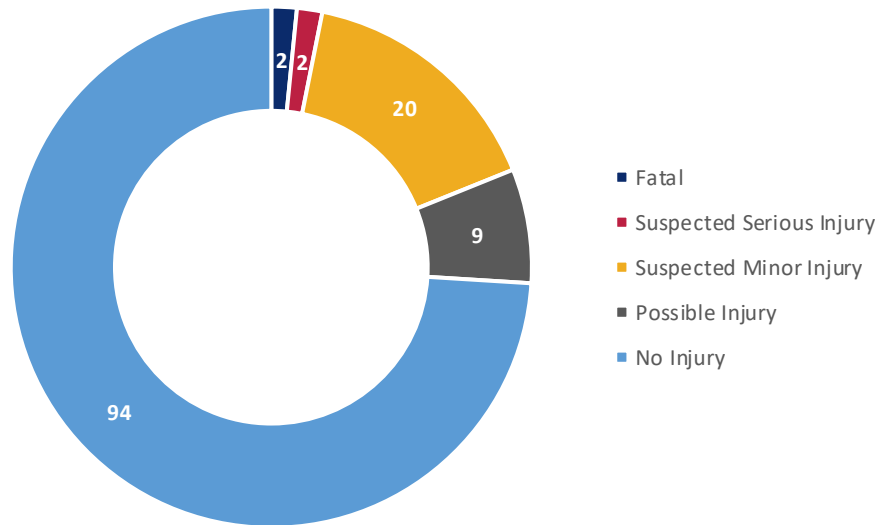
Figure 24. Crashes by Severity (2016-2020)



Source: ADOT

Crashes by Severity. Within the most recent five years, two fatal (1.6% of total crashes) and two suspected serious injury crashes (1.6%) have occurred, as shown in **Figure 25**. One fatal crash occurred at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) and the other fatal crash occurred at the I-10/B-10 West TI. Approximately 74% of total crashes resulted in no injury.

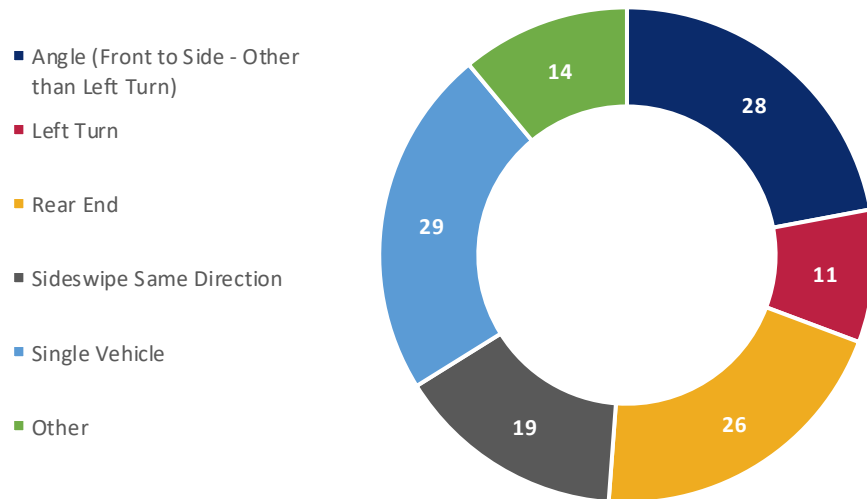
Figure 25. Crash Totals by Severity (2016-2020)



Source: ADOT

Crashes by Type. The three most common types of crashes that occurred in the most recent five years of data are single vehicle at 22.8%, angle (front to side) at 22.0%, and rear end at 20.5%, as shown in **Figure 26**.

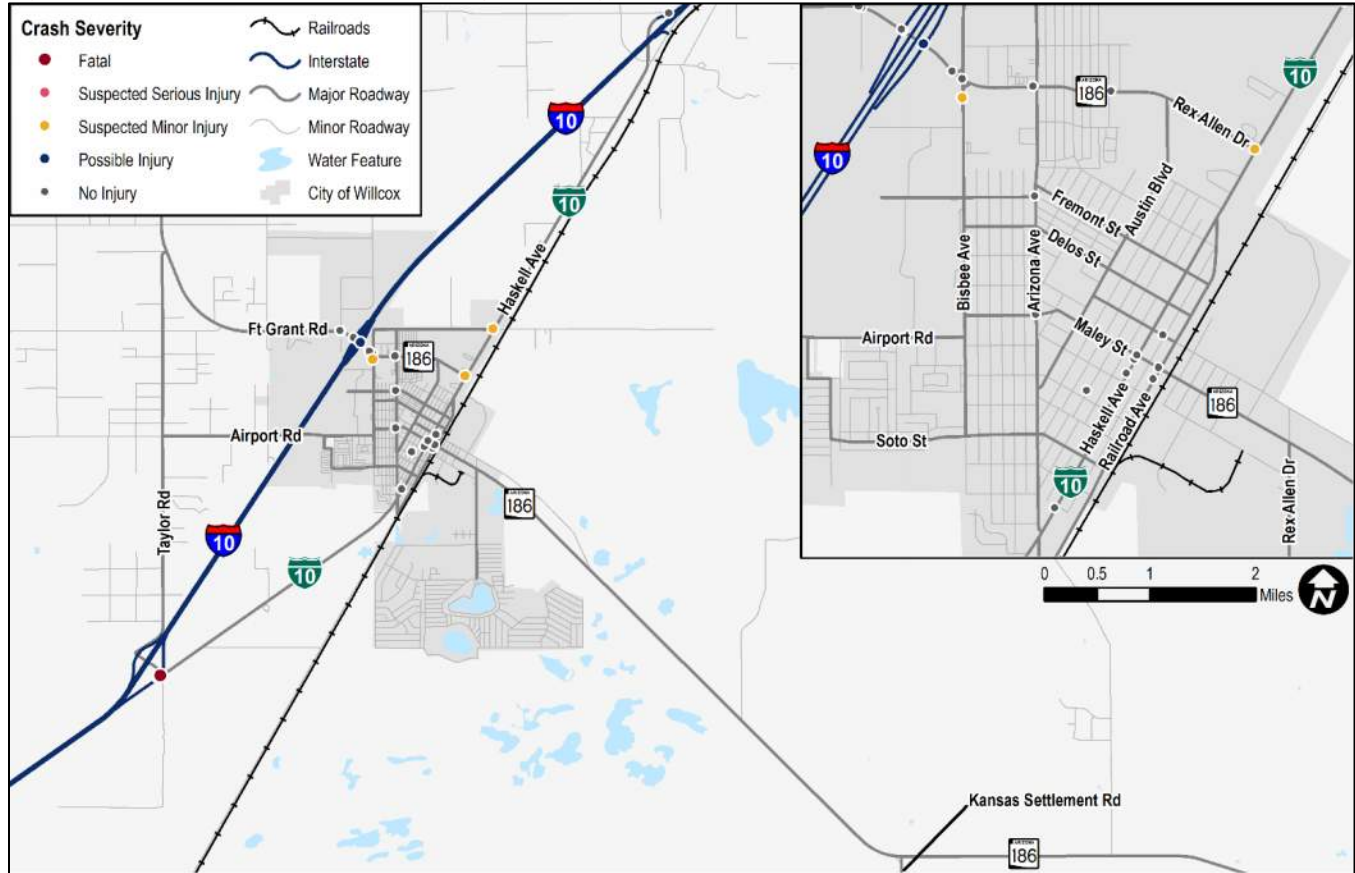
Figure 26. Crashes by Type (2016-2020)



Source: ADOT

Truck Crashes. The occurrences and severity of crashes involving trucks is shown in **Figure 27**. Truck crashes are concentrated along the Rex Allen Drive (SR 186) and Haskell Avenue (B-10) corridors, particularly crashes that resulted in injuries. Two suspected minor injury crashes occurred along Haskell Avenue (B-10) and one occurred on Bisbee Avenue just south of Rex Allen Drive (SR 186).

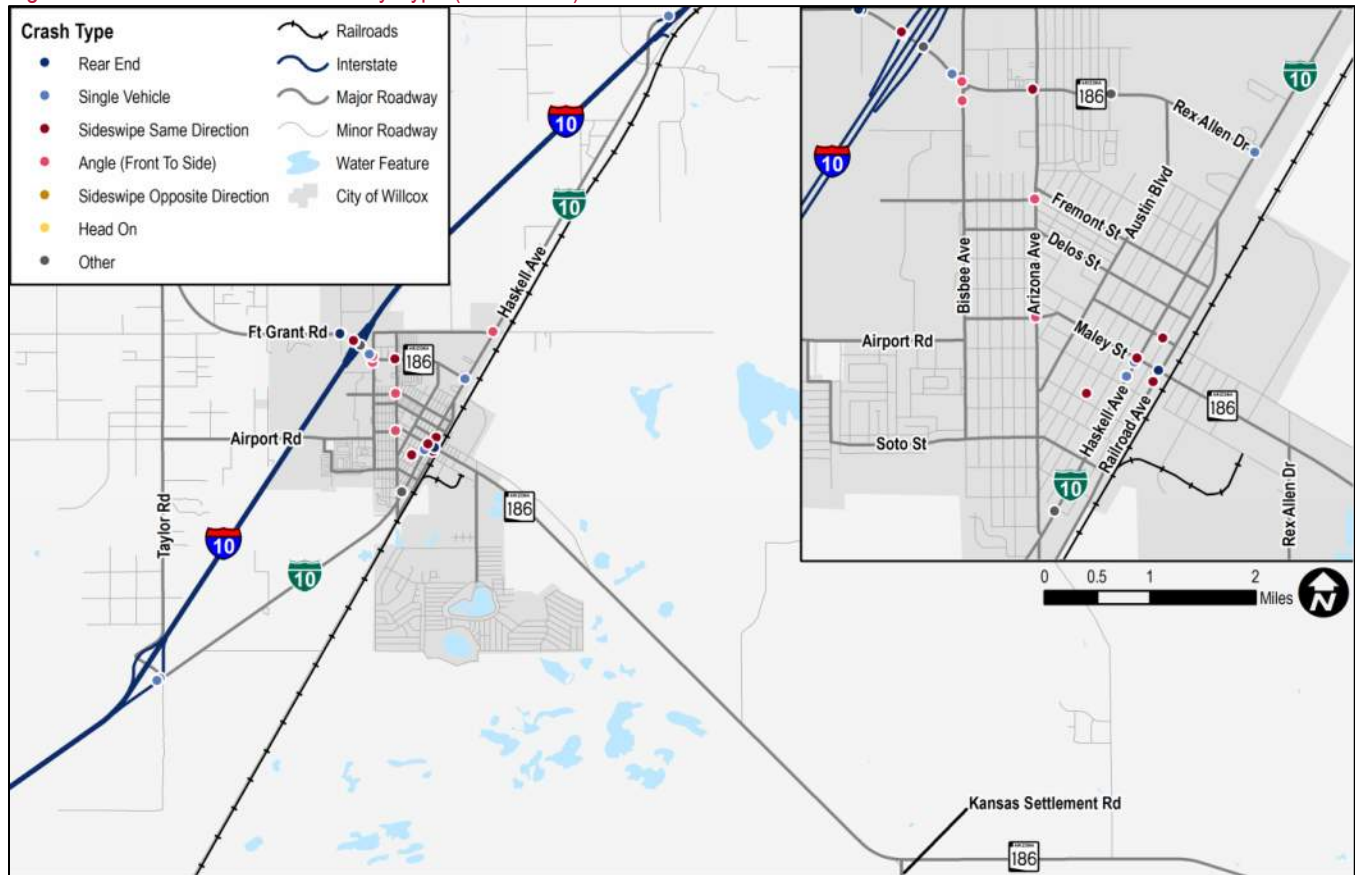
Figure 27. Severity of Truck Involved Crashes (2016-2020)



Source: ADOT

The most common type of truck crashes are rear end and single-vehicle crashes. Truck crashes are mostly sideswipe (same direction), single-vehicle, and angle crashes at intersections. There is a concentration of truck crashes in downtown Willcox on Maley Street (SR 186), Haskell Avenue (B-10), and Railroad Avenue, suggesting that the constrained intersections in downtown Willcox may be impacting the frequency of truck-involved crashes. **Figure 28** shows truck-involved crashes by crash type.

Figure 28. Truck-Involved Crashes by Type (2016-2020)



Source: ADOT

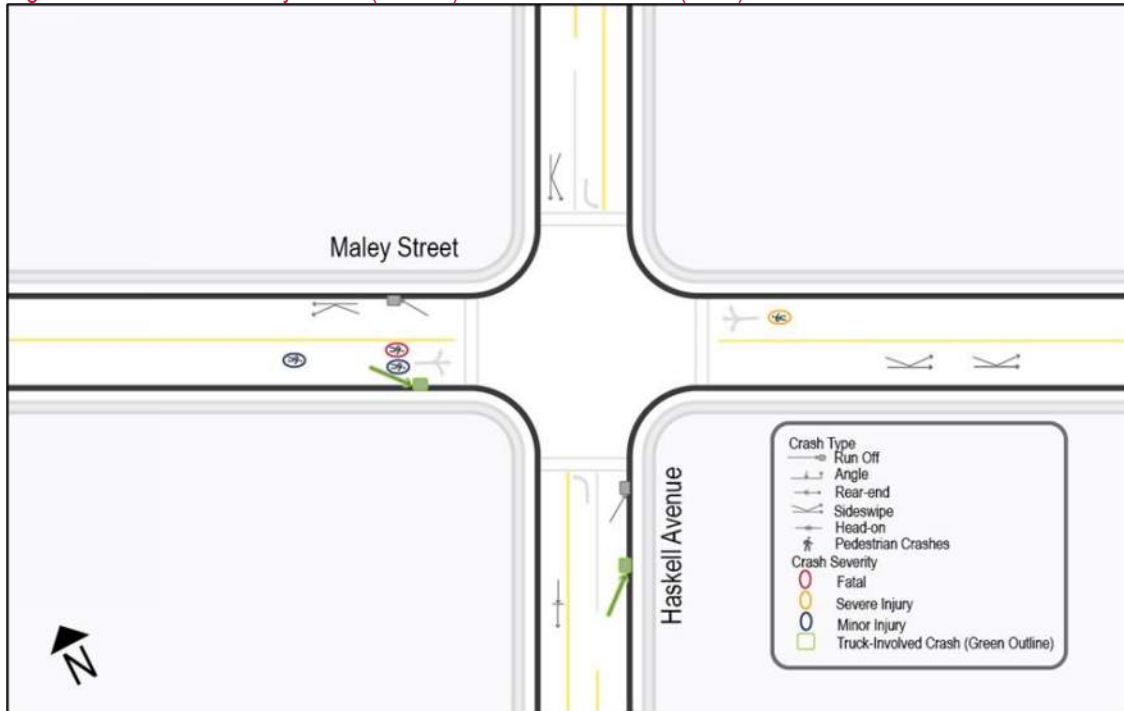
Pedestrian and Bicycle Crashes. Six crashes involving pedestrians or bicycles have occurred within the study area between 2016 and 2020, five of which involved pedestrians and one of which involved a bicycle. All crashes involving non-motorized modes of travel involved an injury or fatality – three suspected minor injury crashes, two suspected serious injury crashes, and one pedestrian fatality. Four of the six crashes occurred at the intersection of Haskell Avenue (B-10) and Malesy Street (SR 186) in downtown Willcox, one suspected serious injury crash occurred at the intersection of Bowie and Pearce Streets, and one suspected minor injury crash occurred at the intersection of Grant Street and Curtis Avenue.

Key Locations Safety Analysis

Key intersections within the study area were analyzed for crashes, with emphasis on those involving trucks. Crash severity and type are recorded in intersection crash diagrams. **Figure 29** through **Figure 31** display crashes at the intersections of Malesy Street (SR 186) and Haskell Avenue (B-10), Rex Allen Drive (SR 186) and Haskell Avenue (B-10), and Rex Allen Drive (SR 186) and Bisbee Avenue, respectively.

The intersection of Malesy St (SR 186) and Haskell Avenue (B-10) had a significant number of sideswipe and run-off crashes near the intersection compared to other study area intersections. Crashes involving pedestrians were also prevalent at this intersection, likely due to the proximity to the City’s downtown. The pedestrian crashes represented the only injuries at this intersection, and included one minor injury crash, a severe injury crash, and a pedestrian fatality. Pedestrian awareness and protection appear to be a major concern at this location. There were two truck-involved crashes, one on the west leg of Malesy St and one on the south leg of Haskell Avenue (B-10).

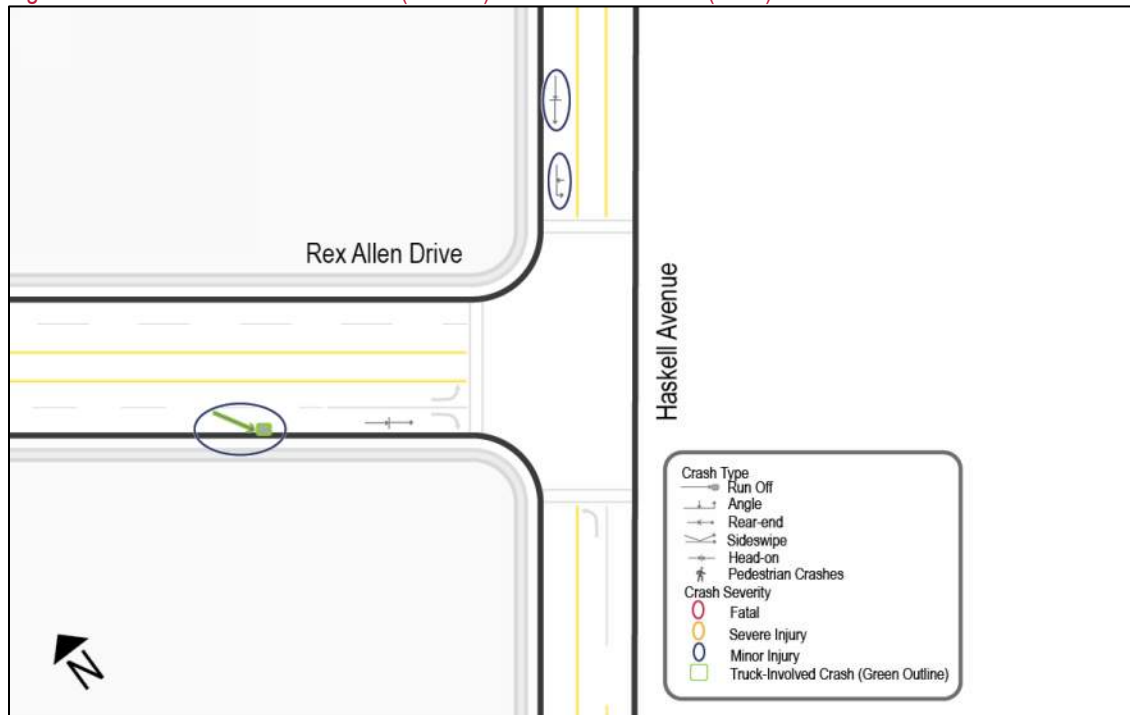
Figure 29. Crashes at Maley Street (SR 186) and Haskell Avenue (B-10)



Source: ADOT

The intersection of Rex Allen Dr (SR 186) and Haskell Ave (B-10) had one crash involving a truck on the west leg of the intersection. While there are relatively few crashes at this intersection, three out of the four crashes involved a minor injury.

Figure 30. Crashes at Rex Allen Drive (SR 186) and Haskell Avenue (B-10)



Source: ADOT

The intersection of Rex Allen Drive (SR 186) and Bisbee Avenue showed a relatively high number of crashes in the northbound direction (on the south leg of the intersection) – three of the seven total crashes at the intersection. Angle crashes are the most common crash type at this intersection, both on Rex Allen Drive (SR 186) and Bisbee Avenue. Two crashes involved trucks and there were no pedestrian crashes at this location.

Figure 31. Crashes at Rex Allen Drive & Bisbee Avenue



Source: ADOT

Corridor Segment Crash Characteristics

The crash characteristics for major truck route corridor segments in the study area are shown in **Table 10**. Crash characteristics of note include the following:

- Rex Allen Drive (SR 186) from I-10 to Haskell Avenue (B-10) had the highest number of total crashes (20) and truck-involved crashes (six); this is likely due in part to this segment having some of the highest volume of total vehicles and of trucks in the study area;
- Maley St (SR 186) from Haskell Avenue (B-10) to Rex Allen Drive had the highest percentage of sideswipe crashes (29%); the presence of on-street parking may be a contributing factor to the sideswipe crashes; and
- Haskell Avenue (B-10) from Maley Street (SR 186) to Rex Allen Drive (SR 186) had the highest percentage of angle crashes (29%) and second highest percentage of rear-end crashes (29%); the presence of frequent intersections and driveways in this segment that goes through the commercial/downtown core of Willcox may be a contributing factor to the angle and rear-end crashes.

Table 10. Corridor Segment Crash Characteristics

Route	# of Crashes	Angle	Left Turn	Rear End	Sideswipe	Single Vehicle	# of Ped Crashes	# of Truck Crashes
Maley St (SR 186) from Haskell Ave (B-10) to Rex Allen Dr	14	14%	7%	14%	29%	14%	2	1
Haskell Ave (B-10) from Arizona Ave to Maley St (SR 186)	10	20%	0%	10%	20%	20%	0	2
Haskell Ave (B-10) from Maley St (SR 186) to Rex Allen Dr (SR 186)	7	29%	14%	29%	14%	0%	0	0
Haskell Ave (B-10) from Rex Allen Dr (SR 186) to Patte Ave	2	0%	0%	100%	0%	0%	0	0
Rex Allen Dr (SR 186) from I-10 to Haskell Ave (B-10)	20	20%	15%	20%	15%	15%	0	6

Source: ADOT

Railroad Characteristics

There are four UPRR crossings in the study area within the City of Willcox. The railroad crossings are located on Maley Street (SR 186), Stewart Street, Patte Road, and Country Club Drive. The United States Department of Transportation (USDOT) develops Crossing Inventory Forms for each that provide detailed information on the characteristics of each crossing. The Crossing Inventory Forms are provided in **Appendix I** for reference.

Railroad Crossings and Safety Features

Maley Street (DOT Crossing #741397H). Maley Street (SR 186) is classified as a minor arterial roadway with one travel lane in each direction. The posted speed limit is 30 miles per hour (mph). Maley Street (SR 186) has advanced warning railroad striping and stop lines on both approaches. One gate arm, cantilevered flashing lights, and mast-mounted flashing lights are used at each approach. Channelized medians are present within the cross-section on both approaches.

Stewart Street (DOT Crossing #741398P). Stewart Street is classified as a local roadway with one travel lane in each direction. The posted speed limit is 25 mph. Stewart Street has advanced warning railroad striping and stop lines on both approaches. One gate arm, cantilevered flashing lights, and mast-mounted flashing lights are used at each approach.

Patte Road (DOT Crossing #741399W). Patte Road is classified as a rural, unpaved roadway with one travel lane in each direction. The posted speed limit is 25 mph. Patte Road does not have advanced warning railroad striping and stop lines on either approach. One gate arm and mast-mounted flashing lights are used at each approach.

Country Club Drive (DOT Crossing #741400N). Country Club Drive is classified as a local, unpaved roadway with one travel lane in each direction. The posted speed limit is 25 mph. Country Club Drive does not have

advanced warning railroad striping and stop lines on either approach. One gate arm and mast-mounted flashing lights are used at each approach. The crossing contains a “Number of Tracks Plaque” (R12-2P) sign on both approaches.

Train Frequency, Speeds, and Durations

Information on UPRR operations was taken from data collected in January 2020 for a quiet zone study in the City of Benson. Due to the proximity and similarity of the UPRR in Benson and Willcox, it is assumed that operations are the same within the two jurisdictions. Operational information for trains at the four crossings in the study area are:

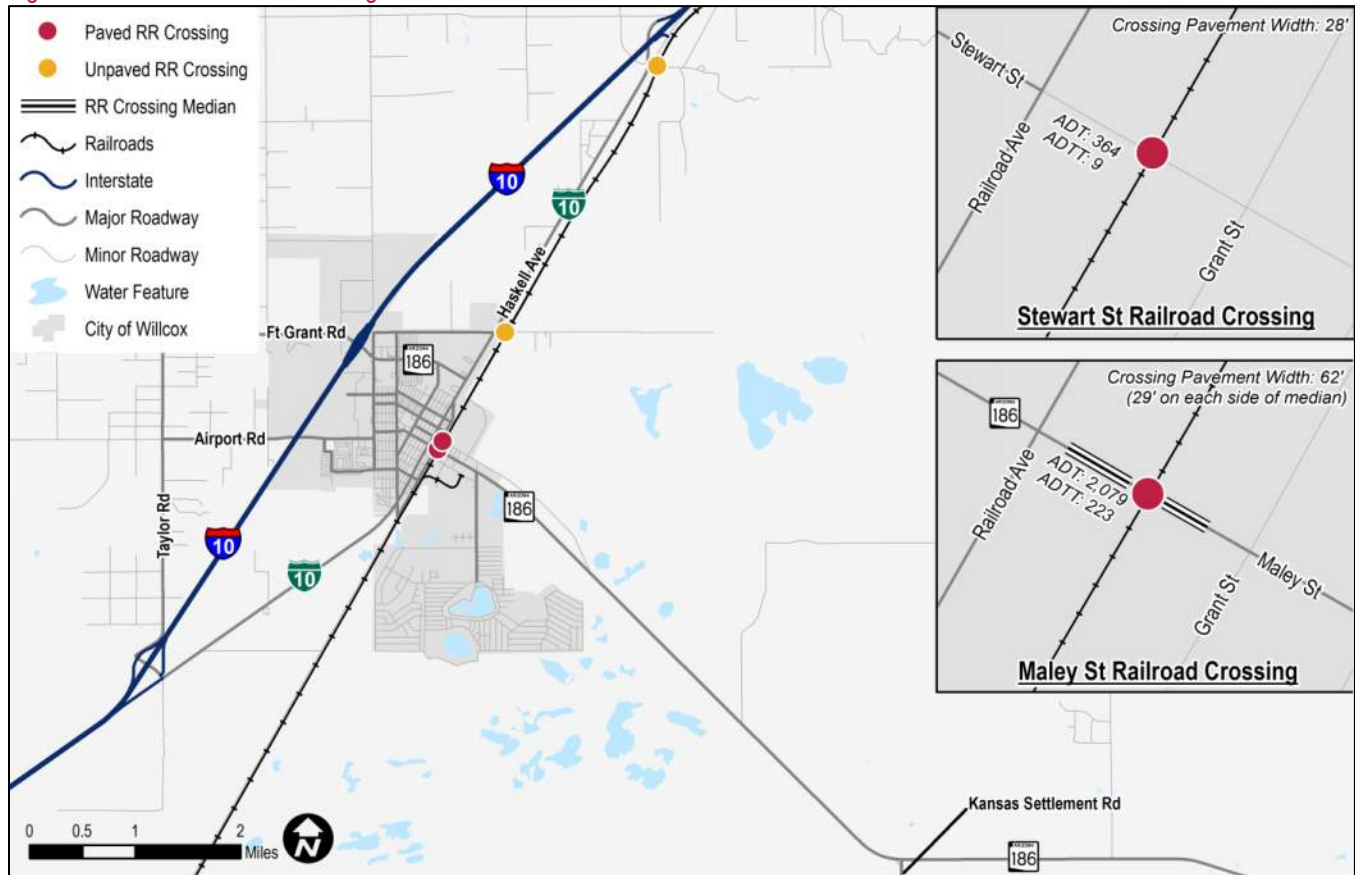
- **Frequency.** Approximately 40 trains per day.
- **Typical Speed Range.** 35 to 70 mph.
- **Maximum Speed.** 79 mph.
- **Duration.** Crossing gates typically down for between three and five minutes per train.

Railroad Impacts

Trains block access between the eastern and western sides of the study area for three to five minutes at a time, up to 40 times per day. In total, access between both portions of the study area is typically blocked for up to three hours per day based on the frequency and duration of train crossings. This railroad activity in the area causes delays for vehicles and freight.

The City of Willcox has stated that, periodically, trains are stopped in Willcox for up to two hours at a time, which blocks access between the east and west portions of the city for long periods of time. The long, frequent, and inconsistent waiting times at railroad crossings impact pavement conditions, reduce travel time reliability, and negatively affects truck freight operator schedules. **Figure 32** shows the surface type and locations of the four railroad crossings, with supplemental details at the two main paved crossings in central Willcox regarding 2020 overall ADT and ADTT.

Figure 32. Willcox Railroad Crossings

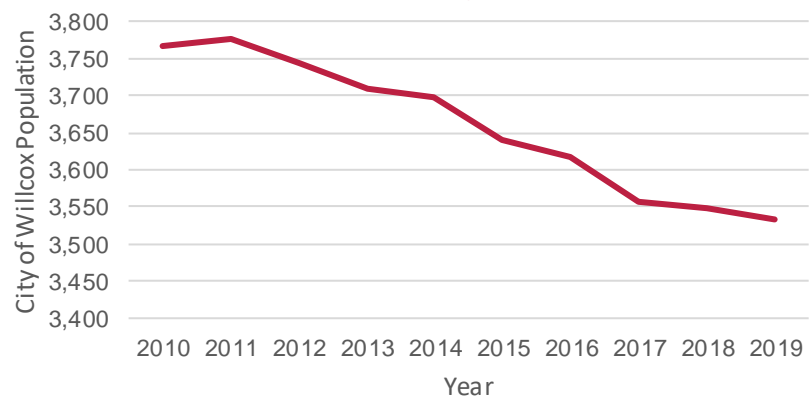


Current and Future Land Use and Demographics

Historical Population Trends

The historical population trends for the City of Willcox were analyzed from 2010 through 2019. The city had a 6% decline in population between 2010, when the population was 3,767, and 2019, when the population was 3,533. **Figure 33** shows the change in population between 2010 and 2019.

Figure 33. Historical Willcox Population

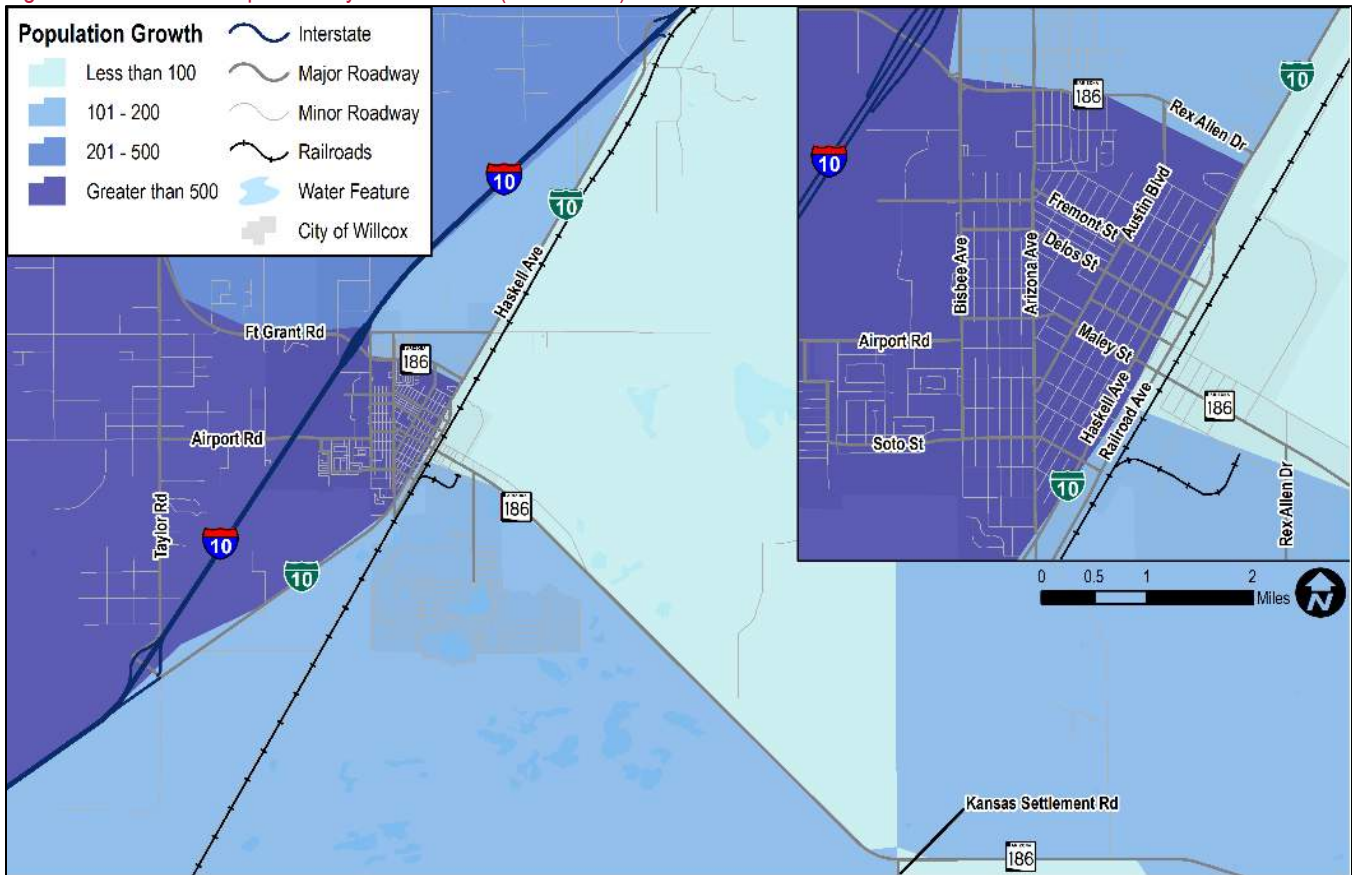


Source: U.S. Census Bureau

Future Population and Employment Forecasts

The Arizona Statewide Travel Demand Model (AZTDM) has forecasts for the population and employment of the study area for the year 2040. The study area's population is expected to increase by approximately 2,500 people by 2040. Population growth is anticipated to occur mainly in the western part of the study area west of B-10. Anticipated change in population is provided in **Figure 34** by AZTDM Traffic Analysis Zone (TAZ).

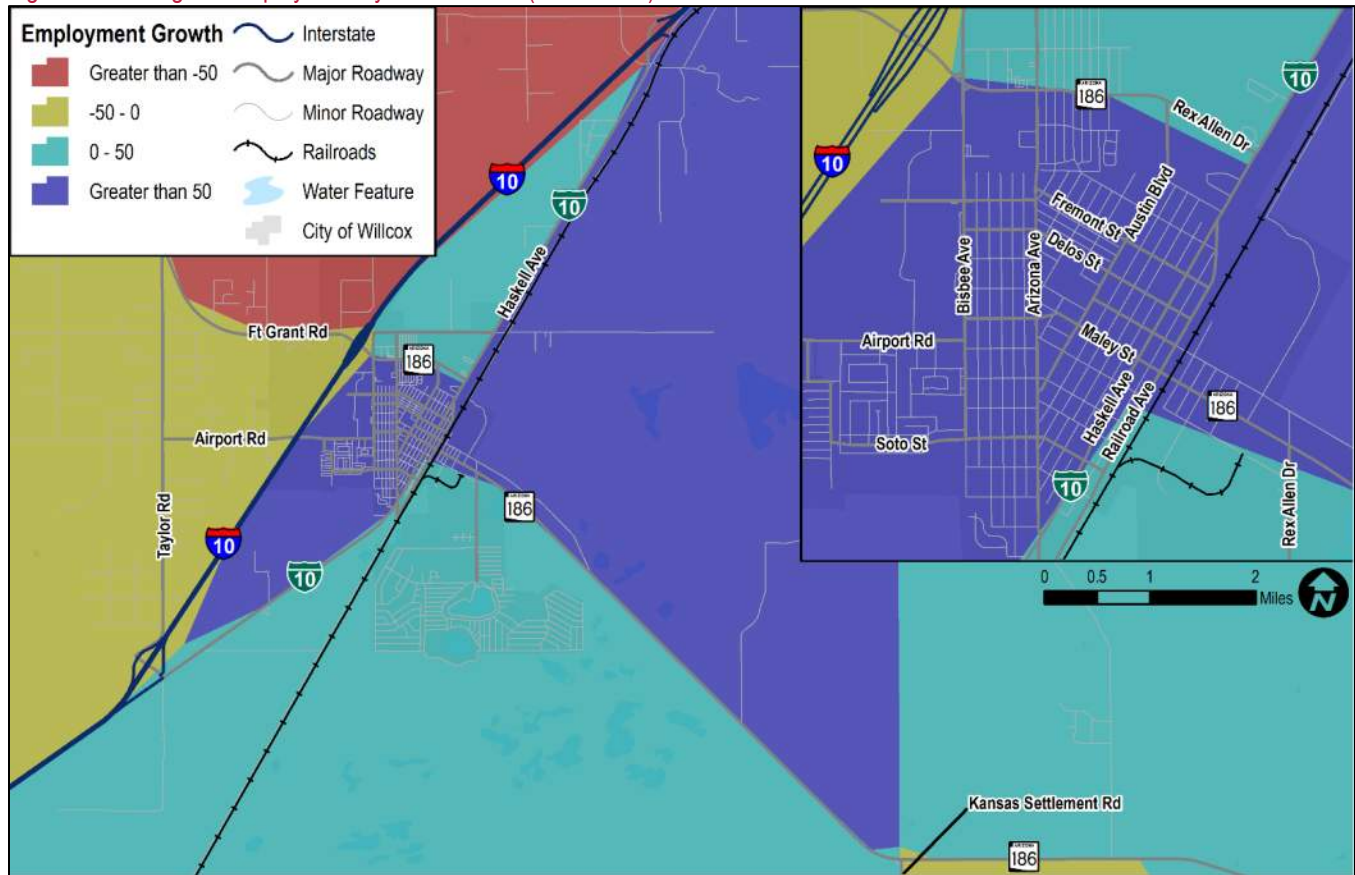
Figure 34. Growth in Population by AZTDM TAZ (2020-2040)



Source: ADOT

Employment in the study area is expected to increase by 1.2%, or 43 jobs, by the year 2040. However, employment is anticipated to decrease in portions of the study area and increase in others. **Figure 35** shows the anticipated change in employment by AZTDM TAZ.

Figure 35. Change in Employment by AZTDM TAZ (2020-2040)

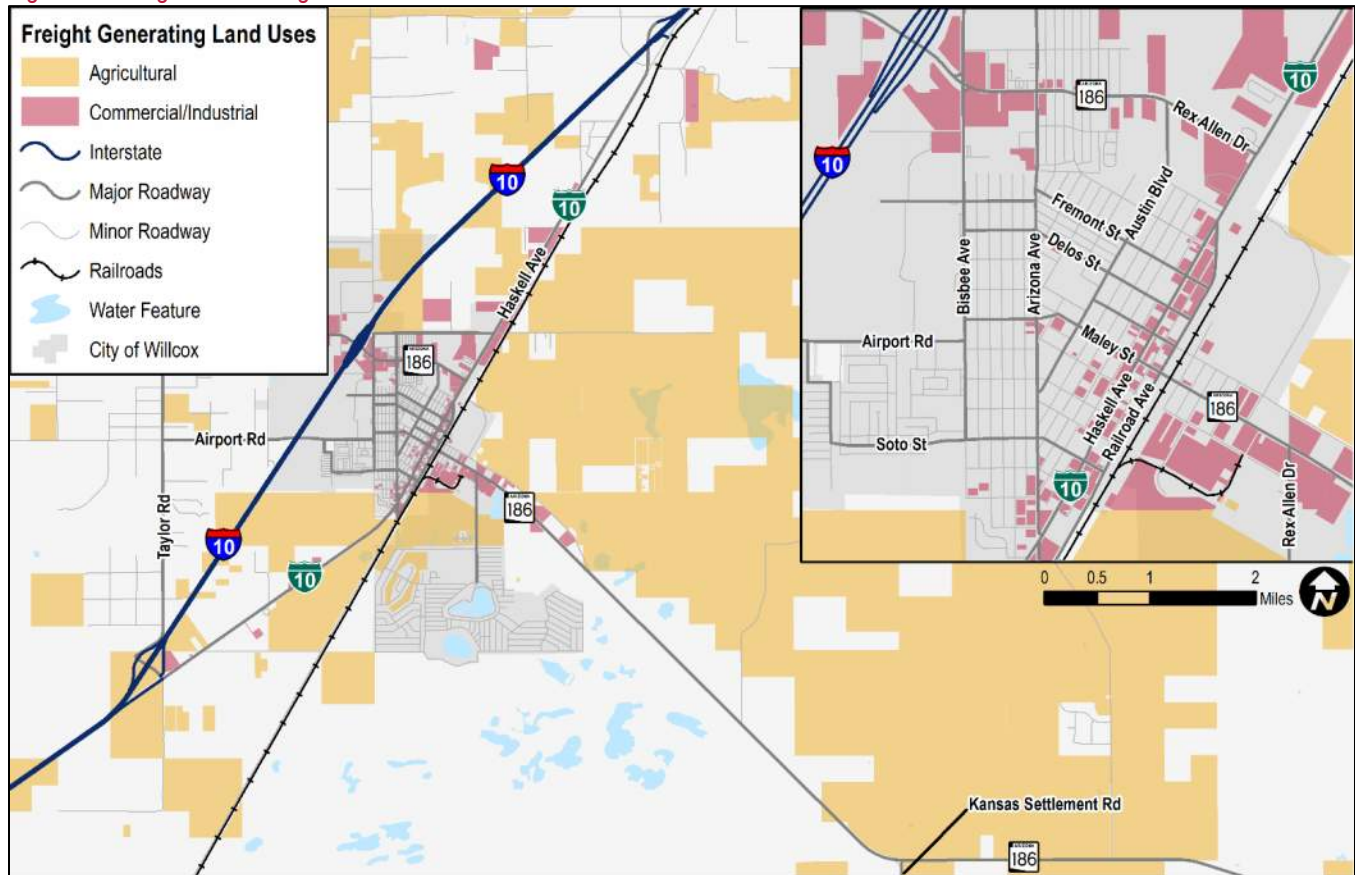


Source: ADOT

Land Use and Freight Generators

Freight-generating land uses are present throughout the study area, which includes commercial/industrial and agricultural developments. Commercial and industrial land uses are found primarily in downtown Willcox and along the B-10 and SR 186 corridors. Agricultural land uses, which generate freight trips at a lower rate than other non-residential land uses, are present throughout the study area, but there is a large concentration of agricultural land east of Willcox. **Figure 36** shows the distribution of freight-generating land uses within the study area.

Figure 36. Freight-Generating Land Uses



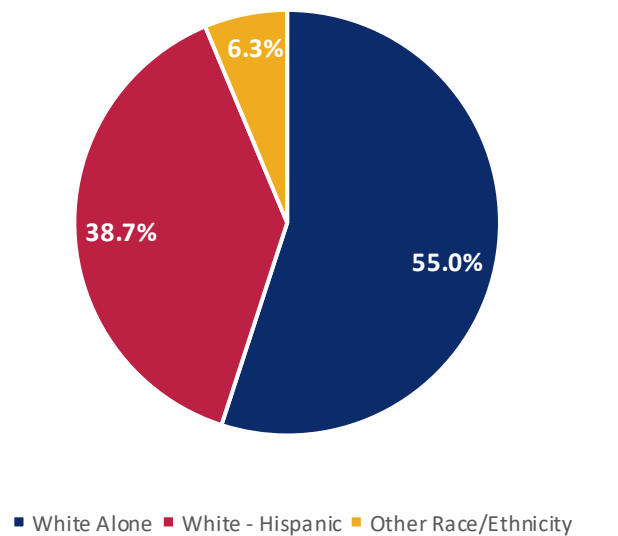
Source: Cochise County

Traditionally Underserved Populations

Title VI of the Civil Rights Act of 1964 (Title VI) is a federal law that protects individuals and groups from discrimination on the basis of their race, color, and national origin in programs and activities that receive federal financial assistance. **Figure 37** summarizes the racial and ethnic composition of the study area. White Alone and White – Hispanic (Latinx) represent a large majority of the study area’s racial and ethnic make-up. Only small populations of other races are present within the study area: Black/African American (1.1%), American Indian/Alaska Native (1.0%), Asian (0.3%), Native Hawaiian/Pacific Islander (0.3%), Some Other Race (2.3%), and Two or More Races (1.2%).

Persons with Limited English Proficiency. Per Executive Order 13166 for Limited English Proficiency (LEP), a requirement of recipients of federal financial assistance is to provide language services (oral or written) to ensure meaningful access for any language, upon request. Identification of LEP persons can be informative for the purpose of devising appropriate strategies for meaningful public involvement and ensuring access pursuant to this Executive Order. LEP

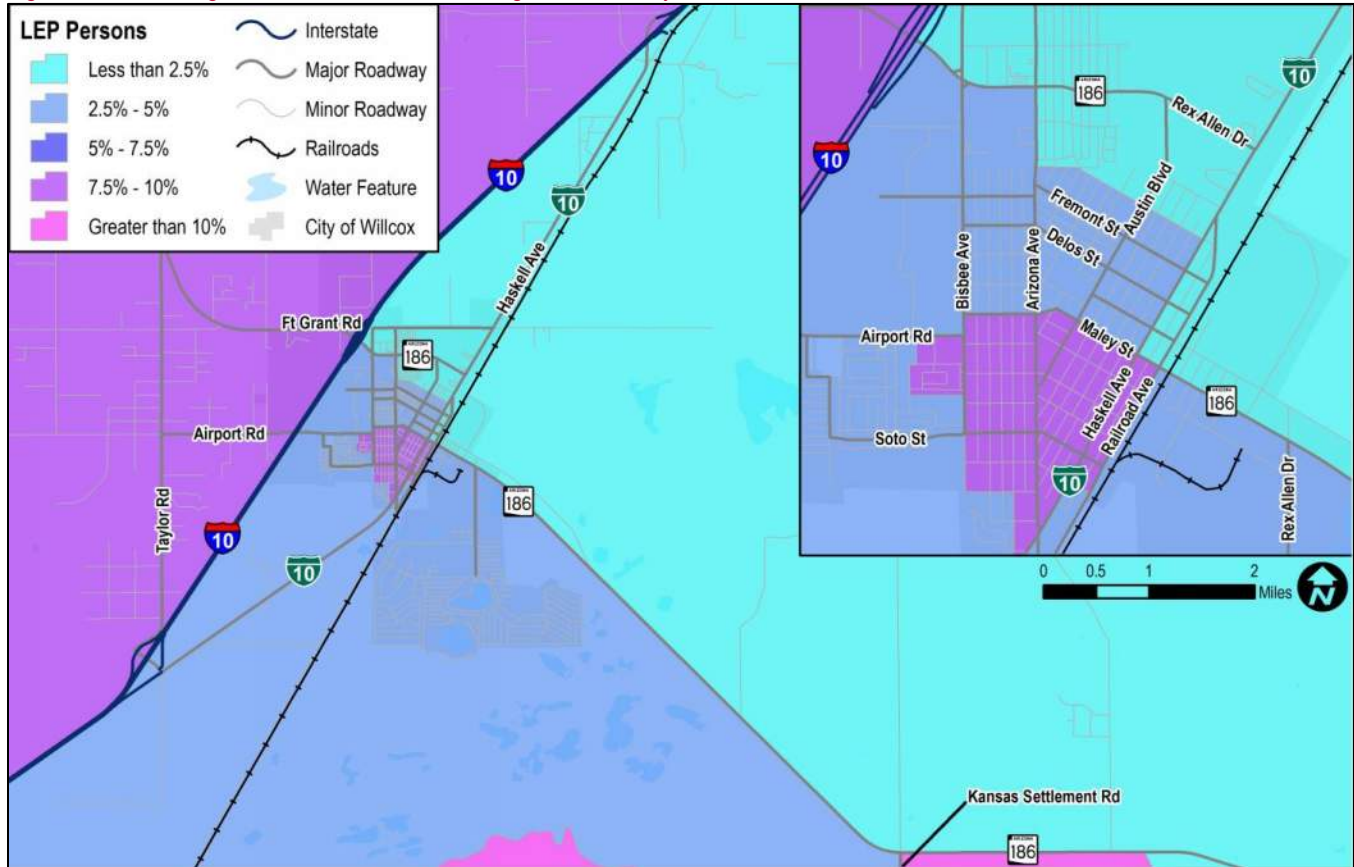
Figure 37. Racial/Ethnic Composition of the Study Area



Source: U.S. Census Bureau (2015-2019 5-Year ACS Estimates)

persons comprise approximately 5.2% of the study area population. These people are individuals who do not speak English as their primary language and who have limited ability to read, speak, or understand English. Most of these LEP persons speak Spanish. **Figure 38** shows the distribution of LEP persons by Census Block Group (BG). The area north of I-10 has 7.5% to 10% LEP persons as does the part of Willcox roughly bordered by Bisbee Avenue, Maley Street, and UPRR. Per the ADOT Four-Factor LEP Analysis performed for this study, engagement materials were made available in both English and Spanish.

Figure 38. Percentage of Persons with Limited English Proficiency



Source: U.S. Census Bureau (2015-2019 5-Year ACS Estimates)

Environmental Justice (EJ) Executive Order 12898 requires federally funded transportation projects to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. This includes the full and fair participation by all potentially affected communities in the transportation decision-making process.

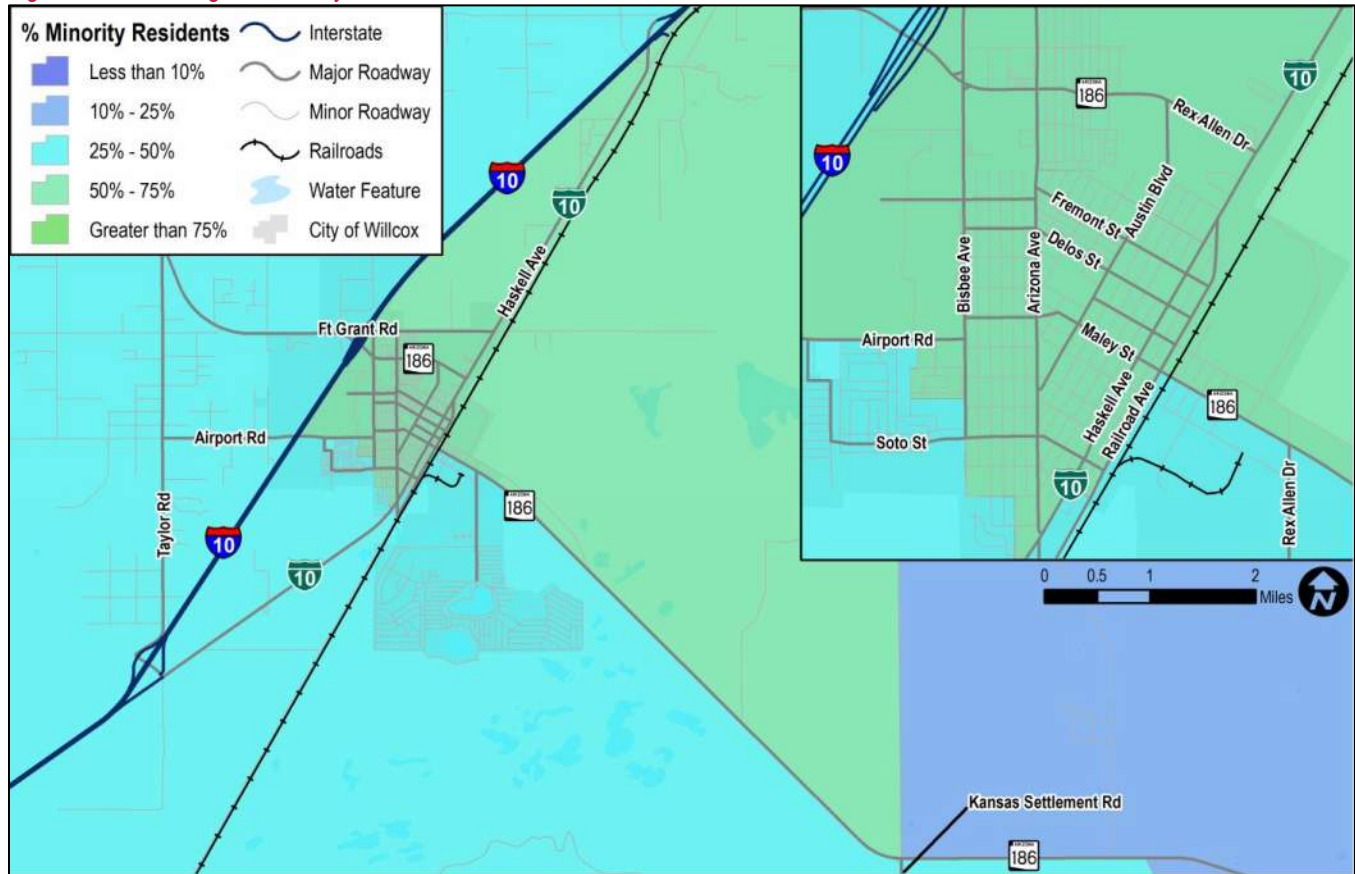
Minority Populations. ADOT and FHWA define five minority groups, as follows:

- Black (a person having origins in any of the black racial groups of Africa).
- Hispanic or Latino (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).
- Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent).
- American Indian and Alaskan Native (a person having origins in any of the original people of North America, South America, including Central America, and who maintains cultural identification through tribal affiliation or community recognition).

- Native Hawaiian or Other Pacific Islander (people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands).

The Hispanic population accounts for most of the area’s minority population. **Figure 39** shows the percentage of minority residents by BG. There is generally more racial and ethnic diversity in the downtown and northeast portion of Willcox.

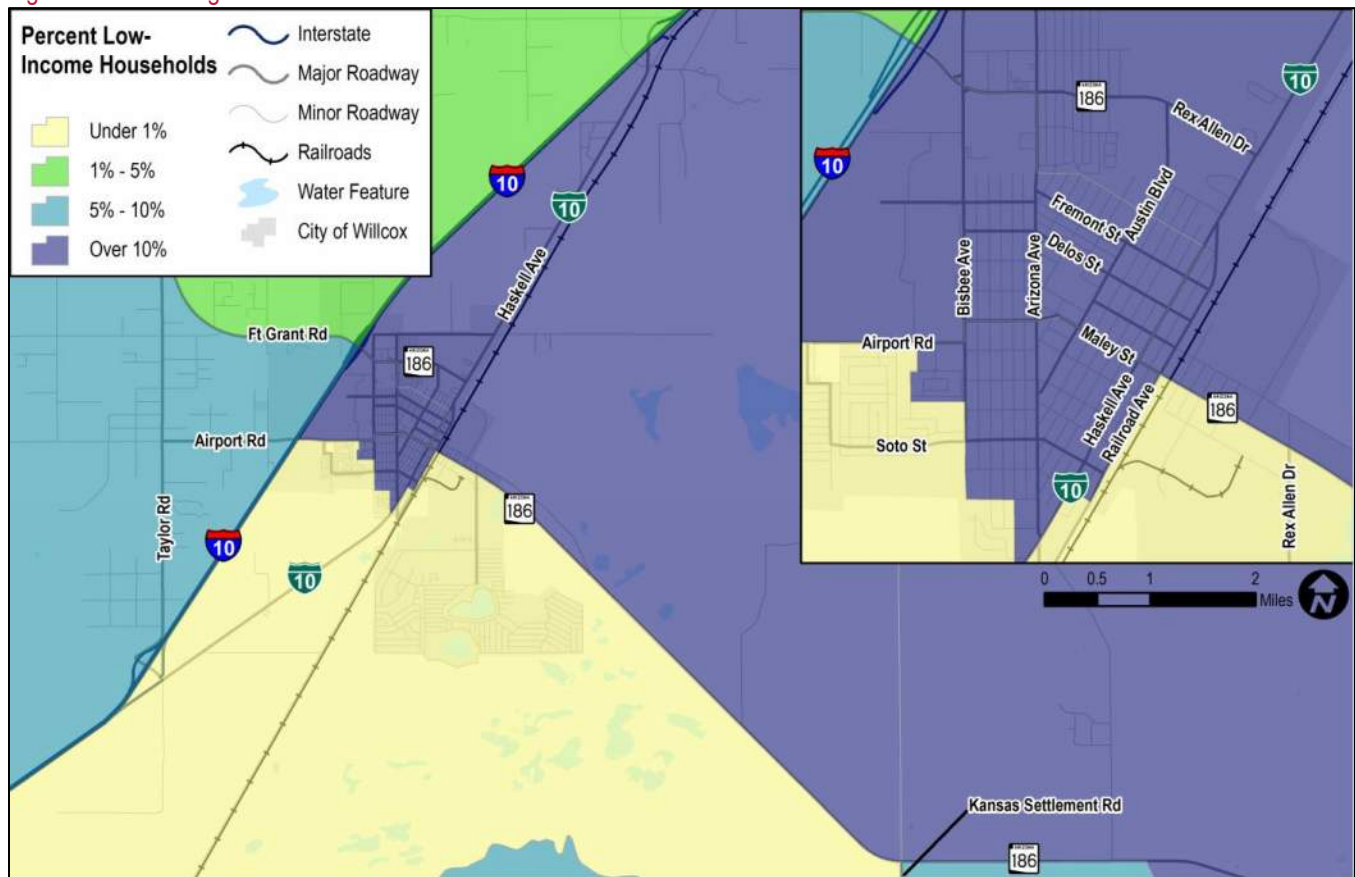
Figure 39. Percentage of Minority Residents



Source: U. S. Census Bureau (2015-2019 5-Year ACS Estimates)

Low-Income Populations. Low-income populations are those whose median household income is at or below the Department of Health and Human Services poverty guidelines for a family of four, which is \$26,500. **Figure 40** shows low-income households by BG within the study area. The area south of downtown, between I-10 and SR 186, has the lowest percentages of low-income households, generally less than 1%. The downtown area and east of downtown have the highest percentages of low-income households, between 25% and 50%.

Figure 40. Percentage of Low-Income Households



Source: U. S. Census Bureau (2015-2019 5-Year ACS Estimates)

Environmental Overview

This Environmental Overview (EO) includes descriptions of the existing environmental resources within the project limits that are defined in **Figure 41**. This EO also contains potential known environmental issues, constraints, and opportunities and will serve as a planning tool during improvement alternatives development and evaluation. It is anticipated that a Categorical Exclusion (CE) Checklist will be appropriate National Environmental Policy Act (NEPA) documentation for the design of improvements recommended by this study if an alternative utilizing existing roadways is selected as the Preferred Alternative. If a new alignment is selected for the Preferred Alternative, a more extensive NEPA process may be warranted; this should be evaluated/confirmed during the design phase of the project.

Figure 41. Environmental Overview Project Limits



Biological Resources

According to *Biotic Communities, Southwestern United States and Northwestern Mexico*, the project limits are within the Semi-Desert Grassland and human-dominated portion of the Lower Colorado River Subdivision of the Sonoran Desertscrub biotic community. The elevation within the project limits ranges from 4,100 feet to 4,300 feet above sea level.

Threatened and Endangered Species

Based on a review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) report, eight federally threatened, endangered, proposed, candidate, or experimental population species have been documented in the project vicinity:

- Jaguar (*Panthera onca*)
- Mexican Spotted Owl (*Strix occidentalis lucida*)
- Northern Aplomado Falcon (*Falco femoralis septentrionalis*)
- Yellow-Billed Cuckoo (*Coccyzus americanus*)
- Northern Mexican Garter Snake (*Thamnophis eques megalops*)
- Chiricahua Leopard Frog (*Rana chiricahuensis*)
- Monarch Butterfly (*Danaus plexippus*)
- Wright’s Marsh Thistle (*Cirsium wrightii*)

Future projects are anticipated to have no effect on these specific species. Additionally, there is no federally designated Critical Habitat within the project limits. The USFWS list of threatened, endangered, proposed,

and candidate species should be reviewed to determine if new species have been identified or any changes in listing status have occurred during the environmental clearance process.

Arizona Special Status Species

Based on the review of the Arizona Game and Fish Department (AGFD) Online Environmental Review Tool (OERT), eight state-listed species have been documented within three miles of the project limits:

- Arizona Striped Whiptail (*Aspidoscelis arizonae*)
- Western Burrowing Owl (*Athene cunicularia hypugaea*)
- Bald Eagle – Winter Population (*Haliaeetus leucocephalus*)
- Reticulate Gila Monster (*Heloderma suspectum suspectum*)
- Hooded Night Snake (*Hypsiglena sp. nov.*)
- Texas Horned Lizard (*Phrynosoma cornutum*)
- Slevin's Bunchgrass Lizard (*Sceloporus slevini*)
- Desert Box Turtle (*Terrapene ornata luteola*)

Potential impacts to these species will need to be evaluated further during the environmental clearance process.

Water Resources

Section 401/404 of the Clean Water Act

Based on a review of aerial photography and field reconnaissance, ephemeral washes and dry playas are present within the project limits. Potential impacts to these resources should be evaluated during the environmental clearance process to determine Section 401/404 permitting requirements, if applicable.

Floodplain Encroachment

Based on a review of Federal Emergency Management Agency (FEMA) data, flood hazard areas (Zone A, AE, and AO) are depicted on FEMA FIRM 04003C0440F, 04003C0445F, 04003C0438F, 04003C0439F, 04003C0710F, 04003C0726F, 04003C0727F, 04003C0731F, 04003C0732F, 04003C0728F, 04003C0729F, 04003C0733F, 04003C0734F (Map Effective Date: 8/28/2008). Impacts to floodplains typically occur when the topography within a floodplain is substantially modified either by placement or removal of materials within the floodplain. This should be evaluated during the environmental clearance process.

Sole Source Aquifer

The project is not located within the limits of a Sole Source Aquifer. Therefore, no impacts are anticipated; however, this should be reevaluated during the environmental clearance process.

Arizona Pollutant Elimination System (AZPDES) Stormwater Permit

Some of the build alternatives could disturb more than one acre of land; if that is the case, a Section 402 AZPDES permit, and a Stormwater Prevention Pollution Plan (SWPPP) would be required from ADEQ. This should be reevaluated during the environmental clearance process.

Wetland and Riparian Areas

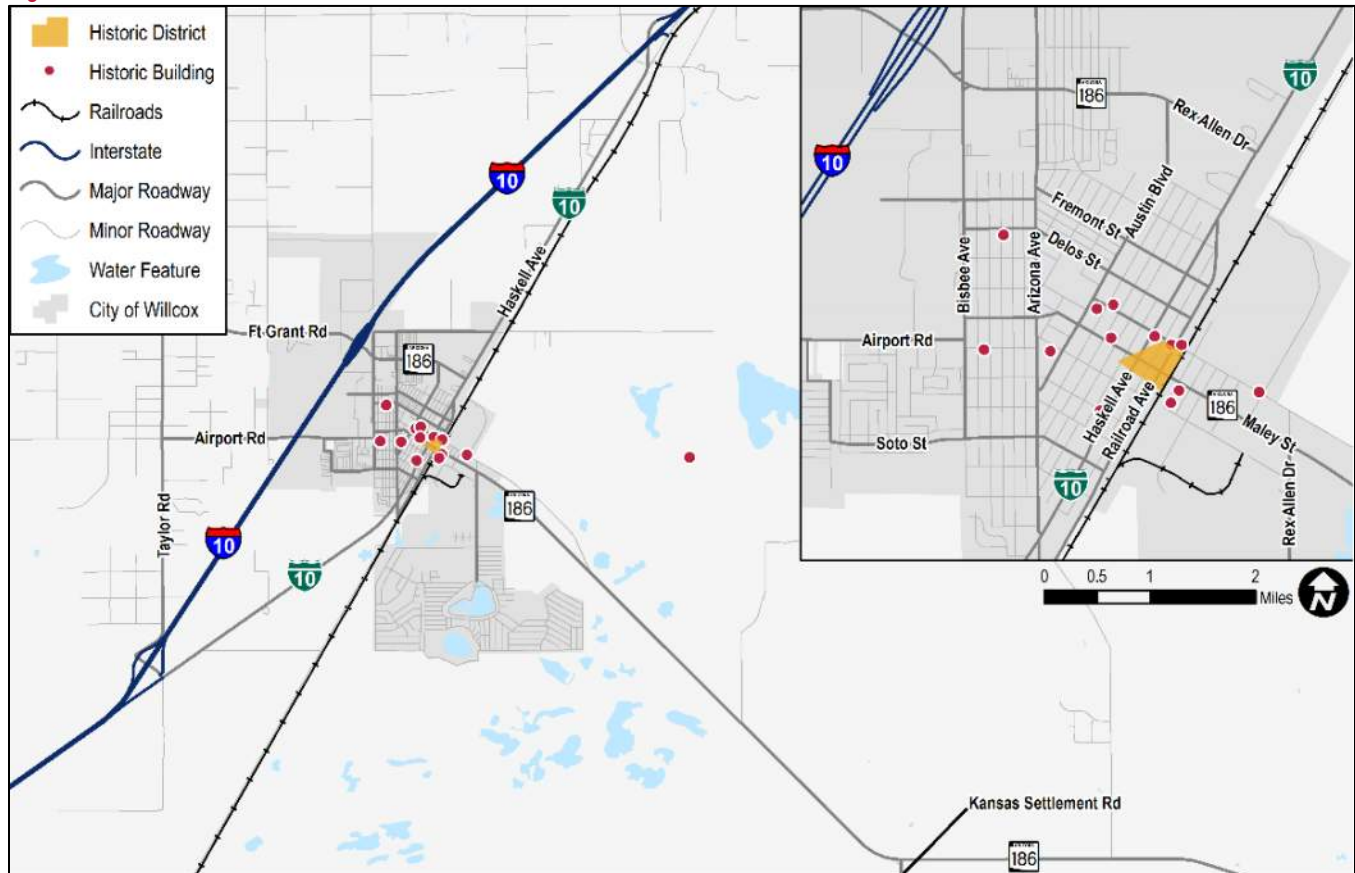
According to the National Wetlands Inventory Wetlands Mapper, riverine (ephemeral washes) and freshwater pond habitat (dry playas) are within the project limits. Potential impacts to these resources should be evaluated during the environmental clearance process. No riparian habitat was observed within or adjacent to the project limits during field reconnaissance on March 23, 2021, though this should be reevaluated during the environmental clearance process.

Cultural Resources

Historic Resources

I-10, I-10 Business Route (B-10), and SR 186 have been previously surveyed in their entirety within the project limits. No further survey is recommended. The majority of the project limits has not been previously surveyed. The City of Willcox has numerous historic roads and buildings within the city limits, of which 13 historic buildings have been listed on the National Register of Historic Places (NRHP). These sites are shown in **Figure 42**.

Figure 42. Historic Locations



Source: National Register of Historic Places

There are also several prehistoric sites to the west of the I-10 corridor and along SR 186 within the project limits. Under the “no build” option, no historic properties would be affected. If SR 186 is improved, one site, AZ CC:13:24(ASM), may be affected. The site extends into the SR 186 ROW. If SR 186 is realigned, two archaeological sites, AZ CC:13:24(ASM) and AZ CC:13:66(ASM), as well as multiple historic buildings and structures within the City of Willcox, may be affected. If there are new or improved private or City roads, multiple historic buildings and structures may be affected. If heavy vehicles operate on existing roads, the increased traffic may affect the visual and auditory setting of the historic buildings and structures.

During the environmental clearance process, the documentation of historic buildings and structures along the proposed route is recommended to determine whether any NRHP-eligible buildings or structures may be affected.

Section 4(f) Resources

The project is subject to Section 4(f) of the USDOT Act of 1966 (49 U.S.C. 303). Based on preliminary review, public parks and historic sites are located within and adjacent to the project limits. Potential impacts to these Section 4(f) resources should be evaluated during the environmental clearance process.

Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 (16 U.S.C. 4601-4 et seq.) applies to all transportation projects, regardless of funding source or approval authority, which propose to use land from a Section 6(f) property. Based on preliminary review, there are no potential protected Section 6(f) properties in the project limits; therefore, Section 6(f) analysis/consultation is not required. This should be reevaluated during the environmental clearance process.

Scenic and Historic Routes

SR 186 is a historic route and is located within the project limits. Potential impacts should be evaluated during the environmental clearance process.

Socioeconomic Impacts

Socioeconomic analysis is an examination of how a proposed project will impact the overall social and economic character of an area and the well-being of current and future residents of the affected community. Community demographics, safety, public services, employment and income levels, housing, and visual quality are socioeconomic parameters that should be analyzed during the environmental clearance process.

Title VI/Environmental Justice (EJ) Populations

Title VI/EJ evaluations are part of the larger socioeconomic analysis discussed above. Demographics to be analyzed during the environmental clearance process include racial and ethnic minorities, age, gender, elderly, female head of household, low-income, and disabled populations. These Title VI/EJ populations should be analyzed further during the environmental clearance process.

Quality of Life

Visual Impacts

The addition of a new city street or private road would not change the visual contrast of the project limits. This should be reevaluated during the environmental clearance process.

Noise Impacts

Noise-sensitive receptors are located within the project limits. Alternatives that do not increase capacity would likely not require noise analysis. Alternatives that increase capacity or shift the location or magnitude of noise would likely require noise analysis during the environmental clearance process. This should be evaluated during the environmental clearance process.

Air Quality

The project is not located within nonattainment or maintenance areas for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM) for both PM₁₀ and PM_{2.5}, and sulfur dioxide (SO₂). This project has not been linked with any special mobile source air toxic (MSAT) concerns and will not have a negative effect on air quality in the project limits. Air quality analysis is not required. This should be reevaluated during the environmental clearance process.

Hazardous Materials

Based on a review of the ADEQ eMaps website, there are four service stations with open leaking underground storage tank (LUST) cases along Haskell Avenue (B-10) with potential groundwater impacts. According to the Arizona Groundwater Site Inventory (GWSI), depth to groundwater is approximately 20 feet. A Preliminary

Initial Site Assessment (PISA) should be prepared during the environmental clearance process to further investigate the potential for facilities with hazardous materials concerns.

Public/Agency Scoping

Public/agency scoping should be completed during the environmental clearance process in the form of scoping letters and be documented.

Opportunities and Constraints

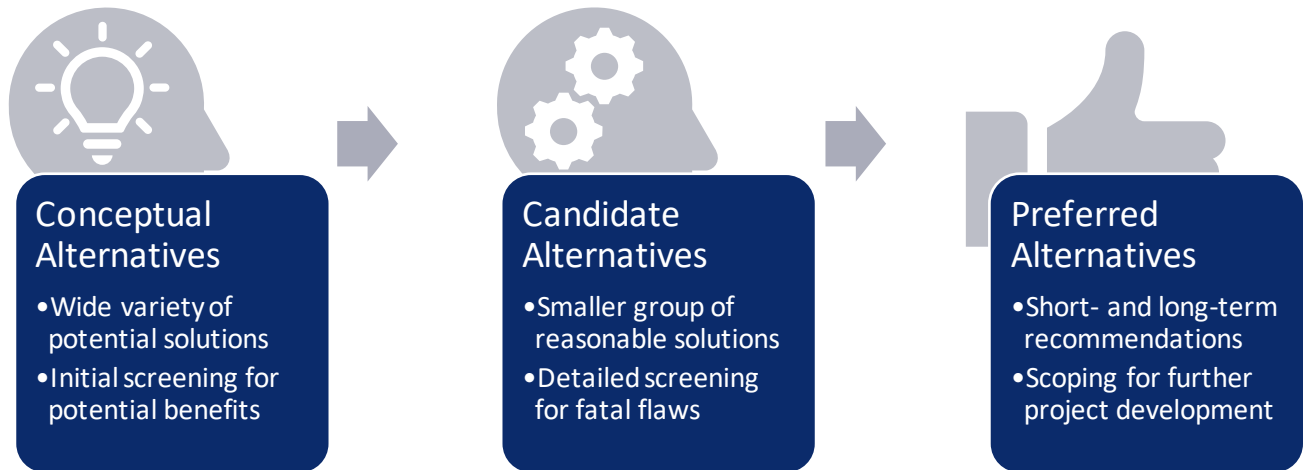
This section contains a summary of the key takeaways from the preceding sections organized into opportunities and constraints.

- **Opportunities.** Existing or anticipated strengths of the transportation system that can contribute to developing alternatives to address project goals:
 - The General Plan and Cochise County LRTP are in line with, and supportive of, the goals of this study.
 - Traffic volumes are relatively low, even at peak times, indicating that congestion is likely not a major transportation constraint within the study area.
 - Growth along the main roadways in the study area is anticipated to be relatively low.
 - The population and employment in the study area are anticipated to grow by a relatively small amount over the next two decades.
 - The ADOT-owned roadways Haskell Avenue (B-10), Maley Street (SR 186), and Rex Allen Drive (SR 186) have a pavement surface cross-section that appears adequate to accommodate current heavy truck volumes.
- **Constraints.** Existing or anticipated weaknesses or threats to the transportation system that may hinder potential transportation alternatives:
 - Pavement conditions and constrained roadway geometrics in central Willcox will likely be constraints to potential improvement alternatives.
 - Community activity centers and protected historic properties are concentrated in central Willcox, as are low-income and minority communities as well as those with LEP.
 - Commercial and industrial freight generators are concentrated along B-10 and SR 186.
 - The UPRR tracks block east-west connectivity in the study area for up to three hours per day, which has major impacts on the travel time reliability of truck freight operations. The only paved railroad crossings are at Maley Street (SR 186) and Stewart Street, which are only one block apart in downtown Willcox. The proximity of these crossings means that train-related blockages at one crossing are likely to also be blocking the other crossing, leaving no alternative east-west access routes.
 - The intersection of Maley Street (SR 186) and Haskell Avenue (B-10) had a relatively high number of vehicle crashes compared to other study intersections, many of which involved pedestrians (resulting in one fatality and multiple injuries).
 - The AutoTURN analysis determined that the Maley Street (SR 186) and Haskell Avenue (B-10) intersection is problematic for turning trucks.
 - The major roadways within the downtown area of Willcox allow on-street parallel parking, including Maley Street (SR 186) and Haskell Avenue (B-10). While on-street parking has generally been shown to benefit adjacent businesses, it should be noted that vehicles entering or exiting on-street parking stalls can interrupt through traffic flow temporarily, increasing travel time and the potential for crashes.
 - The City-owned roadways would likely require reconstruction with more substantive roadway bases and surfaces before they could adequately accommodate high heavy truck volumes.

4. Alternatives Analysis

The alternatives analysis process for the Willcox Circulation Study was broken into three phases: Conceptual Alternatives, Candidate Alternatives, and Preferred Alternatives. **Figure 43** provides an overview of the alternatives analysis steps.

Figure 43. Alternatives Analysis Process



Conceptual Alternatives

Conceptual Improvement Alternatives

The following Conceptual Alternatives were the initial alternatives presented to the TAC. Improvement alternatives were grouped into the following categories:

- No-Build Alternative
- Geometric Intersection Improvements (three alternatives)
- Operational Intersection Improvements (two alternatives)
- Truck Route Improvements (three alternatives)
- New Street Improvements (three alternatives)

Alternative 1 – No-Build. The No-Build alternative proposes no changes to the existing roadway network. This alternative does not address the issue of trucks encroaching on sidewalks and opposing traffic lanes.

Geometric Intersection Improvements

Alternative 2 provides geometric intersection improvements to the intersection of Haskell Avenue (B-10) and Maley Street (SR 186). This alternative provides concept options that reconfigure the intersection, including widening the road and ROW, implementing a roundabout, or reconfiguring lane geometry to prevent vehicles from being in the paths of turning trucks.

Alternative 2A – Geometric: Widen. This alternative widens the legs of Haskell Avenue (B-10) and Maley Street (SR 186) near the intersection. This alternative:

- Creates space for trucks to make turns
- Impacts existing buildings
- Does not remove truck traffic from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 44 shows Alternative 2A.

Figure 44. Alternative 2A



Alternative 2B – Geometric: Roundabout. This alternative implements a roundabout at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186). The roundabout is mountable by trucks to allow them to make turns by driving over the center island as needed. This alternative:

- Allows trucks to make turns by driving over the center island as needed
- Is an unconventional intersection that may be unfamiliar to some travelers
- Does not require reconfiguring of the ROW or impact existing buildings
- Does not remove truck traffic from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 45 shows Alternative 2B.

Figure 45. Alternative 2B



Alternative 2C – Geometric: Reconfigure. This alternative reconfigures Haskell Avenue (B-10) and Maley St (SR 186) at the intersection to prevent vehicles from being in the paths of turning trucks by either moving the left-turn lane stop bars back or having flush or mountable paved medians in place of the left-turn lanes. This alternative:

- Creates space for trucks to make turns
- Pushes back or removes left-turn lanes
- Requires the traffic signal to serve each direction separately to provide safe operations
- Does not remove truck traffic from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 46 shows Alternative 2C.

Figure 46. Alternative 2C



Operational Intersection Improvements

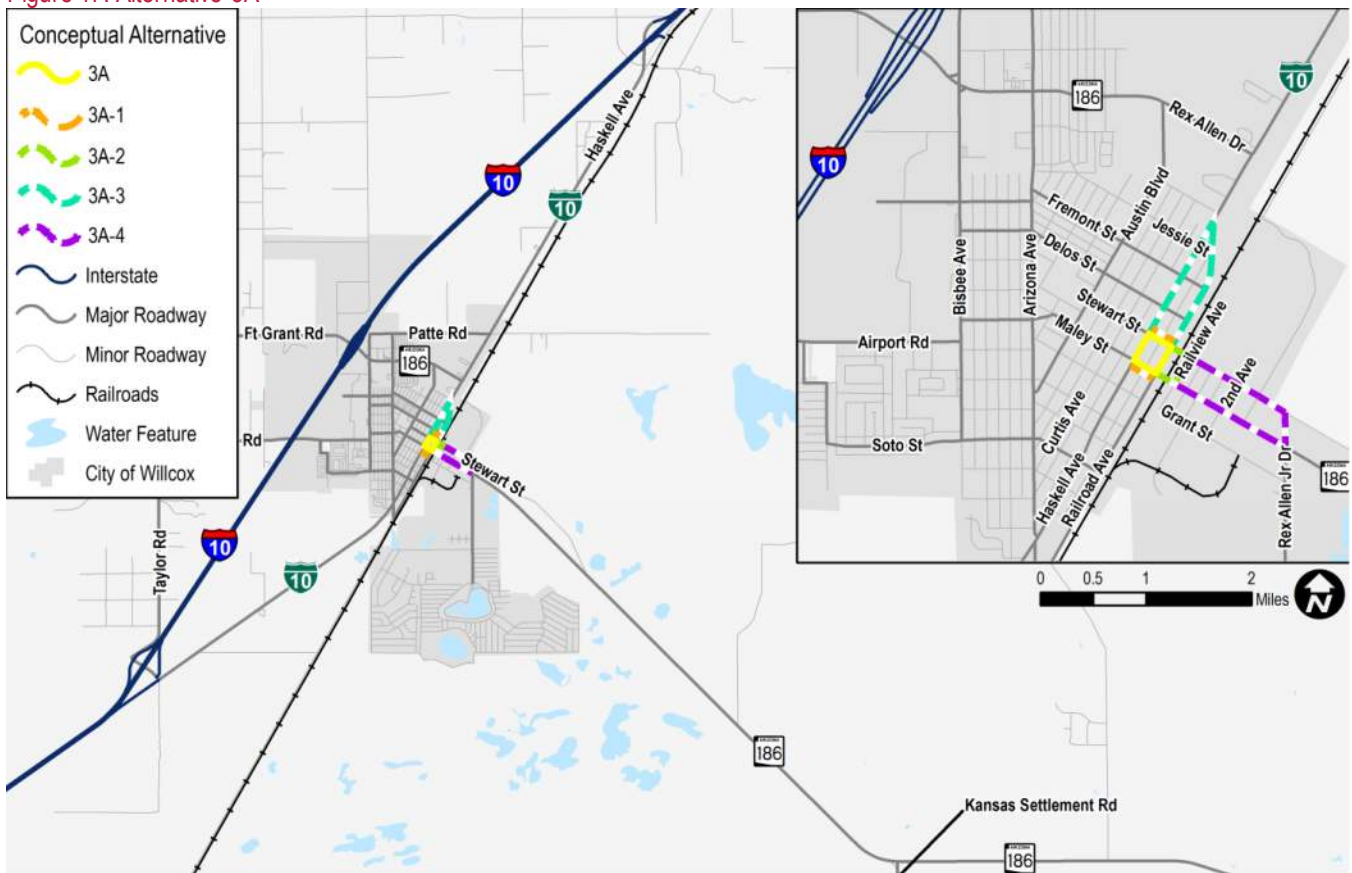
Alternative 3 provides operational intersection improvements through options that implement one-way roadways or relocate truck turns to other intersections that can better accommodate truck turns.

Alternative 3A – Operational: One-Way Streets. Alternative 3A proposes converting downtown core roadways to one-way operations. There are various options for candidates of one-way streets. These include but are not limited to: Maley Street (SR 186), Haskell Avenue (B-10), Railroad Avenue, Stewart Street, and Railview Avenue. This alternative:

- Creates space for trucks to make turns
- Creates a traffic pattern that may not be intuitive to some travelers
- Reduces truck traffic at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 47 shows Alternative 3A.

Figure 47. Alternative 3A

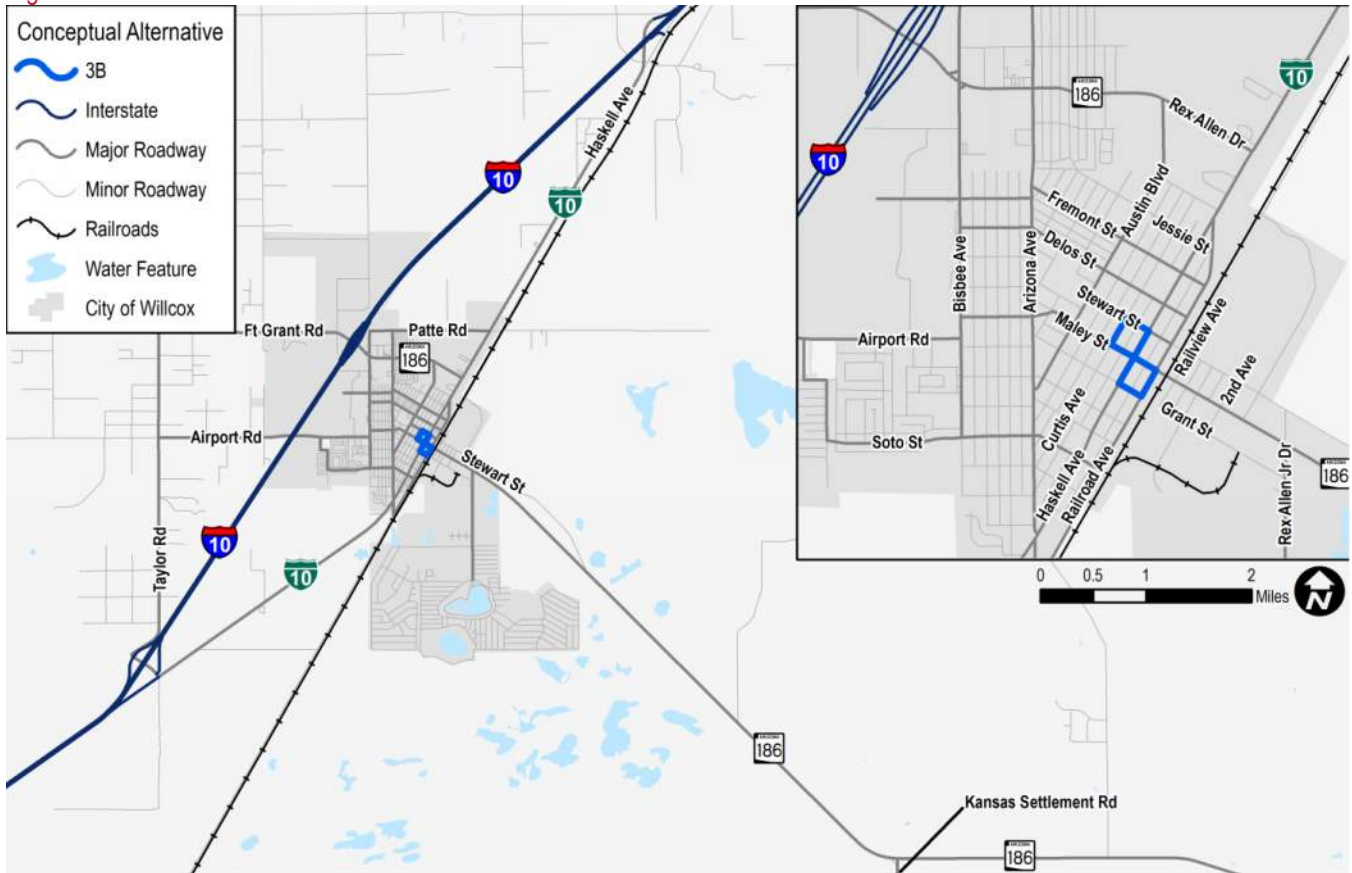


Alternative 3B – Operational: Relocate Truck Turns. This alternative adjusts the operation of the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) and the surrounding area by implementing delayed turns, also known as a Jughandle, at the intersection. This alternative does not allow truck turns at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186). Instead, trucks make turns at the adjacent intersections of Grant Street and Railroad Avenue as well as Curtis Avenue and Stewart Street. This alternative:

- Removes truck traffic turns from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)
- Requires out-of-direction travel for trucks on local streets

Figure 48 shows Alternative 3B.

Figure 48. Alternative 3B



Truck Route Improvements

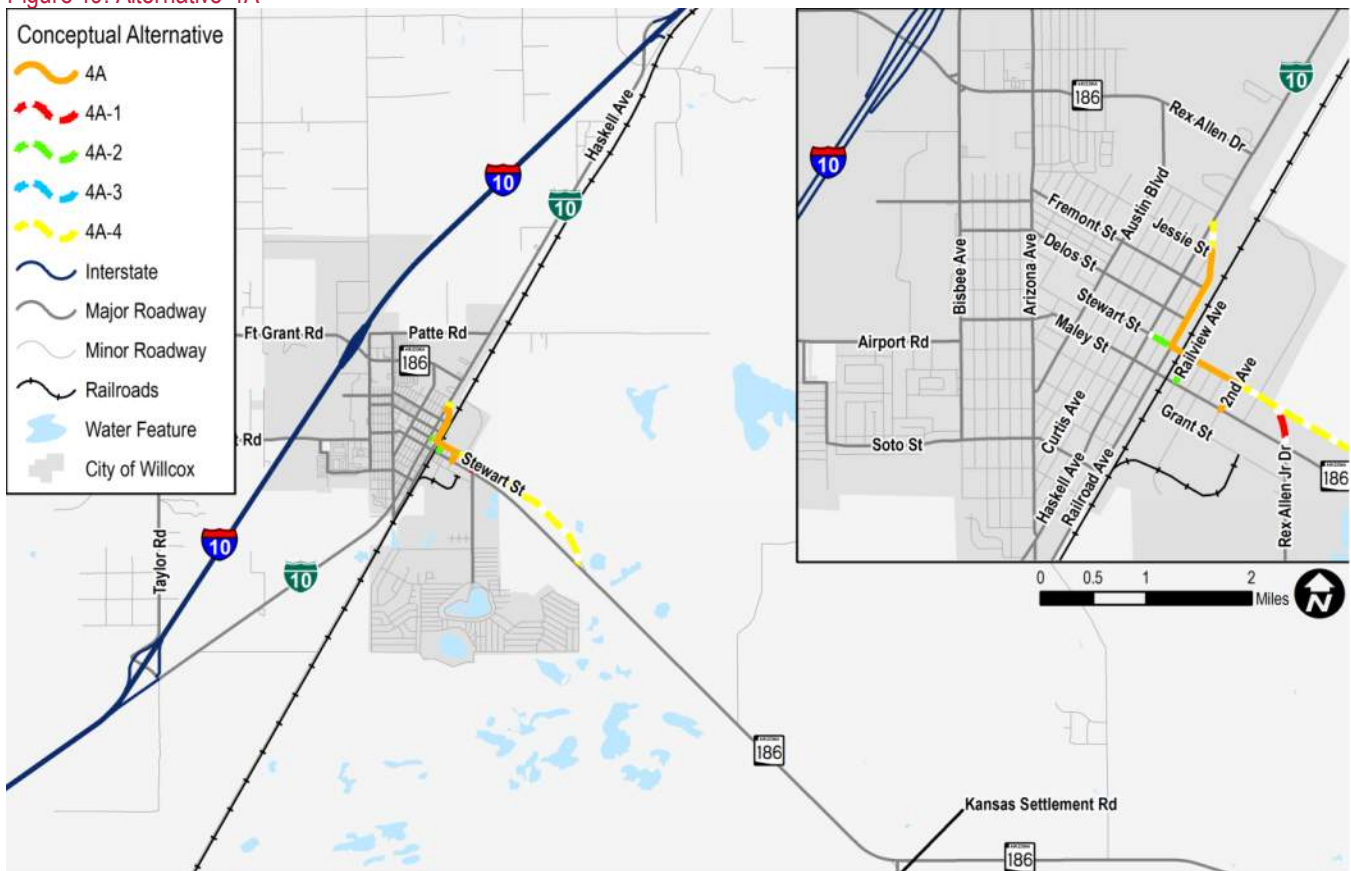
Alternative 4 provides concept options that establish new truck routes connecting trucks to I-10 from Haskell Avenue (B-10) and Maley Street (SR 186). These new truck routes avoid truck traffic needing to make turns at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).

Alternative 4A – Truck Route: Stewart Street and Railroad Avenue. This alternative designates segments of local streets east of Haskell Avenue (B-10) and north of Maley Street (SR 186) as truck routes. There are various routes that can be considered. The primary route options take either Stewart Street or Railroad Avenue, with various roadway connectors to Maley Street (SR 186) and Haskell Avenue (B-10), including Railview Avenue, Rex Allen Jr Drive, Grant Street, and Jessie Street. This alternative:

- Has multiple options for which streets to use
- Removes trucks from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)
- Requires truck travel on local streets

Figure 49 shows the primary Alternative 4A route in orange along with various connector options.

Figure 49. Alternative 4A

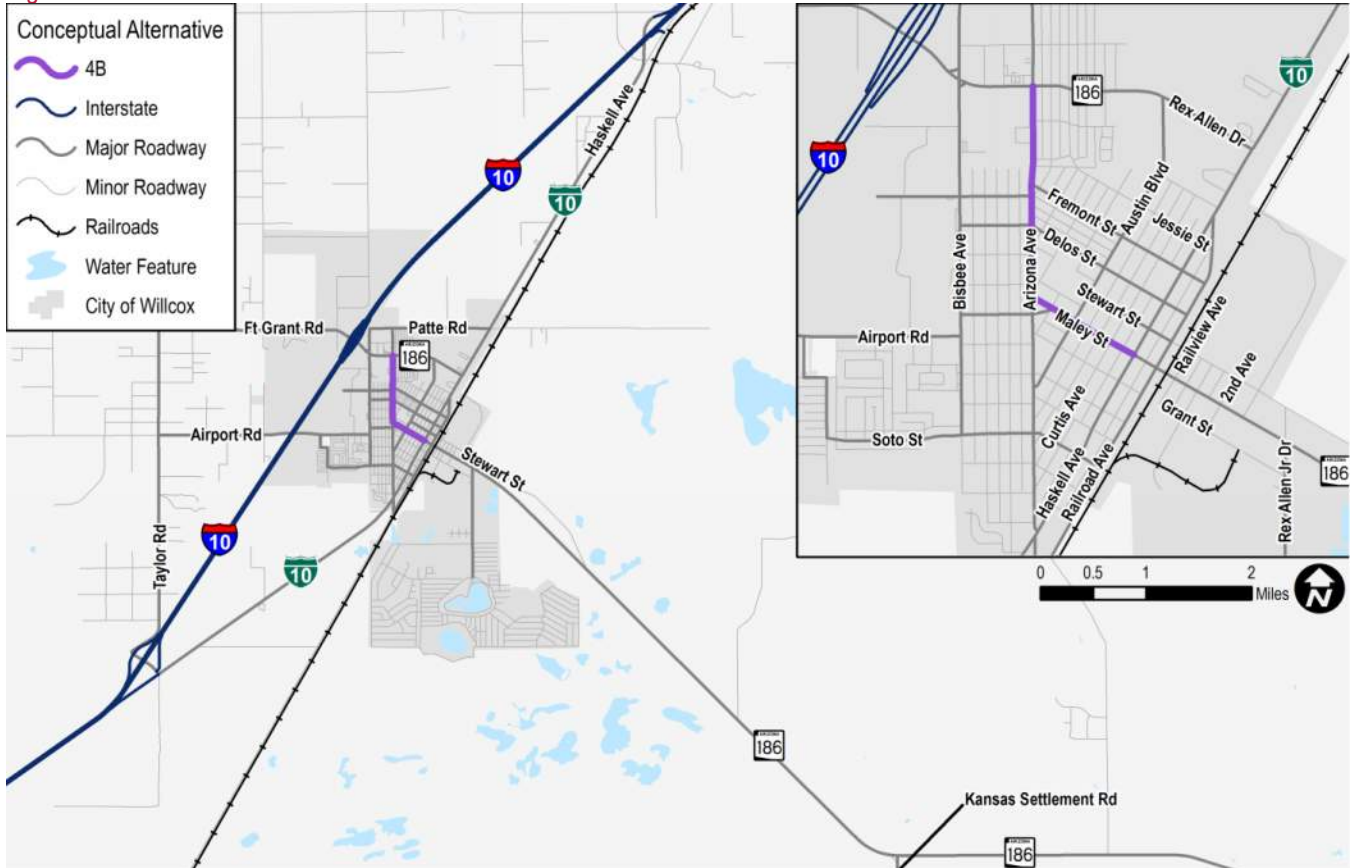


Alternative 4B – Truck Route: Arizona Avenue and Maley Street. This alternative designates segments of local streets including Arizona Avenue and Maley Street west of Haskell Avenue (B-10) as truck routes. This alternative:

- Removes the most common truck turns from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)
- Requires truck travel on local streets

Figure 50 shows Alternative 4B.

Figure 50. Alternative 4B



Alternative 4C – Truck Route: Grant Street and 2nd Avenue. This alternative designates segments of local streets including Grant Street and 2nd Avenue as truck routes. This alternative:

- Removes trucks from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)
- Requires a new railroad crossing
- Requires truck travel on local streets

Figure 51 shows Alternative 4C.

Figure 51. Alternative 4C



New Street Improvements

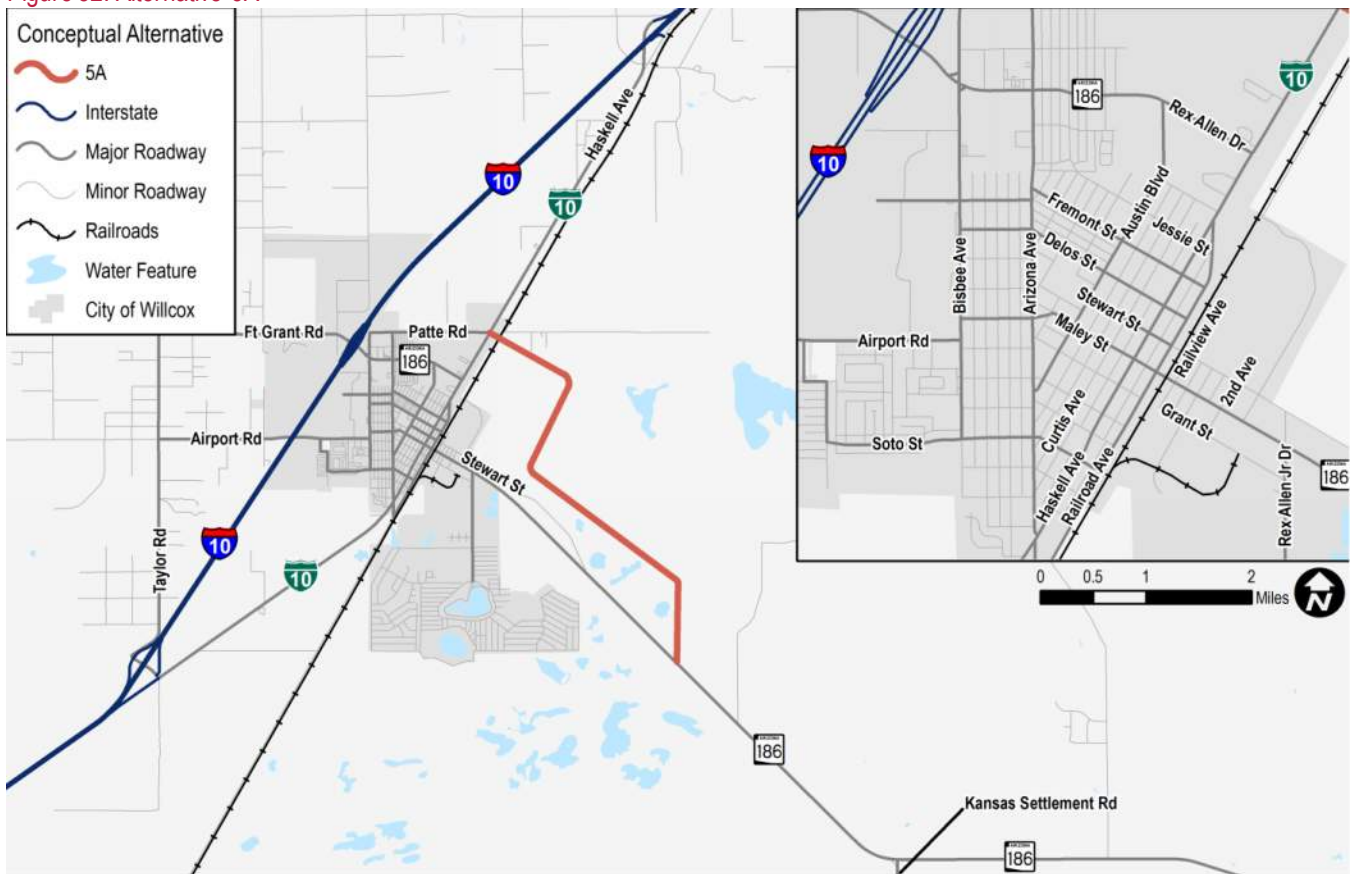
Alternative 5 proposes options for new roadways that connect truck traffic between Maley Street (SR 186) and I-10. All proposed routes avoid truck traffic making turning movements at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).

Alternative 5A – New Street: Patte Road to Maley Street (SR 186). This alternative proposes a new roadway connecting Patte Road to Maley Street (SR 186) east of the city limits. This alternative uses the existing Patte Road railroad crossing and provides an east bypass of much of the city. This alternative:

- Removes truck traffic from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)
- Requires improvements to the existing Patte Road railroad crossing
- Requires out-of-direction travel
- Removes some traffic from downtown Willcox

Figure 52 shows Alternative 5A.

Figure 52. Alternative 5A

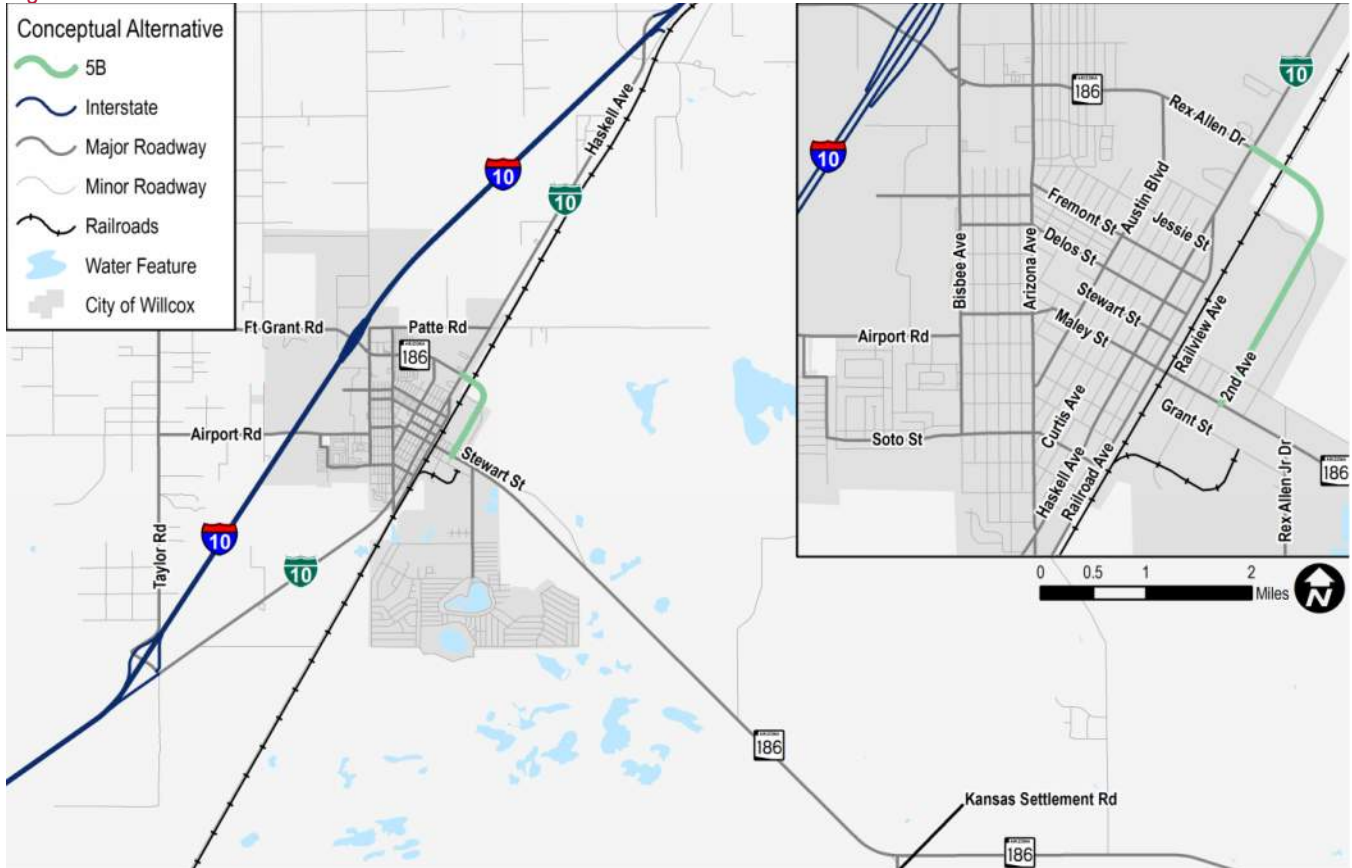


Alternative 5B – New Street: Rex Allen Drive (SR 186) to Maley Street (SR 186). This alternative proposes a new street connecting Rex Allen Drive (SR 186) to Maley Street (SR 186) east of the railroad tracks. This alternative requires a new railroad crossing and provides an east bypass of some of the city. This alternative:

- Requires a new railroad crossing along Rex Allen Drive (SR 186)
- Keeps traffic out of, but within view of, downtown Willcox
- Removes truck traffic from the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 53 shows Alternative 5B.

Figure 53. Alternative 5B

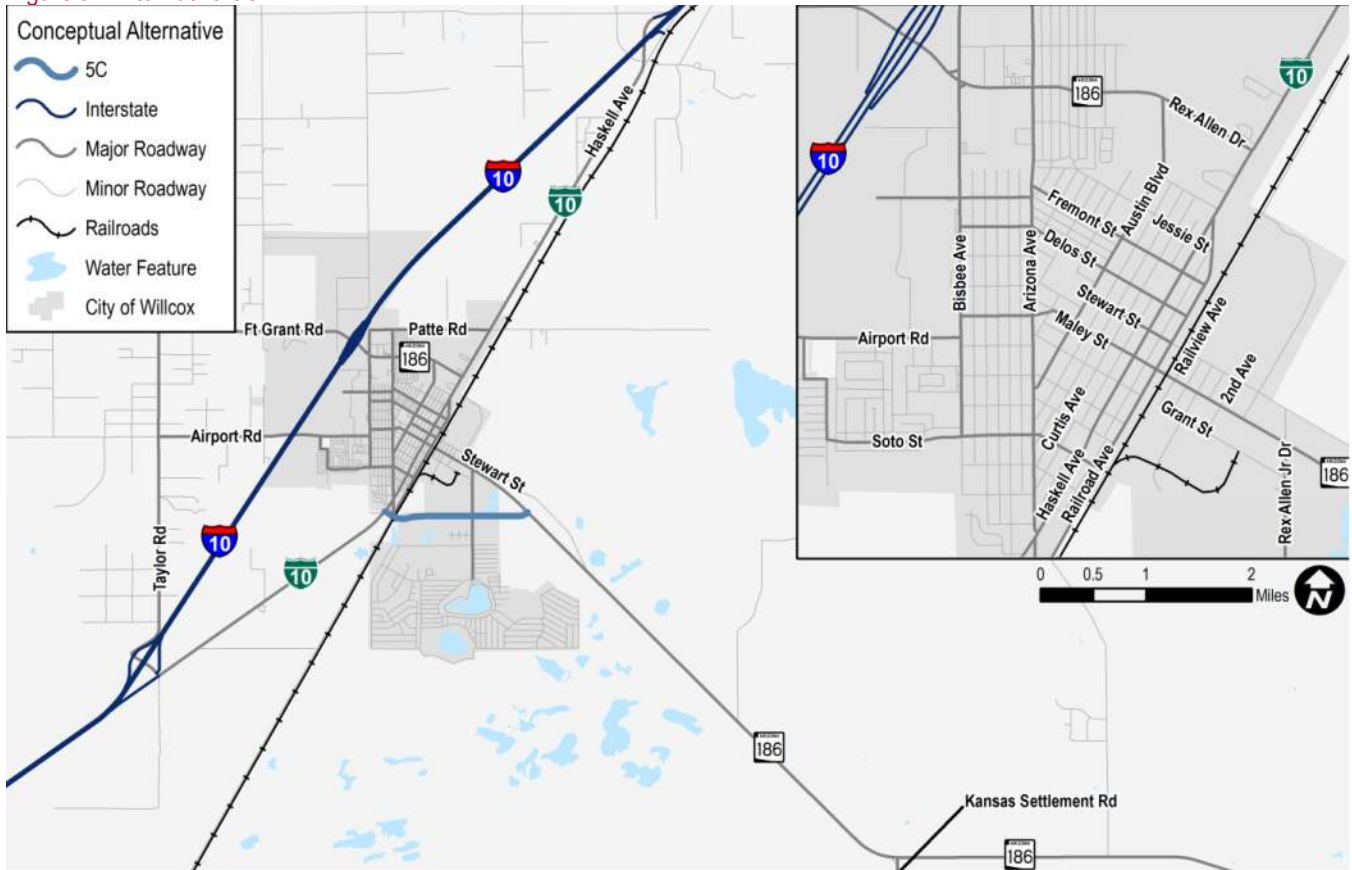


Alternative 5C – New Street: Haskell Avenue (B-10) to Maley Street (SR 186). This alternative proposes a new street connecting Haskell Avenue (B-10) to Maley Street (SR 186) north of the golf course. This alternative requires a new railroad crossing and provides a south bypass of some of the city. This alternative:

- Requires a new railroad crossing
- Requires out-of-direction travel
- Reduces truck turns at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)

Figure 54 shows Alternative 5C.

Figure 54. Alternative 5C



Conceptual Alternatives Evaluation Methodology

The Conceptual Alternatives were evaluated to best identify those that have the most positive impact on Willcox and the associated truck traffic. They were evaluated by applicable categories. Categories were scored to qualitatively show how the alternative would likely impact Willcox. Scores were then summed to generate a ‘Total Score’ to rank the alternatives. The categories used to evaluate the Conceptual Alternatives included:

- **Historic District/Properties.** This category measured the impact the alternative has on the historic district and properties in Willcox. Alternatives can have a negative impact (0), minimal impact (1), or positive impact (2).
- **Cost.** This category ranked alternatives on the estimated relative cost of implementation. Alternatives can have a high cost (0), moderate cost (1), or low cost (2).
- **Travel Pattern Disruption.** This category evaluated alternatives by the concept’s impact on the travel patterns for either truck traffic or all vehicle types. Alternatives can have high disruption (0), moderate disruption (1), or low disruption (2).

- **Operational Efficiency.** This category ranked alternatives on the functionality and efficiency of the roadway network. Alternatives can have negative impact on efficiency (0), minimal impact on efficiency (1), or positive impact on efficiency (2).
- **Safety.** This category evaluated alternatives' impact on safety for users. Alternatives can have a negative impact (0), minimal impact (1), or positive impact (2).

Conceptual Alternatives Evaluation Results

Assessment of the Conceptual Alternatives was performed using the criteria above. The evaluation matrix, including the scoring breakdown for each alternative, is shown in **Table 11**. Based on the total score for each evaluation, six Conceptual Alternatives were preliminarily selected as possible Candidate Alternatives (Alternatives 1, 2A, 2B, 2C, 4A, and 5B).

Table 11. Conceptual Alternatives Evaluation Matrix

Conceptual Alternative	Description	Historical District/ Properties	Cost	Travel Pattern Disruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
3A	Operational: One-Way Streets	0	2	0	1	1	4
3B	Operational: Relocate Truck Turns from Haskell Ave (B-10) and Maley St (SR 186)	1	2	0	0	0	3
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
4B	Truck Route: Arizona Ave and Maley St	0	1	0	2	1	4
4C	Truck Route: Grant St and 2nd Ave	1	0	0	0	2	3
5A	New Street: Patte Rd to Maley St (SR 186)	2	0	0	0	2	4
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	2	0	1	2	2	7
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186)	2	0	0	0	2	4

TAC Input

The TAC met on June 10, 2021 to discuss the Conceptual Alternatives, Conceptual Alternatives evaluation matrix, and the preliminary Candidate Alternatives.

The TAC recommended that Alternative 2A be removed from the list of preliminary Candidate Alternatives because the alternative’s impact on the historic properties in downtown Willcox would be significant and not something the City or its citizens would likely support.

The TAC recommended that Alternative 5B be split into two options – one with an at-grade railroad crossing and one with a bridge over the railroad.

Minor refinements were made to Alternatives 2C, 4A, and 5B, which have already been reflected in the discussion of the Conceptual Alternatives above.

Candidate Improvement Alternatives

The resulting Candidate Alternatives after incorporating the TAC input are shown in **Table 12**. The project IDs were changed from the Conceptual Alternative numbers to a new set of sequential Candidate Alternative IDs, also shown in **Table 12**, which will be used in subsequent sections.

Table 12. Candidate Alternatives

Conceptual Alternative ID	Description	Candidate Alternative ID
1	No-Build: Existing Conditions	A
2B	Geometric: Roundabout at Haskell Avenue (B-10) and Maley Street (SR 186)	B
2C	Geometric: Reconfigure Haskell Avenue (B-10) and Maley Street (SR 186)	C
4A	Truck Route: Stewart Street and Railroad Avenue	D
5B-1	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass with at-grade railroad crossing	E
5B-2	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass with grade-separated railroad crossing	F

Candidate Alternatives Evaluation Methodology

The five Candidate Alternatives, along with the No-Build alternative, were evaluated using several evaluation criteria. The No-Build alternative represents the scenario where no improvements are made to any of the existing features or infrastructure in the study area.

The evaluation criteria include the following:

- **Historic District/Properties.** This criterion is a measure of how the alternative will affect Willcox’s historic district or historic properties in the study area. Impacts could be ongoing (noise, pollution, congestion) or one-time events (building aesthetics impacts or changes to the character of the area).
- **Protected Populations.** This criterion is a measure of how the alternative will impact traditionally underserved populations as defined in the Public Involvement Plan, including LEP persons, minority populations, and low-income populations. Impacts could be ongoing (noise, pollution, congestion) or one-time events (building impacts or right-of-way acquisition). These populations are largely concentrated in the downtown and northeast areas of the City of Willcox.
- **Travel Pattern Change.** This criterion is a measure of how much the alternative changes existing travel patterns, such as extra turns that must be navigated, or extra distance that must be traveled, between SR 186 east of Willcox and I-10.
- **Traffic Operations.** This criterion is a measure of how efficiently the alternative will be able to accommodate heavy/large trucks as well as other vehicles.
- **Safety.** This criterion is a measure of how the alternative changes the estimated risk of crashes.
- **Economic Impacts.** This criterion is a measure of how the alternative changes the estimated economic impact of travelers in downtown Willcox.

- **Biological Impacts.** This criterion is a measure of how likely an alternative is to impact existing natural biological resources in the environment such as animals and plants.
- **Jurisdictional Complexities.** This criterion is a measure of the jurisdictional coordination required between agencies such as ADOT, the City of Willcox, Cochise County, and UPRR.
- **Implementation Feasibility.** This criterion is a measure of the feasibility of implementing the alternative in terms of the likelihood of obtaining funding, satisfying jurisdictional requirements, and being politically supported.
- **Total Cost.** This criterion is a measure of the planning-level cost of each alternative. Costs include design, construction, right-of-way, and administrative costs. Opinions of probable costs were developed based on unit costs obtained from the ADOT E2C2 tool and are provided in **Appendix J**.
- **Right-of-Way.** This criterion is a measure of how much additional right-of-way will likely be required to implement the alternative and other potential impacts associated with right-of-way acquisition.
- **Stakeholder Acceptability.** This criterion is a measure of support for the alternative based on TAC input.
- **Public Acceptability.** This criterion is a measure of support for the alternative based on public input received through the first round of public engagement.

Some of the evaluation criteria listed above do not lend themselves to numerical quantification, so the evaluation was performed on a “qualitative” basis using the following descriptors to describe the relative impacts of each of the Candidate Alternatives plus the No-Build alternative:

- Strong Advantage;
- Advantage;
- Neutral;
- Disadvantage; and
- Strong Disadvantage.

The Strong Advantage and Advantage descriptors apply when implementation of an alternative is anticipated to result in a positive change or improvement compared to current conditions.

The Strong Disadvantage and Disadvantage descriptors apply when implementation of an alternative is anticipated to result in a negative change or worsening compared to current conditions, or, in the case of the No-Build alternative, if current conditions have known adverse impacts.

The Neutral descriptor applies when implementation of an alternative is anticipated to have no impact on current conditions or result in both positive and negative changes that effectively cancel each other out.

Candidate Alternatives Evaluation Results

Alternative A (No-Build)

Alternative A proposes no changes to the existing roadway network. Identified pros and cons for Alternative A are provided in **Table 13** and an aerial view of the existing Haskell Avenue (B-10) and Maley Street (SR 186) intersection is shown in **Figure 55**.

Table 13. Alternative A (No-Build) Pros and Cons

Description	Pros	Cons
No changes to the existing roadway network	<ul style="list-style-type: none"> • No disruption to the existing roadway network 	<ul style="list-style-type: none"> • Does not address the issue of truck traffic encroaching on the sidewalk and opposing traffic lanes

Figure 55. Alternative A (No-Build)



Table 14 shows how Alternative A compares to the Candidate Alternative evaluation criteria. The five improvement, or “build,” scenarios will be compared to Alternative A to determine their efficacy in addressing the identified disadvantages with Alternative A.

Table 14. Alternative A (No-Build) Evaluation Matrix

Evaluation Criterion	Net Effect	Considerations
Historic District/Properties	Disadvantage	Noise and pollution from truck traffic near historic properties
Protected Populations	Disadvantage	Noise and pollution from truck traffic in an area with higher proportions of protected populations
Travel Pattern Change	Neutral	No change in patterns
Traffic Operations	Disadvantage	Multiple turns, tight turning radii for trucks
Safety	Strong Disadvantage	Crash concentration at Haskell Avenue (B-10) and Maley Street (SR 186); trucks must swing out into oncoming traffic lanes or go over sidewalk
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing jurisdictional responsibilities
Implementation Feasibility	Neutral	Nothing to implement
Total Cost	Neutral	No cost
Right-of-Way	Neutral	No change to right-of-way
Stakeholder Acceptability	Disadvantage	The existing issues with the Haskell and Maley intersection will continue to worsen over time
Public Acceptability	Disadvantage	70% of survey respondents strongly oppose or oppose Alt A

Alternative B (Roundabout)

Alternative B involves reconstructing the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) as a small urban roundabout. The splitter islands and center island are envisioned to be mountable curbs to allow large trucks to drive over the islands, while personal vehicles use the intersection as a standard roundabout and drive around the center island. Identified pros and cons for Alternative B are provided in **Table 15** and a conceptual design for Alternative B is shown in **Figure 56**.

Table 15. Alternative B (Roundabout) Pros and Cons

Description	Pros	Cons
Implements mountable roundabout at Haskell Ave (B-10) and Maley St (SR 186)	<ul style="list-style-type: none"> Allows trucks to make turns by driving over the center island as needed Does not require acquisition of right-of-way 	<ul style="list-style-type: none"> Unconventional intersection Does not remove truck traffic from the intersection

Figure 56. Alternative B (Roundabout) Conceptual Design



A planning-level total cost for implementing Alternative B has been developed and is preliminarily estimated to be approximately \$368,000. **Table 16** shows how Alternative B compares to the Candidate Alternative evaluation criteria.

Table 16. Alternative B (Roundabout) Evaluation Matrix

Evaluation Criterion	Net Effect	Considerations
Historic District/Properties	Disadvantage	Noise and pollution from truck traffic near historic properties
Protected Populations	Disadvantage	Noise and pollution from truck traffic in an area with higher proportions of protected populations
Travel Pattern Change	Neutral	No major change in traffic patterns expected
Traffic Operations	Advantage	Adequate turning radius for truck traffic
Safety	Advantage	Decreases vehicle conflict at Haskell Avenue (B-10) and Maley Street (SR 186) intersection
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing condition
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Neutral	Low construction cost
Right-of-Way	Neutral	No right-of-way impacts expected
Stakeholder Acceptability	Disadvantage	Concerns about truck turns and local acceptability
Public Acceptability	Strong Disadvantage	89% of survey respondents strongly oppose or oppose Alternative B

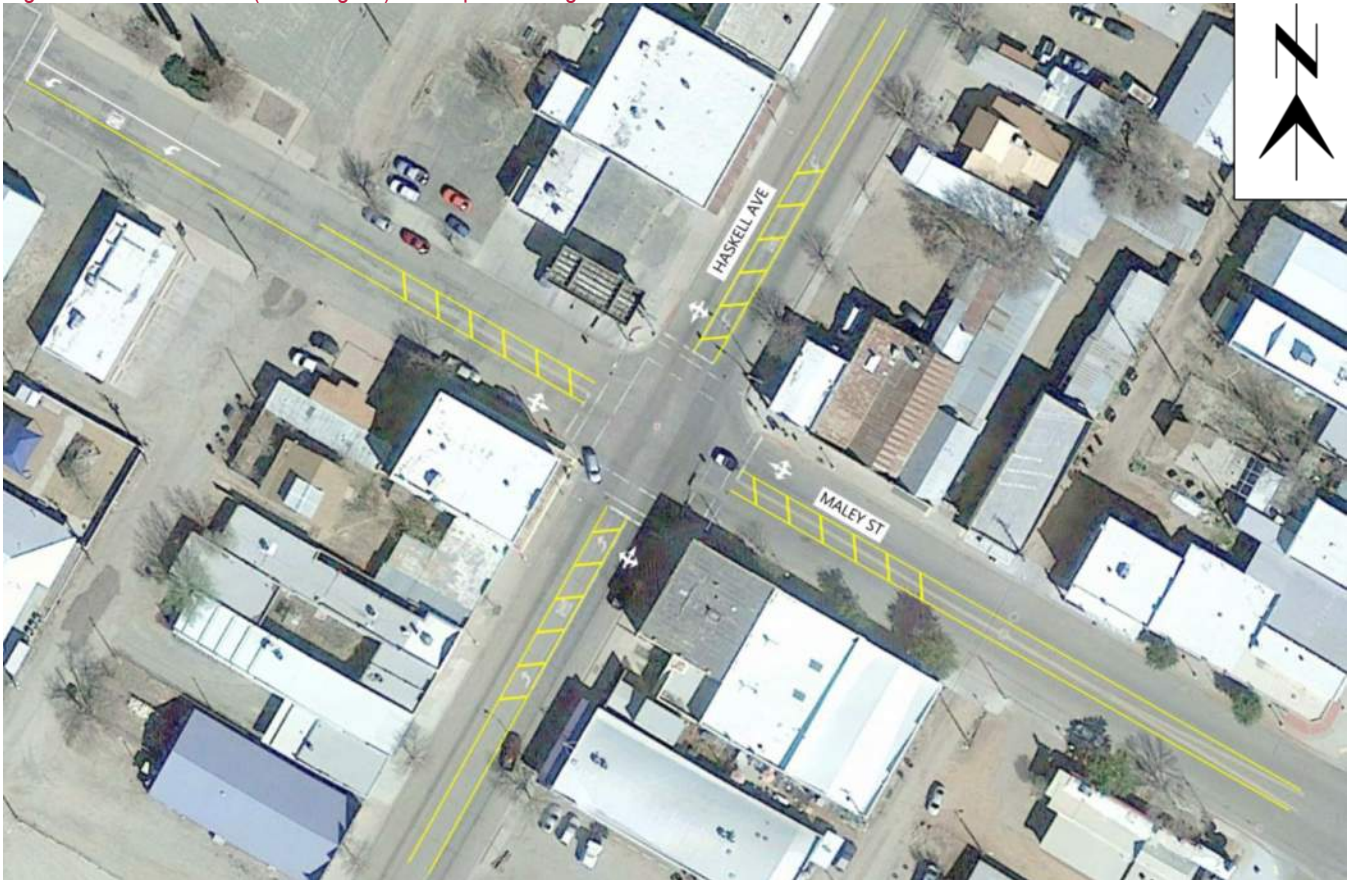
Alternative C (Reconfigure)

Alternative C involves reconfiguring the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) to remove the existing left-turn lanes and stripe out approximately 12 feet of space on all four approaches to allow trucks to make wider turns without conflicting with oncoming traffic. Left turns would then be made either from the existing lane that would be shared by left-turning, through, and right-turning vehicles, or by pushing the left-turn lane back behind the striped-out area. Either lane configuration will require the phasing of the existing traffic signal to be modified to be green for one leg of the intersection at a time due to sight visibility concerns, reducing the overall efficiency of the signal. Identified pros and cons for Alternative C are provided in **Table 17** and a conceptual design for Alternative C is shown in **Figure 57**.

Table 17. Alternative C (Reconfigure) Pros and Cons

Description	Pros	Cons
Moving left-turn lane stop bars back or having flush or mountable median in place of turn lanes at Haskell Ave (B-10) and Maley St (SR 186)	<ul style="list-style-type: none"> Allows trucks to make turns 	<ul style="list-style-type: none"> Removes separate left-turn lanes Requires traffic signals to serve each direction separately Does not remove truck traffic from intersection

Figure 57. Alternative C (Reconfigure) Conceptual Design



A planning-level total cost for implementing Candidate Alternative C is preliminarily estimated to be approximately \$45,000. **Table 18** shows how Candidate Alternative C compares to the Candidate Alternative evaluation criteria.

Table 18. Alternative C (Reconfigure) Evaluation Matrix

Evaluation Criterion	Net Effect	Considerations
Historic District/Properties	Disadvantage	Noise and pollution from truck traffic near historic properties
Protected Populations	Disadvantage	Noise and pollution from truck traffic in an area with higher proportions of protected populations
Travel Pattern Change	Neutral	No major change in traffic patterns expected
Traffic Operations	Strong Disadvantage	Requires traffic signal to serve each direction separately
Safety	Neutral	Decreases vehicle conflict at Haskell Avenue (B-10) and Maley Street (SR 186) intersection but has sight visibility concerns
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing condition
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Neutral	Low construction cost
Right-of-Way	Neutral	No right-of-way impacts expected
Stakeholder Acceptability	Advantage	Low-cost solution that keeps traffic downtown
Public Acceptability	Disadvantage	68% of survey respondents strongly oppose or oppose Alternative C

Alternative D (City Streets)

Alternative D involves reconstructing existing City streets as a new truck route that bypasses the intersection of Haskell Avenue (B-10) and Maley Street (SR 186). The base alternative utilizes 2nd Avenue between Maley Street (SR 186) and Stewart Street; Stewart Street from 2nd Avenue to Railroad Avenue; Railroad Avenue from Stewart Street to Jessie Street; and Jessie Street from Railroad Avenue to Haskell Avenue (B-10). Identified pros and cons for this base alternative for Alternative D are shown in **Table 19**, a conceptual design is shown in **Figure 58**, and a typical cross-section for reconstructed City streets is shown in **Figure 59**. Additional variations in the route match those described previously in the corresponding Conceptual Alternative and consist of:

- Using Railview Avenue or Rex Allen Junior Drive between Maley Street (SR 186) and Stewart Street
- Using Stewart Street further east to Maley Street (SR 186) or further west to Haskell Avenue (B-10)
- Using Railroad Avenue further north to Haskell Avenue (B-10)

Table 19. Alternative D (City Streets) Pros and Cons

Description	Pros	Cons
Reconstruct City streets as truck routes to bypass the intersection of Haskell Avenue (B-10) and Maley Street (SR 186)	<ul style="list-style-type: none"> • Various options for truck route locations • Removes trucks from Haskell Avenue (B-10) and Maley Street (SR 186) intersection 	<ul style="list-style-type: none"> • Requires trucks to travel on local streets • Jurisdictional negotiations surrounding roadway ownership and maintenance responsibilities

A planning-level total cost for implementing the base version of Alternative D is preliminarily estimated to be approximately \$2,553,000. **Table 20** shows how Alternative D compares to the Candidate Alternative evaluation criteria.

Figure 58. Alternative D (City Streets) Conceptual Design



Figure 59. Alternative D (City Streets) Typical Cross-Section

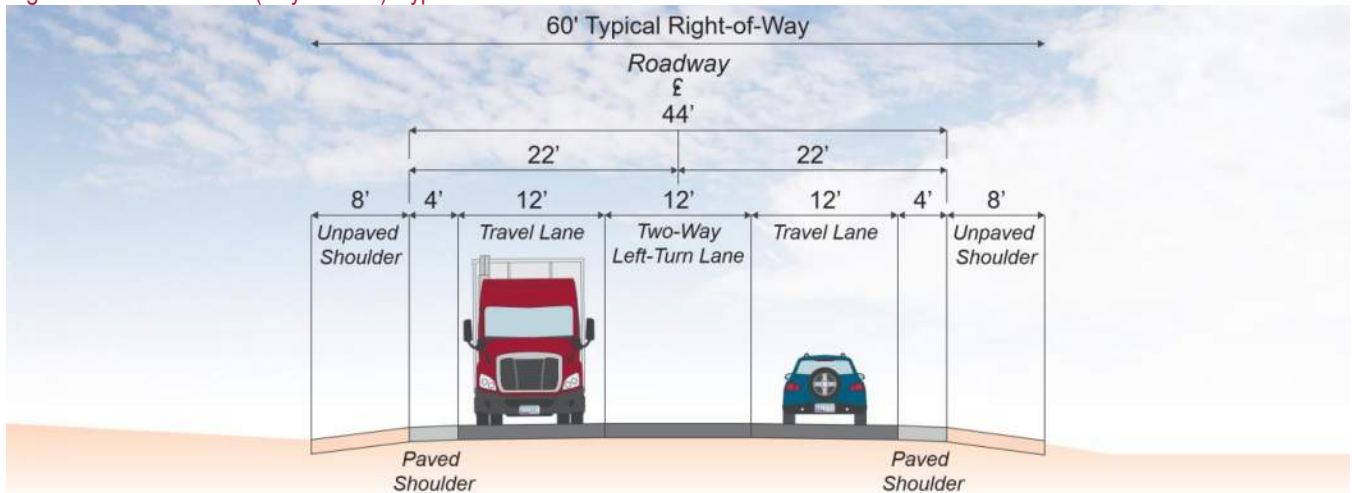


Table 20. Alternative D (City Streets) Evaluation Matrix

Evaluation Criterion	Net Effect	Considerations
Historic District/Properties	Neutral	Removes trucks traffic to edge of Historic District
Protected Populations	Disadvantage	Noise and pollution from truck traffic in an area with higher proportions of protected populations
Travel Pattern Change	Disadvantage	Increases the number of required turns by trucks
Traffic Operations	Advantage	Truck traffic turns removed from constrained Maley/Haskell intersection
Safety	Advantage	Decreases vehicle conflict at Haskell Avenue (B-10) and Maley Street (SR 186) intersection
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Strong Disadvantage	Requires jurisdictional changes of truck route
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Disadvantage	Moderate construction cost
Right-of-Way	Disadvantage	Some right-of-way impacts on truck route roadways
Stakeholder Acceptability	Advantage	Accommodates trucks while keeping traffic close to downtown
Public Acceptability	Disadvantage	71% of survey respondents strongly oppose or oppose Alternative D

Alternatives E (Eastern Bypass: At-Grade Rail Crossing) and F (East Bypass: Grade-Separated Rail Crossing)

Alternatives E and F involve constructing a new bypass roadway east of downtown Willcox, extending from 2nd Avenue and Maley Street (SR 186) northward parallel to the UPRR, then curving westward to intersection Haskell Ave (B-10) at the intersection with Rex Allen Drive (SR 186). Identified pros and cons for Candidate Alternatives E and F are shown in **Table 21**, a conceptual design for Alternative E is shown in **Figure 60**, and a typical cross-section for the new roadway is shown in **Figure 61**.

Table 21. Alternatives E and F (East Bypass) Pros and Cons

Description	Pros	Cons
New roadway connecting Maley St (SR 186) to Rex Allen Dr (SR 186) east of the UPRR	<ul style="list-style-type: none"> Keeps traffic out of, but close to, downtown Willcox Removes traffic from the Haskell Ave (B-10) and Maley St (SR 186) intersection 	<ul style="list-style-type: none"> Requires a new railroad crossing at Rex Allen Dr (SR 186)

Figure 60. Alternative E (East Bypass: At-Grade Railroad Crossing) Conceptual Design

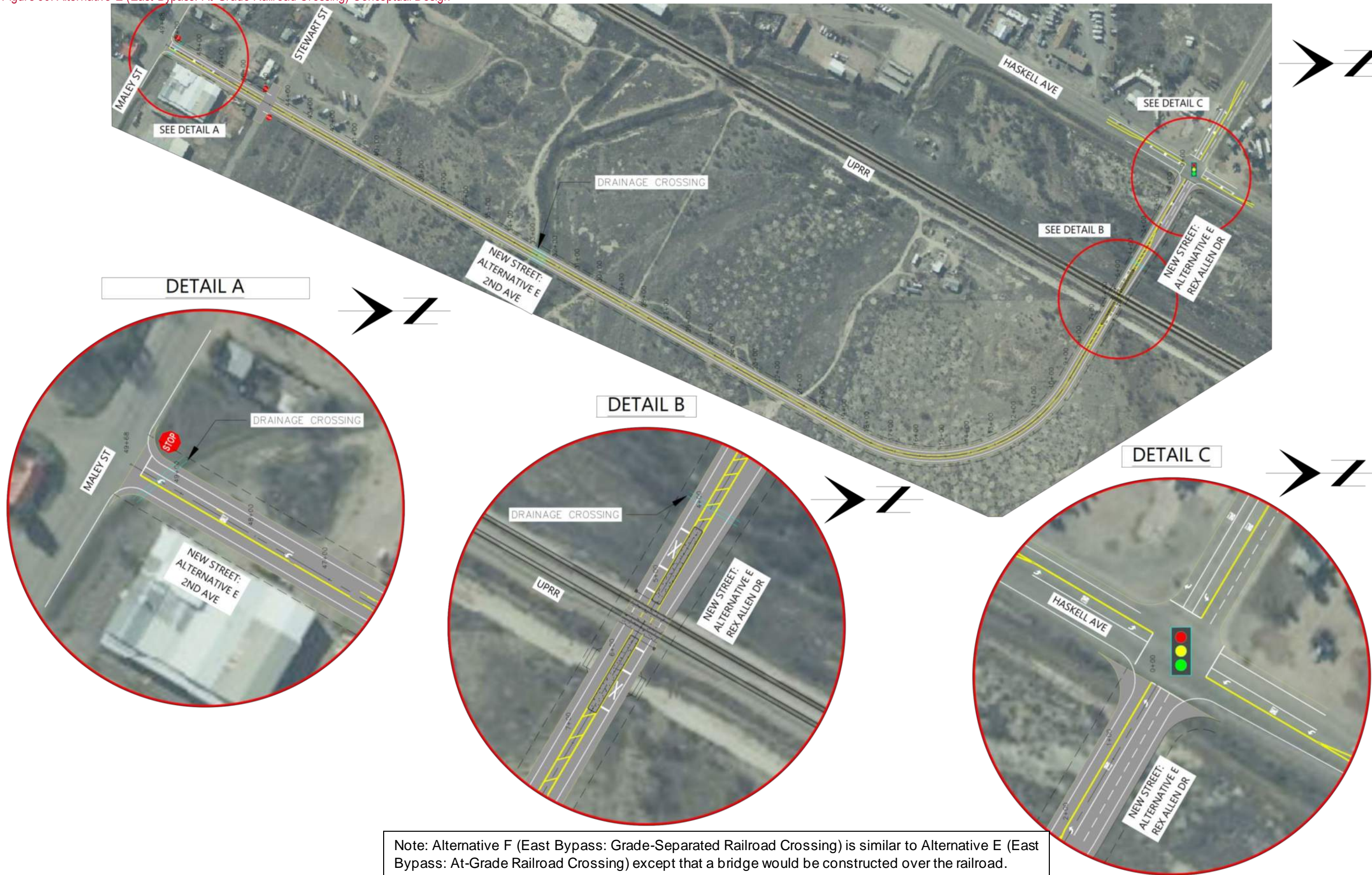
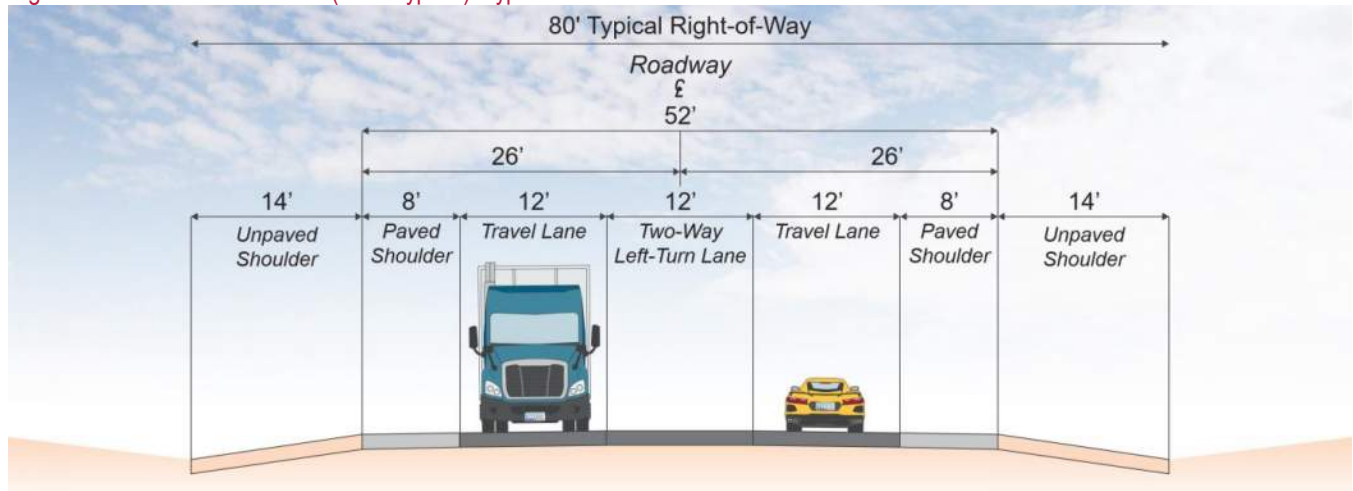


Figure 61. Alternatives E and F (East Bypass) Typical Cross-Section



A planning-level total cost for implementing Alternative E (at-grade railroad crossing) was preliminarily estimated to be \$4,338,000 and for Alternative F (grade-separated railroad crossing) was estimated to be \$28,338,000. **Table 22** shows how Alternatives E and F compare to the Candidate Alternative evaluation criteria.

Table 22. Alternatives E and F (East Bypass) Evaluation Matrix

Evaluation Criterion	Net Effect	Considerations
Historic District/Properties	Strong Advantage	Removes much traffic from Historic District
Protected Populations	Advantage	Removes most truck traffic and its associated noise and pollution from downtown area where there is a higher proportion of protected populations
Travel Pattern Change	Neutral	Changes travel pattern significantly but for many travelers will improve travel route
Traffic Operations	Alt. E: Advantage Alt. F: Strong Advantage	Alt. E: new street for trucks with at-grade railroad crossing; Alt. F: same except with railroad bridge
Safety	Strong Advantage	Decreases vehicle conflict at Haskell Avenue (B-10) and Maley Street (SR 186) intersection
Economic Impacts	Strong Disadvantage	Most travelers will likely bypass downtown Willcox
Biological Impacts	Disadvantage	Impacts natural desert habitats
Jurisdictional Complexities	Disadvantage	Requires jurisdictional changes of roadways
Implementation Feasibility	Strong Disadvantage	Requires multiple steps to implement
Total Cost	Alt. E: Disadvantage Alt. F: Strong Disadvantage	Moderate construction cost for Alternative E; High construction cost for Alternative F
Right-of-Way	Disadvantage	Some new right-of-way needed for new street
Stakeholder Acceptability	Advantage	Provides a new truck route near downtown
Public Acceptability	Advantage	71% and 70% of survey respondents support or strongly support Alternatives E and F, respectively

TAC Input

The TAC met on July 21, 2021 to review the Conceptual Alternatives analysis results and preliminary Candidate Alternative analysis criteria and results and discuss the first round of public engagement.

After reviewing preliminary Candidate Alternative results and discussion among TAC members, the TAC recommended that Alternatives A through F be presented to the public for feedback.

Preferred Alternatives Selection

Based on the Candidate Alternatives evaluation, the public engagement results, and discussions with the TAC, Candidate Alternative E (East Bypass with At-Grade Railroad Crossing) was selected as the Ultimate Preferred Alternative. Additionally, a modified version of Candidate Alternative C (Reconfigure) was recommended to be implemented in the near-term as the Interim Preferred Alternative to partially address some of the study goals and take advantage of an upcoming pavement preservation project on Haskell Avenue (B-10). Factors that contributed to the decision on these alternatives include:

- Candidate Alternatives Analysis.** A comprehensive Candidate Alternative evaluation process was used to compare the five Candidate Alternatives against the no-build scenario as shown in **Table 23**. Alternatives E (East Bypass with At-Grade Railroad Crossing) and F (East Bypass with Grade-Separated Railroad Crossing) scored the best in the analysis, particularly in terms of preserving historic resources and improving safety, two of the primary goals of the study.

Table 23. Candidate Alternatives Evaluation Summary Matrix

Evaluation Criterion	Alt A (No-Build)	Alt B (Roundabout)	Alt C (Reconfigure)	Alt D (City Streets)	Alt E (East Bypass – At-Grade)	Alt F (East Bypass – Grade-Separated)
Historic District/Properties	⦿	⦿	⦿	○	●	●
Protected Populations	⦿	⦿	⦿	⦿	⦿	⦿
Travel Pattern Change	○	○	○	⦿	○	○
Traffic Operations	⦿	⦿	●	⦿	⦿	●
Safety	●	⦿	○	⦿	●	●
Economic Impacts	○	○	○	○	●	●
Biological Impacts	○	○	○	○	⦿	⦿
Jurisdictional Complexities	○	○	○	●	●	●
Implementation Feasibility	○	⦿	⦿	⦿	●	●
Total Cost	○	○	○	⦿	⦿	●
Right-of-Way	○	○	○	⦿	⦿	⦿
Stakeholder Acceptability	⦿	⦿	⦿	⦿	⦿	⦿
Public Acceptability	⦿	●	⦿	⦿	⦿	⦿

Strong Advantage ● Advantage ⦿ Neutral ○ Disadvantage ⦿
 Strong Disadvantage ●

- Public Engagement Results.** Alternatives E and F scored significantly better than the other Candidate Alternatives in the public survey conducted in August of 2021. Alternative C (Reconfigure) also scored slightly better than Alternative A (No-Build) in the public survey.
- Discussions with the TAC and Local Stakeholders.** After being presented with the Candidate Alternatives analysis and public engagement results during a TAC meeting held on September 21, 2021, the TAC elected to recommend Alternative E (East Bypass with At-Grade Railroad Crossing) as the Ultimate Preferred Alternative. Alternative E (East Bypass with At-Grade Railroad Crossing) was selected over Alternative F (East Bypass with Grade-Separated Crossing) because the consensus among the group was that the grade-separated railroad crossing posed too high of a construction cost to realistically fund.

The TAC was split on whether to suggest pursuing a modified version of Candidate Alternative C (Reconfigure) that only includes changes to the lane configuration on Haskell Avenue (B-10). The study team produced additional mapping, truck turn analyses, and traffic analyses to better inform the decision and communicated with City of Willcox staff and ADOT Southeast District staff, in addition to

the larger TAC, to reach a decision. After reviewing this supplemental analysis, the TAC and stakeholders advised that the modified version of Candidate Alternative C (Reconfigure) should be pursued in cooperation with an upcoming resurfacing project on Haskell Avenue.

5. Preferred Alternative Implementation Plan

After settling on an Interim and Ultimate Preferred Alternative, additional scoping and refinement of these recommendations was performed to further define the alternatives and produce needed information to move these projects into the P2P process to compete for funding.

Interim Preferred Alternative Improvements

ADOT and the City of Willcox were recently successful in obtaining funding to resurface Haskell Avenue (B-10) and Rex Allen Drive (SR 186). This resurfacing project provides an opportunity to implement a modified version of Candidate Alternative C (Reconfigure) that includes only the striping changes on Haskell Avenue (B-10). **Figure 62** shows the recommended Interim Preferred Alternative improvements at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186).

Figure 62. Interim (Short-Term) Preferred Alternative Improvements



Proposed changes to the intersection include:

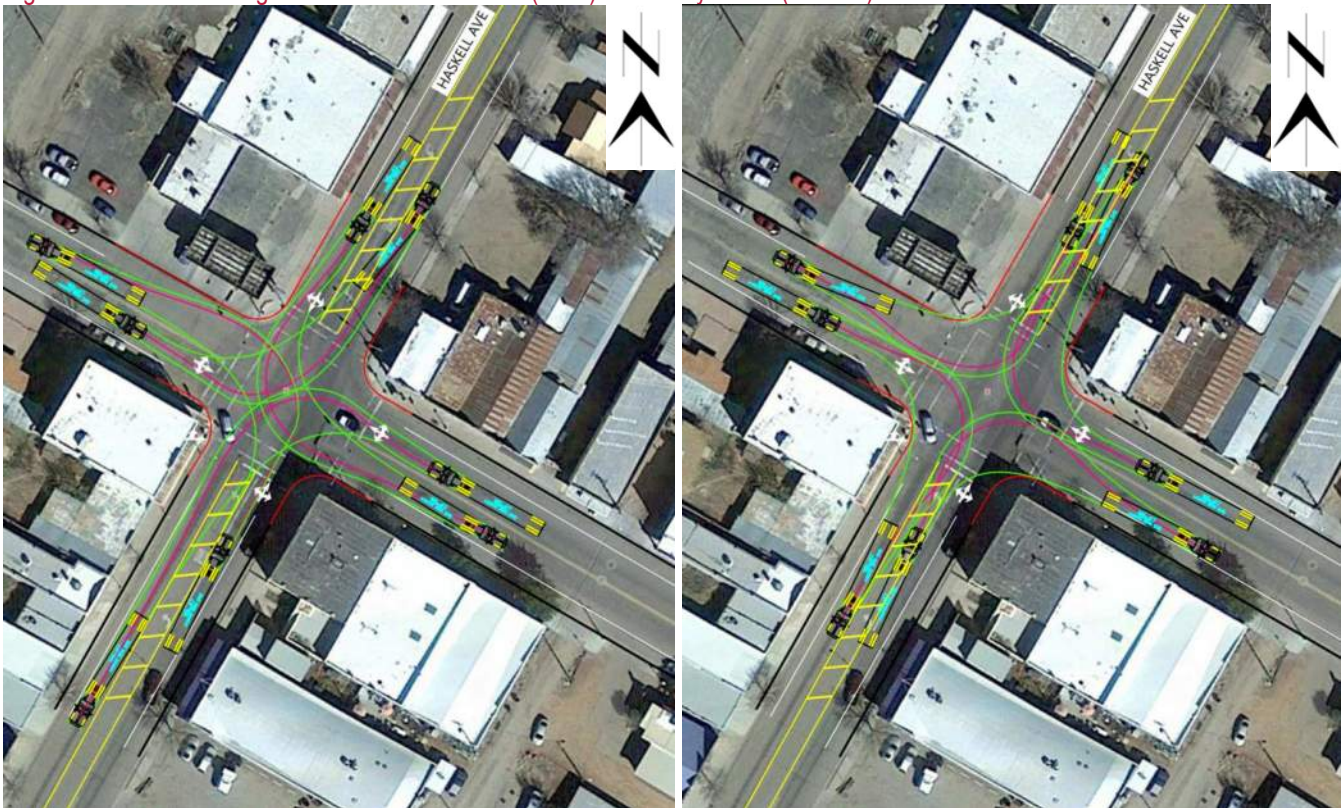
- Striping out the existing left-turn lanes on Haskell Avenue (B-10) with diagonal cross-hatching to prohibit vehicles from using these lanes when striping the roadway during the resurfacing project.
- Temporarily putting the existing traffic signal on flash (flashing red light in all directions to create an all-way stop condition) and placing stop signs on the right side of each approach lane.
 - If the all-way stop control works well, as anticipated, the existing signal heads could be replaced with single-head flashing red signals or removed completely.

- If after testing the intersection as an all-way stop, the City and public would prefer the intersection is converted back to a signalized intersection, four new four-section signal heads will be required to implement split-phasing on the two legs of Haskell Avenue.

Roadway Geometrics

To determine if striping out the left-turn lanes on Haskell Avenue (B-10) would provide adequate turning space for trucks, AutoTURN was used to simulate turning paths of different sizes of trucks. An AutoTURN analysis was performed for WB-67 trucks (combination trucks 67 feet in length). While these trucks are larger than ADOT typically designs for, trucks of this length do travel through Willcox. The results of the WB-67 AutoTURN analysis are shown in **Figure 63**.

Figure 63. WB-67 Turning Paths at Haskell Avenue (B-10) and Maley Street (SR 186)



The analysis of WB-67 turning paths shows some slight encroachments into oncoming lanes for trucks turning right; however, the encroachment is still an improvement over the existing conditions where right-turning trucks encroach through the entire left-turn lane on Haskell Avenue (B-10). The analysis also confirms that there will not be any impact to existing on-street parking, even with the larger WB-67 trucks.

Traffic Analysis

The intersection of Haskell Avenue (B-10) and Maley Street (SR 186) was analyzed using Synchro traffic modeling software to determine impacts to vehicular delay and queue lengths of implementing the Interim Preferred Alternative. **Table 24** and **Table 25** provide traffic operations for the existing intersection configuration for the AM and PM peak hours, respectively. Detailed Synchro reports are provided in **Appendix K**. The intersection currently operates at LOS A during both peak hours with minimal queue lengths (one to two car lengths).

Table 24. AM Existing at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
Volume	11	18	5	34	17	23	43	83	2	70	56	128	58	71	7	136	381	
LOS	B				A				A	A			A	A			A	
Avg Delay (s)	10				8				7	5			5	7			7	
Synchro 95 th % Queue (ft)	18			-	27			-	2	29			-	22		26	-	-
Storage (ft)	-			-	-			-	100	-			-	120		-	-	-

Table 25. PM Existing at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
Volume	21	19	6	46	30	24	78	132	12	110	29	151	53	122	24	199	528	
LOS	B				A				A	A			A	A			A	
Avg Delay (s)	11				8				7	7			7	8			8	
Synchro 95 th % Queue (ft)	23			-	36			-	7	39			-	21		42	-	-
Storage (ft)	-			-	-			-	100	-			-	120		-	-	-

Table 26 and **Table 27** show the same traffic operation statistics with the Interim Preferred Alternative as a signalized intersection. Detailed Synchro reports are provided in **Appendix K**. The LOS degrades from LOS A to LOS B during the AM peak hour and from LOS A to LOS C during the PM peak hour. Queue lengths also increase from one-two vehicles to three-four vehicles in the AM peak hour and up to seven vehicles in the PM peak hour. This degradation in intersection performance stems from a combination of the reduced capacity with the left-turn lanes on Haskell Avenue (B-10) removed and the need to “split phase” operations on Haskell Avenue so that each leg runs independently.

Table 26. AM Interim Preferred Alternative with Traffic Signal at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	18	5	34	17	23	43	83	2	70	56	128	58	71	7	136	381
LOS	B				B				B				C				B
Avg Delay (s)	19				14				14				22				17
Synchro 95 th % Queue (ft)	31			-	47			-	69			-	89		-	-	-
Storage (ft)	-			-	-			-	-			-	-		-	-	-

Table 27. PM Interim Preferred Alternative with Traffic Signal at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	21	19	6	46	30	24	78	132	12	110	29	151	53	122	24	199	528
LOS	C				B				C				C				C
Avg Delay (s)	14				22				46				69				22
Synchro 95 th % Queue (ft)	44			-	73			-	112			-	140		-	-	-
Storage (ft)	-			-	-			-	-			-	-		-	-	-

Replacing the existing traffic signal at the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) with an all-way stop condition was also evaluated. **Table 28** and **Table 29** show the results of that analysis.

Implementing the Interim Preferred Alternative and replacing the traffic signal with an all-way stop produces similar operational statistics as the no-build condition. Detailed Synchro reports are provided in **Appendix K**. The intersection would operate at LOS A in both the AM and PM peak hours with queue lengths of one-three vehicle lengths. Because of this improved performance over a signalized intersection, it is recommended that the Interim Preferred Alternative is implemented along with changing the intersection control to all-way stop.

Table 28. AM with Interim Preferred Alternative with All-Way Stop at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	18	5	34	17	23	43	83	2	70	56	128	58	71	7	136	381
LOS	A				A				A				A				A
Avg Delay (s)	8				8				8				9				8
Synchro 95 th % Queue (ft)	15		-		5		-		10		-		20		-		-
Storage (ft)	-				-				-				-				-

Table 29. PM with Interim Preferred Alternative with All-Way Stop at Haskell Avenue (B-10) and Maley Street (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	21	19	6	46	30	24	78	132	12	110	29	151	53	122	24	199	528
LOS	A				A				A				A				A
Avg Delay (s)	9				9				9				10				9
Synchro 95 th % Queue (ft)	23		-		5		-		18		-		33		-		-
Storage (ft)	-				-				-				-				-

Anticipated Cost

The anticipated cost was developed for the two types of intersection control considered for the Interim Preferred Alternative improvements (an all-way stop-controlled intersection and a modified traffic signal). Both versions conservatively include removing existing roadway striping in case the improvements cannot be constructed concurrently with the upcoming resurfacing project on Haskell Avenue (B-10).

The anticipated all-way stop configuration cost is shown in **Table 30**, which includes:

- Remove and replace roadway striping
- Add stop signs and poles
- Remove existing traffic signal heads
- Add four single-section signal heads (flashing red) on the existing mast arms

Table 30. Interim Preferred Alternative Improvements All-Way Stop-Controlled Cost Estimate

Item No.	Description	Unit	Quantity	Unit Price	Amount
6070035	Signpost (perforated) (single)	L. Sum	1	\$2,500	\$2,500
6070060	Foundation for signpost (concrete)	L. Sum	1	\$2,500	\$2,500
6080005	Regulatory, warning, or marker sign panel	L. Sum	1	\$2,500	\$2,500
7010005	Maintenance and protection of traffic	L. Sum	1	\$1,000	\$1,000
7015052	Obliterate pavement parking (stripe)	L. Sum	1	\$4,000	\$4,000
7041501	Pavement markings	L. Sum	1	\$8,000	\$8,000
7330040	Traffic signal face (Type D)	Each	4	\$500	\$2,000
7330561	Remove and salvage traffic signal heads	L. Sum	1	\$400	\$400
9010001	Mobilization	L. Sum	1	\$1,000	\$1,000
9240170	Contractor quality control	L. Sum	1	\$1,000	\$1,000
Construction Subtotal					\$24,900

Item No.	Description	Unit	Quantity	Unit Price	Amount
	Construction Engineering			15%	\$3,735
	Miscellaneous Work			15%	\$3,735
	Preliminary and Final Design			12%	\$2,988
	Contingency			30%	\$7,470
	Indirect Cost Allocation (ICAP)			9.9%	\$2,465
Total Construction Cost					\$45,293

Table 31. Interim Preferred Alternative Improvements Signalized Cost Estimate

Item No.	Description	Unit	Quantity	Unit Price	Amount
7010005	Maintenance and protection of traffic	L. Sum	1	\$1,000	\$1,000
7015052	Obliterate pavement parking (stripe)	L. Sum	1	\$4,000	\$4,000
7041501	Pavement markings	L. Sum	1	\$8,000	\$8,000
7330070	Traffic signal face (Type G) (including mounting)	Each	4	\$1,000	\$4,000
7330561	Remove and salvage traffic signal heads	L. Sum	1	\$400	\$400
9010001	Mobilization	L. Sum	1	\$1,000	\$1,000
9240170	Contractor quality control	L. Sum	1	\$1,000	\$1,000
Construction Subtotal					\$19,400
	Construction Engineering			15%	\$2,910
	Miscellaneous Work			15%	\$2,910
	Preliminary and Final Design			12%	\$2,328
	Contingency			30%	\$5,820
	Indirect Cost Allocation (ICAP)			9.9%	\$1,921
Total Construction Cost					\$35,289

Implementation Steps

To implement the Interim Preferred Alternative improvements along with the upcoming resurfacing project, the ADOT Southeast District will need to coordinate with the design team responsible for that project to communicate the necessary changes to roadway striping and signage. It is likely that due to the modest cost of the interim improvements, they can be included in the resurfacing project at a very low or no additional cost as there are typically contingency funds included in the project funding.

If the interim improvements are not able to be included in the resurfacing project on Haskell Avenue (B-10), the ADOT Southeast District or City of Willcox will need to identify another funding source. The Southeast District has a modest amount of funding set aside for maintenance and small capital projects that could be used to implement the interim improvements.

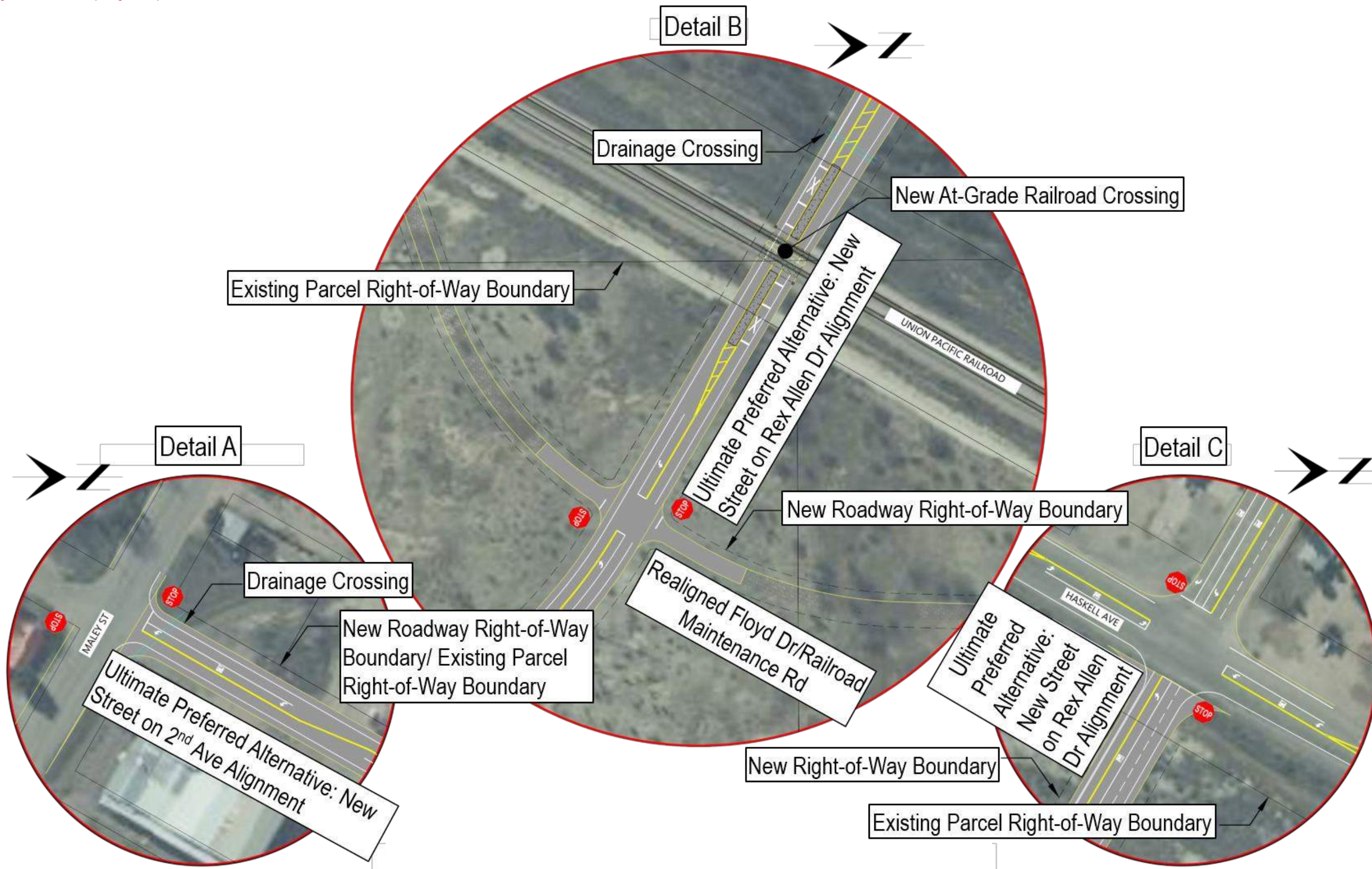
Ultimate Preferred Alternative Improvements

The Ultimate Preferred Alternative involves constructing a new roadway to divert truck traffic around downtown Willcox. The roadway would begin at the intersection of Maley Street (SR 186) and 2nd Avenue and travel northeast along the existing alignment of 2nd Avenue, parallel to the railroad for approximately 3,000 feet. The roadway would then curve westward 90 degrees to an at-grade railroad crossing perpendicular to the railroad and intersect Haskell Avenue (B-10) at the intersection of Rex Allen Drive (SR 186). The alignment of the new roadway is conceptual in nature and may need to be refined during final design. **Figure 64** shows the Ultimate Preferred Alternative improvements. More information on the critical points of the Ultimate Preferred Alternative is shown in the details in **Figure 65**.

Figure 64. Ultimate (Long-Term) Preferred Alternative Improvements



Figure 65. Ultimate (Long-Term) Preferred Alternative Details



Traffic Analysis

The terminal intersections of the Ultimate Preferred Alternative (Haskell Avenue (B-10)/Rex Allen Drive (SR 186) and Maley Street (SR 186)/2nd Avenue) were analyzed using Synchro traffic modeling software to determine appropriate intersection control as well as anticipated vehicular delay and queue lengths.

Haskell Avenue (B-10) and Rex Allen Drive (SR 186)

The intersection of Haskell Avenue (B-10) and Rex Allen Drive (SR 186) was evaluated with two-way stop control (TWSC), with Haskell Avenue (B-10) having no stop signs and Rex Allen Drive (and the new roadway) having stop signs. **Table 32** and **Table 33** show the operational results of that analysis for the AM and PM peak hours, respectively. Detailed Synchro reports are provided in **Appendix K**. In both peak hours, the stop-controlled approaches operate at a LOS B, which is acceptable for rural areas such as Willcox.

Table 32. AM Ultimate Preferred Alternative with Two-Way Stop Control at Haskell Avenue (B-10) and Rex Allen Drive (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	23	39	52	148	5	24	19	48	19	49	41	109	5	19	27	51	356
LOS	B				B				-				-				A
Avg Delay (s)	10.2				10.3				-				-				-
HCM 95 th % Queue (veh)	0.1	0.2	0.2	-	0	0.1	-	-	0.1	-	-	-	0	-	-	-	-
Storage (ft)	200	-	-	-	200	-	-	-	155	-	-	-	200	-	-	-	-

Table 33. PM Ultimate Preferred Alternative with Two-Way Stop Control at Haskell Avenue (B-10) and Rex Allen Drive (SR 186)

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	30	40	114	184	5	62	16	83	121	31	5	157	13	35	34	82	506
LOS	B				B				-				-				A
Avg Delay (s)	11.0				12.8				-				-				-
HCM 95 th % Queue (veh)	0.3	0.3	0.5	-	0.1	0.3	-	-	0.3	-	-	-	0	-	-	-	-
Storage (ft)	200	-	-	-	200	-	-	-	155	-	-	-	200	-	-	-	-

Maley Street (SR 186) and 2nd Avenue

The intersection of Maley Street (SR 186) and 2nd Avenue was evaluated with TWSC, with Maley Street (SR 186) having no stop signs and 2nd Avenue having stop signs. **Table 34** and **Table 35** show the operational results of that analysis for the AM and PM peak hours, respectively. Detailed Synchro reports are provided in **Appendix K**. In both peak hours, the stop-controlled approaches operate at a LOS A or LOS B, which is acceptable in rural areas such as Willcox.

Table 34. AM Ultimate Preferred Alternative with Two-Way Stop Control at Maley Street (SR 186) and 2nd Avenue

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	47	5	57	5	69	43	117	5	5	5	15	58	5	5	68	257
LOS	-				-				A				B				A
Avg Delay (s)	-				-				9.6				10.3				-
HCM 95 th % Queue (veh)	0	-	-	-	0	-	-	-	0	0	-	-	0.3	0	-	-	-
Storage (ft)	200	-	-	-	200	-	-	-	150	-	-	-	200	-	-	-	-

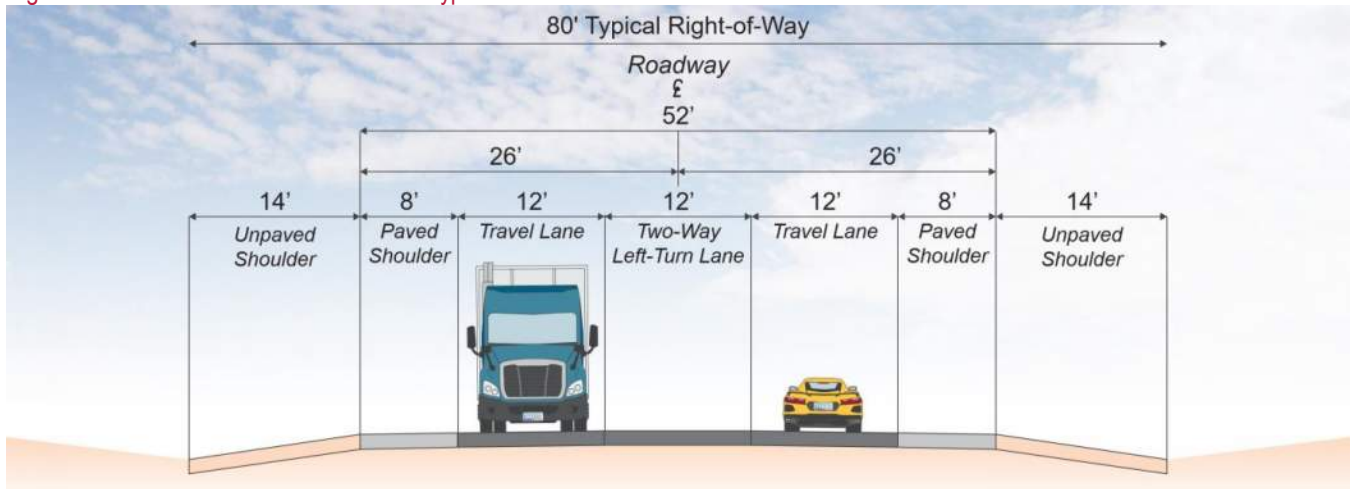
Table 35. PM Ultimate Preferred Alternative with Two-Way Stop Control at Maley Street (SR 186) and 2nd Avenue

	EB Approach				WB Approach				NB Approach				SB Approach				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	48	5	58	5	63	78	146	5	5	5	15	53	5	5	63	282
LOS	-				-				A				B				A
Avg Delay (s)	-				-				9.7				10.4				-
HCM 95 th % Queue (veh)	0	-	-	0	-	-	-	0	0	-	0.3	0	-	-	-	-	-
Storage (ft)	200	-	-	200	-	-	150	-	-	200	-	-	-	-	-	-	-

Roadway Geometrics

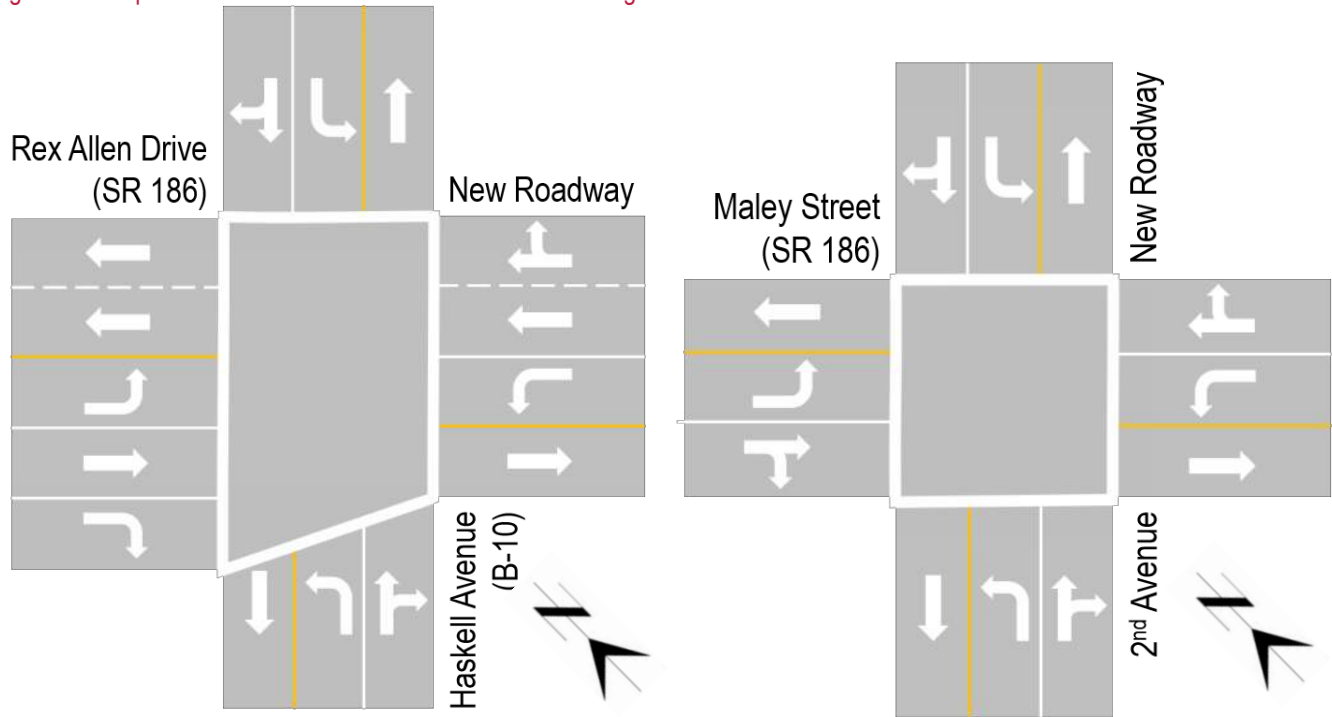
The Ultimate Preferred Alternative new roadway is proposed to have a three-lane cross-section with three 12-foot lanes (one through lane in each direction with a center continuous left-turn lane), eight-foot paved shoulders, and 14-foot unpaved shoulders, requiring an 80-foot right-of-way. **Figure 66** shows the typical cross-section of the new roadway.

Figure 66. Ultimate Preferred Alternative Typical Cross-Section



At the intersection of Haskell Avenue (B-10) and Rex Allen Drive (SR 186), the new east leg of the intersection would have one eastbound lane and three westbound lanes: a left-turn lane, a through lane, and a shared through-right lane. The remaining three legs of the intersection can be re-striped within the existing roadway to accommodate the lane configuration shown in **Figure 67**. At the intersection of Maley Street (SR 186) and 2nd Avenue, the new north leg would have one northbound lane and two southbound lanes: a left-turn lane and a shared through-right lane. The remaining three legs of the intersection can be re-striped to show the lane configuration shown in **Figure 67**.

Figure 67. Proposed Ultimate Preferred Alternative Lane Configuration at Terminal Intersections



An AutoTURN analysis was performed on the intersections at either end of the new roadway alignment to ensure proper curb radii have been assumed. **Figure 68** shows the AutoTURN analysis for the intersection of Maley Street (SR 186) and 2nd Avenue for WB-67 trucks. **Figure 69** shows the intersection of Haskell Avenue (B-10) and Rex Allen Drive (SR 186) with WB-67 trucks. These analyses show that there are no conflicts with trucks tracking over oncoming travel lanes.

Figure 68. WB-67 Turning Paths at Maley Street (SR 186) and 2nd Avenue



Figure 69. WB-67 Turning Paths at Haskell Avenue (B-10) and Rex Allen Drive (SR 186)



Railroad Crossing Consolidation

To create a new at-grade railroad crossing, UPRR typically requires the closure of two existing at-grade railroad crossings. Based on the existing roadway network and conversations with the TAC, the Ultimate Preferred Alternative will likely require the closure of the existing Stewart Street and Patte Road railroad crossings. Minor roadway changes will be required near these existing crossings to provide access to nearby properties.

Figure 70 shows an overview of the potential railroad crossing closure at Stewart Street. Changes to the roadway network include:

- Removal of the at-grade railroad crossing and associated signage, gates, and signals.
- Creating a ‘T’ intersection at Stewart Street and Railroad Avenue by removing the east leg of Stewart Street.
- Creating a cul-de-sac on Stewart Street just west of the intersection with Railview Avenue to provide access to properties to the north of Stewart Street.

Figure 71 shows an overview of the potential railroad crossing closure at Patte Road. Changes to the roadway network include:

- Removal of the at-grade railroad crossing and associated signage, gates, and signals.
- Creating a ‘T’ intersection at Patte Road and Railroad Avenue by removing the east leg of Patte Road.
- Creating a ‘T’ intersection at Patte Road and Floyd Drive by removing the west leg of Patte Road. Access along the east side of the railroad will be provided from the new bypass roadway via a full-access intersection with Floyd Drive just east of the new at-grade railroad crossing.

Figure 70. Network Changes at Stewart Street Railroad Crossing

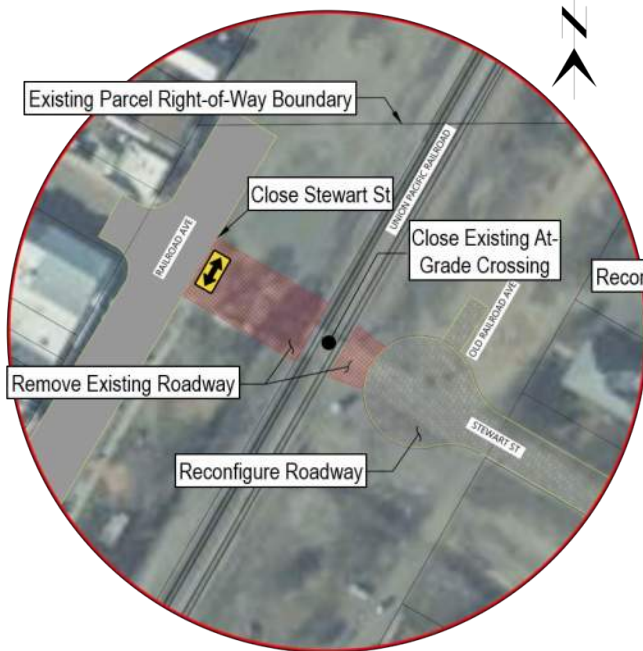
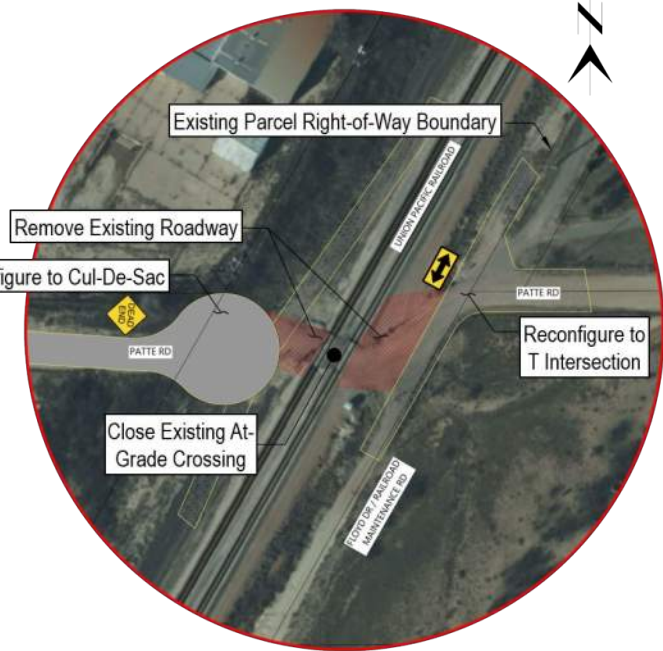


Figure 71. Network Changes at Patte Road Railroad Crossing



Potential Property Impacts

While exact right-of-way acquisition needs will be explored further during the project development phase, it is currently anticipated that there are nine parcels from which varying amounts of right-of-way will be required to implement the desired 80-foot right-of-way for the Ultimate Preferred Alternative. These parcels are highlighted in **Figure 72** and the preliminary square footage of right-of-way that may be needed is listed below:

- 20283004 – 5,680 ft²
- 20283005 – 90,260 ft²
- 20285004 – 33,870 ft²
- 20285005 – 47,280 ft²
- 20325008 – 16,430 ft²
- 20328001 – 18,480 ft²
- 20328002A – 31,650 ft²
- 20328349 – 2,100 ft²
- 2028350 – 3,680 ft²

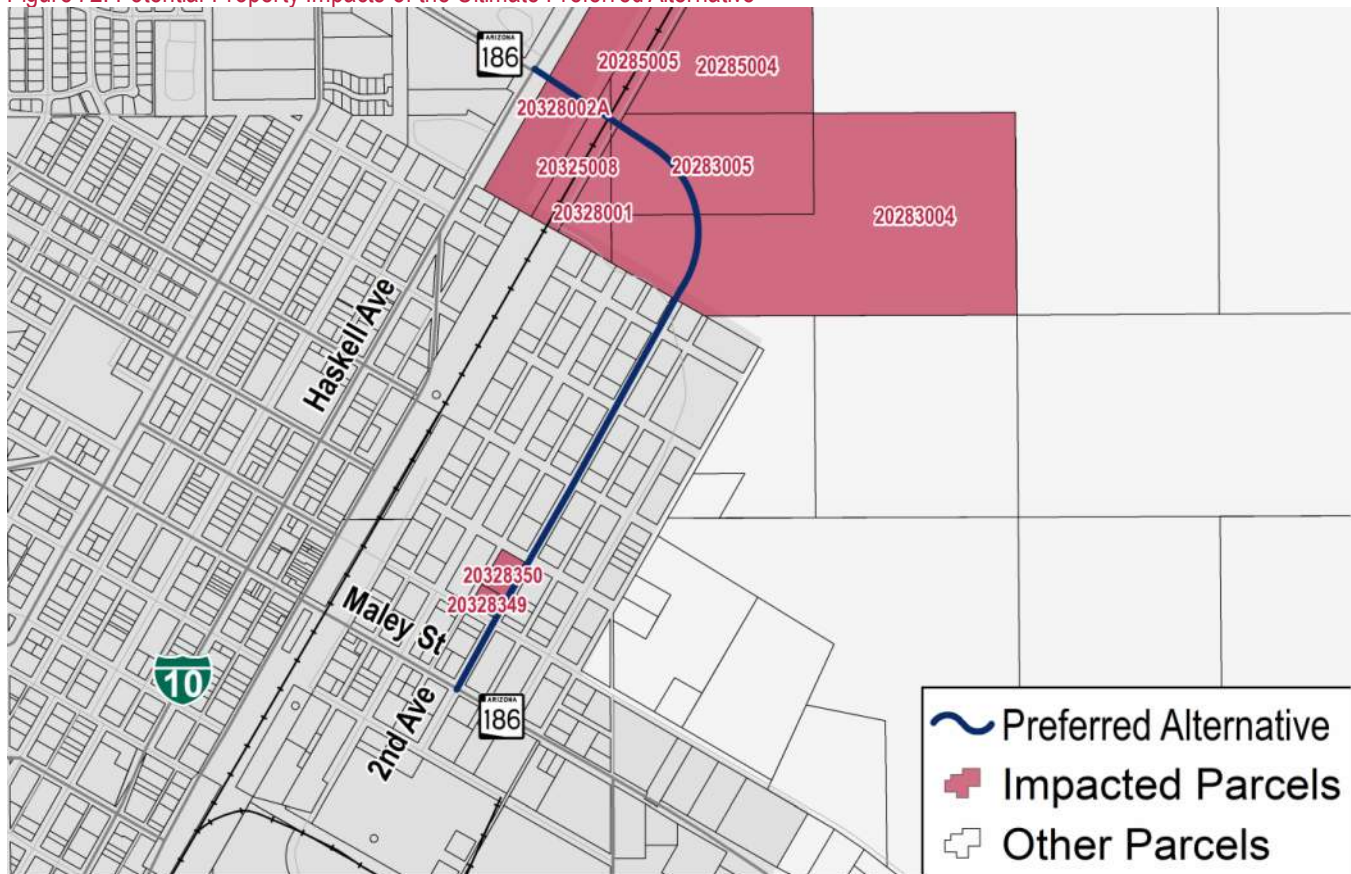
Potential Utility Impacts

As the project development and design process is advanced, further investigation will be required to locate and explore potential utility impacts. Known utility providers in the area include:

- **Electric utilities.** Sulphur Springs Valley Electric Co-Op and Arizona Electric Power Co-Op.
- **Natural gas.** Southwest Gas and El Paso Natural Gas.
- **Fiber optics.** American Telephone & Telegraph, CenturyLink, Valley Telephone Cooperative, Inc., Spring Communications, and MCI – Verizon Business.

Each of these utility providers will need to be contacted to identify their respective infrastructure that may be present within the construction limits of the project.

Figure 72. Potential Property Impacts of the Ultimate Preferred Alternative



Potential Roadway Jurisdiction Changes

As the Ultimate Preferred Alternative moves through the project development phase, ADOT and the City of Willcox will need to negotiate answers to the following questions surrounding potential roadway jurisdictional issues:

- Will ADOT take maintenance responsibility for the new roadway in the Ultimate Preferred Alternative?
- Will the segment of Maley Street (SR 186) between 2nd and Haskell Avenue (B-10) remain under ADOT's jurisdiction, or will it be turned over to the City of Willcox?
- How will highway designations and mileposts need to change based on these potential roadway jurisdictional changes?

Anticipated Cost

The anticipated cost of the Ultimate Preferred Alternative improvements is approximately \$5.0 million, as shown in **Table 36**.

Table 36. Ultimate Preferred Alternative Improvements Anticipated Cost

Item No.	Description	Unit	Quantity	Unit Price	Amount	
2010011	Cleaning and grubbing	Acre	220	\$500	\$110,000	
2020001	Removal of structures and obstructions	L. Sum	1	\$5,000	\$5,000	
2020029	Removal of asphaltic concrete pavement	Sq. Yd.	4,191	\$6	\$25,145	
2050003	Grading roadway for pavement	Sq. Yd.	30,318	\$6	\$181,908	
3030022	Aggregate base, Class 2	Cu. Yd.	5,054	\$70	\$353,780	
4040111	Bituminous tack coat	Ton	8	\$2,000	\$16,000	
4040125	Fog coat	Ton	8	\$1,800	\$14,400	
4160009	Asphaltic concrete (end product) (4.5" AC over 5" AB)	Ton	8,414	\$70	\$588,980	
6070035	Signpost (perforated) (single) (2½T)	L. Sum	1	\$3,500	\$3,500	
6070060	Foundation for signpost (concrete)	L. Sum	1	\$3,500	\$3,500	
6080005	Regulatory, warning, or marker sign panel	L. Sum	1	\$3,500	\$3,500	
7010005	Maintenance and protection of traffic	L. Sum	1	\$144,000	\$144,000	
7041501	Pavement markings	L. Sum	1	\$23,000	\$23,000	
7040074	Pavement symbol (extruded thermoplastic) (ALKYD) (0.090")	Each	13	\$250	\$3,250	
7330575	Install new traffic signals and equipment	L. Sum	1	\$100,000	\$100,000	
8101013	Erosion control (AZPDES/NPDES)	L. Sum	1	\$51,000	\$51,000	
9010001	Mobilization	L. Sum	1	\$101,000	\$101,000	
9240170	Contractor quality control	L. Sum	1	\$58,000	\$58,000	
9250001	Construction surveying and layout	L. Sum	1	\$72,000	\$72,000	
Construction Subtotal					\$1,857,963	
				Construction Engineering	15%	\$278,694
				Miscellaneous Work	15%	\$278,694
				Preliminary and Final Design	12%	\$222,956
				Contingency	30%	\$557,389
				Indirect Cost Allocation (ICAP)	9.9%	\$183,938
UPRR Allowance (closures, design, concrete panels, and traffic control adjustments)					\$1,300,000	
Right-of-way acquisition *this item will require further investigation*					\$243,878	
Utility Relocation					\$100,000	
Total Construction Cost					\$5,023,512	

Implementation Steps

The City of Willcox will need to be the primary advocate for advancing the Ultimate Preferred Alternative through the project development, design, and construction phases. However, it will be important to create strong partnerships between the City and vested stakeholders, such as ADOT, Cochise County, Riverview Dairy, and other local business advocacy groups. ADOT can assist with technical aspects of pursuing funding, such as grant writing, technical reviews, and coordination with UPRR. Other stakeholders can aid in pursuing funding through grant sources and in advocating for the project with the State legislature.

There are several potential funding sources available for implementing the Ultimate Preferred Alternative:

- ADOT Funding.** At the conclusion of this planning process, the Ultimate Preferred Alternative will be added to the statewide list for consideration to be prioritized and potentially programmed for funding through ADOT's P2P process. The project will compete with all other potential projects across the state for ADOT's limited funding received from the federal government and through the state's Highway Users Revenue Fund (HURF). It should be noted the chances of this project getting funded through the P2P process are currently unlikely as ADOT is not investing in new capacity (expansion) projects outside of the Phoenix and Tucson

metropolitan areas without supplemental local funding. The east bypass Ultimate Preferred Alternative would likely be considered an expansion project by ADOT.

- **Federal Grants.** There are opportunities to fund the Ultimate Preferred Alternative through competitive grant programs administered by the USDOT. The primary competitive grant to fund a roadway expansion project is the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant, which is an annual competitive grant to fund a wide variety of transportation improvements. Grants may also be available through the Federal Railroad Administration (FRA) such as the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program, which seeks to improve railroad safety, efficiency, and reliability.
- **State Legislature.** The City of Willcox and ADOT were recently successful in obtaining funding through the State legislature to resurface Haskell Avenue (B-10) and Rex Allen Drive (SR 186). Similar advocacy could be successful in obtaining funds for the Ultimate Preferred Alternative. A broad coalition of local advocates will likely be important in obtaining funding through the legislature.
- **Local Funding.** The City of Willcox or Cochise County could pursue raising funds through a local tax, such as a temporary sales tax, to fund the Ultimate Preferred Alternative. This process would likely require getting voters to pass a measure to temporarily increase taxes until the project has been fully funded.

After the project has been funded, there are several steps to take the project through the programming, project development, design, and construction phases as shown in **Figure 73**.

Figure 73. Ultimate Preferred Alternative Implementation Steps



Appendices

- A. Public Involvement Plan
- B. Public Engagement Round 1 Summary
- C. Public Engagement Round 2 Summary
- D. Project Fact Sheet
- E. TAC Meeting Notes
- F. City Council Presentation
- G. MCDOT Generalized LOS Tables
- H. Traffic Count Data
- I. USDOT Railroad Crossing Inventory Forms
- J. Candidate Alternative Cost Estimates
- K. Preferred Alternative Synchro Reports

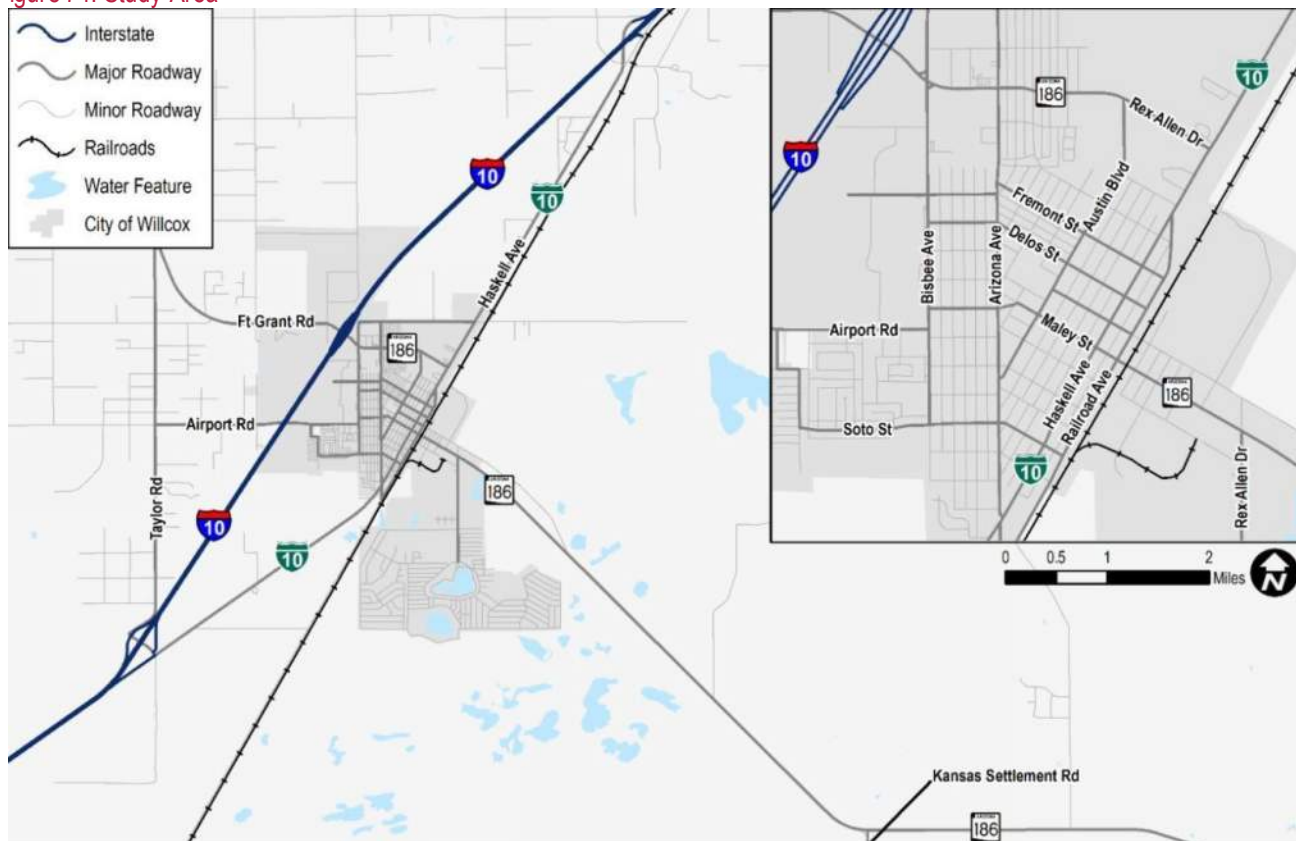
Appendix A. Public Involvement Plan

Introduction

Overview

The Arizona Department of Transportation (ADOT) has begun the process of studying traffic circulation around the City of Willcox to determine potential future infrastructure improvements. The purpose of the study is to identify and analyze traffic circulation alternatives that will accommodate the anticipated increase in heavy truck traffic generated by expanding agricultural operations such as the Riverview Dairy southeast of the city along State Route 186 (SR 186). The analysis will determine the best and most cost-efficient options for providing a regional heavy truck traffic route connecting agricultural and livestock operations southeast of Willcox to Interstate 10 (I-10), while meeting the local operational and safety needs of motorists and pedestrians and preserving the economic vitality of downtown Willcox. The alternatives will address the need for sufficient right-of-way and infrastructure to provide roadway, drainage, utility, and other improvements on both the local and state system. The study area is shown in **Figure 74**.

Figure 74. Study Area



Source: ADOT, U.S. Census Bureau

Purpose

The purpose of this Public Involvement Plan (PIP) is to describe and identify the public involvement goals, phases, tools, and communication methods to be implemented throughout the process to develop the City of Willcox Circulation Study. This PIP is subject to change and may be revised or updated in response to the study process. The plan was developed in accordance with ADOT's Public Involvement Plan approved by the Federal Highway Administration on February 10, 2017.

Public Involvement Plan Principles

This PIP outlines the components of an effective outreach plan and communication program. These outreach components can help identify concerns early in the project schedule so that potential issues and public and stakeholder concerns can be adequately considered and addressed. Additionally, this plan fulfills the International Association for Public Participation's (IAP2) Public Participation Spectrum level of "Involve." The public participation goal for the "Involve" level is "to work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered." The promise to the public is "We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision."

Public Involvement Plan Purpose and Role

The purpose of the PIP is to describe and identify the proposed public involvement goals, strategies, and techniques to be implemented in the study area, to inform those who reside, own property, work, or travel in the study area, and to provide a comprehensive plan for overall engagement. Moreover, as a living document, this PIP is flexible and responsive to a variety of stakeholders including local councils and committees, community groups, elected officials, business operators, local news media, and affected agencies. The PIP clearly identifies roles and responsibilities of the Public Involvement (PI) Team in full collaboration with the ADOT Project Management Group, ADOT Southeast District, ADOT Communications Division, and the study team. The PIP includes the identification and analysis of target audiences and defines techniques used to promote an inclusive and informed decision-making process throughout the project schedule.

Public Involvement Plan Goals and Objectives

The effectiveness of this PIP will be monitored utilizing four common characteristics of successful public involvement programs: communication, inclusiveness, equity, and representation. These characteristics are reflected in the following goals for this PIP:

- Early and continuous public engagement throughout the study process
- Engage a broad and diverse audience, including key study area stakeholders, to ensure they are properly informed and involved in the process.
- Identify and address public questions, comments, and concerns throughout the study schedule. This includes providing clear, timely, and accurate information to ensure the public is properly educated and informed. Information shared with the public will include the study process, the absence of any identified funding for potential projects, and the benefits and potential construction impacts of projects recommended in the plan.
- Communicate utilizing a variety of communication tools that meet the needs of the public to ensure all segments of the public have access to information and opportunities to participate.
- Accurately document all public involvement activities, comments received, and responses given throughout the process, including assessment of the percentage of city residents notified of the study, and the percentage who participated, including Limited English Proficiency (LEP) and Environmental Justice populations.

This PIP outlines the approach to engaging the local community in both English and Spanish and will be in accordance with the ADOT PIP. It will define general parameters and opportunities for the approach to outreach, including the format and materials for public engagement. It will include stakeholder assessment and the creation and maintenance of a stakeholder contact list and identification of methods to reach protected populations based on the demographics of the area. Outreach activities will include optional demographic questions, including preferred language, age, income, race/ethnicity, and/or zip code, to help with evaluating how well protected populations have been engaged by the project's outreach methods.

ADOT's Title VI Nondiscrimination Program

ADOT welcomes and encourages a robust public involvement process that strives to ensure the prevention of discriminatory impacts of its programs, policies, and activities. To ensure nondiscriminatory practices, ADOT adheres to Executive Orders and regulations that include Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act, and Environmental Justice and Limited English Proficiency Executive Orders. Public involvement methods will strive to be innovative and proactive in engaging individuals from different cultures and backgrounds within the project area, during the project development process. With the environmental justice analysis and additional research completed during the Environmental Overview process, the PIP will identify outreach techniques that are inclusive of the diverse communities represented. Strategies and tools will be tailored to the communication needs of those impacted by this project and their preferred style of communications. Potential tools to ensure meaningful participation include:

- Translate key public involvement materials including surveys and project fact sheet into Spanish.
- Use “Google Translate” on the ADOT project webpage, allowing translation of website into approximately 100 languages.
- Integrate elected officials, intergovernmental liaisons, and special interest groups into the outreach efforts.
- Promote public involvement opportunities through earned media and social media.
- Involve and partner with local community leaders and community groups in the project area.
- Utilize and develop community contacts, mailing lists, and other means to initiate and continue communication.

Title VI of the Civil Rights Act of 1964

Title VI prohibits discrimination based on race, color, and national origin. Steps to be taken to ensure nondiscriminatory practices based on Title VI will include:

- Displaying the Title VI Nondiscrimination language in English and Spanish on all outreach materials to notify the public of the opportunity to request language assistance and of their right to file a complaint should they feel that they have been discriminated against.

Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) stipulates that people with disabilities have the same opportunities as everyone else in developing and improving public services. All events held for programs or projects with federal-aid funds and open to the public must be made accessible to everyone, including persons with disabilities. Special efforts are required to comply with the statutory requirements of the ADA:

- Ensure locations where public involvement takes place are ADA-compliant, accessible by ADA-compliant transportation options, and that information is accessible for persons with vision or hearing disabilities.
- If online resources are being used to provide project information, guidance should be provided on how to use online resources and resources should be ADA-accessible. ADOT's website will provide information for direct contact with study team to request accommodations.
- Upon notification, ADOT will make an effort to reasonably accommodate a person's disability to provide an equal opportunity for participation in the transportation decision-making process.

Limited English Proficiency

Executive Order 13166 was issued in 2000 to improve access to services for persons with LEP. Recipients of federal assistance are required to take reasonable steps to provide LEP individuals with meaningful access to their programs, activities, and services. The LEP guidance included in this PIP is aligned with ADOT's Language Access Plan, prepared by ADOT's Civil Rights Office.

- Conduct LEP 4 Factor Analysis for the study area to determine the need for any language services.
- Include outreach and information in any languages identified in the project area.

Environmental Justice

In 1994, Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations was issued. Environmental justice (EJ) “is the fair treatment and meaningful involvement of all people, particularly minority and low-income populations, in the environmental decision-making process.”

To engage traditionally underserved communities, ADOT Communications will use the following community-engagement tools, where applicable:

- Display the Title VI language on any public advertisements.
- Display project-related notifications within high-trafficked areas or centers within the community.
- Partner with youth organizations, religious centers, and local schools.
- Meet people where they are by reaching out to community members/leaders, business owners, advocacy groups, and neighborhood or civic associations that focus on helping residents promote the betterment of their local neighborhood.

Public Involvement Plan Structure

The core PI team involved in implementing stakeholder and public engagement efforts consists of agency and consultant staff. A list of key PI team members is shown in **Table 37** below.

Table 37. Key Public Involvement Team Members

Name	Organization	Role	Email
Jerimiah Moerke	ADOT Communications	Community Relations Project Manager	jmoerke@azdot.gov
Courtney King	ADOT Communications	Community Relations Supervisor-Southern AZ	cking3@azdot.gov
Jan Gordley	Gordley Group	Public Involvement Advisor	jan@gordleygroup.com
C.T. Revere	Gordley Group	Public Involvement Manager	ct@gordleygroup.com
Kara Lehmann	Gordley Group	Public Involvement Coordinator	kara@gordleygroup.com

Team Meetings

The PI Team will meet as needed to share information about outreach efforts and approaches, discuss issues, and keep up to date with questions and concerns expressed by the public and stakeholders. PI Team meetings will also provide opportunities to plan for future public involvement.

Comment Management Protocols

The public involvement process requires consistent procedures for recording and responding to public comments and questions. The PI Team will document comments and questions in a database or spreadsheet and work with the project team to provide responses and identify themes or trends that will inform the project team.

Community Overview

The City of Willcox is located in the Sulphur Springs Valley in Cochise County and its primary industries are agriculture, wine production and tourism. Agricultural operations and the wine industry each employ several hundred local residents, and popular festivals – including the Wings Over Willcox Birding Festival, Rex Allen Days, Willcox West Fest, and the Willcox Wine Country Spring Festival – bring thousands of visitors to the community each year. Additionally, the City is surrounded by prominent mountain ranges and is adjacent to the Willcox Playa (a dry lakebed dating to the Ice Age). The Willcox area is the traditional home of the Chiricahua Apache people.

Demographic information for Willcox and the study area can be found in the appendix of this Public Involvement Plan.

Notable traffic generators within the city and study area include community centers, hospitals, parks, and schools. There is one community center in Willcox as well as one hospital, Northern Cochise Community Hospital. The hospital also houses the Rose C. Allan Senior Learning Center. There are three parks within the study area: Keillor Park, Gonzales Park, and Quail Park. Willcox has one school district within the study boundaries, the Willcox School District. It comprises one elementary school, one middle school, and one high school. In addition to the primary and secondary schools, Willcox also has the Cochise College Willcox Center for Higher Education. These public destinations provide opportunities for informing those working or visiting them to learn about the study and how to participate by distributing information in fact sheets and paper surveys.

Public Outreach

Two rounds of public outreach will be conducted during the study schedule, both using public surveys to be made available both online and in paper versions to be placed in designated locations throughout the study area. All materials will be provided in both English and Spanish, with accommodation available for other languages on request.

- The first round of public outreach will describe the purpose and need for the study and the planning process. Participants will have the opportunity to review initial improvement alternatives that are developed by the study team and respond to a brief selection of survey questions designed to allow respondents to evaluate, rate and comment on the specifics of various potential sets of transportation improvements.
- The second round of public outreach will include the use of a web-based online engagement tool that provides an interactive study area map that allows users to navigate, zoom and click on proposed improvements identified by the study team and provide comments that will be considered before proposed projects become final recommendations. The online tool will provide opportunity for Spanish speakers to participate and paper surveys for the second round of public outreach will be made available for those without internet access.

A news release for each round of public outreach that describes the study information and ways to participate will be sent to local media to help generate news coverage of the study.

A fact sheet will be developed for multiple print and electronic uses that describes study planning efforts, potential solutions and alternatives, and ways the public can provide input and receive information. The fact sheet and other study information will be adapted and provided for use on the ADOT project website. The study webpage on the ADOT site will help serve as a source of information and provide additional opportunity for the public to participate in the study survey.

A utility bill insert will be included in the outreach and notification to inform residents of the study and the opportunity to participate in the survey, using either a folded fact sheet format mailer or a postcard that directs recipients to the ADOT project website or a community gathering place where they can find more information and take the survey either online or on a paper survey.

Public involvement activities and summaries of responses for both rounds of engagement will be documented in brief Public Involvement Summary Reports.

Limited English Proficiency Four-Factor Analysis Report

City of Willcox Traffic Circulation Study

ADOT Project No. MPD0026-21

Date: April 28, 2021

Factor 1:

A. Geographical Area Impacted:

1. Identify the boundaries of area of project: The incorporated boundaries of the City of Willcox.

2. List possible alternative routes: No construction projects that would require alternative routes have been identified at this stage of the project.
3. Other: N/A

B. Languages impacted:

1. EJ Screen and LEP Mapping Tool:

Name and Date of Report	Number of Population that Speak English "less than very well"	Percent of Population that Speak English "less than very well"
EJ Screen	395	11.2%
LEP GIS Mapping Tool	930	13.5%

2. Prior Experiences: Have language needs been previously identified in the area?

Yes: No:

If Yes, list languages identified: Spanish for City of Willcox

3. Interviews: Note: Interviews were conducted for a construction project within the Willcox area:

DATE	NAME	ORGANIZATION	LANGUAGE NEEDS IDENTIFIED or NONE
2/9/21	Penny Long	Willcox School District	Spanish
2/9/21	Michelle	Willcox Library	Spanish
2/9/21	Emily Reed	City of Willcox	Spanish

4. Local Materials Reviewed: School voicemail prompt in Spanish

Factor 2:

A. Frequency of LEP interaction with Project:

1. Traffic Level within project area: All traffic within City of Willcox will factor into traffic circulation study, with monitoring locations on local streets and state and federal highways. Study process will not impact motorists.
2. List Type interactions that public has with project area: No direct interaction with traffic circulation study other than being counted at monitoring locations.

Factor 3:

A. Define Project impact on surrounding communities:

1. Will construction impact Mode of Transportation? No construction is involved in study.
2. Will it impact community property? No
3. Will it impact hospitals, bus routes, airports, cemeteries, etc.? No
 - a. The study involves no construction that would impact traffic or access.

Factor 4:**B. Resources available:**

1. Oral translators? In-house team members are available if requested.
2. Web tools: Web translation via Google Translates
3. Standardized materials available: Yes
4. Utilizing Title VI Language in English only document: Yes

Recommendations

Based on the above 4-Factor LEP analysis and ADOT LEP Policy, the following languages have been identified as in possible need of LEP service as related to this project: Spanish

Based on resourced available the following language services will be provided by:

Oral Translators Web translation tools Title VI Language Written translation

*Note: No individual will be denied participation in the public process due to Limited English Proficiency.

Para obtener ayuda en español, comuníquese (520) 327-6077

Appendix B. Public Engagement Round 1 Summary

Public Engagement Round 1 Background

Public Involvement Plan Framework

The Public Improvement Plan (PIP) identifies public involvement goals, phases, tools, and communication methods used during the development of the Willcox Circulation Study. The goals of the plan are to engage a broad audience in public engagement throughout the course of the study so that the public’s questions, comments, and concerns can be addressed and reflected in the final recommendations. The PIP includes the identification and analysis of target audiences and defines techniques used to promote an inclusive and informed decision-making process throughout the project schedule. There are two rounds of public involvement outlined in the PIP: one during the evaluation of candidate improvement alternatives and one during the final evaluation of the preferred alternatives.

Engagement Round 1 Goals

The first round of engagement, in the form of a public survey, provided an introduction on the Willcox Circulation Study to the public, the planning process, and the five candidate improvement alternatives designed to address the study’s purpose and need. The survey allowed the public to review the candidate alternatives and provide a response by rating each alternative and providing written comments.

Survey Advertisement

The public survey was advertised in a variety of methods to reach a wide variety of audiences, including residents, workers, and travelers in the study area. Three primary methods were used to advertise the public survey – an insert in City of Willcox utility bills, the email list from the project website, and through the Technical Advisory Committee (TAC).

Utility Bill Insert

A half-page insert was included in the July 2021 utility bills (sent in early August), which were sent to every utility customer served by the City of Willcox. The insert informed residents of the study and the opportunity to participate in the survey virtually or in person. The utility bill insert was in the format of a postcard in both English and Spanish, informing residents of the request for public input. The English version of the utility bill insert is shown in **Figure 75**.

Figure 75. Utility Bill Insert

Tell us what you think!

Help us reduce the impact of truck traffic through downtown Willcox.

The Arizona Department of Transportation (ADOT), in collaboration with the City of Willcox and area businesses, is working to reduce the impact of heavy truck traffic through downtown Willcox and would like your input.

Currently, heavy trucks from businesses on the southeast side of the city (along State Route 186) must go through downtown to access Interstate 10, creating congestion and safety issues.

Visit www.azdot.gov/willcoxstudy to take a brief survey about the potential improvement alternatives.

A paper version of the survey is available at the locations below.
The survey ends Tuesday, August 31, 2021.

- ▶ **Willcox City Hall**, 101 S. Railroad Avenue B
- ▶ **Elsie S. Hogan Community Library**, 100 N. Curtis Avenue

Email List from Project Website

The Arizona Department of Transportation (ADOT) established a project website for the public to find information and updates on the Willcox Circulation Study. This website provides contact information as well as a link to subscribe to receive study information and updates by email. Notice of the public survey and a survey link was provided to subscribers of the project email list.

Technical Advisory Committee

At the July 21, 2021 TAC meeting, the study team asked the TAC to share the survey through their respective organizations, social groups, and social media. This effort was meant to reach a wider variety of community members than might otherwise be engaged in the project.

Public Survey

The public survey was released on August 1, 2021 and was available through August 31, 2021. The public survey was available both electronically and in hard copy format. Both survey formats were available in English and Spanish.

Survey Platforms and Access

The public survey could be completed either electronically or in person. An electronic version of the survey was available through SurveyMonkey on ADOT's project website. Hard-copy surveys were available for pick-up and drop-off at both the Willcox City Hall (101 S Railroad Avenue) and Elsie S. Hogan Community Library (100 N Curtis Avenue).

Survey Questions

The initial survey questions included contact information and the respondent's relation to the study area, including residency, business/property ownership, or traveler status.

Next, the proposed alternatives were presented to respondents. The survey included a brief description of each candidate alternative, a list of pros and cons identified by the study team and TAC, and a map showing the proposed improvement or alignment of each alternative. Participants were asked to rank each candidate alternative using a scale of 1 to 5, where:

- 1 is Strongly Oppose
- 2 is Somewhat Oppose
- 3 is Neutral/No Preference
- 4 is Somewhat Support
- 5 is Strongly Support

Respondents were also provided a location to leave additional comments on the candidate alternatives.

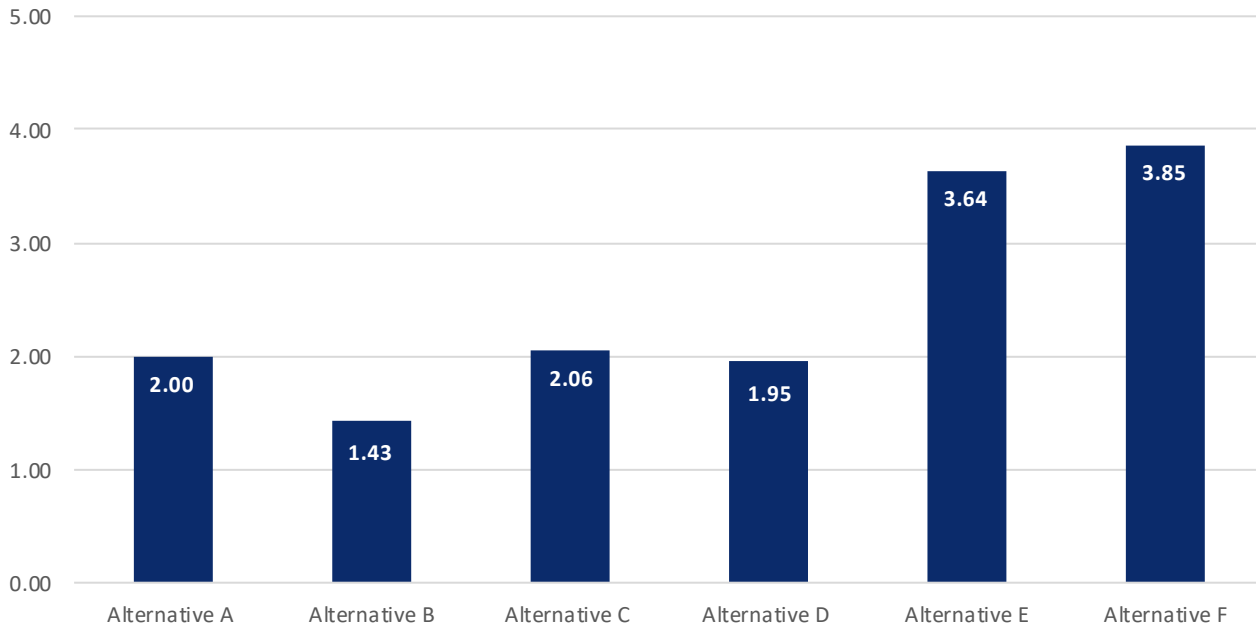
Last, survey respondents were asked to share how they heard of the project survey from the possible outlets. Respondents were also directed to a separate optional demographic survey. This information was used to help identify if traditionally underrepresented groups participated in the survey, although it should be noted that this demographic survey was optional and, as such, responses did not reflect the demographics of those who chose not to respond.

Survey Results

Public survey 1 received 182 responses, all of which were electronically submitted. There were 162 responses in English and 20 responses in Spanish. It was most common that respondents were residents outside of Willcox city limits (46%), with 36% of respondents being Willcox residents.

Survey respondents were asked to separately rank each candidate alternative from 1 to 5. **Figure 76** shows the average score for each candidate alternative.

Figure 76. Public Survey 1 Average Candidate Alternative Score



Overall, survey respondents were most supportive of the construction of a truck bypass route (Alternatives E and F). Construction of a roundabout at Haskell Avenue and Maley Street (Alternative B) was the alternative that received the most opposition.

Comments were provided regarding the need for an additional railroad crossing as well as the need to remove truck traffic from the intersection of Haskell Avenue and Maley Street. The overall need and support for a bypass route was a common theme shared in most of the comments provided by respondents.

The most common ways that survey respondents reported finding out about the survey were through word of mouth (38%), social media (23%), the utility bill insert (18%), and City communications (17%).

Demographic Outcomes

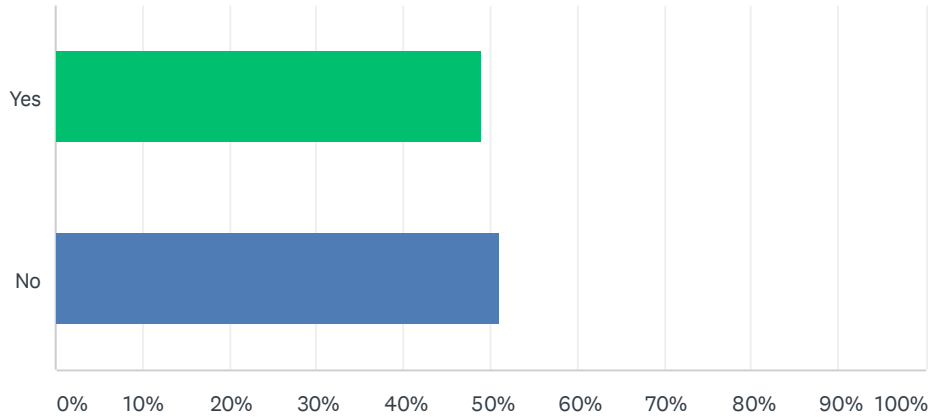
Per the demographic outcomes reported by the respondents, a variety of language speakers, races/ethnicities, incomes, and age groups responded to the survey, indicating input was received from a diverse group of people. Approximately 11% of the survey responses were in Spanish. It is estimated that LEP populations make up 11%-14% of the study area population, with most of those being Spanish speakers, signifying a proportional representation of the LEP population in the survey responses.

A total of 71 survey respondents provided personal demographic information. Approximately 18% of demographic survey respondents reported their race as non-white. The study area has a minority population of 45%, signifying a lower representation of the minority population in the demographic survey responses. The most common age range for demographic survey respondents was the age group of 31 to 50, at 48%. Most demographic survey respondents reported an annual income of at least \$60,000, with 36% making greater than \$100,000 and 31% making between \$60,000 to \$100,000 annually. Approximately 3% of demographic survey respondents reported an annual income of less than \$30,000. Low-income households make up 16% of the population living in the study area, signifying a lower representation of the low-income population in the demographic survey responses.

It should be noted that the demographic survey was optional and was only responded to by a portion of the respondents to the survey on the preferred alternatives. As such, the demographic survey results do not necessarily reflect the demographics of all respondents of the candidate alternatives survey nor the demographics of those that received notice of the availability of the survey.

Q2 Join project email list?

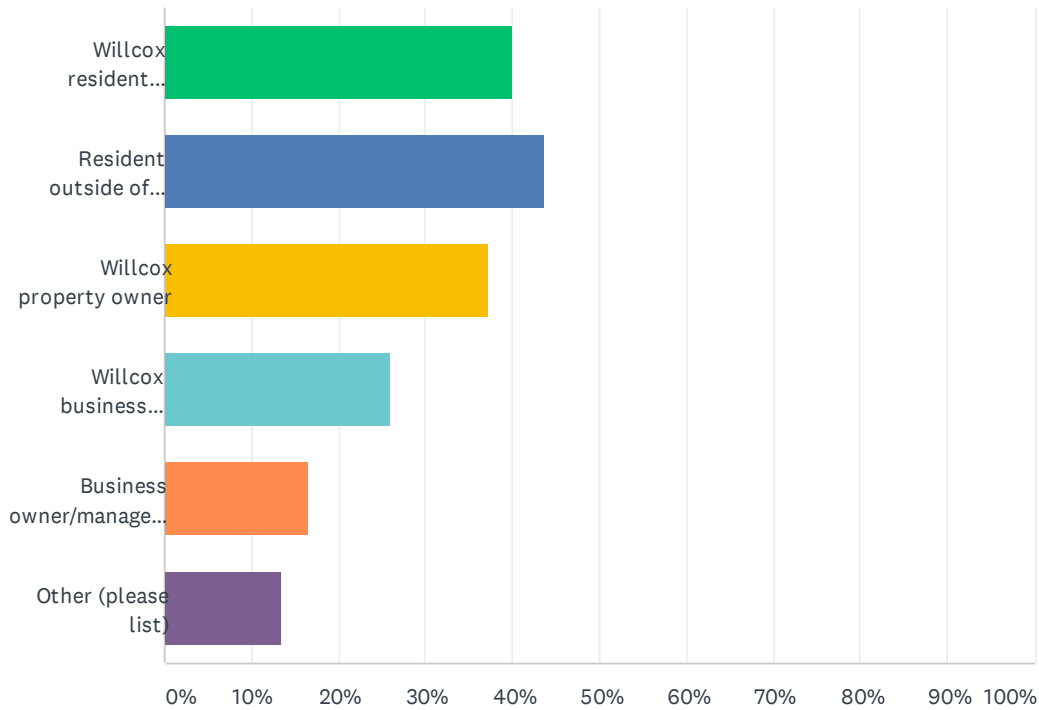
Answered: 135 Skipped: 27



ANSWER CHOICES	RESPONSES	
Yes	48.89%	66
No	51.11%	69
TOTAL		135

Q3 Stakeholder type - select all that apply

Answered: 158 Skipped: 4



ANSWER CHOICES	RESPONSES	
Willcox resident (within city limits)	39.87%	63
Resident outside of Willcox city limits	43.67%	69
Willcox property owner	37.34%	59
Willcox business owner/manager (located within Willcox city limits)	25.95%	41
Business owner/manager (located outside of Willcox city limits)	16.46%	26
Other (please list)	13.29%	21
Total Respondents: 158		

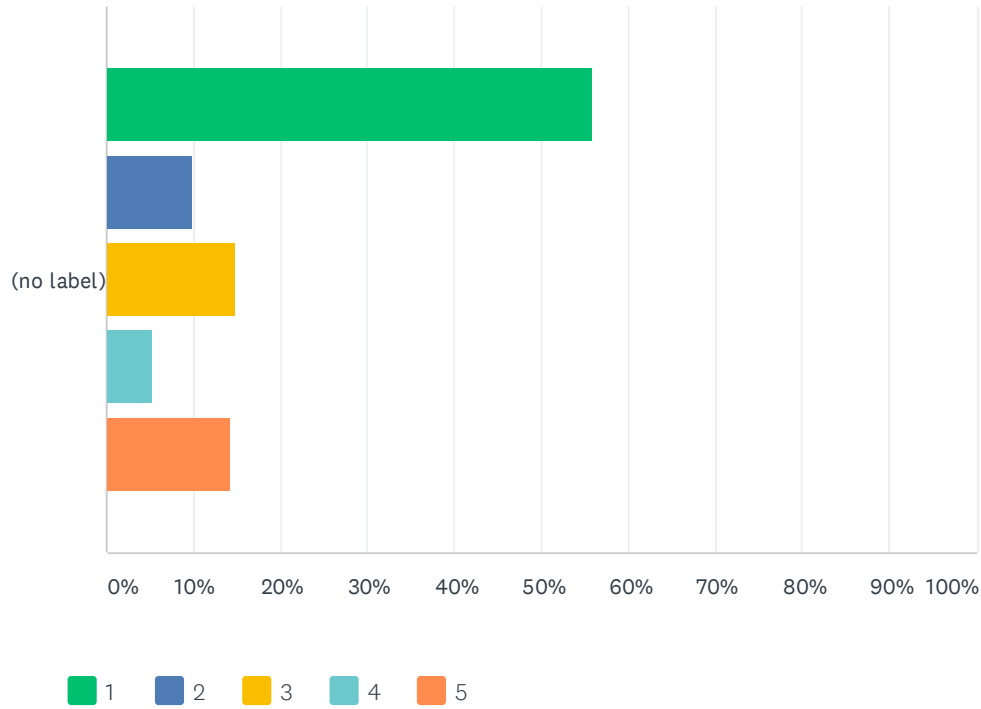
#	OTHER (PLEASE LIST)	DATE
1	Employee of a business on the east side of the railroad tracks. I use the Maley/Haskell intersection everyday multiple times a day.	8/31/2021 7:27 PM
2	Work in Willcox and this would affect me at least 5 days a week. Bad enough when trains stop at Maley and Stewart crossings.	8/31/2021 9:28 AM
3	Work across the tracks and use the intersection multiple times a day.	8/31/2021 9:27 AM
4	I work in Willcox and this route affects my daily route.	8/31/2021 9:27 AM
5	It is Willcox, AZ. Truck traffic is about all you have. Be happy.	8/30/2021 9:28 AM
6	Work in the city of Willcox.	8/22/2021 3:55 PM
7	Trucking Company	8/20/2021 10:07 PM

Willcox Circulation Study (English)

8	ADOT EMPLOYEE - STATEWIDE PERMIT SUPERVISOR FOR OVERSIZE/OVERWEIGHT LOADS FOR COMMERCIAL VEHICLES	8/18/2021 8:56 AM
9	transit advocate (tucson area), graduate student- environmental studies	8/8/2021 3:13 PM
10	Local Truck Driver	8/5/2021 4:13 AM
11	ADOT staff testing out survey	8/4/2021 1:20 PM
12	County Supervisor	8/3/2021 6:36 PM
13	Do business in Willcox.	8/2/2021 8:34 PM
14	Trucker who has to get through Willcox regularly	8/2/2021 6:26 PM
15	Ranch owner/concerned citizen.	8/2/2021 6:16 PM
16	AZ resident	8/2/2021 2:51 PM
17	Contractor	8/2/2021 2:34 PM
18	Full time employee in Willcox City Limits	8/2/2021 2:20 PM
19	WORK IN WILLCOX	8/2/2021 2:13 PM
20	Interested observer.	8/2/2021 2:03 PM
21	Firefighter for the Willcox Fire Dept	8/2/2021 12:55 PM

Q4 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative A (No-Build).

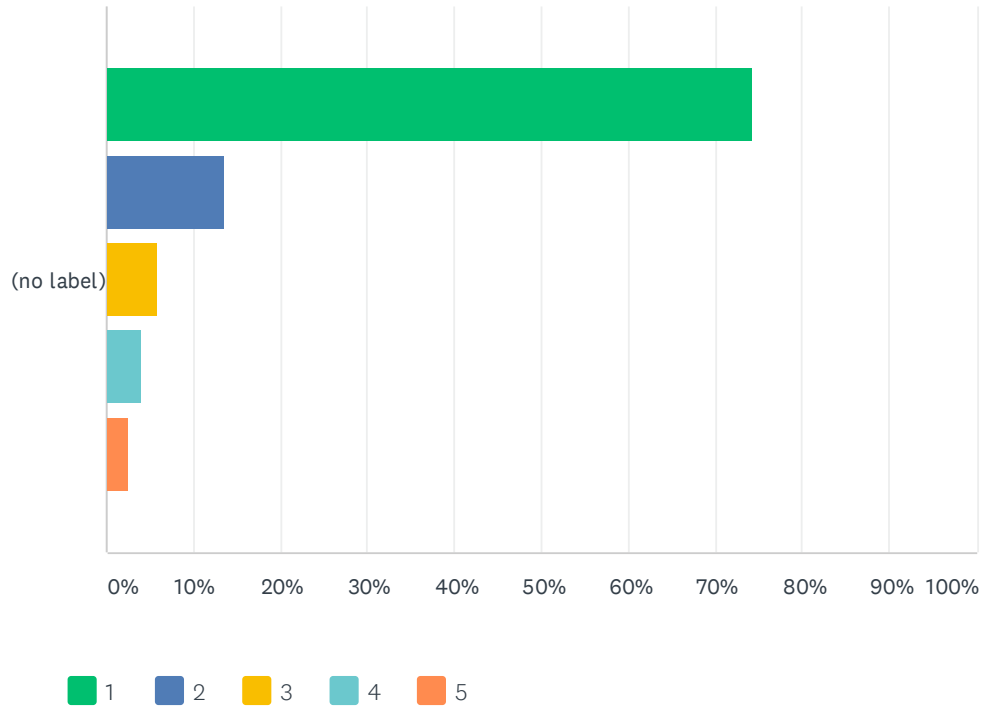
Answered: 154 Skipped: 8



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	55.84% 86	9.74% 15	14.94% 23	5.19% 8	14.29% 22	154	2.12

Q5 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative B (Roundabout).

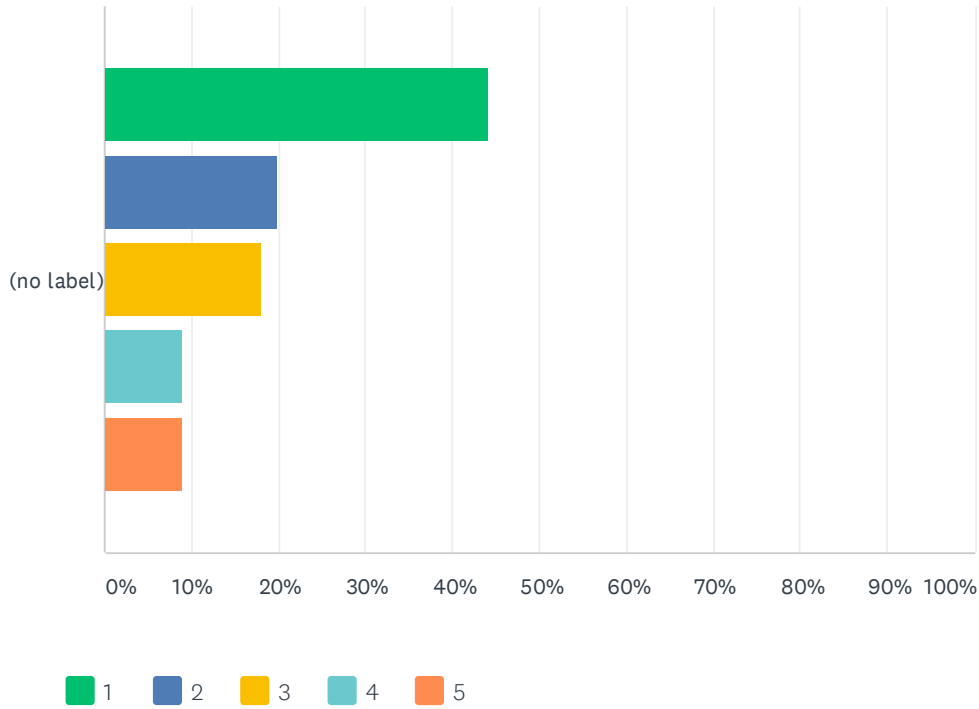
Answered: 155 Skipped: 7



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	74.19% 115	13.55% 21	5.81% 9	3.87% 6	2.58% 4	155	1.47

Q6 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative C (Reconfigure).

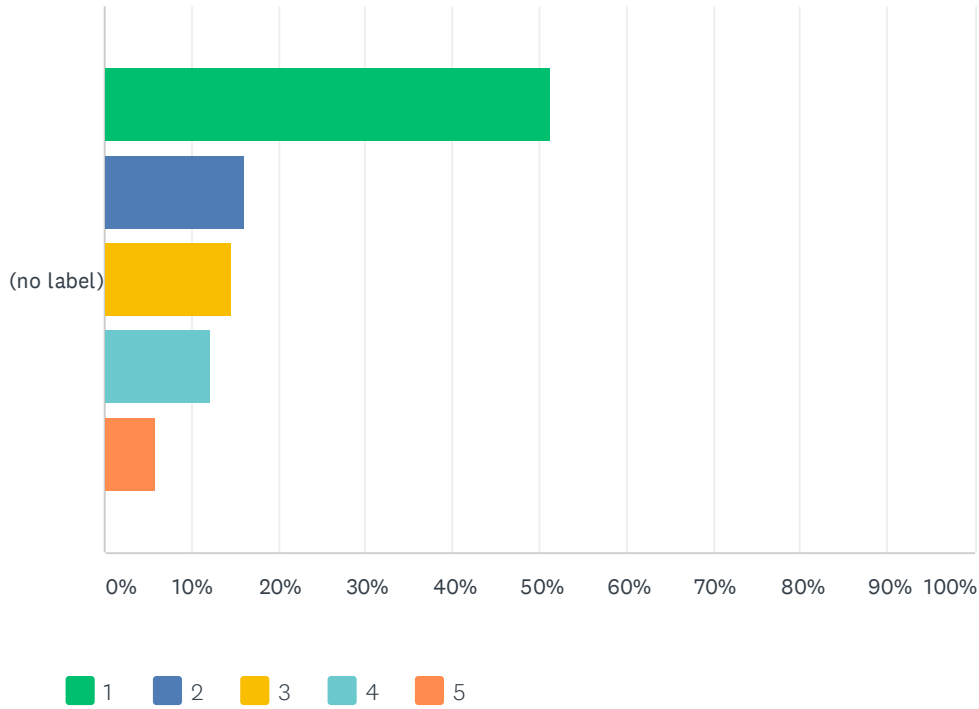
Answered: 156 Skipped: 6



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	44.23% 69	19.87% 31	17.95% 28	8.97% 14	8.97% 14	156	2.19

Q7 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative D (Truck Route on City Streets).

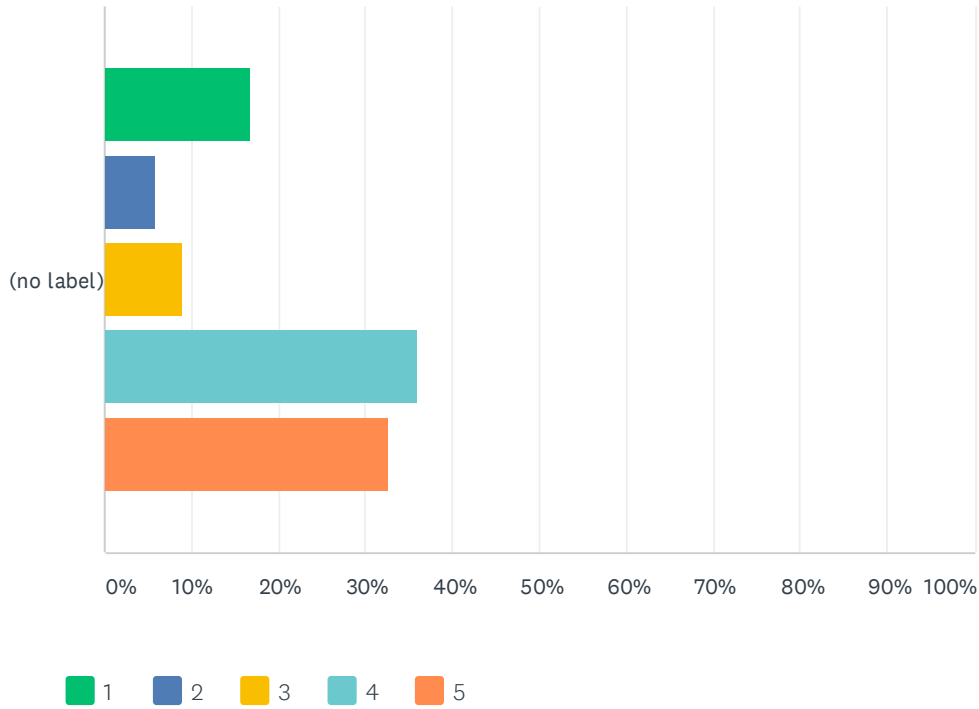
Answered: 156 Skipped: 6



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	51.28%	16.03%	14.74%	12.18%	5.77%		
	80	25	23	19	9	156	2.05

Q8 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative E (East Bypass with At-Grade Railroad Crossing).

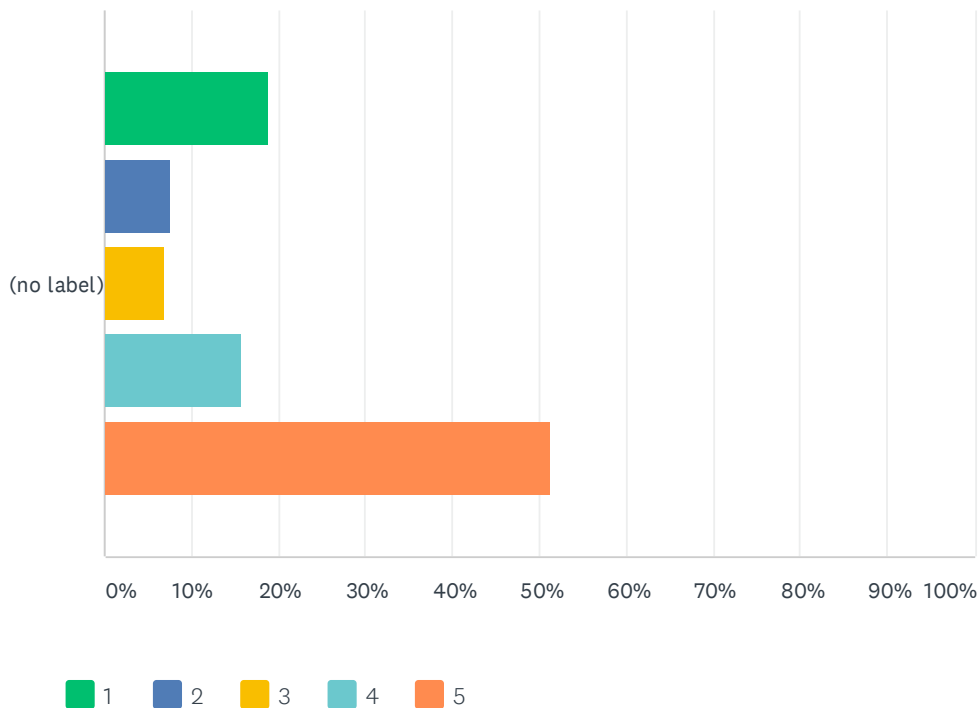
Answered: 156 Skipped: 6



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	16.67% 26	5.77% 9	8.97% 14	35.90% 56	32.69% 51	156	3.62

Q9 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for Alternative F (East Bypass with Railroad Overpass).

Answered: 160 Skipped: 2



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	18.75% 30	7.50% 12	6.88% 11	15.63% 25	51.25% 82	160	3.73

Q10 Please provide any comments you have on the improvement Alternatives.

Answered: 57 Skipped: 105

#	RESPONSES	DATE
1	I feel we need an overpass over the railroad because there have been many times that trains have stopped blocking both crossings for extended periods of time. One example of that is many years ago when an accident east of town happened and emergency response could not get to them in a timely manner and two of the towns youth's did not survive. One of them was a Volunteer Firefighter.	8/31/2021 7:27 PM
2	Preferring Alternatives E or F over the others. Even though the cost is higher they will truly solve the issue of the traffic that occurs on Haskell and they will also keep the truck traffic from going through residential areas which I firmly disagree with.	8/31/2021 1:28 PM
3	in thee past i have had issues with the train blocking both crossings for 45minuets so having another crossing would be helpful and having an overpass would guarantee being able to cross the railroad tracks if the trains have an issue. also the intersection Maley and Haskell has been troublesome with trucks making a right turn going over the side walk or into the left turn lane. so giving them an alternate path would be best.	8/31/2021 11:48 AM
4	Option D would work for an immediate remedy. Option E is ideal. If our town continues to grow and the downtown area/railroad park continue to be used for events, we would HAVE to look towards the future in the way of option E or F. Quickest remedy would be option D WHILE working towards E or F....	8/31/2021 9:42 AM
5	Full bypass with overpass is best solution for long range plan and use. I've lived where they use roundabouts and there is not enough space at Haskell and Maley to accommodate this properly (there will be plenty of minor accidents that occur.	8/31/2021 9:28 AM
6	The overpass moves the trucks and gives regular traffic an option to get passed. I've sat over an hour at the train and that is illegal.	8/31/2021 9:27 AM
7	When both RR crossings are blocked it creates a safety hazard on the East Maley side - this alternative would mitigate that hazard.	8/30/2021 4:39 PM
8	Trucks need to be removed from Haskell/Maley intersection, it is not properly constructed to accommodate.	8/30/2021 4:22 PM
9	Maybe the overpass could be included in Pelosi's multi-trillion infrastructure bill.	8/30/2021 3:29 PM
10	I support the by-Pass at grade. I would prefer the bypass intercept Stewart somewhere south of 2nd St.	8/30/2021 2:51 PM
11	There are many times the trains block 186 Maley for any minutes. I strongly support an over pass over the RR tracks. It would be good to have a route over the tracks when the train blocks the road.	8/30/2021 2:38 PM
12	Provide "large" signs that say trucks can and will make wide turns onto Haskell and Maley from the center lanes and to be cautious if a truck is in the center lane because they may be turning.	8/30/2021 11:06 AM
13	On any of the By pass options (E & F), is this going to increase truck traffic on Rex Allen Dr. ? If so would it be beneficial to Put traffic light at Arizona Ave. and Rex Allen to allow safer access to the Hospital for the Public, and maybe the auto control for Emergency Vehicles to control the light colors ?	8/30/2021 10:07 AM
14	Keeping traffic on Maley and Haskell is frightening. There's a fair bit of pedestrian traffic and children who wander. Bypass is safest.	8/30/2021 9:59 AM
15	#8 is a good alternative but why would you close the other railroad crossings?	8/29/2021 1:30 PM

Willcox Circulation Study (English)

16	Certainly a bypass would be best for moving farm equipment through town. The next bests would be to improve the roads we currently use anyway.	8/29/2021 8:03 AM
17	I support the railroad overpass more so than at grade railroad crossing due to the fact that traffic will eventually backup for the semis as a train comes through town multiple times a day. Please take that into consideration as we use semis for freight and pickup/deliveries at our business location.	8/26/2021 6:28 PM
18	Why have the bypass come through 2nd ave? The bypass is the obvious best idea but I think the route should be different	8/26/2021 4:13 PM
19	I think the bypass options are clearly the best way to go but I don't think 2nd avenue is the best option for it to join up with Mayley	8/26/2021 4:11 PM
20	I really like C but I have questions about parking on Hwy 186/Maley Street will it still be allowed? If not I strongly agree B. We can't afford to lose parking.	8/23/2021 12:31 PM
21	The current setup has worked just fine for years. The roundabout will cause too much confusion. Plan C would allow extra room for large trucks/tractors without too much cost and change while it would slow traffic through the intersection. Plan D is just silly, why would anyone want such traffic in a residential area, just silly. Plan E would work if the goal is to remove traffic from the main intersection, but again it works as is. Plan F is a waste of funds.	8/22/2021 3:55 PM
22	by pass would help the truck traffic not interact with cars in the downtown area	8/20/2021 10:07 PM
23	When making improvements you need to look beyond just a standard commercial vehicle. ADOT issues permits to extremely large over width, overlength, over height and loads exceeding #250,000 lbs. We need to make sure that the roadway is able to accommodate these size of loads.	8/18/2021 8:56 AM
24	Why would 2 current at grade railroad crossings have to be closed?	8/12/2021 12:03 PM
25	I like the idea of a rerouting totally. The proposals to use current roads isn't a good idea to me because they would disrupt the current environment on those roads. The round about is not a good idea because it is just a similar way now to use what space is still there. The remarking roads and keeping the traffic there is also a problem because it doesn't solve the issue and just slows traffic down.	8/11/2021 3:18 PM
26	Could Alternatives E and F connect to 186 a little further south and skip the south end of town completely?	8/10/2021 5:59 PM
27	Out of all alternatives, my strongest preference is for the east bypass	8/9/2021 11:49 AM
28	Find a route that takes the 18-wheelers from the downtown Intersection, but isn't so expensive that the plan is shelved. An overpass can be added at a later time if traffic increases to the point that one is needed.	8/8/2021 7:31 PM
29	incorporating a truck (freight/transit) route- even better... https://www.westernite.org/annualmeetings/19_Monterey/Presentations/6A/6A-Grote-Paper.pdf Roundabouts are a Proven Safety Countermeasure because they can substantially reduce crashes that result in serious injury or death. Roundabouts can: Improve safety Promote lower speeds and traffic calming Reduce conflict points Lead to improved operational performance Meet a wide range of traffic conditions because they are versatile in size, shape, and design https://safety.fhwa.dot.gov/intersection/roundabouts/	8/8/2021 3:13 PM
30	Will street lighting and traffic lights be included?	8/6/2021 2:23 PM
31	Truck by pass is the best option.	8/5/2021 4:48 PM
32	It's hard to judge when there's no context... what are the estimated costs? What's the cities budget for roadways? Are there grants available?	8/5/2021 9:51 AM
33	Does 8 and 9 disrupt the old cemetery? What about the Elks RV park? What happened to Stewart being a preposed bypass route?	8/4/2021 3:21 PM
34	An alternate route would be great if we could come up with the funds. Otherwise the roundabout or removal of left lanes would be a good alternative.	8/4/2021 3:04 PM
35	I suggest starting the bypass where E. Stewart St. connects with 186 east of Willcox and skirting the city streets leaving Stewart a a midpoint to connect with the Rex Allen - Business	8/4/2021 1:56 PM

Willcox Circulation Study (English)

I-10 intersection. At grade railroad crossing would be sufficient. This would facilitate the trucks and leave city streets alone.

36	I would think a low-cost, least disruptive option is the way to go, rather than a high-cost, permanent traffic/road change -- and the construction process being very disruptive to local traffic.. The current increased truck traffic is due to the overpass construction west of Willcox, and that will be completed in November as I understand. Then traffic patterns would likely return to "normal" for Willcox. I strongly oppose any kind of high-dollar (and time consuming) permanent solution to a short term issue. Thank you.	8/4/2021 10:14 AM
37	The big majority of truck traffic is going to Maid Rite and other business locations that ARE IN DOWNTOWN. They are part of down town. Roundabouts are ridiculous! They aren't truck friendly.... They back up traffic.... Don't do one of those. There isn't enough room! Further more, you're hindering businesses that pay a large portion of tax revenue. A new roadway and overpass is too expensive and a ridiculous idea!	8/4/2021 8:34 AM
38	Add traffic signal lights at 2nd Ave & Maley St. and Rex Allen Dr. and Haskell Ave. Will street lighting be included? (Solar Street lights will eliminate electricity utility costs)	8/3/2021 9:23 PM
39	I use haskell and maley for a lot of business i have to do and i also notice some of the truckers stop at our local business to purchase things. move them out and you will lose business and as it is... many of our businesses are about ready to shut down due to slow business what will this do? Put many businesses out of business... widen maley to put a turning lane as haskell has... Lets not lose any more business to our local stores... shop willcox right? Keep our town growing, don't squash it down...	8/3/2021 7:49 PM
40	Bypass need to inter 186 further East so it will need to cross over the drainage twice	8/3/2021 7:19 PM
41	I think a round about is the best option.	8/3/2021 6:41 PM
42	They can't keep up the roads around second street now... the mess would continue to be out of site out of mind just as it is now.. East Stewart street is a mess fall in a pot hole loose a tire...	8/3/2021 6:13 PM
43	I know this is temporary but the construction on 336 overpass is not helping right now. I believe if we allow access to enter freeway going east bound at 336 exit would help alleviate some traffic we have now. I'm the manager at the chevron station there and constantly see cars and semis having to turn around. Even seen some semis go halfway down the exit going on the freeway the wrong way before they back up. Also employees and myself have to constantly tell people how to get back on the freeway because apparently no one looks at signs anymore. Also seen many cars go around the roadblock into oncoming traffic. It's very dangerous, people's stupidity amazes me.	8/3/2021 6:11 PM
44	There really isn't traffic at that intersection. Right now as it is trucks and cars are safe to use with no problems maybe install an arrow light on the traffic light but no new construction needs to happen at all. Could spend the money for redirecting trucks on sidewalks all over town or fix the roads that already exist.	8/3/2021 5:59 PM
45	if funds are coming from city budget, I support option A, if project is state or county funded I support option E or F	8/3/2021 5:36 PM
46	bypass is much needed	8/3/2021 1:20 PM
47	It all depends on which direction off of I-10 traffic is coming from. If traffic is coming from the east, another alternative would be to use 3rd Ave to meet up with Rex Allen or Haskel from the eastern exit of I-10. If traffic is coming from the West on I-10 use W Geronimo Dr to S Railroad Ave.	8/3/2021 10:03 AM
48	Survey	8/2/2021 8:46 PM
49	The overpass over the RR. Would also benefit the first responders as well, because if there is a train stopped in the crossings then the first responders can still get to the other side of the tracks.	8/2/2021 8:34 PM
50	ADOT has known of this problem for the last 30 years and hasn't done anything yet.	8/2/2021 6:26 PM
51	I believe that constructing the truck bypass around downtown with an overpass at the railroad crossing would provide the most relief to the downtown streets and be the safest solution.	8/2/2021 2:58 PM
52	Its working the way it is! Why change? It also worked before we had the turning lane, change it	8/2/2021 2:52 PM

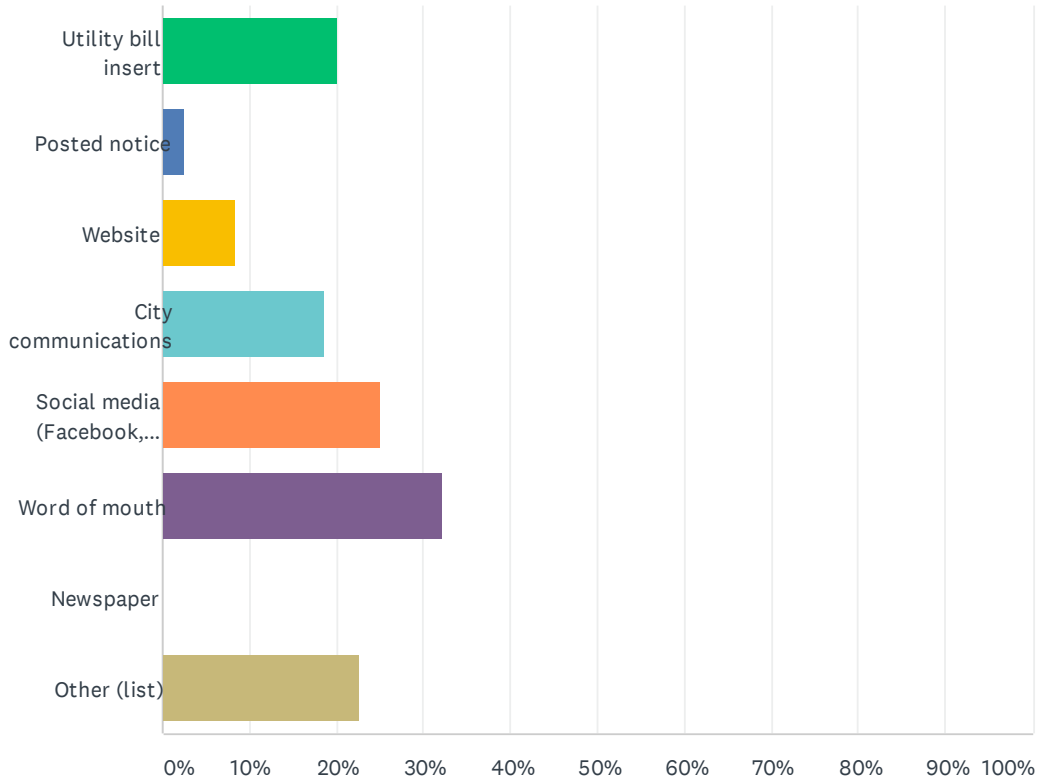
Willcox Circulation Study (English)

back.

53	Though I am an infrequent visitor to Willcox, I have driven the stretch of highway between Willcox and Chiricahua several times and experienced very little freight traffic. However as a landscape architect, I understand and appreciate the need to circumvent the intersection with potential historic buildings that could be enhanced as a future revitalization effort.	8/2/2021 2:51 PM
54	Build extension of 2nd avenue to the southwest to connect to Haskell and serve link into existing TI at Taylor. Perhaps when loop is complete make 2nd Avenue and Haskell one way streets for a counterclockwise flow of traffic around downtown. Trucks are going to keep coming and coming and growing more in number, bigger in size and heavier in weight!	8/2/2021 2:40 PM
55	I approve and support Alternative F (East Bypass with Railroad Overpass) for the Willcox Circulation Study. The reason I support this alternative for ADOT's Willcox Circulation Study is because this alternative will route freight traffic around downtown Willcox, Arizona which will improve quality of life for residents and business in Willcox, Arizona.	8/2/2021 2:25 PM
56	Use E Stewart Street to Railroad Ave. Widen it, Right on Railroad Ave to Haskell. At Haskell and Railroad you have more room to put in a light and improve the turning radius for the trucks. Then take out the left turn lanes at Haskell & Maley. There are plenty of side roads to get you to downtown, it's no that big!! Take some of the vacant lots downtown and use them for parking. As said before - downtown is not that big that you can't walk to here you need to go!!!!	8/2/2021 12:55 PM
57	An bridge over the railroad would be a big plus and that is why I would somewhat support alternate F	8/2/2021 9:49 AM

Q11 How did you hear about this survey/project? Options (check all that apply):

Answered: 155 Skipped: 7



ANSWER CHOICES	RESPONSES	
Utility bill insert	20.00%	31
Posted notice	2.58%	4
Website	8.39%	13
City communications	18.71%	29
Social media (Facebook, Twitter, Nextdoor, etc.)	25.16%	39
Word of mouth	32.26%	50
Newspaper	0.00%	0
Other (list)	22.58%	35
Total Respondents: 155		

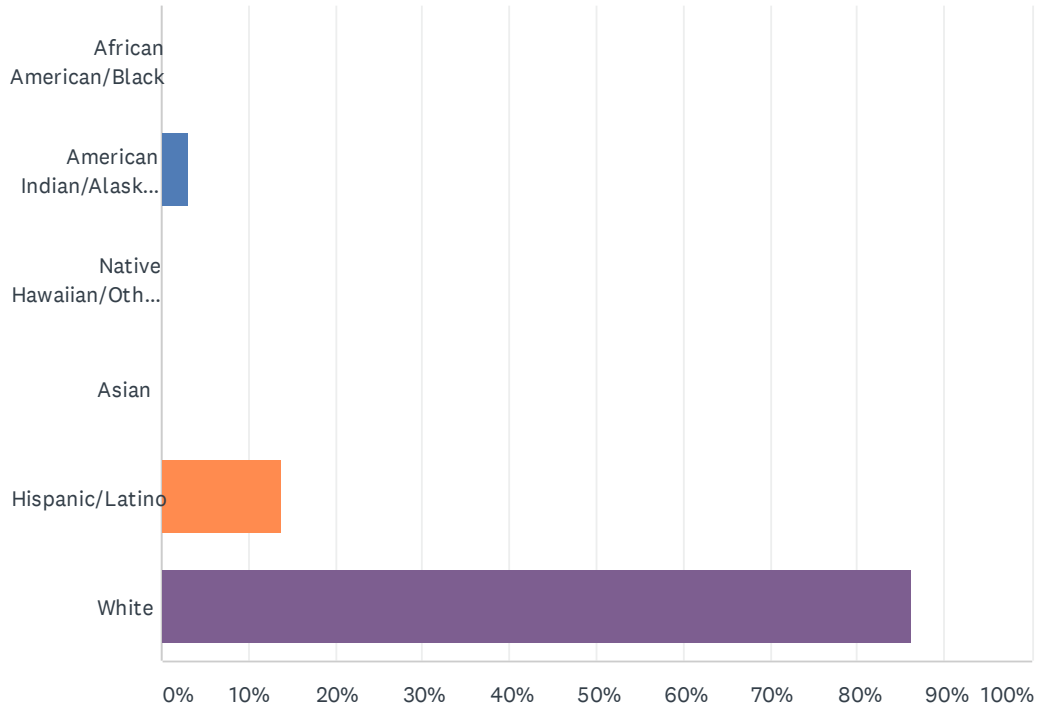
#	OTHER (LIST)	DATE
1	Email from the Public Relations Specialist at Valley TeleCom Group.	8/31/2021 7:27 PM
2	carol4959@gmail.com	8/31/2021 4:07 PM
3	Only got this from a co-worker and only got it today.	8/31/2021 9:28 AM

Willcox Circulation Study (English)

4	recieved an email.	8/30/2021 2:38 PM
5	email	8/30/2021 11:06 AM
6	This email	8/30/2021 10:25 AM
7	email	8/30/2021 9:59 AM
8	The city said nothing and had a hard time finding the pamphlet with the information when asked.	8/29/2021 1:30 PM
9	Chamber	8/24/2021 7:30 AM
10	Chamber email	8/23/2021 8:36 PM
11	ADOT email	8/18/2021 8:23 AM
12	Farm Bureau Meeting	8/17/2021 2:00 PM
13	Email survey	8/14/2021 5:53 PM
14	I received and email from the city.	8/10/2021 3:08 PM
15	Direct email	8/9/2021 11:49 AM
16	adot email	8/8/2021 3:13 PM
17	Email from xpressbillpay	8/5/2021 9:51 AM
18	Again, this was a test	8/4/2021 1:20 PM
19	E-mail	8/4/2021 8:03 AM
20	Email	8/3/2021 9:39 PM
21	website	8/3/2021 7:49 PM
22	I'm on email list	8/3/2021 6:36 PM
23	Family who it can affect negatively	8/3/2021 6:13 PM
24	Email	8/3/2021 6:11 PM
25	Email.	8/3/2021 5:59 PM
26	email	8/3/2021 5:55 PM
27	email	8/3/2021 1:20 PM
28	A friend sent me an email about the study.	8/3/2021 10:03 AM
29	8	8/2/2021 10:47 PM
30	511	8/2/2021 6:16 PM
31	The last two would be beneficial	8/2/2021 2:34 PM
32	ADOT Email	8/2/2021 2:25 PM
33	my employer sent it out to all employees as information	8/2/2021 2:20 PM
34	ADOT via govdelivery.com	8/2/2021 2:03 PM
35	Dealing with the truck traffic daily!!	8/2/2021 12:55 PM

Q1 ETHNICITY/RACE:

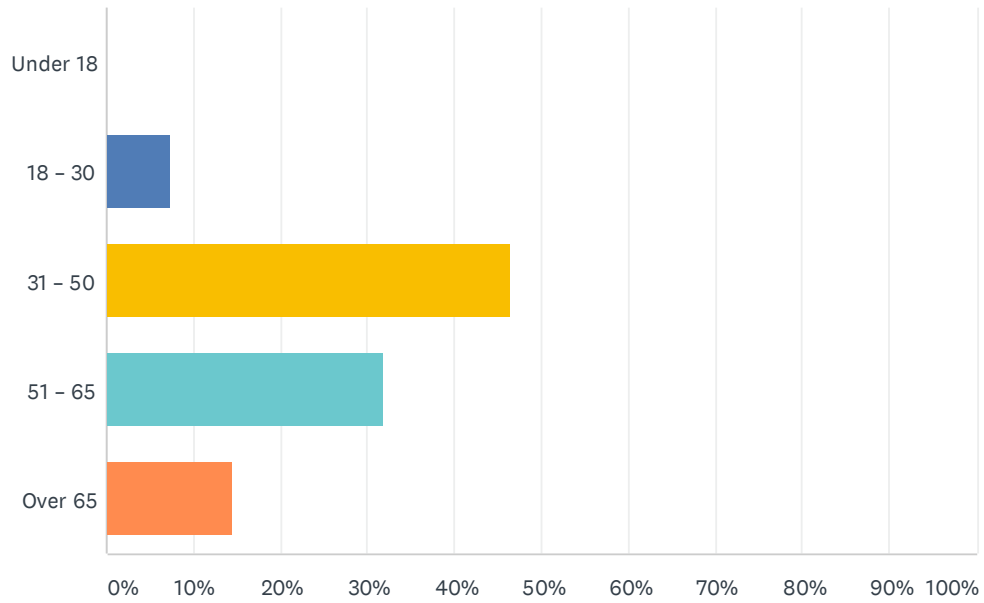
Answered: 65 Skipped: 4



ANSWER CHOICES	RESPONSES	
African American/Black	0.00%	0
American Indian/Alaskan Native	3.08%	2
Native Hawaiian/Other Pacific Islander	0.00%	0
Asian	0.00%	0
Hispanic/Latino	13.85%	9
White	86.15%	56
Total Respondents: 65		

Q2 Age

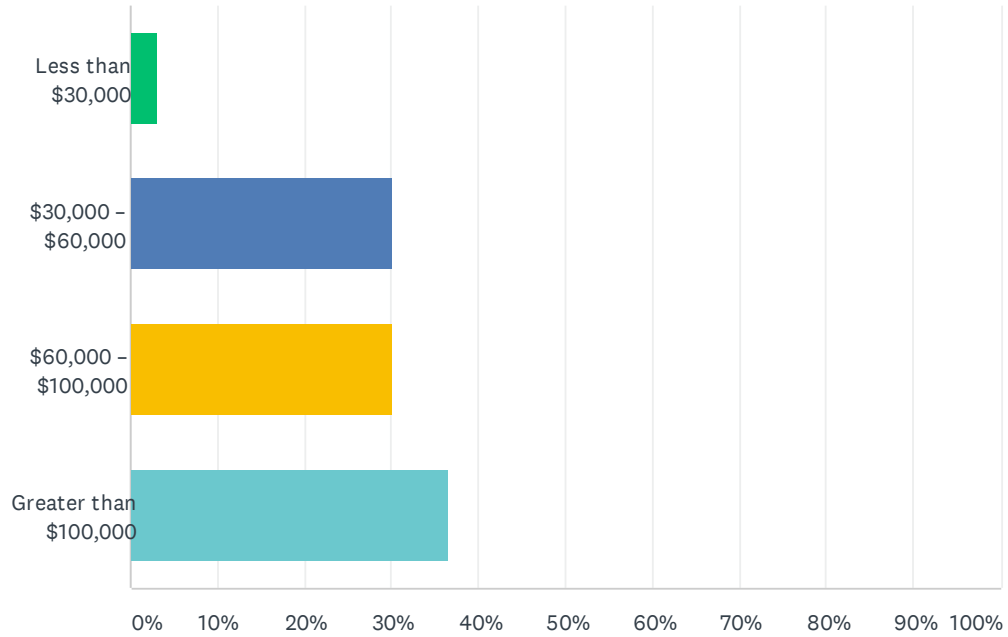
Answered: 69 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 - 30	7.25%	5
31 - 50	46.38%	32
51 - 65	31.88%	22
Over 65	14.49%	10
Total Respondents: 69		

Q3 Household Income

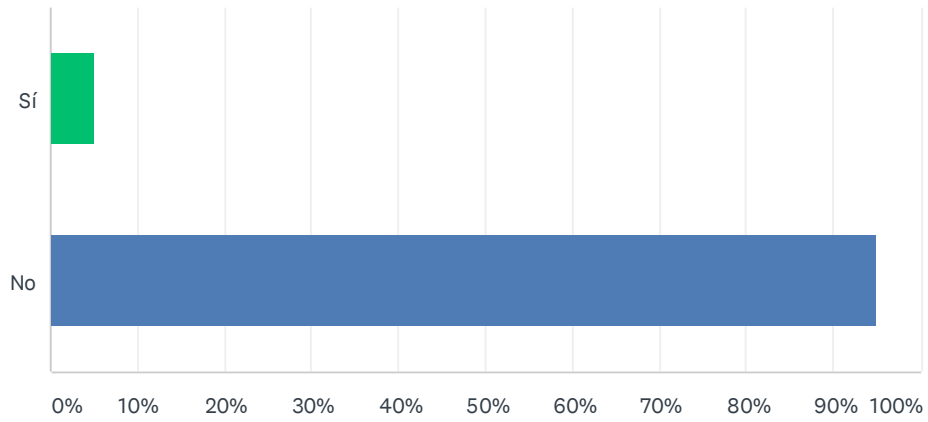
Answered: 63 Skipped: 6



ANSWER CHOICES	RESPONSES	
Less than \$30,000	3.17%	2
\$30,000 - \$60,000	30.16%	19
\$60,000 - \$100,000	30.16%	19
Greater than \$100,000	36.51%	23
Total Respondents: 63		

Q2 ¿Desea unirse a la lista de correo electrónico del proyecto?

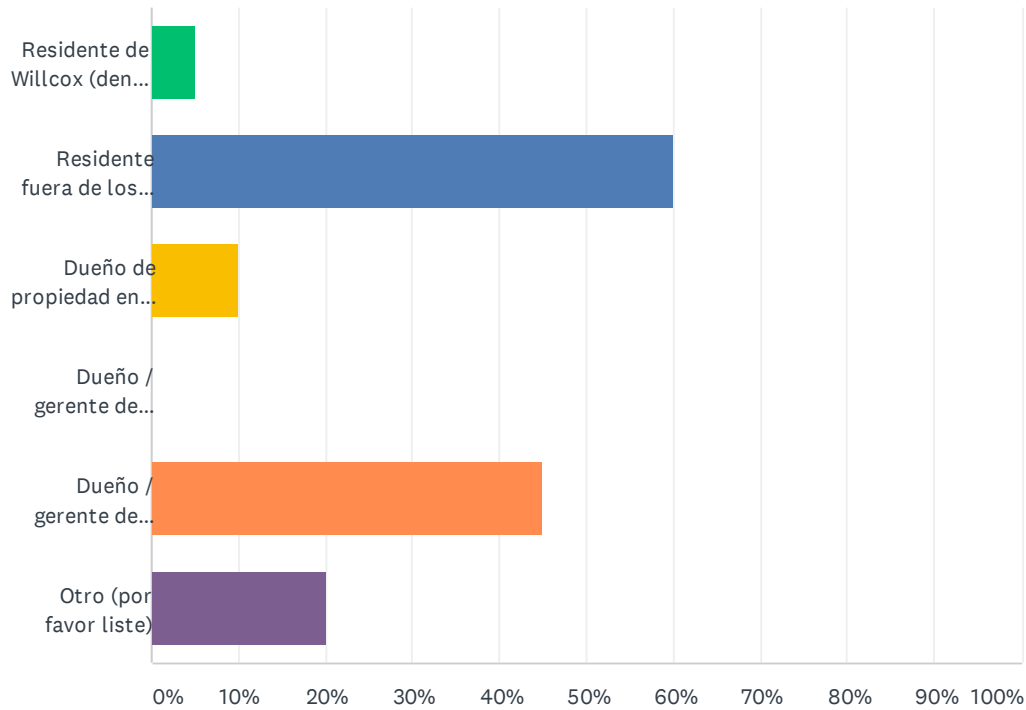
Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	5.00%	1
No	95.00%	19
TOTAL		20

Q3 Tipo de parte interesada: seleccione todas las que correspondan

Answered: 20 Skipped: 0

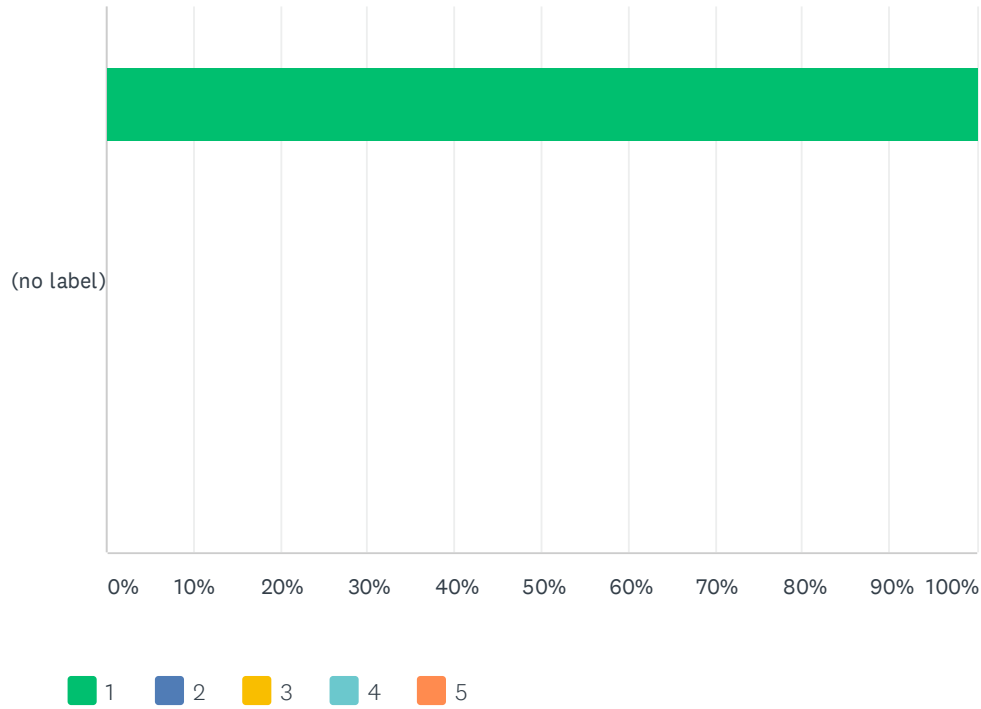


ANSWER CHOICES	RESPONSES	
Residente de Willcox (dentro de los límites de la ciudad)	5.00%	1
Residente fuera de los límites de la ciudad de Willcox	60.00%	12
Dueño de propiedad en Willcox	10.00%	2
Dueño / gerente de negocio (ubicado en los límites de la ciudad de Willcox)	0.00%	0
Dueño / gerente de negocio (ubicado fuera de los límites de la ciudad de Willcox)	45.00%	9
Otro (por favor liste)	20.00%	4
Total Respondents: 20		

#	OTRO (POR FAVOR LISTE)	DATE
1	Trabajo Serca de aquí	8/17/2021 7:19 AM
2	Trabajador	8/17/2021 7:17 AM
3	Trabajo cerca	8/17/2021 7:17 AM
4	Trabajador visado	8/17/2021 7:17 AM

Q4 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es muy de apoyo), indique su nivel de apoyo para la alternativa A (no construir).

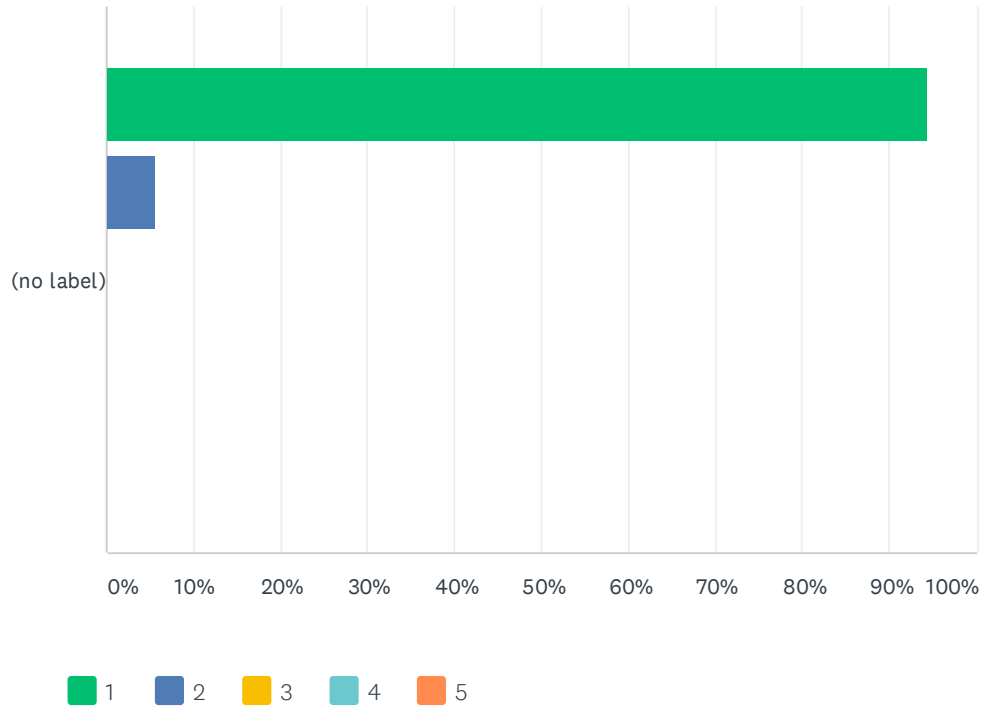
Answered: 19 Skipped: 1



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	100.00% 19	0.00% 0	0.00% 0	0.00% 0	0.00% 0	19	1.00

Q5 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es un poco de apoyo), indique su nivel de apoyo para la alternativa B (rotonda).

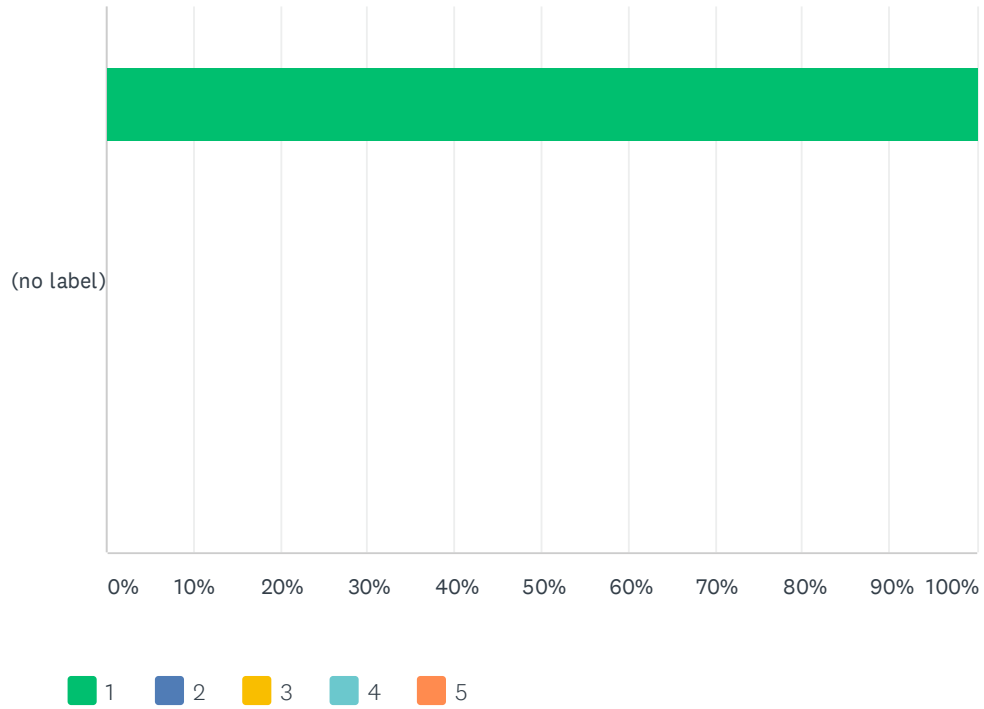
Answered: 18 Skipped: 2



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	94.44%	5.56%	0.00%	0.00%	0.00%	18	1.06
	17	1	0	0	0		

Q6 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es muy de apoyo), indique su nivel de apoyo para la alternativa C (reconfigurar).

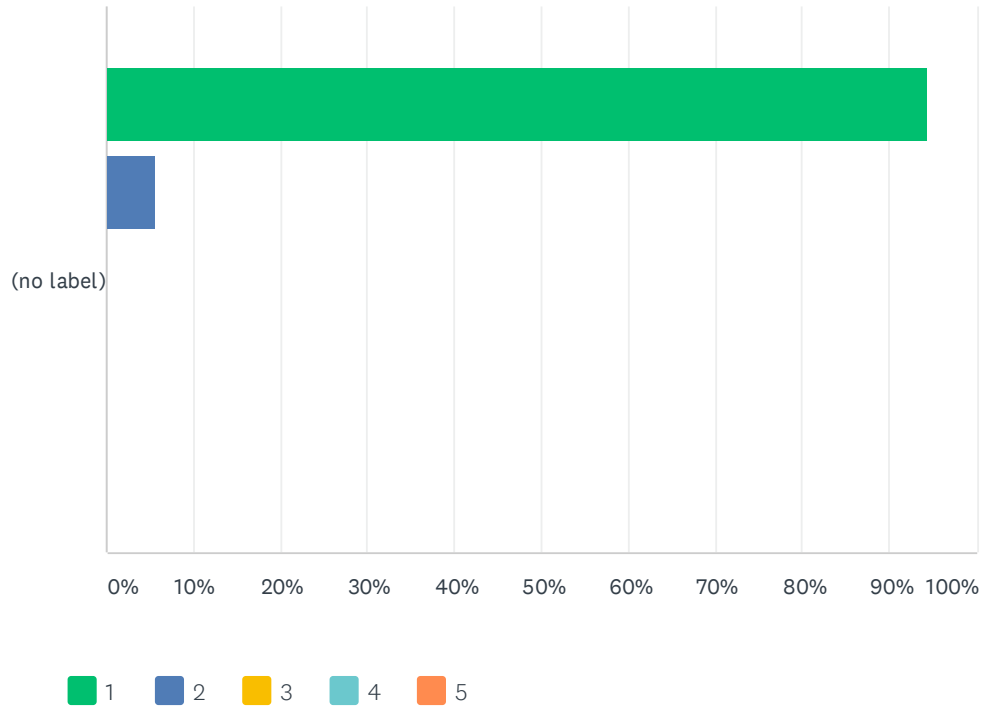
Answered: 18 Skipped: 2



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	100.00% 18	0.00% 0	0.00% 0	0.00% 0	0.00% 0	18	1.00

Q7 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es muy de apoyo), indique su nivel de apoyo para la alternativa D (ruta de camiones en las calles de la ciudad).

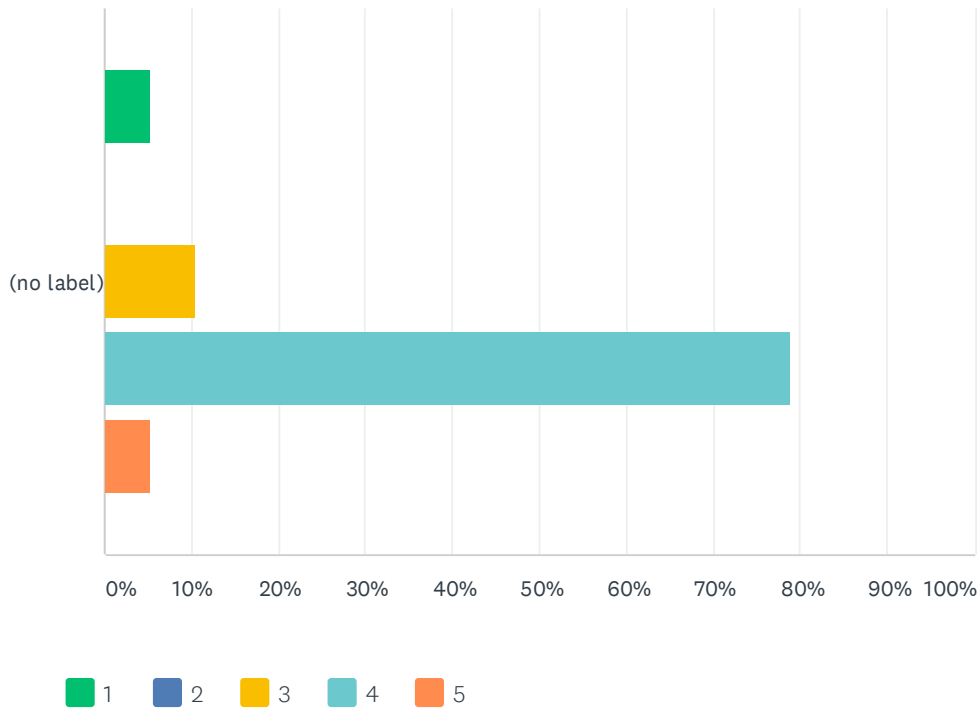
Answered: 18 Skipped: 2



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	94.44%	5.56%	0.00%	0.00%	0.00%	18	1.06
	17	1	0	0	0		

Q8 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es muy de apoyo), indique su nivel de apoyo para la alternativa E (circunvalación al este con cruce de ferrocarril a nivel).

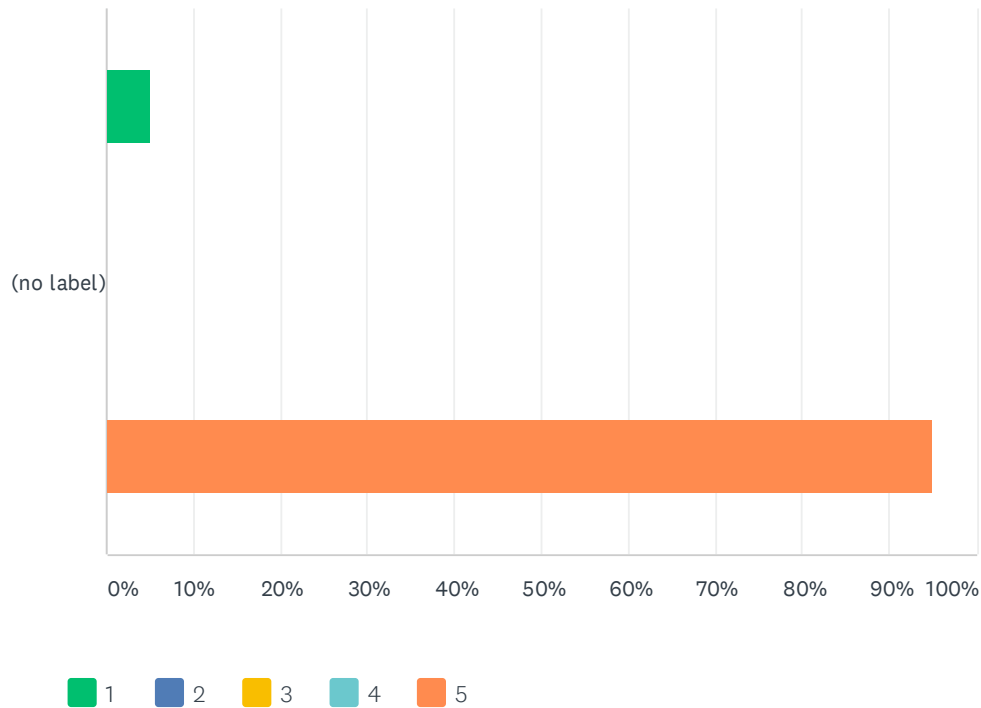
Answered: 19 Skipped: 1



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	5.26%	0.00%	10.53%	78.95%	5.26%	19	3.79
	1	0	2	15	1		

Q9 Utilizando una escala del 1 a 5 (donde 1 es muy en contra, 2 es un poco en contra, 3 es neutral/ sin preferencia, 4 es un poco de apoyo y 5 es muy de apoyo), indique su nivel de apoyo para la alternativa F (circunvalación al este con paso elevado de ferrocarril).

Answered: 20 Skipped: 0



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	5.00%	0.00%	0.00%	0.00%	95.00%		
	1	0	0	0	19	20	4.80

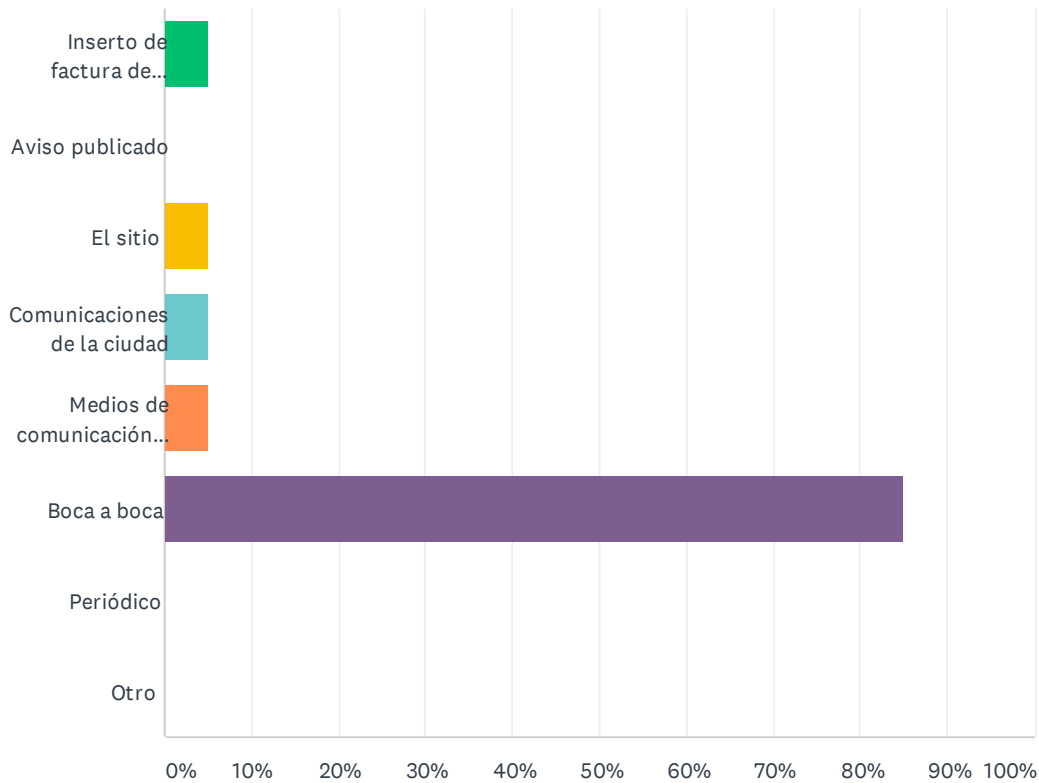
Q10 Por favor proporcione cualquier comentario que tenga sobre las alternativas de mejora.

Answered: 0 Skipped: 20

#	RESPONSES	DATE
	There are no responses.	

Q11 ¿Cómo se enteró de esta encuesta / proyecto? (marque todo lo que corresponda)

Answered: 20 Skipped: 0

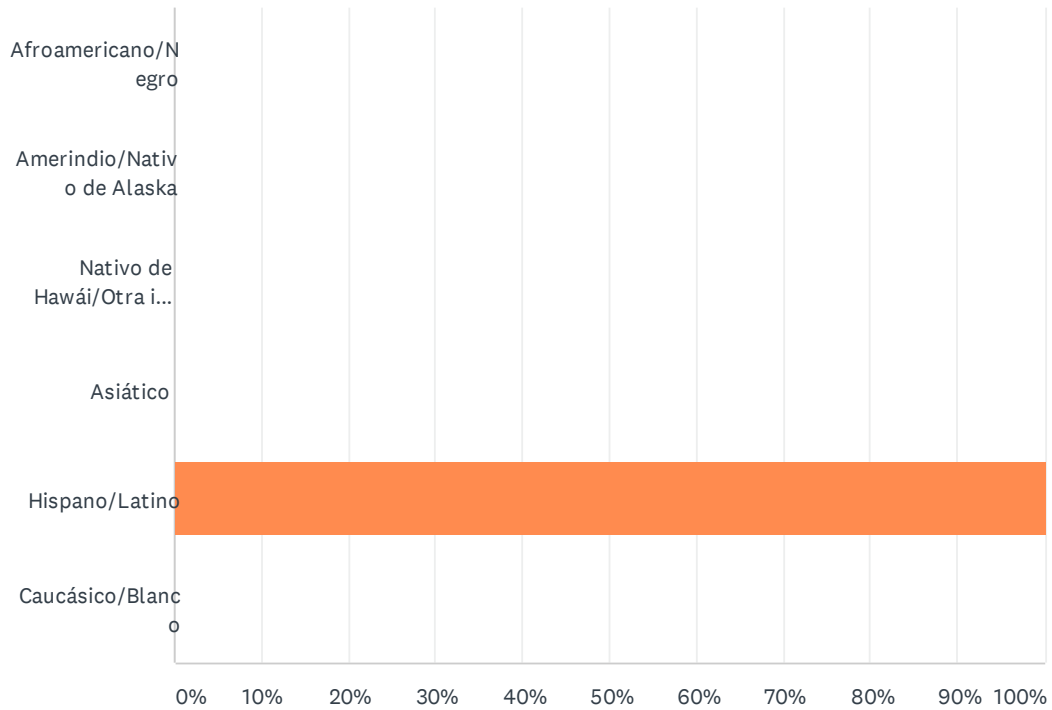


ANSWER CHOICES	RESPONSES	
Inserto de factura de servicios públicos	5.00%	1
Aviso publicado	0.00%	0
El sitio	5.00%	1
Comunicaciones de la ciudad	5.00%	1
Medios de comunicación social (Facebook, Twitter, etc.)	5.00%	1
Boca a boca	85.00%	17
Periódico	0.00%	0
Otro	0.00%	0
Total Respondents: 20		

#	OTRO	DATE
	There are no responses.	

Q1 ETNICIDAD/RAZA:

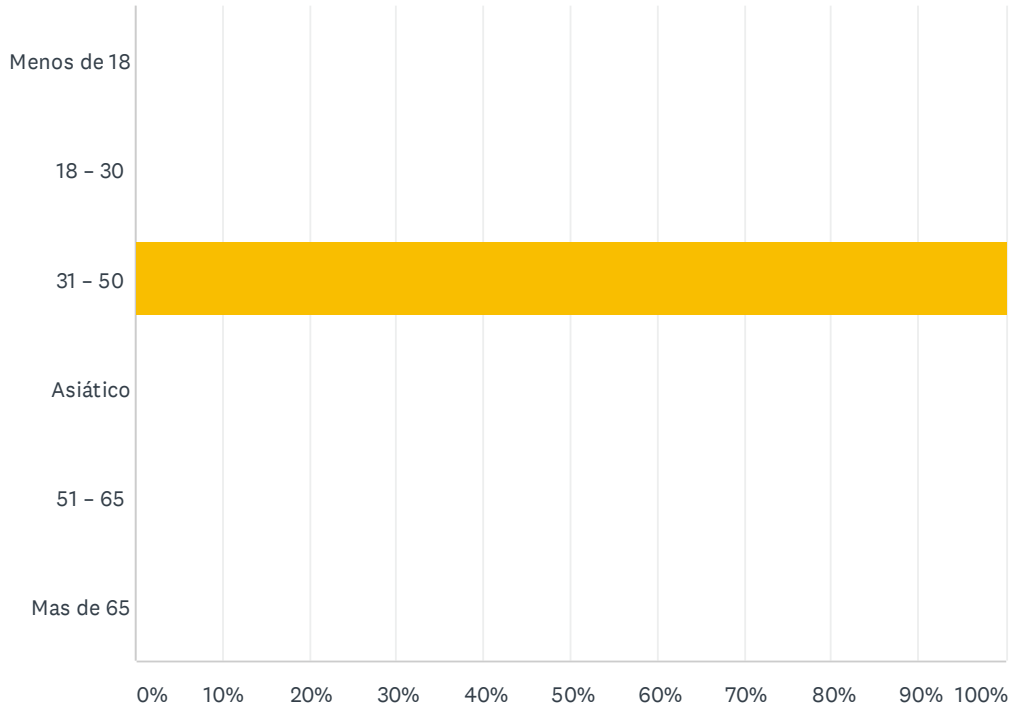
Answered: 1 Skipped: 1



ANSWER CHOICES	RESPONSES	
Afroamericano/Negro	0.00%	0
Amerindio/Nativo de Alaska	0.00%	0
Nativo de Hawái/Otra isla del Pacífico	0.00%	0
Asiático	0.00%	0
Hispano/Latino	100.00%	1
Caucásico/Blanco	0.00%	0
Total Respondents: 1		

Q2 Edad

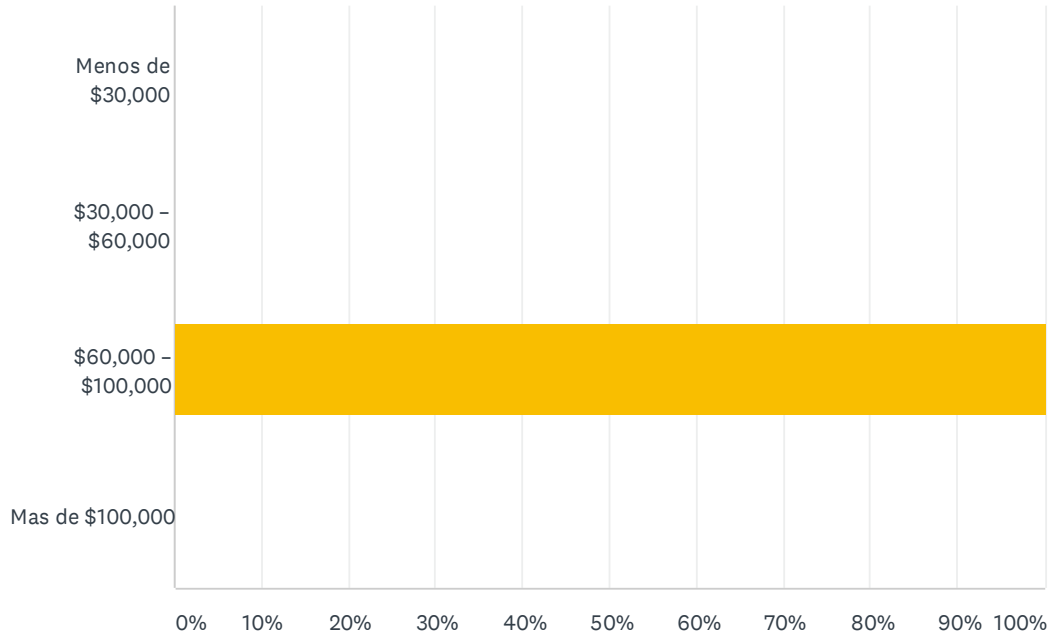
Answered: 2 Skipped: 0



ANSWER CHOICES	RESPONSES	
Menos de 18	0.00%	0
18 - 30	0.00%	0
31 - 50	100.00%	2
Asiático	0.00%	0
51 - 65	0.00%	0
Mas de 65	0.00%	0
Total Respondents: 2		

Q3 3. Ingreso anual

Answered: 1 Skipped: 1



ANSWER CHOICES	RESPONSES
Menos de \$30,000	0.00% 0
\$30,000 – \$60,000	0.00% 0
\$60,000 – \$100,000	100.00% 1
Mas de \$100,000	0.00% 0
Total Respondents: 1	

Project Team Responses to Questions

Question 1. Why would 2 current at grade railroad crossing have to be closed?

Response. As part of the national safety initiative to reduce train-automobile collisions, the Union Pacific Railroad's current policy is that two existing at-grade railroad crossings are to be closed when a new at-grade railroad crossing is installed, thereby reducing the overall total number of at-grade railroad crossings.

Question 2. As I understand it from your reply: build one and close two. So how would that affect the 3 we have now? upgrade one and close one or upgrade one and close 2? Maley, Stewart, and Patte are our current crossings, correct? Which would close and which would stay open if say the Stewart crossing were to be improved on?

Response. If Alternative D (Truck Route on City Streets) is implemented, the existing at-grade railroad crossing at Stewart Street may need to be upgraded. No closures or changes would be needed to any of the other existing at-grade railroad crossings. However, if Alternative E (East Bypass with At-Grade Railroad Crossing) is implemented, it would create a new at-grade railroad crossing along Rex Allen Drive. The Union Pacific Railroad would likely require that two of the three existing at-grade railroad crossings (Maley, Stewart, and Patte) be closed in exchange for permitting the new at-grade railroad crossing along Rex Allen Drive. Which two existing at-grade railroad crossings would be closed, and which existing at-grade railroad crossing would stay open, would need to be determined during the final design of the improvements. The existing Maley crossing is by far the most utilized existing crossing in Willcox, so closing the Stewart and Patte crossings would have the smallest adverse impact on the traveling public, but there could be other reasons why closing the Maley crossing might be preferred. More detailed evaluation on the advantages and disadvantages of closing each of the existing at-grade railroad crossings would need to be undertaken as part of the final design of the improvements.

Question 3. Why have the bypass come through 2nd Ave? The bypass is the obvious best idea but I think the route should be different.

Response. 2nd Avenue was selected for the bypass alignment based on input provided by the project's Technical Advisory Committee, which included City of Willcox staff, elected City officials, local business representatives, Cochise County staff, and Arizona Department of Transportation staff. 2nd Avenue has existing public right-of-way that can likely be used for the new roadway, reducing the amount of required additional right-of-way. 2nd Avenue also is relatively close to downtown – there was some concern expressed by the local business representatives and City staff that having the bypass further away from downtown than 2nd Avenue would have negative economic impacts on downtown businesses.

Question 4. Could Alternatives E and F connect to 186 a little further south and skip the south end of town completely?

Response. 2nd Avenue was selected for the alignment based on input provided by the project's Technical Advisory Committee, which included City of Willcox staff, elected City officials, local business representatives, Cochise County staff, and Arizona Department of Transportation staff. 2nd Avenue has existing public right-of-way that can likely be used for the new roadway, reducing the amount of required additional right-of-way. 2nd Avenue also is relatively close to downtown – there was some concern expressed by the local business representatives and City staff that having the bypass further away from downtown than 2nd Avenue would have negative economic impacts on downtown businesses.

Public Engagement Round 1. Summary Memorandum

Question 5. Will street lighting and traffic lights be included?

Response. For Alternative E and Alternative F, a traffic signal may potentially be needed at Rex Allen Dr/Haskell Ave and at 2nd Ave/Maley St – this would need to be evaluated during detailed final design. The determination of whether or not to include streetlighting would be assessed during detailed final design.

Question 6. Does 8 [Alternative E] and 9 [Alternative F] disrupt the old cemetery? What about the Elks RV park? What happened to Stewart being a proposed bypass route?

Response. A preliminary evaluation indicates Alternatives E and F will not likely have significant adverse impacts on the old cemetery and Elks RV park but more detailed assessment would be needed during detailed final design. Stewart Street was initially considered as a potential bypass route but was screened out based on input provided by the project's Technical Advisory Committee, which included City of Willcox staff, elected City officials, local business representatives, Cochise County staff, and Arizona Department of Transportation staff. The Technical Advisory Committee favored the bypass connecting Rex Allen Drive/SR 186 and 2nd Avenue rather than using Stewart Street as a bypass.

Question 7. On any of the Bypass options (E & F), is this going to increase truck traffic on Rex Allen Dr.? If so would it be beneficial to put a traffic light at Arizona Ave. and Rex Allen to allow safer access to the Hospital for the Public, and maybe the auto control for Emergency Vehicles to control the light colors?

Response. Alternative E and Alternative F are anticipated to result in only a small increase in truck traffic on Rex Allen Drive as most of the trucks that would use the bypass are already driving on Rex Allen Drive. A traffic signal at Arizona Avenue/Rex Allen Drive could potentially be installed in the future if traffic volumes increase to the point where a traffic signal is warranted. If a traffic signal is installed, the capability for emergency vehicle preemption is something that would be considered during the final design of the traffic signal.

Question 8. I really like C but I have questions about parking on Hwy 186/Maley Street will it still be allowed? If not I strongly agree B. We can't afford to lose parking.

Response. Alternative C is not anticipated to impact existing on-street parking.

Question 9. It's hard to judge when there's no context... what are the estimated costs? What's the cities budget for roadways? Are there grants available?

Response. A preliminary high-level cost estimate is as follows for the various alternatives: Alternative A (\$0); Alternative B (\$307,000); Alternative C (\$38,000); Alternative D (\$2,173,000); Alternative E (\$3,855,000); and Alternative F (\$27,855,000). The City's funding for roadways is currently allocated only to maintenance of existing roadways – there are no current City funds for roadway improvements. There are grants at both the state and national level that could potentially be used to fund roadway improvements in Willcox, but they are very competitive grant programs, so there is no guarantee grant funding can be secured.

Question 10. Add traffic signal lights at 2nd Ave & Maley St. and Rex Allen Dr. and Haskell Ave. Will street lighting be included? (Solar Street lights will eliminate electricity utility costs).

Response. For Alternative E and Alternative F, a traffic signal may potentially be needed at Rex Allen Dr/Haskell Ave and at 2nd Ave/Maley St – this would need to be evaluated during detailed final design. The determination of whether or not to include streetlighting would be assessed during detailed final design.

Appendix C. Public Engagement Round 2 Summary

Public Engagement Round 2 Background

Public Involvement Plan Framework

The Public Improvement Plan (PIP) identifies public involvement goals, phases, tools, and communication methods used during the development of the Willcox Circulation Study. The goals of the plan are to engage a broad audience in public engagement throughout the course of the study so that the public’s questions, comments, and concerns can be addressed and reflected in the final recommendations. The PIP includes the identification and analysis of target audiences and defines techniques used to promote an inclusive and informed decision-making process throughout the project schedule. There are two rounds of public involvement outlined in the PIP: one during the evaluation of candidate improvement alternatives and one during the final evaluation of the preferred alternatives.

Engagement Round 2 Goals

The second round of engagement, in the form of a public survey, provided background on the Willcox Circulation Study as well as an overview of the draft preferred alternatives (defining an interim preferred alternative and an ultimate preferred alternative). The survey’s purpose was to determine if there is enough public support behind the alternatives to move them forward in the project development process. The survey allowed the public to review the interim and ultimate preferred alternatives and indicate their level of support.

Survey Advertisement

The public survey was advertised in a variety of methods to reach a wide variety of audiences, including residents, workers, and travelers in the study area. Three primary methods were used to advertise the public survey – an insert in City of Willcox utility bills, the email list from the project website, and through the Technical Advisory Committee (TAC).

Utility Bill Insert

A half page insert was included in the October 2021 utility bills (sent in early November), which were sent to every utility customer served by the City of Willcox. The insert informed residents of the opportunity to participate in the survey virtually or in person. The utility bill insert was in the format of a postcard in both English and Spanish, informing residents of the request for public input. The English version of the utility bill insert is shown in **Figure 77**.

Figure 77. Utility Bill Insert

Please weigh in on the draft preferred alternatives!
Help us reduce the impact of truck traffic through downtown Willcox.


The Arizona Department of Transportation (ADOT), in collaboration with the City of Willcox and area businesses, is working to reduce the impact of heavy truck traffic traveling through downtown Willcox to access Interstate 10.

Thank you to all those who participated in the initial survey regarding potential improvement alternatives, which closed on August 31, 2021, and helped narrow the alternatives.

Please visit www.azdot.gov/willcoxstudy to take a brief survey about the draft preferred alternatives that provide potential short-term and long-term improvements.

A paper version of the survey is available at the locations below.
The survey ends Tuesday, November 30, 2021.

- ▶ **Willcox City Hall**, 101 S. Railroad Avenue B
- ▶ **Elsie S. Hogan Community Library**, 100 N. Curtis Avenue



Email List from Project Website

The Arizona Department of Transportation (ADOT) established a project website for the public to find information and updates on the Willcox Circulation Study. This website provides contact information as well as a link to subscribe to receive study information and updates by email. Notice of the public survey and a survey link was provided to subscribers of the project email list.

Technical Advisory Committee

At the September 21, 2021 TAC meeting, the study team asked the TAC to share the survey through their respective organizations, social groups, and social media. This effort was meant to reach a wider variety of community members than might otherwise be engaged in the project.

Public Survey

The public survey was released on October 29, 2021 and was available through November 30, 2021. The public survey was available both electronically and in hard copy format. Both survey formats were available in English and Spanish.

Survey Platforms and Access

The public survey could be completed either electronically or in person. An electronic version of the survey was available through SurveyMonkey on ADOT's project website. Hard-copy surveys were available for pick-up and drop-off at both the Willcox City Hall (101 S Railroad Avenue) and Elsie S. Hogan Community Library (100 N Curtis Avenue).

Survey Questions

The initial survey questions included contact information and the respondent's relation to the study area, including residency, business/property ownership, or traveler status.

Next, the interim and ultimate preferred alternatives were presented to respondents. The survey included a visual depiction of the interim preferred alternative and then the ultimate preferred alternative, calling out notable project elements. Participants were asked to rank the interim preferred alternative and ultimate preferred alternative using a scale of 1 to 5, where:

- 1 is Strongly Oppose
- 2 is Somewhat Oppose
- 3 is Neutral/No Preference
- 4 is Somewhat Support
- 5 is Strongly Support

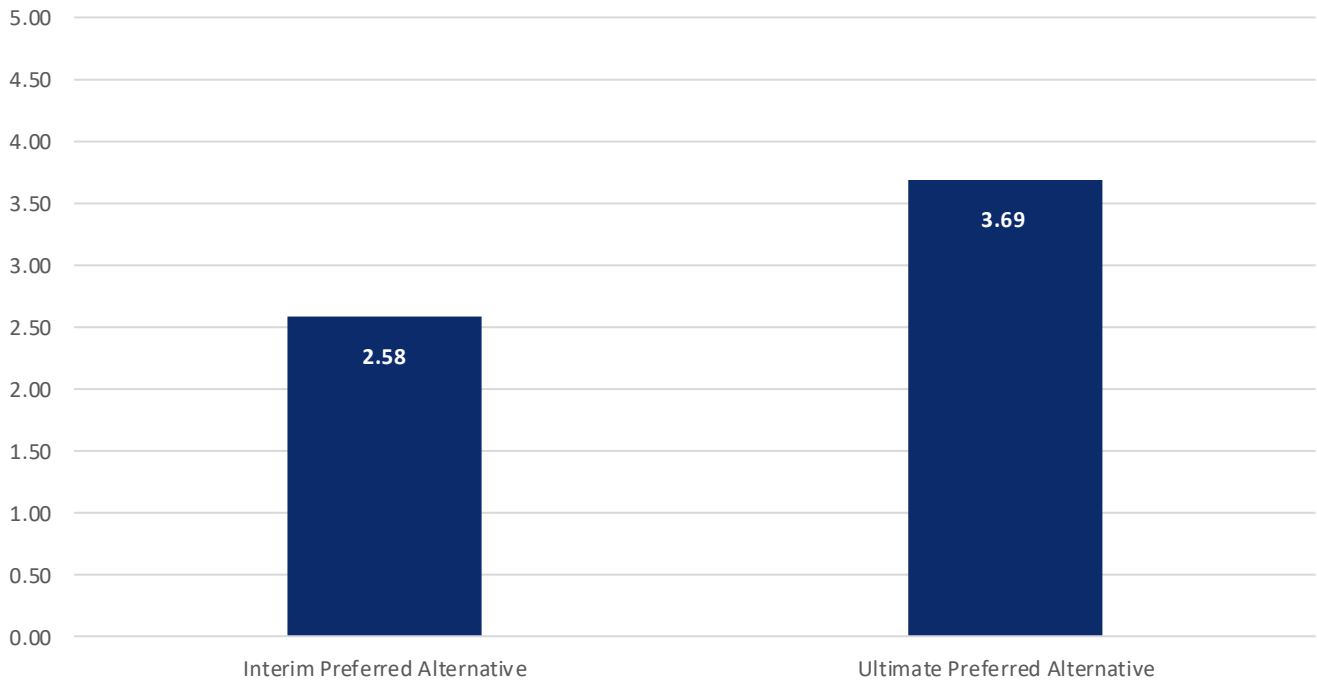
Last, survey respondents were asked to share how they heard of the project survey from the possible outlets. Respondents were also directed to a separate optional demographic survey. This information was used to help identify if traditionally underrepresented groups participated in the survey, although it should be noted that this demographic survey was optional and, as such, responses did not reflect the demographics of those who chose not to respond.

Survey Results

Public survey 2 received 67 responses, all of which were electronically submitted. All responses were submitted in English. A more detailed summary of all survey responses is included in the Appendix. It was most common that respondents were residents outside of Willcox city limits (52%), with 33% of respondents being Willcox residents.

Survey respondents were asked to separately rank the interim preferred alternative and ultimate preferred alternative from 1 to 5. **Figure 78** shows the average score for each preferred alternative.

Figure 78. Public Survey 2 Average Preferred Alternative Score



Overall, survey respondents were more supportive of the ultimate preferred alternative than the interim preferred alternative. Approximately 53% of respondents opposed the interim preferred alternative while 31% supported it and 16% were neutral. Approximately 67% of respondents supported the ultimate preferred alternative while 24% opposed it and 9% were neutral.

It should be noted that the interim preferred alternative was a revised version of a candidate alternative known as Alternative C, which in the first survey had a weighted average score of 2.06, suggesting respondents are more supportive of the interim preferred alternative than they were of Alternative C.

Similarly, the ultimate preferred alternative was a revised version of a candidate alternative known as Alternative E, which in the first survey had a weighted average score of 3.64, suggesting respondents are slightly more supportive of the ultimate preferred alternative than they were of Alternative E.

Comments were provided suggesting that the interim preferred alternative does not address the existing truck-turning issues as well as the ultimate preferred alternative. Comments were generally in support of the ultimate preferred alternative.

The most common ways that survey respondents reported finding out about the survey were through social media (31%), word of mouth (22%), City communications (19%), and the utility bill insert (16%).

Demographic Outcomes

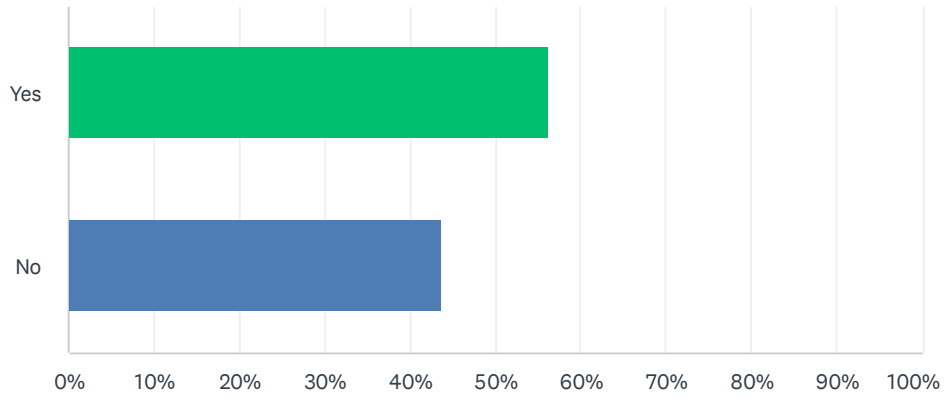
All responses were submitted in English. A total of 21 survey respondents provided personal demographic information. Approximately 10% of those that reported demographic information reported their race as non-white. The study area has a minority population of 45%, signifying a lower representation of the minority population in the demographic survey responses. The most common age range for demographic survey respondents was the age group of 51 to 65, at 48%. Most demographic respondents reported an annual income of at least \$60,000, with 30% making greater than \$100,000 and 40% making between \$60,000 to \$100,000 annually. Approximately 5% of demographic survey respondents reported an annual income of less

than \$30,000. Low-income households make up 16% of the population living in the study area, signifying a lower representation of the low-income population in the demographic survey responses.

It should be noted that the demographic survey was optional and was only responded to by a portion of the respondents to the survey on the preferred alternatives. As such, the demographic survey results do not necessarily reflect the demographics of all respondents of the preferred alternatives survey nor the demographics of those that received notice of the availability of the survey.

Q2 Join project email list?

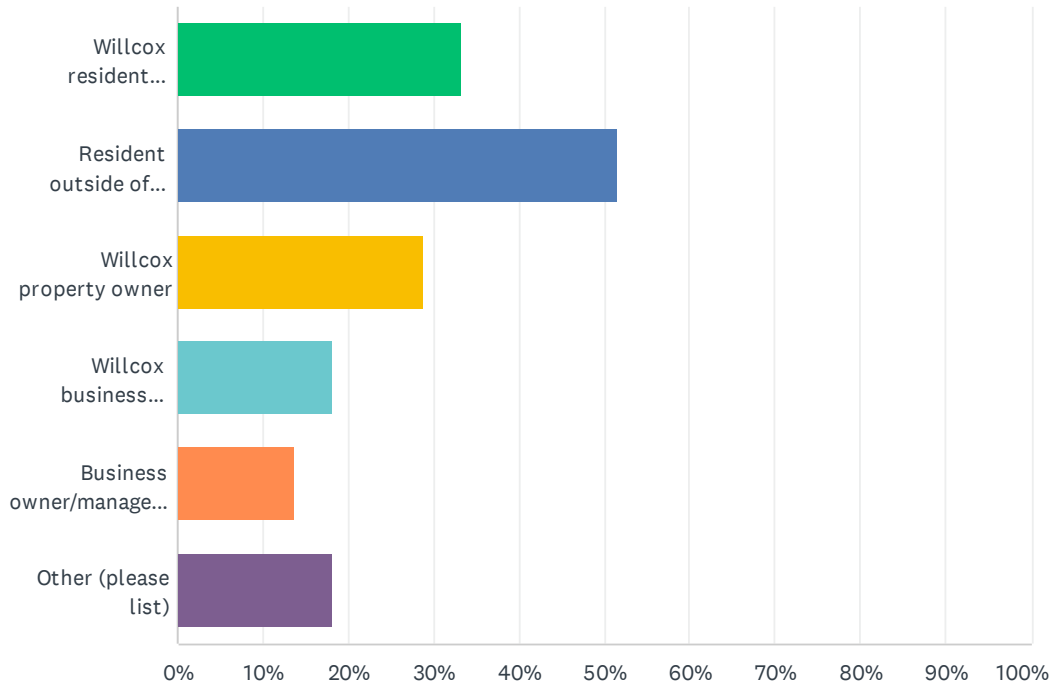
Answered: 55 Skipped: 12



ANSWER CHOICES	RESPONSES	
Yes	56.36%	31
No	43.64%	24
TOTAL		55

Q3 Stakeholder type - select all that apply

Answered: 66 Skipped: 1



ANSWER CHOICES	RESPONSES
Willcox resident (within city limits)	33.33% 22
Resident outside of Willcox city limits	51.52% 34
Willcox property owner	28.79% 19
Willcox business owner/manager (located within Willcox city limits)	18.18% 12
Business owner/manager (located outside of Willcox city limits)	13.64% 9
Other (please list)	18.18% 12
Total Respondents: 66	

#	OTHER (PLEASE LIST)	DATE
1	State Railroad Regulator, ACC Railroad Safety Division	11/29/2021 11:04 AM
2	Patrol Supervisor in Willcox for Cochise County Sheriff's Office.	11/22/2021 11:20 AM
3	Live in Pearce and work in Willcox and must travel over the railroad tracks daily.	11/9/2021 9:44 AM
4	Transportation manager for Western Hydro Engineering.	11/5/2021 6:47 AM
5	I drive semi trucks and large farm equipment through town regularly, as I farm near the Dos Cabezas and in the Stewart District. While the turn lanes would improve the situation. The new passover would be a far better solution as far as safety is concerned.	11/3/2021 7:07 AM
6	I'm an Arizonan and why is there no comment section? Don't you want feedback? Put in roundabouts instead of the 4-way or 2-way stops. Otherwise, long term solution looks like a	11/2/2021 12:41 PM

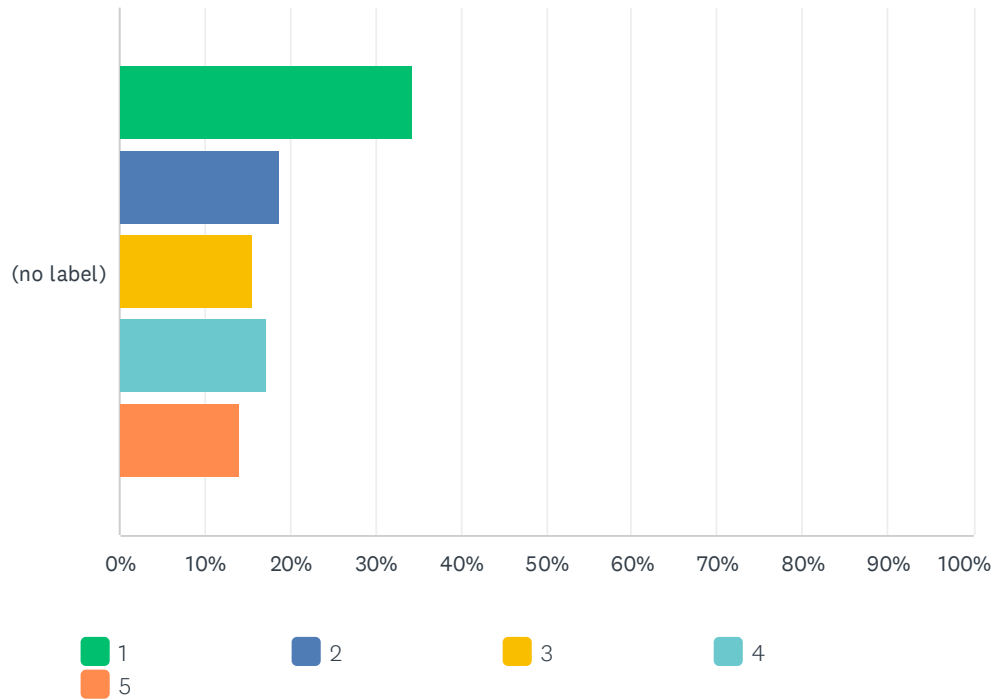
Willcox Circulation Study 2 (English)

good way to get rid of trucks from downtown, and you should re-sign the new road as SR186 all the way to the interstate.

7	Frequent commuter through area	11/1/2021 6:26 PM
8	Manager of wind farm	11/1/2021 6:17 PM
9	Intrested Citizen	11/1/2021 1:37 PM
10	Daily commuter to Willcox utilizing Maley	11/1/2021 11:02 AM
11	No place to make comments on alternatives. Not really two options here. One is interim-short term and one is long-term-ultimate solution. Four way stop causes some concern for pedestrian safety. May need better lighting at intersection? The ultimate solution would provide a viable and needed route from Douglas if the Port of Entry is expanded in the future.	11/1/2021 9:37 AM
12	interested in process.	11/1/2021 8:36 AM

Q4 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for the Interim Improvements.

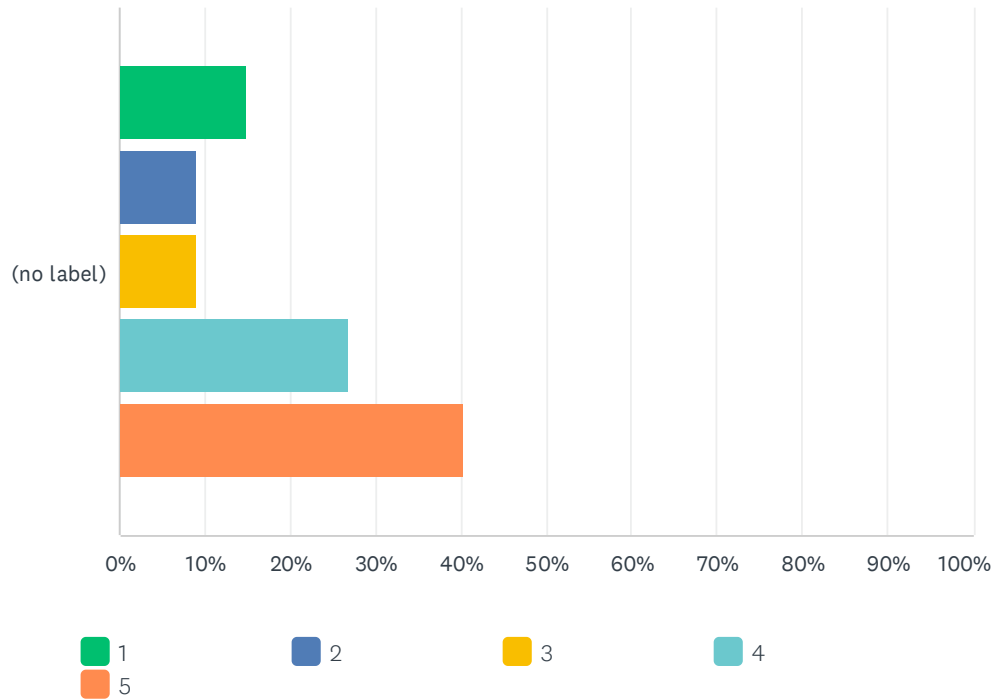
Answered: 64 Skipped: 3



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	34.38%	18.75%	15.63%	17.19%	14.06%	64	2.58
	22	12	10	11	9		

Q5 Using a scale of 1 to 5 (where 1 is Strongly Oppose, 2 is Somewhat Oppose, 3 is Neutral/No Preference, 4 is Somewhat Support, and 5 is Strongly Support), please indicate your level of support for the ultimate preferred alternative improvements.

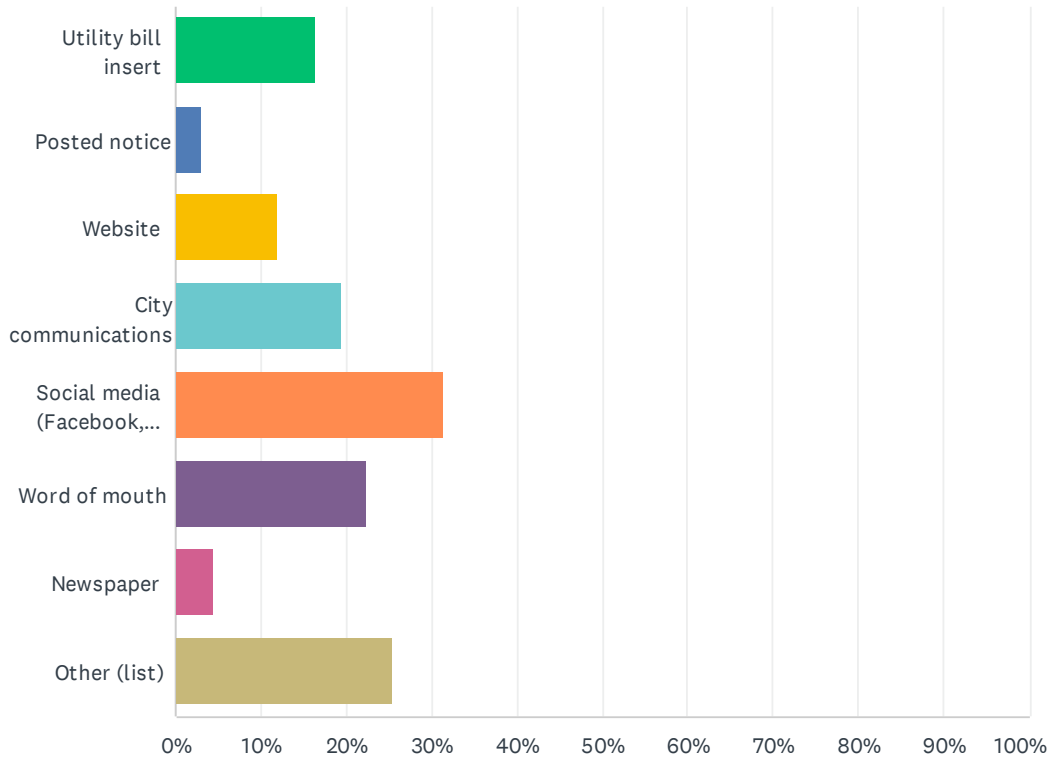
Answered: 67 Skipped: 0



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	14.93%	8.96%	8.96%	26.87%	40.30%	67	3.69
	10	6	6	18	27		

Q6 How did you hear about this survey/project? Options (check all that apply):

Answered: 67 Skipped: 0



ANSWER CHOICES	RESPONSES	
Utility bill insert	16.42%	11
Posted notice	2.99%	2
Website	11.94%	8
City communications	19.40%	13
Social media (Facebook, Twitter, Nextdoor, etc.)	31.34%	21
Word of mouth	22.39%	15
Newspaper	4.48%	3
Other (list)	25.37%	17
Total Respondents: 67		

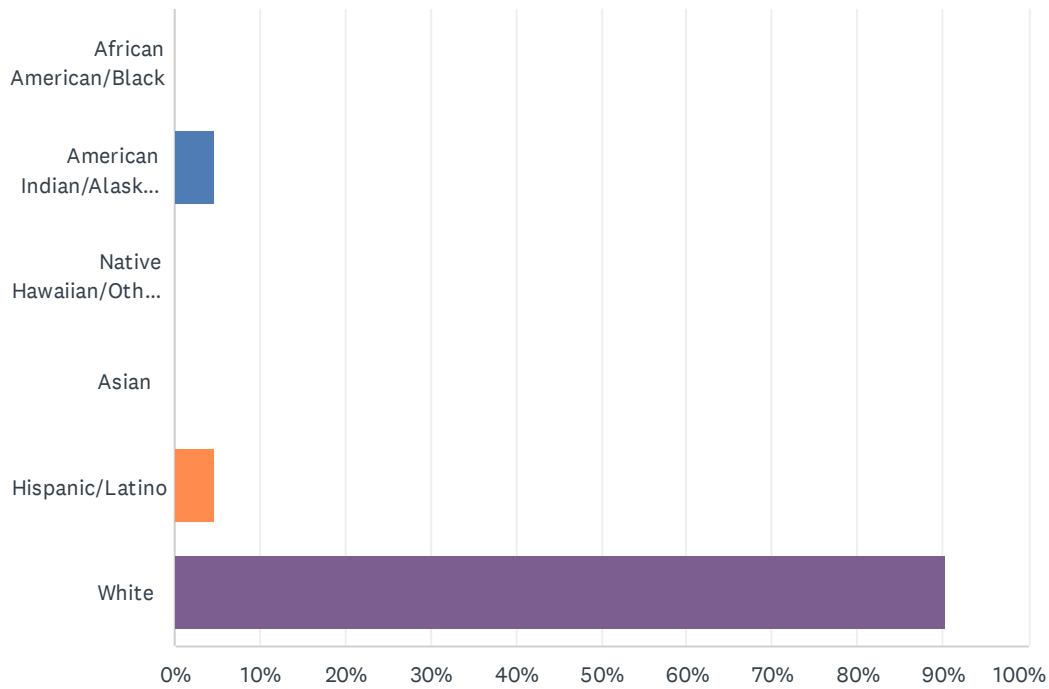
#	OTHER (LIST)	DATE
1	ACC was involved in a meeting on Willcox Bypass earlier in the process.	11/29/2021 11:04 AM
2	ADOT Email.	11/22/2021 11:20 AM
3	Email	11/9/2021 9:44 AM

Willcox Circulation Study 2 (English)

4	How can a Railroad have control over vehicle traffic? This does not make sense to close two just to create one new one. If the Railroad can control at grade crossings closures, then why aren't they responsible if an emergency occurs and medical help can't respond due to a train stopped on the tracks.	11/2/2021 7:32 PM
5	email	11/2/2021 2:27 PM
6	ADOT Email Update	11/1/2021 1:37 PM
7	Must have gotten on an email list and started receiving communications directly.	11/1/2021 10:16 AM
8	Email from ADOT	11/1/2021 9:37 AM
9	Received an email	11/1/2021 9:09 AM
10	Email	11/1/2021 9:03 AM
11	ADOT email	11/1/2021 8:51 AM
12	Email	11/1/2021 8:49 AM
13	E-mail.	11/1/2021 8:44 AM
14	email from ADOT.	11/1/2021 8:36 AM
15	Email	11/1/2021 7:50 AM
16	Email	10/29/2021 11:43 AM
17	email	10/29/2021 10:25 AM

Q1 ETHNICITY/RACE:

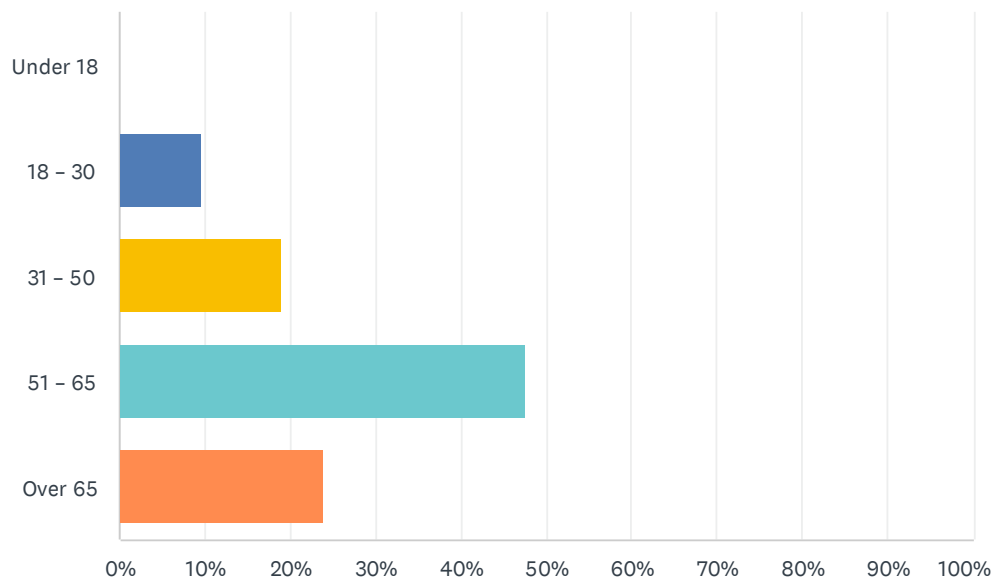
Answered: 21 Skipped: 0



ANSWER CHOICES	RESPONSES	
African American/Black	0.00%	0
American Indian/Alaskan Native	4.76%	1
Native Hawaiian/Other Pacific Islander	0.00%	0
Asian	0.00%	0
Hispanic/Latino	4.76%	1
White	90.48%	19
Total Respondents: 21		

Q2 Age

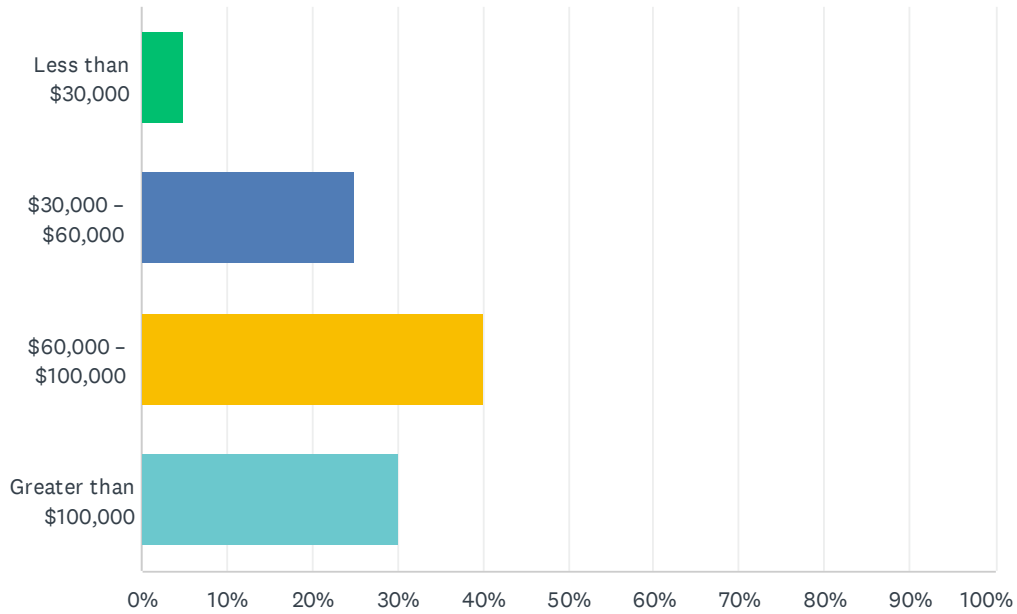
Answered: 21 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 - 30	9.52%	2
31 - 50	19.05%	4
51 - 65	47.62%	10
Over 65	23.81%	5
Total Respondents: 21		

Q3 Household Income

Answered: 20 Skipped: 1



ANSWER CHOICES	RESPONSES
Less than \$30,000	5.00% 1
\$30,000 – \$60,000	25.00% 5
\$60,000 – \$100,000	40.00% 8
Greater than \$100,000	30.00% 6
Total Respondents: 20	

Appendix D. Project Fact Sheet

Willcox Circulation Study

PROJECT OVERVIEW

The Arizona Department of Transportation and the City of Willcox have initiated a study to identify and evaluate issues related to freight traffic in Willcox and its effect on traffic circulation in the city.

Key elements of the study are to:

- ▶ Collect and analyze data related to transportation and demographics to identify deficiencies in the existing roadway system
- ▶ Assess safety and quality of life issues resulting from heavy truck traffic in Willcox
- ▶ Identify potential alternative heavy truck routes aimed at addressing deficiencies
- ▶ Prepare an environmental overview of existing and potential truck routes
- ▶ Involve the public to provide input to be used to evaluate and refine truck route alternatives in addition to technical analyses
- ▶ Select a preferred alternative that best serves freight operators and the residents of Willcox and the surrounding area
- ▶ Prepare a final report documenting next steps in the planning process



PROJECT PURPOSE

A majority of the current and anticipated freight generators surrounding Willcox are located on the southeast side of the city, along State Route 186. Currently, the only way for heavy trucks to access Interstate 10 is by passing through downtown Willcox, creating congestion and slowing the movement of freight. Identifying an alternative route will make delivery of freight more efficient and improve the quality of life for residents.

ANTICIPATED TIMELINE

- ▶ **January 2021 – May 2021** – Data collection and analysis, environmental overview
- ▶ **May 2021 – August 2021** – Evaluate potential truck route solutions and do public survey
- ▶ **August 2021 – November 2021** – Planning and scoping for preferred alternative and do public survey
- ▶ **November 2021 – January 2022** – Drafting and submitting Final Report

CONTACT

Questions and comments can be submitted throughout the study process in any of the following ways:

@ EMAIL: willcoxstudy@azdot.gov

✉ MAIL: ADOT Community Relations
1221 S. Second Avenue, Tucson, AZ 85713

☎ CALL: Spanish/English Project Information Line
855.712.8530

🌐 WEB: azdot.gov/willcoxstudy

🔔 Sign up to receive project information and updates by email.
Visit the project web page and click on “subscribe for updates.”

Pursuant to Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA) and other nondiscrimination laws and authorities, ADOT does not discriminate on the basis of race, color, national origin, sex, age, or disability. Persons that require a reasonable accommodation based on language or disability should contact Jerimiah Moerke at 520.388.4233. Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.



Estudio de circulación de Willcox

DESCRIPCIÓN DEL PROYECTO

El Departamento de Transporte de Arizona y la Ciudad de Willcox han iniciado un estudio para identificar y evaluar cuestiones relacionadas con el tráfico de mercancías en Willcox y su efecto en circulación del tráfico en la ciudad.

Los elementos clave del estudio son:

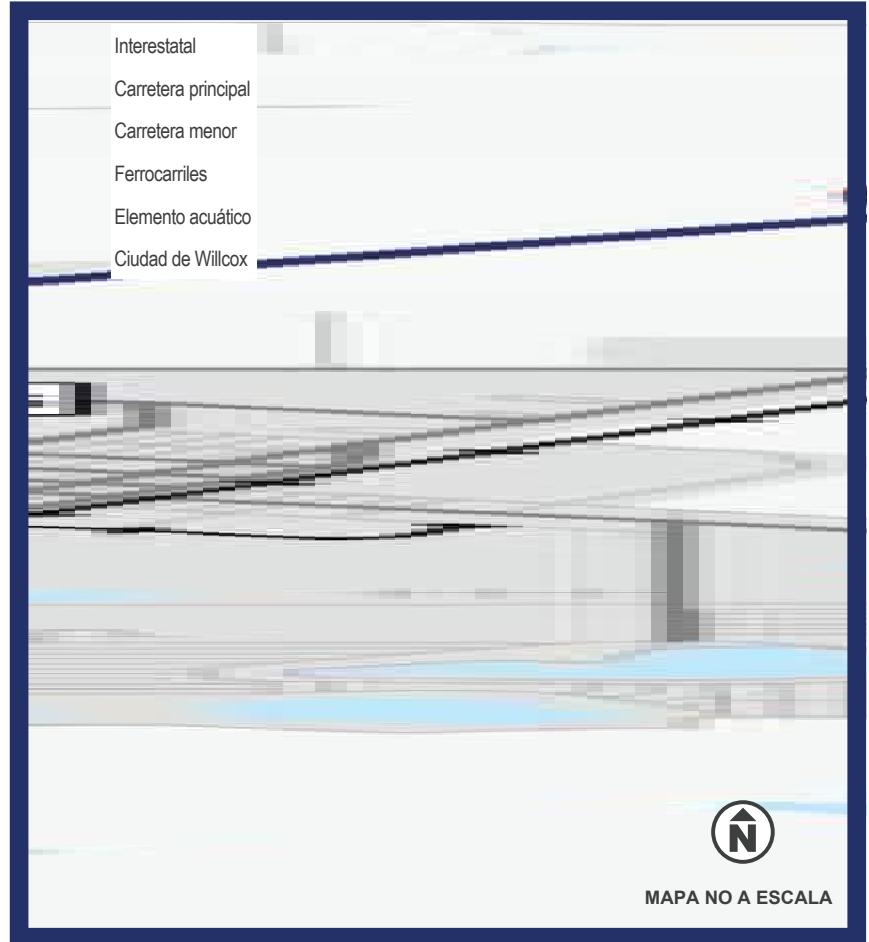
- ▶ Recopilar y analizar datos relacionados con transporte y demografía para identificar deficiencias en el sistema de carreteras existente
- ▶ Evaluar cuestiones de seguridad y calidad de vida resultante del tráfico intenso de camiones en Willcox
- ▶ Identificar posible rutas alternativas de camiones destinados a abordar las deficiencias
- ▶ Preparar una descripción ambiental de las rutas de camiones existentes y potenciales
- ▶ Involucrar al público para que proporcione información que se utilizará para evaluar y refinar las alternativas de rutas de camiones además de análisis técnicos
- ▶ Seleccionar la alternativa preferida que mejor sirva operadores de carga y los residentes de Willcox y el área circundante
- ▶ Preparar un informe final que documente los próximos pasos en el proceso de planificación

PROPÓSITO DEL PROYECTO

La mayoría de generadores de carga actual y anticipada que rodean Willcox están ubicados en el lado sureste de la ciudad, a lo largo de la ruta estatal 186. Actualmente, la única forma de acceso a la Interestatal 10 para de los camiones de carga es pasando por el centro Willcox, creando congestión y ralentizando el movimiento de carga. Identificando una ruta alternativa hará que la entrega de la carga sea más eficiente y mejorará la calidad de vida de los residentes.

CALENDARIO ANTICIPADO

- ▶ **enero de 2021 – mayo de 2021** – Recopilación de datos y análisis, panorama ambiental
- ▶ **mayo de 2021 – agosto de 2021** – Evaluar soluciones potenciales de las rutas de camiones y hacer encuestas públicas
- ▶ **agosto 2021 – noviembre 2021** – Planificación y alcance de la alternativa preferida y hacer encuestas públicas
- ▶ **noviembre 2021 – enero 2022** – Redacción y presentación del Informe Final



CONTACTO

Se pueden enviar preguntas y comentarios a lo largo del estudio en cualquiera de las siguientes formas:

@ **CORREO ELECTRÓNICO:** willcoxstudy@azdot.gov

✉ **CORREO:** ADOT Community Relations
1221 S. Second Avenue, Tucson, AZ 85713

☎ **LLAME:** Línea de información de proyectos en español / inglés 855.712.8530

🌐 **WEB:** azdot.gov/willcoxstudy

📧 Regístrese para recibir información y actualizaciones del proyecto por correo electrónico. Visite la página web del proyecto y haga clic en "suscribirse para recibir actualizaciones".

De acuerdo con el Título VI de la Ley de Derechos Civiles de 1964, la Ley de Estadounidenses con Discapacidades (ADA) y otras leyes y autoridades contra la discriminación, ADOT no discrimina por motivos de raza, color, nacionalidad, sexo, edad o discapacidad. Personas que requieran asistencia razonable ya sea por el idioma o la discapacidad deben comunicarse con Jeremiah Moerke al 520.388.4233. Las solicitudes deben hacerse lo más antes posible para asegurar que el Estado tenga la oportunidad de hacer los arreglos necesarios.

Appendix E. TAC Meeting Notes

Date: Wednesday, March 31, 2021

Time: 10:30 am – 12:00 pm MST

Attendees:

- Tazeen Dewan, *ADOT Project Manager*
- Mark Hoffman, *ADOT Multimodal Planning*
- Carlos Lopez, *ADOT Multimodal Planning*
- Bill Harmon, *ADOT Southeast District*
- Jason Hart, *ADOT Southeast District*
- Brian Jevas, *ADOT Southeast District*
- Jerimiah Moerke, *ADOT Communications*
- Felicia Beltran, *ADOT Civil Rights*
- Julia Mendoza, *ADOT Roadway Pre-Design*
- Brandi Hall, *ADOT Civil Rights*
- Caleb Blaschke, *City of Willcox*
- Michael Grandy, *Kimley-Horn Project Manager*
- Chris Joannes, *Kimley-Horn*
- C.T. Revere, *Gordley Group*
- Phil Burdick, *Gordley Group*
- Kara Lehmann, *Gordley Group*

Meeting Notes:

Michael Grandy, C.T. Revere, and Chris Joannes led the group through a PowerPoint presentation (attached), which included an overview of the project scope of work, anticipated public engagement activities, project schedule, and information presented in the first working paper. Comments and discussion on information presented are summarized below:

- Michael led the group through introductions, where Technical Advisory Committee (TAC) members provided their name, title, and their specific interest in the project. He then provided an overview of the project study area and a brief history of the project, including the major issues being studied for improvement.
 - Bill Harmon noted that the study includes unique issues and is not a normal alternatives plan that is driven by traffic volumes and congestion. Also, he is anticipating that alternatives involving major new corridors, or a railroad overpass, are likely infeasible due to cost.
- Michael then led the group through an overview of the project scope of work, which includes eight tasks (one task is complete, four are in progress, and three have not yet been started).
- C.T. provided an overview of the anticipated public engagement activities, which include developing the Public Involvement Plan (PIP) and conducting a Limited English Proficiency (LEP) Four-Factor Analysis (both of which are under review by ADOT), two rounds of virtual and “touchless” physical engagement, and anticipated advertising activities.
 - Bill asked if a representative from the dairy, who’s truck traffic is a major driver of the study, has a representative on the TAC.
 - Michael responded that the dairy is not currently present on the TAC but could be coordinated with via a stakeholder coordination interview to understand their operations and any concerns they may have.
 - Felicia Beltran asked if the PIP would be sent out to the TAC. She would like to see what kind of outreach is planned for specific groups such as the trucking industry or bicycle advocates.
 - Jerimiah Moerke stated that he will send the PIP to Felicia for review.
 - Michael noted that if Felicia is aware of any specific groups with whom she thought stakeholder interviews should be set up, the project team could reach out to them.
 - Michael stated that an option to expand the reach of the engagement opportunities would be to have a direct mail campaign to all households within Willcox with information on the project and how to get engaged. He added that the budget for this was not in the original fee estimate

but could be incorporated by not performing intersection capacity analysis modeling because from preliminary traffic volume data it is clear congestion is likely not going to be a major factor in alternatives selection.

- Bill stated that he was in support of doing the direct mail campaigns in lieu of the capacity analysis.
- C.T. stated that Gordley group would put together a cost estimate for the direct mail campaign.
- Jerimiah added that the project team could investigate opportunities for adding mailers to existing City distributions, such as utility bills.
- Michael provided an overview of the project schedule, which showed the anticipated start and end dates for each of the eight tasks, including the public engagement phases, along with the expected dates for future TAC meetings.
- Chris led the group through a tour of Working Paper 1: Current Conditions, which includes four main sections of compiled data: recent planning initiatives, current roadway conditions, current railroad conditions, and land use and demographics. Key takeaways from each of the four sections were presented.
 - Carlos Lopez asked if transportation plans completed by the City of Willcox or Cochise County provided information on road conditions that could affect study recommendations.
 - Chris responded that plans do have relatively updated pavement condition data, but no specific improvements have been identified that address the major study needs.
 - Mark Hoffman asked if increased traffic from the dairy is factored into the traffic forecasts.
 - Chris responded that overall traffic forecasts came directly from ADOT's statewide travel demand model, but that coordination with the dairy could help inform what level of truck traffic growth to anticipate.
 - Brian Jervas noted that improvement work on the I-10/B-10 west interchange will begin in the next week.
- Michael ended the presentation by describing the next steps in the plan process and the next anticipated TAC meeting date of May 11, 2021. He asked if there were any final comments or questions:
 - Tazeen Dewan asked if there is anyone outside of the current TAC who should have a chance to review the working paper.
 - Michael responded that it may be appropriate to distribute to share with entities such as the dairy, Southeastern Arizona Governments Organization (SEAGO), and Cochise County, if deemed appropriate by ADOT. Additionally, the Willcox City Manager is anticipated to keep local elected officials up to date on project progress.
 - Tazeen stated that the project team should work on establishing the project website next.
 - Jerimiah stated that he believes more representation on the TAC from the City of Willcox and/or its residents and business owners would be beneficial.
 - Michael, Tazeen, and Bill agreed and stated that the project team would set up a separate meeting with Caleb Blaschke to determine who should be invited to participate in the TAC.
 - Brandi Hall asked about the deadline for comments on the draft PIP.
 - Michael requested that comments be provided by April 13, 2021, the same day comments are due on draft Working Paper 1.
 - Bill referenced the recently passed City ordinance designating the state highways through Willcox (Interstate 10 (I-10), State Route (SR) 186, and Business 10 (B-10)) as truck routes and mentioned that if an alternate route is selected for a truck route that is not currently on a state highway, there are a few options for how that could be implemented:

- ADOT could take ownership of the realigned route once it is upgraded to better accommodate truck traffic, and then turn back to the City of Willcox the prior route that would no longer be part of the state highway system.
 - The City could maintain ownership of the realigned route but upgrade it to better accommodate truck traffic.
- Bill stated another potential option would be to make improvements to the current designated truck routes (particularly SR 186 and B-10)
- Bill stated that there may be hesitancy from non-citizens or first-generation citizens to interact with a government agency for this plan's public engagement.
 - Felicia agreed and stated that working with local organizations can be a source of information to overcome communication barriers and access groups that may be hard to engage. Inquiring if City staff has any such connections would be helpful.
- Caleb Blaschke was unable to attend the TAC meeting due to a schedule conflict, but Tazeen, Michael, Jeremiah, Chris, and C.T. were able to meet separately with him on April 5, 2021 and review the TAC presentation slides. Caleb provided the following comments:
 - The City ordinance prohibiting through truck traffic from using downtown streets (besides the state highway system roads) was put in place to preserve the chip-sealed surface on local streets and to reduce community impacts from noise, emissions, and delays.
 - Trucks from the Coronado/Riverview Dairy travel on SR 186 and B-10 through town to access I-10 but also use Fort Grant Road. Feed for the livestock is trucked in from Bowie (east of Willcox). The dairy owners are looking at the possibility of building a milk processing plant near downtown Willcox, but they now truck the milk to Phoenix for processing.
 - Trains are often traveling very fast through Willcox because of the nearby hill they have to climb.
 - Periodically the trains are stopped on the tracks in downtown Willcox for up to two hours, cutting off access across the tracks; travel time reliability is a concern for residents and businesses, especially the trucking industry.
 - A Love's Travel Center is planned near the I-10/Fort Grant Road/Rex Allen Drive/SR 186 traffic interchange.
 - An option of constructing a bridge over the Union Pacific Railroad tracks through Willcox should be included in the study alternatives analysis, although it is recognized it may end up being cost-prohibitive.
 - The City of Willcox likely cannot afford to take on ownership of the current SR 186 route if a new SR 186 route is identified and ADOT turns back the current route to the City.
 - Minor improvements to the existing truck route through Willcox are an option that should be considered.
 - A new route that utilizes the existing railroad crossing on Stewart Street and then Railroad Avenue to bypass the Maley Street/Haskell Avenue/SR 186/B-10 intersection is an option that should be considered.
 - Real estate and homebuilding industries are ramping up in Willcox; the census count of area residents is artificially low because of proximity to the US-Mexico border and reluctance on the part of some citizens to cooperate with government.
 - Regarding public involvement, residents of Willcox may expect in-person public meetings rather than just surveys to gather their input despite the ongoing public health concerns. Public health measures discouraging public gatherings have not been followed in Willcox. Residents recently turned out in large numbers for a meeting about border security as well as for the city's General Plan meetings.

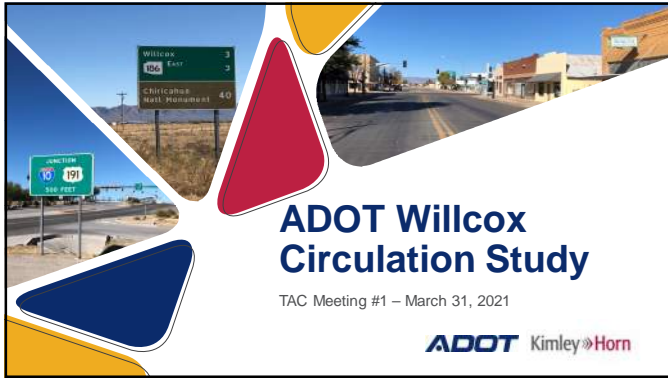
- Tazeen noted that the current scope and budget do not include in-person public meetings, but they do provide two rounds of public involvement using surveys with an option for having the study team present at a City Council meeting that would be open to the public.
- Tazeen noted that the ADOT Southeast District had expressed concerns that in-person engagement would create an expectation that improvements will be constructed in the near future to address the traffic circulation issues in the downtown area, and with no funding for improvements currently identified, it is unknown how long it might be before improvements can be implemented.
- Caleb indicated he understands why in-person meetings are not part of the study and said that adding a wide range of stakeholders to the TAC to include representation from the City Council, the area chamber of commerce, the Riverview Dairy, and the wine-producing sector will provide the community input that is needed.
- Jerimiah asked if having the study team present at an already scheduled meeting in the community (like a City Council meeting) would satisfy the local desire for in-person involvement. Caleb affirmed that he thought they would feel they have been heard if there is that meeting plus the increased local participation in the TAC.
- Caleb noted that about 3,500 Willcox residents live within the city limits with an additional 1,200 people living outside the city limits but in the Willcox vicinity. Recognizing that the study team would like to notify these people of the study and their opportunities to participate, but that the study budget does not include mailing project public engagement notices to those outside the city, Caleb offered that a utility bill insert of the study public notice could reach the vast majority of the target audience. He said very few utility customers have opted for paperless bills so most customers would receive the utility bill insert in the mail.
- Caleb also noted that the City of Willcox social media accounts are followed by approximately 2,500 people in the area and that the City can provide content through those channels.

Next Steps:

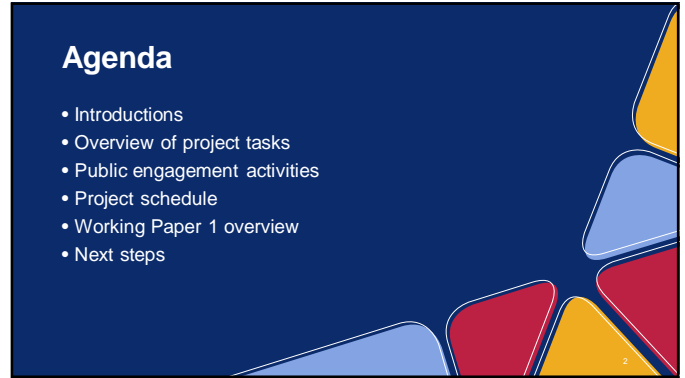
- Finalize Working Paper 1 and the PIP based on TAC feedback.
- Schedule a stakeholder interview with the dairy and identify if additional stakeholder interviews are required.
- Identify additional agencies and contacts for potential inclusion in the TAC and send them the invitation to the next TAC meeting and the materials from this first TAC meeting.
- Perform the data analyses outlined for Working Paper 2.
- Begin developing potential solution alternatives.
- Begin preparation for the first round of public outreach, including establishing the project website.

Attachment:

1. PowerPoint Presentation



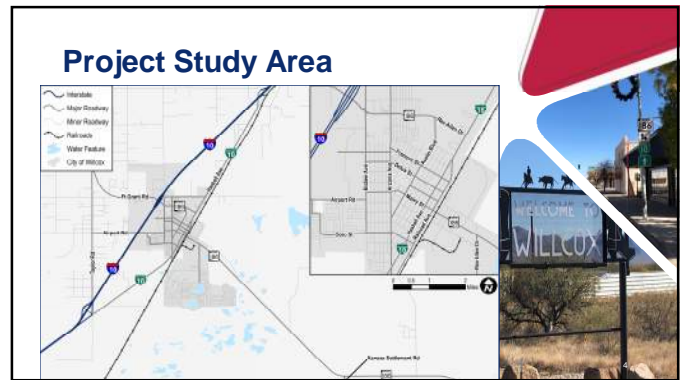
1



2



3



4




5



6

Overview of Project Tasks


1. Project Kick-off – complete
 - Meeting with ADOT staff to:
 - Get background on project history
 - Establish Technical Advisory Committee (TAC)
 - Refine scope of services
 - Develop Work Plan
2. Data Collection – in progress
 - Request, obtain, and summarize pertinent data sources
 - Perform traffic counts
 - Develop Working Paper 1 – *Current Conditions*



7

Overview of Project Tasks


3. Data Analysis – in progress
 - Analyze data collected as part of Task 2
 - Identify transportation deficiencies (safety, roadway function and geometrics, freight travel time reliability)
 - Prepare Working Paper 2 – *Data Analysis*
4. Environmental Overview – in progress
 - Identify environmental constraints and potential “fatal flaws”
 - Documentation review with windshield survey verification
 - Prepare *Environmental Overview* report



8

Overview of Project Tasks


5. Potential Heavy/Large Truck Route Solutions – not started
 - Develop conceptual alternatives to address deficiencies
 - Two rounds of screening:
 - High-level fatal flaws analysis
 - Detailed engineering and environmental feasibility, economic viability, community concerns, Title VI and ADA compatibility
 - Typical cross-sections and schematic drawings
 - Recommend Locally Preferred Alternative (LPA)
 - Prepare Working Paper 3 – *Alternatives Analysis*
6. Public Outreach and Input – ongoing
 - Described in next section



9

Overview of Project Tasks

7. Preferred Alternative and Planning-Level Scoping – not started
 - Refinement of LPA
 - High-level traffic analysis
 - Potential property, pavement, and geometric impacts
 - Planning-level cost based on ADOT E2C2 tool
 - Prepare Working Paper 4 – *Preferred Alternative*
8. Final Report – not started
 - Summary of planning process, key decisions, public engagement
 - Detail on LPA for inclusion in Planning-to-Programming
 - Provide GIS data and closeout file



10

Public Engagement Activities




11

Public Engagement Activities


- Led by Gordley Group and ADOT Communications
- Public Involvement Plan – draft submitted
 - Outlines public engagement approach
 - Provides communication and comment management protocols
 - Defines engagement rounds and advertising
- Prepare Limited English Proficiency Four-Factor Analysis
 - Results – Spanish language key materials and accommodations



12

Public Engagement Activities

- Two rounds of engagement:
 - Alternatives Analysis – concurrent with Task 5
 - Virtual public survey
 - Describe the study and planning process
 - Enable respondents to review and comment on initial alternatives
 - Plan of Improvements – concurrent with Task 7
 - Virtual public survey and/or web-based map
 - Enable respondents to comment on the Locally Preferred Alternative (LPA)
- Brief summary reports on each round



13



Public Engagement Activities

- Engagement advertising
 - News release before each round of engagement
 - Potential direct mail campaign with fact sheet or postcard
 - Project fact sheet
 - Description of project and ways to engage
 - For electronic and print distribution
 - Can be placed at activity centers in Wilcox
 - Project page on ADOT website



14

Project Schedule


15

Project Schedule

We are here



Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1. Project Kickoff													
2. Data Collection													
3. Data Analysis													
4. Environmental Overview													
5. Potential Heavy Truck Route Solutions													
6. Public Outreach and Input													
7. Preferred Alternative and Planning-Level Scoping													
8. Final Report													

👤 = TAC Meeting



16


Working Paper 1 Overview

17

Working Paper 1 Overview


- Study purpose and background
- Four main sections of compiled data:
 - Recent planning initiatives
 - Current roadway conditions
 - Current railroad conditions
 - Land use and demographics
- Conclusions and next steps



18

Working Paper 1 Overview

- Recent Planning Initiatives
 - Documents reviewed
 - City of Willcox General Plan
 - Cochise County Long-Range Transportation Plan
 - ADOT Five-Year Program
 - Key takeaways
 - General plan does not outline any changes to circulation
 - Cochise County does not identify any projects that would address the goals of this study
 - ADOT only has preservation projects planned for the area




19

19

Working Paper 1 Overview

- Current Roadway Conditions
 - Data compiled and reported
 - Functional classifications, laneage, and truck routes
 - Existing and historical traffic volumes
 - Future traffic volumes on ADOT routes
 - Roadway right-of-way and intersection curb radius returns
 - Pavement conditions
 - Traffic signals
 - Bicycle and pedestrian facilities
 - Safety assessment (2016-2020)
 - Key takeaways
 - Traffic volumes are low, even at peak times
 - Growth is anticipated to be relatively low
 - Pavement conditions and geometrics are likely major issues
 - Truck and pedestrian-involved crashes concentrated in downtown




20

20

Working Paper 1 Overview

- Current Railroad Conditions
 - Data compiled and reported
 - Railroad crossings and safety features
 - Train frequency, speeds, and durations
 - Key takeaways
 - Of the four at-grade rail crossings, only one is on a major road (SR 186)
 - Trains cut off access for three to five minutes at a time 40 times per day




21

21

Working Paper 1 Overview



- Land Use and Demographics
 - Data compiled and reported
 - Historical population trends
 - Future population forecasts
 - Land use and freight generators
 - Community activity centers
 - Historic districts and properties
 - Disadvantaged populations
 - Local utility providers
 - Key takeaways
 - Population has been declining, but is anticipated to grow slightly by 2040
 - Freight generators are concentrated along SR 186 corridor and B-10
 - Activity centers and disadvantaged populations are concentrated in downtown Willcox



22

22

Next Steps





23

23

Next Steps

- Finalize Working Paper 1 based on TAC feedback
- Perform data analysis to identify transportation deficiencies
- Develop potential solution alternatives
- Begin preparation for alternatives analysis public outreach
- Next TAC meeting: May 11, 2021



24

24

Date: Tuesday, May 11, 2021

Time: 1:00 pm – 2:30 pm MST

Attendees:

- Tazeen Dewan, *ADOT Project Manager*
- Mark Hoffman, *ADOT Multimodal Planning*
- Carlos Lopez, *ADOT Multimodal Planning*
- Jason Hart, *ADOT Southeast District*
- Brian Jevas, *ADOT Southeast District*
- James Norwood, *ADOT Southeast District*
- Jerimiah Moerke, *ADOT Communications*
- Julia Mendoza, *ADOT Roadway Pre-Design*
- Brandi Hall, *ADOT Civil Rights*
- Mike Laws, *Mayor, City of Willcox*
- Caleb Blaschke, *City Manager, City of Willcox*
- Peggy Judd, *Cochise County Board of Supervisors*
- Jackie Watkins, *Cochise County Planning & Zoning*
- Brent Haas, *Riverview Dairy*
- Mary Peterson, *Willcox Chamber of Commerce and Agriculture*
- Kathy Mendez, *Mesquite Ranch Realty*
- Kendrick Willey, *Isabel's/Big Tex BBQ*
- Cheryl Moss, *Willcox Chamber of Commerce and Agriculture*
- Michael Grandy, *Kimley-Horn Project Manager*
- Chris Joannes, *Kimley-Horn*
- C.T. Revere, *Gordley Group*
- Phil Burdick, *Gordley Group*
- Kara Lehmann, *Gordley Group*

Meeting Notes:

Michael Grandy, C.T. Revere, and Chris Joannes led the group through a PowerPoint presentation (attached), which included an overview of the project tasks and schedule, a review of Working Paper 2: Data Analysis, a review of the Environmental Overview (EO), an overview of public engagement activities to date and next steps, and potential types of alternative concepts. Comments and discussion on information presented are summarized below:

- Michael led the group through brief introductions. He then provided an overview of the project study area and a brief history of the project, including the major issues being studied for improvement. He also provided a review of the project schedule and upcoming milestones.
 - Mayor Laws added that truck traffic is a major safety issue, particularly at the corner of Haskell Ave and Maley St. There are historic buildings at the intersection, limiting improvement options.
 - Caleb asked how many additional TAC meetings are planned in the process.
 - Michael responded that there are four additional TAC meetings planned after today's meeting.
- Chris led the group through a tour of Working Paper 2: Data Analysis, which includes three main sections: traffic analysis, safety analysis, and current truck route analysis. Key takeaways from each of the three sections were presented. Chris also provided an overview of the EO and the critical issues identified through preliminary environmental research.
 - Brent Haas stated that Riverview Dairy truck volumes vary quite a bit and are highest during harvest times. Brent also mentioned that he has periodically seen trucks with 53' trailers (WB-67) using the Haskell Ave/Maley St intersection, which would have more turning movement encroachment impacts than what was shown for a truck with a 48' trailer (WB-62).

- C.T. provided an overview of the completed and anticipated future public engagement activities. Tasks to date have included developing the Public Involvement Plan (PIP) and conducting a Limited English Proficiency (LEP) Four-Factor Analysis (both of which are under review by ADOT), and materials for a project website and fact sheet. Future engagement activities include two rounds of virtual and “touchless” physical engagement and anticipated advertising activities.
 - Caleb added that mailers are going to be included in local utility bills and provided to interested businesses in downtown Willcox.
- Michael provided a brief overview of the potential types of alternatives that will be considered in the next step in the planning process.
 - Mary Peterson stated that the SR 186 corridor is the main access point to the Chiricahua National Monument and that keeping regional traffic traveling through downtown should be a priority.
 - Supervisor Judd suggested that Stewart Street should be considered as a truck route option. It will likely need to be reconstructed to handle truck traffic, but general traffic could be kept on the existing SR 186.
 - Mayor Laws added that he agrees with Supervisor Judd’s suggestion and referenced Hobbs, New Mexico as a community with a separate truck route. He also added that he thought any new or modified crossings of the railroad tracks would likely be required to be at a 90-degree angle.
 - Brent stated that there was a proposal previously to connect Rex Allen Dr across the railroad tracks via an overpass to connect to SR 186 east of the railroad tracks and south of the old cemetery.
 - Michael mentioned a railroad overpass at this location would likely be viable from an engineering perspective but would be a very expensive option. He noted a new at-grade railroad crossing on Rex Allen Dr would be a much less expensive option, but the Union Pacific Railroad typically requires the closure of two at-grade railroad crossings to create a new at-grade crossing, so two of the existing at-grade crossings in Willcox would likely have to be removed to get a new at-grade crossing at Rex Allen Dr.
 - Mary said that some of the downtown streets get blocked for festivals. Haskell Ave is closed once per year for a parade, but other downtown streets, including Maley Street and Railroad Ave, are closed several times per year.
 - Mayor Laws said that there is a lot of pedestrian traffic across the railroad tracks and that pedestrian safety should be a focus of the study.
 - Shutting down the downtown roadways has a major temporary impact on freight. They must run trucks on Stewart Street, which is currently very difficult.
 - Kathy Mendez suggested another potential option is connecting across the railroad at Patte Rd and then southward to Maley St.
 - A question was raised about if the Union Pacific Railroad should be invited to the TAC meetings.
 - Michael indicated the railroad companies typically don’t participate in planning studies but this request could be presented to the ADOT Utility and Railroad Section for consideration.
- Michael ended the presentation by describing the next steps in the plan process and the next anticipated TAC meeting date, which is tentatively June 23, 2021. He requested that any additional comments the TAC has on any of the materials provided be sent to him by May 21, 2021.

Next Steps:

- Finalize Working Paper 2 and the EO based on TAC feedback.
- Develop potential solution concept alternatives and methodology for the initial screening process.
- Develop process for candidate alternative review and prioritization process.
- Begin preparation for the first round of public outreach, including identifying in which utility bill cycle the fact sheet and survey link will be mailed.

Attachment:

1. PowerPoint Presentation

ADOT Willcox Circulation Study
TAC Meeting #2 - May 11, 2021
ADOT Kimley-Horn

1

Agenda

- Introductions
- Project tasks/schedule
- Working Paper 2 overview
- Environmental overview
- Public involvement
- Potential alternative concepts
- Next steps

2

Introductions

- Name
- Organization and title
- Interest in the project

ADOT

3

Project Study Area

Map legend: Interstates, Major Roadway, Minor Roadway, Railroads, Water Features, City of Willcox.

4

Project Background

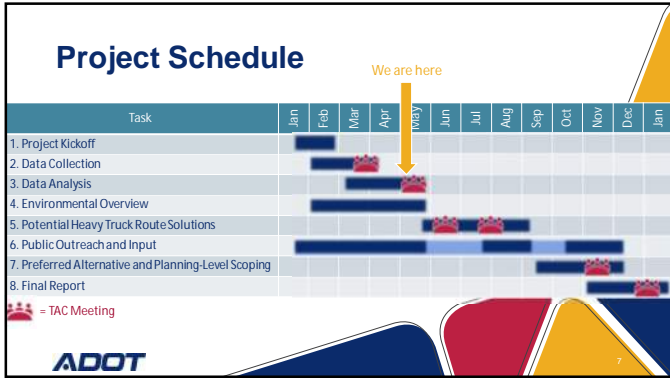
- Most freight producers on southeast side of City
- Main freight destination is I-10 on west side of City
- Union Pacific Railroad
 - Limits east-west connectivity
 - Complaints of travel time reliability
- Truck traffic must navigate through downtown Willcox
 - Narrow turning radii
 - Impacts to historic district and structures
 - Local roads not built to handle truck traffic

ADOT

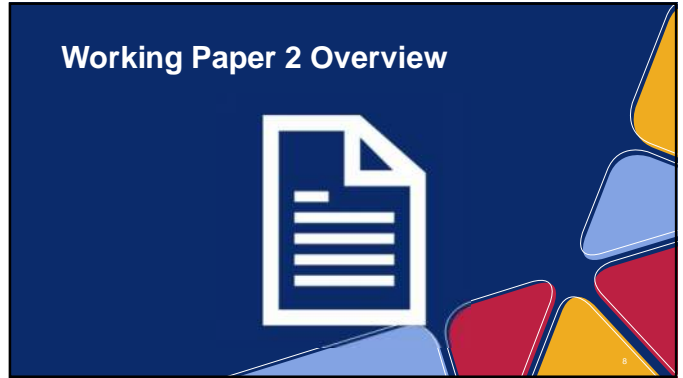
5

Project Tasks/Schedule

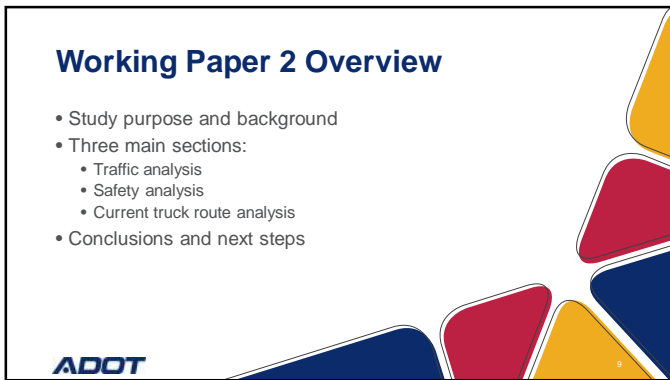
6



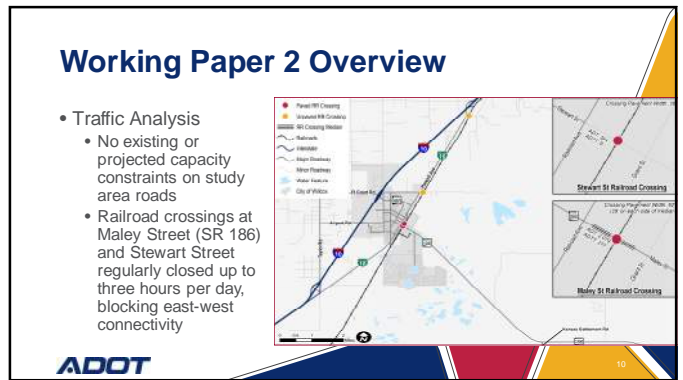
7



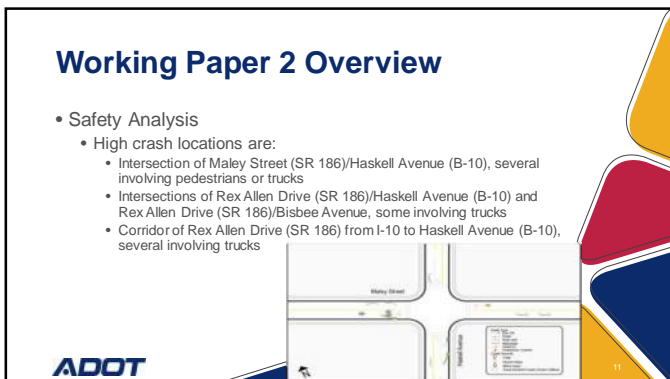
8



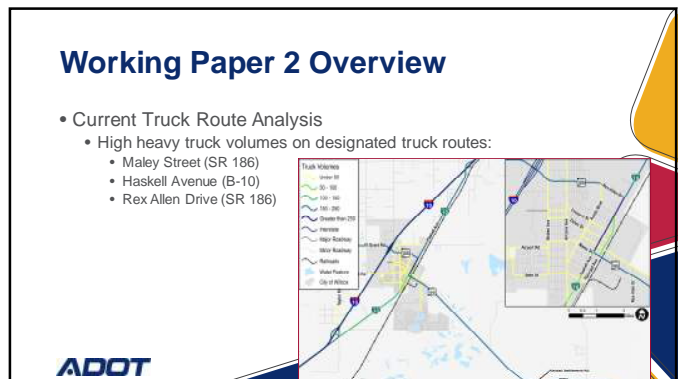
9



10



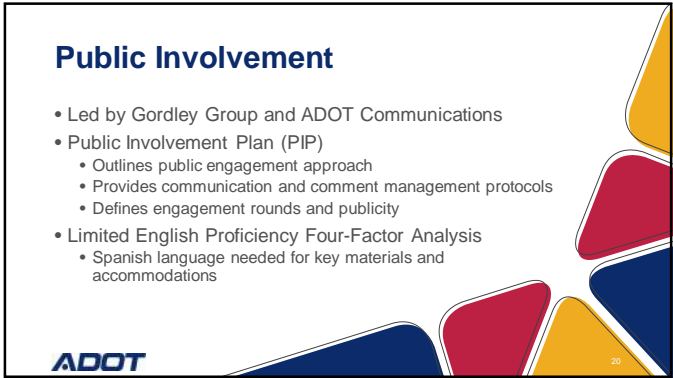
11



12



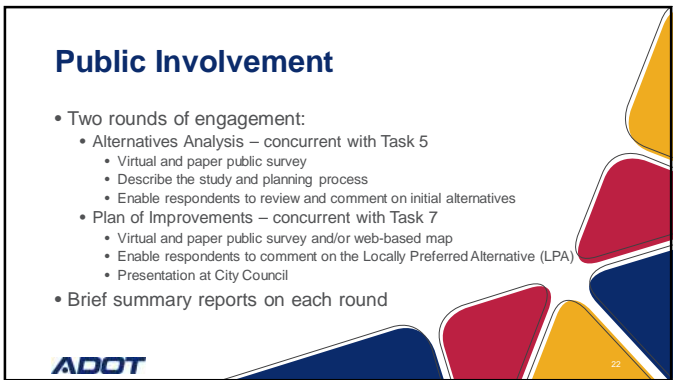
19



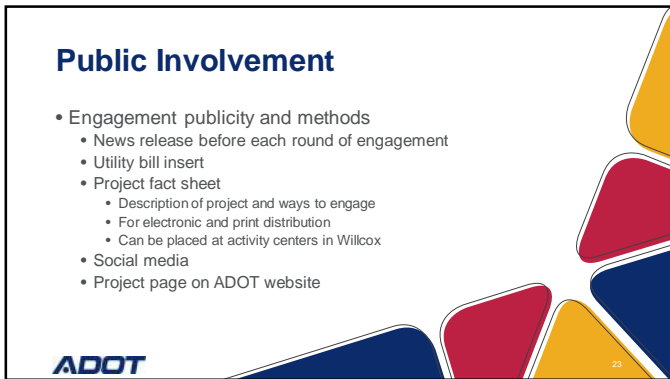
20



21



22



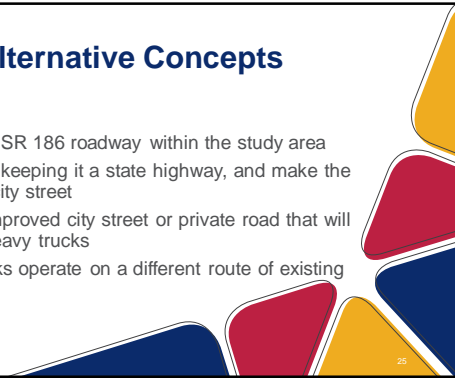

23



24

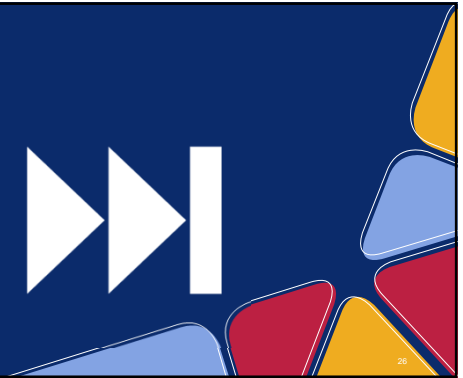
Potential Alternative Concepts

- No-build
- Improve existing SR 186 roadway within the study area
- Realign SR 186, keeping it a state highway, and make the old alignment a city street
- Build a new or improved city street or private road that will accommodate heavy trucks
- Have heavy trucks operate on a different route of existing streets



25

Next Steps

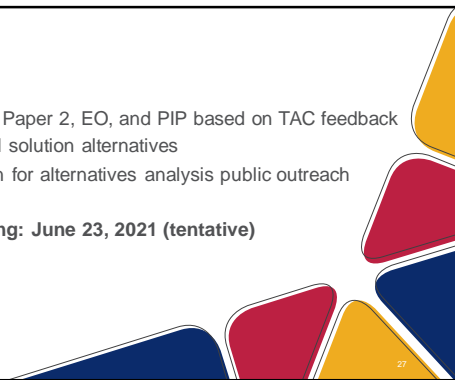



26

Next Steps

- Finalize Working Paper 2, EO, and PIP based on TAC feedback
- Develop potential solution alternatives
- Begin preparation for alternatives analysis public outreach

- **Next TAC meeting: June 23, 2021 (tentative)**



27

Date: Thursday, June 10, 2021

Time: 3:00 pm – 4:30 pm MST

Attendees:

- Tazeen Dewan, *ADOT Project Manager*
- Jason Hart, *ADOT Southeast District*
- Brian Jevas, *ADOT Southeast District*
- James Norwood, *ADOT Southeast District*
- Bill Harmon, *ADOT Southeast District*
- Jerimiah Moerke, *ADOT Communications*
- Julia Mendoza, *ADOT Roadway Pre-Design*
- Brandi Hall, *ADOT Civil Rights*
- Mike Laws, *Mayor, City of Willcox*
- Caleb Blaschke, *City Manager, City of Willcox*
- Brent Haas, *Riverview Dairy*
- Mary Peterson, *Willcox Chamber of Commerce and Agriculture*
- Kathy Mendez, *Mesquite Ranch Realty*
- Cheryl Moss, *Willcox Chamber of Commerce and Agriculture*
- Michael Grandy, *Kimley-Horn Project Manager*
- Kristen Faltz, *Kimley-Horn*
- Phil Burdick, *Gordley Group*

Meeting Notes:

Michael Grandy and Phil Burdick led the group through a PowerPoint presentation (attached), which included an overview of the project tasks and schedule, a review of conceptual improvement alternatives, a discussion of preliminary candidate alternatives, and an overview of public engagement activities to date and next steps. Comments and discussion on information presented are summarized below:

- Michael led the group through brief introductions. He then provided an overview of the project study area and a brief history of the project, including the major issues being studied for improvement. He also provided a review of the project schedule and upcoming milestones.
- Michael led the group through the five main conceptual improvement alternatives: (1) No-Build, (2) Geometric Intersection Improvements, (3) Operational Intersection Improvements, (4) Truck Route Improvements, and (5) New Street Improvements. Various options and sub-options for each category of alternatives were presented. Michael also discussed drawbacks and strengths of each conceptual improvement alternative.
- Michael introduced the initial screening process to move from conceptual alternatives to preliminary candidate alternatives to the group. The six preliminary alternatives selected from the conceptual improvement alternatives were Alternatives 1, 2A, 2B, 2C, 4A, and 5B.
 - Caleb stated that he does not think that we should widen the roadway, as shown in Alternative 2A, because of the impacts to the surrounding historic buildings. Caleb also stated that with this alternative, truck traffic is not using all legs of the intersection, so not all approaches would need to be widened.
 - Brent shared that he thinks anything besides Alternative 5B would be a negative impact and cause problems. He feels that Alternative 5B would truly take care of the issues surrounding trucks in central Willcox.
 - Caleb said he thought Alternative 2B would block traffic up too much, especially turning left on Haskell Avenue.
 - Regarding Alternative 4A, Caleb mentioned that there is a big hump at the railroad crossing at Stewart Street. He also mentioned that the angle at Rex Allen Drive would not be an easy turn. This alternative would be more cost-effective, but angles would need to be adjusted.

- Michael mentioned that there may need to be some improvements done at the Stewart Street railroad crossing. He also stated that the predominant truck movements would be relatively easy to make along this alignment, but that trucks not following the standard route through the city would run into geometric issues making turns.
- Caleb stated, regarding Alternative 5B, that there are issues with land ownership. He mentioned that the current proposed alignment crosses a drainageway twice but if the roadway intersected SR 186 a little further to east, it would only cross it once. If it went further, it could also come in perpendicular to SR 186.
 - Michael stated that the cost difference would have to be looked at comparing either crossing the drainageway twice or having more roadway.
- Michael inquired with the group if the candidate alternatives chosen are what should be moved forward.
 - Brandi inquired where the truck traffic is going to and coming from.
 - Michael shared that the majority of the truck traffic is following the SR 186 corridor from east of the city to I-10 or Fort Grant Road.
 - Cheryl commented that there is also truck traffic within the city and local truck traffic as well.
 - Brandi stated she thought only having one new street alternative may not meet all of the objectives of the study and serve all types of truck traffic going to and through Willcox. She suggested that a second new street alternative be included as a candidate alternative.
 - Michael mentioned that the preferred alternative can be a combination of candidate alternatives. Multiple solutions may be needed to meet different parameters.
 - Caleb proposed refining Alternative 5B to cross the railroad at Rex Allen Drive and then turn southward to intersect SR 186 at 2nd Avenue. This option would allow trucks to bypass downtown and allow visitors to still access downtown.
 - Mary shared that economically, Alternative 5B would likely have an adverse impact because it would remove tourists from downtown, but Alternative 5C would not be as adverse of an economic impact because the required out-of-direction travel would not be attractive to tourists and trucks. She mentioned that in looking at the other alternatives, Alternative 2B is attractive but it is a short-term solution.
 - Michael shared that the roundabout would not have some features normally seen with larger roundabouts. It would be more functional than aesthetic. He mentioned that a yield condition would be best, and a stop condition is not necessary in this situation.
 - Caleb mentioned he understood the benefits of a roundabout but that given the option, he thought most citizens would rather leave things as-is than implement a roundabout because many drivers are not comfortable with roundabouts.
 - Caleb inquired if good signage that points vehicles to tourist opportunities would help attract them to the downtown.
 - Mary said routing traffic away from downtown will have severe negative consequences for those businesses. New streets may be best for Willcox long-term from a traffic standpoint, but the potential impact on downtown businesses would be detrimental based on horror stories she had heard of changing traffic patterns hurting other downtowns.

- Michael reminded the group that, at this point in the study, they are not looking for a recommendation, but rather a range of options that stakeholders would feel comfortable having the public comment on. The ultimate solution may not look exactly like any of the preliminary preferred alternatives.
 - Kathy mentioned a potential modification to Alternative 2C where the left-turn lane stop bars would be pushed farther back from the traffic light so that trucks have room to turn, with no-parking zones along the first half of the Maley St and Haskell Ave blocks.
 - Michael said that he believes parallel parking is already not allowed close to the intersection and moving the stop bar may create other issues such as sight visibility safety issues. He mentioned that removing more parking would provide more flexibility in reconfiguring the intersection so that is something to consider.
 - Mary stated that Alternative 4A was easiest for her to understand because it uses existing streets.
 - Mayor Laws suggested that Alternative 5B should turn before the railroad tracks and go down beside the bead store to Rex Allen Drive. This would travelers to still see downtown.
 - Caleb asked if there would be a problem with a traffic signal so close to the railroad.
 - Michael indicated that it can be done but it is a safety concern in terms of back-ups leading to vehicles waiting on the railroad tracks.
 - Mayor Laws said that emergency vehicles need to be able to have access, so need to be careful what existing railroad crossing would be closed if such closure was required to have a new railroad crossing at Rex Allen Drive. It would be good to better understand the railroad's requirements for a new crossing.
 - Brandi suggested that the evaluation criteria should include environmental impact and include information on long-term versus short-term solutions and implementation schedule.
- After discussion with the group, the following changes were made to the preliminary candidate alternatives.
 - Alternative 1 will be included as initially proposed.
 - Alternative 2A was removed from the candidate alternatives list.
 - Alternative 2B will be included as initially proposed.
 - Alternative 2C has operational concerns but should still be considered.
 - Alternative 4A will be included as initially proposed.
 - Alternative 5B will be realigned to run parallel to the railroad along the 2nd Avenue alignment.
 - Alternative 5C will be added to the list of candidate alternatives.
 - Evaluation criteria will be modified to include environmental impact and likelihood of implementation.
- Phil provided an overview of the completed and anticipated future engagement activities. He shared information regarding engagement publicity, the content within the utility insert, and the public survey content. Phil mentioned that the TAC members could help as far as distributing content and help with social media resources.
- Phil said for an August survey, the utility bill insert copy and creative file would need to be sent to the city by July 23, 2021. The utility bills would be delivered to residents at the beginning of August. The insert would be in English and Spanish and publicize the website where the survey can be taken, as well as community sites for paper surveys. Publicity for the survey would also include a news release and links on social media sites and the project page on ADOT website. The survey would continue through the end of August.
- Phil asked if the city could help distribute paper surveys to community sites and post information about the survey to the city website and their social media sites.

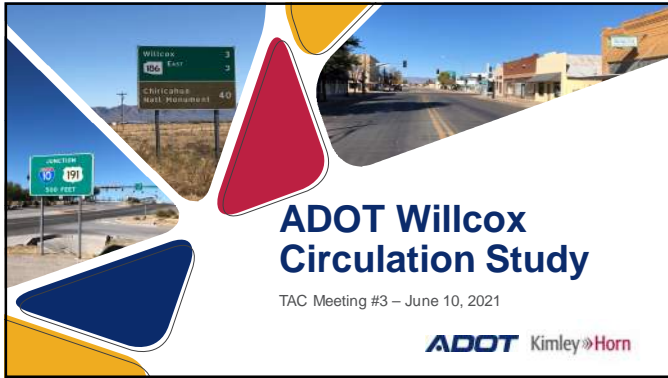
- Brandi asked if the self-identification survey was already included to be distributed. She shared that she has seen other projects where online self-identification surveys followed the public survey.
 - Michael asked if for the paper version ADOT could potentially send that directly to the City to distribute.
 - Jeremiah shared that he has self-identification survey cards available in Tucson.
- Michael ended the presentation by describing the next steps in the plan process, which include a more detailed evaluation of the candidate alternatives, including costs, economic impacts, stakeholder acceptability and public acceptability, possible environmental impact if a new road is built, and implementation likelihood for each candidate alternative. The next anticipated TAC meeting date is tentatively set for July 21, 2021.

Next Steps:

- Evaluate candidate alternatives
- Develop Draft Working Paper 3 (Alternatives Analysis)
- Next TAC meeting: July 21, 2021 (tentative)
- Conduct Alternatives Analysis public outreach

Attachment:

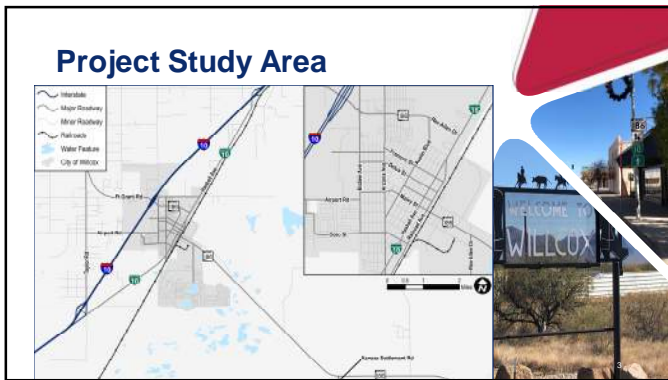
1. PowerPoint Presentation



1



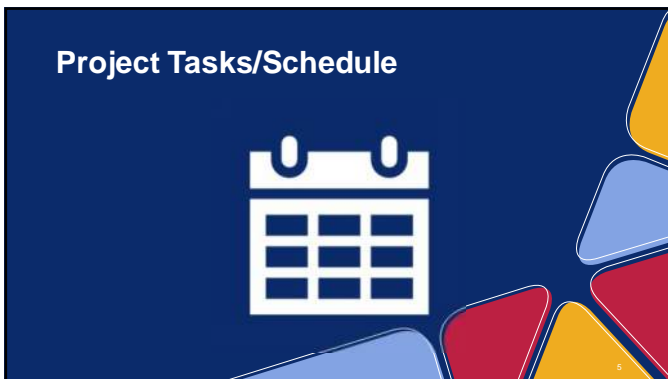
2



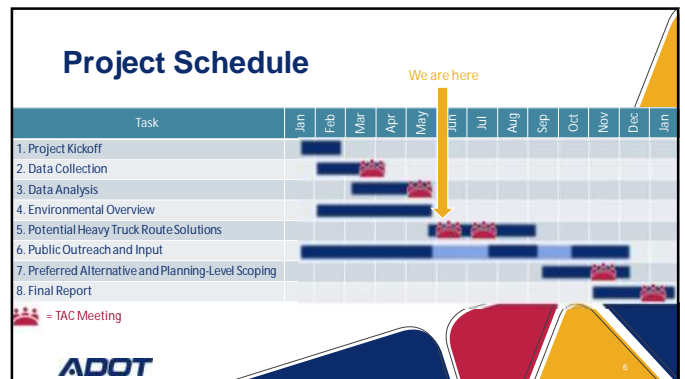
3



4



5



6

Conceptual Improvement Alternatives




7

Conceptual Improvement Alternatives

Categories of Alternatives

- Alternative 1. No-Build
- Alternative 2. Geometric Intersection Improvements
- Alternative 3. Operational Intersection Improvements
- Alternative 4. Truck Route Improvements
- Alternative 5. New Street Improvements
- Various options and sub-options for categories of alternatives



8

Alternative 1. No-Build: Existing Conditions



- Make no changes to the existing roadway network
- Does not address issue of trucks going on sidewalks and into opposing traffic lanes




9

Alternative 2A. Geometric: Widen



- Widen legs of Haskell Ave (B-10) & Maley St (SR 186) intersection
- Creates space for trucks to make turns
- Impacts existing buildings

10

Alternative 2B. Geometric: Roundabout



- Roundabout at Haskell Ave (B-10) & Maley St (SR 186) intersection that is mountable by trucks
- Trucks can make turns by driving over center island as needed
- Unconventional intersection

11

Alternative 2C. Geometric: Reconfigure

- Reconfigure Haskell Ave (B-10) & Maley St (SR 186) intersection to have flush or mountable paved medians in place of left-turn lanes
- Creates space for trucks to make turns
- No separate left-turn lanes and signal would need to serve each direction separately

12

Alternative 3A. Operational: One-Way Streets

- Convert downtown core streets to one-way operations
- Multiple options for which streets are one-way
- Creates space for trucks to make turns
- Not an intuitive traffic pattern




ADOT

13

Alternative 3B. Operational: Relocate Truck Turns

- No truck turns at Haskell Ave (B-10) & Maley St (SR 186) intersection; instead trucks do turns at adjacent intersections
- Removes trucks from Haskell Ave & Maley St intersection
- Requires out-of-direction travel for trucks on local streets



ADOT

14

Alternative 4A. Truck Route: Stewart St and Railroad Ave

- Trucks required to use Stewart St and/or Railroad Ave
- Multiple options for which streets to use
- Removes trucks from Haskell Ave & Maley St intersection
- Requires truck travel on local streets

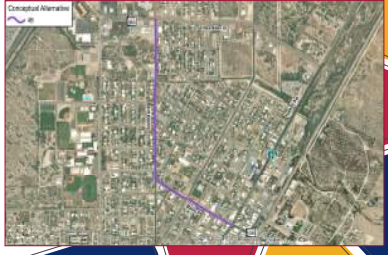


ADOT

15

Alternative 4B. Truck Route: Arizona Ave and Maley St

- Trucks required to use Arizona Ave and Maley St
- Removes most common truck turns from Haskell Ave & Maley St intersection
- Requires truck travel on local streets



ADOT

16

Alternative 4C. Truck Route: Grant St and 2nd Ave

- Trucks required to use Grant St and 2nd Ave
- Removes trucks from Haskell Ave & Maley St intersection
- Requires new railroad crossing and truck travel on local streets




ADOT

17

Alternative 5A. New Street: Patte Rd to Maley St (SR 186)

- New street connecting Patte Rd to Maley St (SR 186) east of City
- New route avoids Haskell Ave & Maley St intersection
- Requires new street, new railroad crossing, and out-of-direction travel



ADOT

18

Alternative 5B. New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)

- New street connecting Rex Allen Dr to Maley St east of railroad tracks
- New route avoids Haskell Ave & Maley St intersection
- Requires new street and new railroad crossing



ADOT

19

Alternative 5C. New Street: Haskell Ave (B-10) to Maley St (SR 186)

- New street connecting Haskell Ave to Maley St south of downtown
- New route avoids Haskell Ave & Maley St intersection
- Requires new street, new railroad crossing, and out-of-direction travel



ADOT

20

Conceptual Alternatives Evaluation

Conceptual Alternative	Description	Historical District/Properties	Cost	Travel Pattern Interruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
3A	Operational: One-Way Streets	0	2	0	1	1	4
3B	Operational: Relocate Truck Turns from Haskell Ave (B-10) and Maley St (SR 186)	1	2	0	0	0	3
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
4B	Truck Route: Arizona Ave and Maley St	0	1	0	2	1	4
4C	Truck Route: Grant St and 2nd Ave	1	0	1	0	1	3
5A	New Street: Pat-Rod to Maley St (SR 186)	2	0	0	0	2	4
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	2	0	1	2	2	7
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186)	2	0	0	0	2	4
Evaluation Criteria Scoring		0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	0 = High 1 = Moderate 2 = Low	0 = High 1 = Moderate 2 = Low/None	0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	

21

Preliminary Candidate Alternatives



ADOT

22

Preliminary Candidate Alternatives

Conceptual Alternative	Description	Historical District/Properties	Cost	Travel Pattern Interruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	2	0	1	2	2	7
Evaluation Criteria Scoring		0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	0 = High 1 = Moderate 2 = Low	0 = High 1 = Moderate 2 = Low/None	0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	0 = Negative Impact 1 = Minimal Impact 2 = Positive Impact	

ADOT

23

Candidate Alternatives Proposed Evaluation Criteria

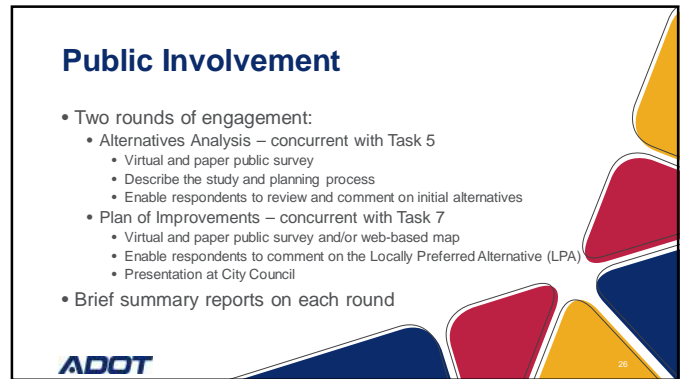
- Impacts to historic district/properties
- Impacts to protected populations
- Planning-level construction cost
- Degree of travel pattern disruption
- Operational efficiency
- Safety
- Anticipated economic impacts
- Jurisdictional responsibilities
- Stakeholder acceptability
- Public acceptability

ADOT

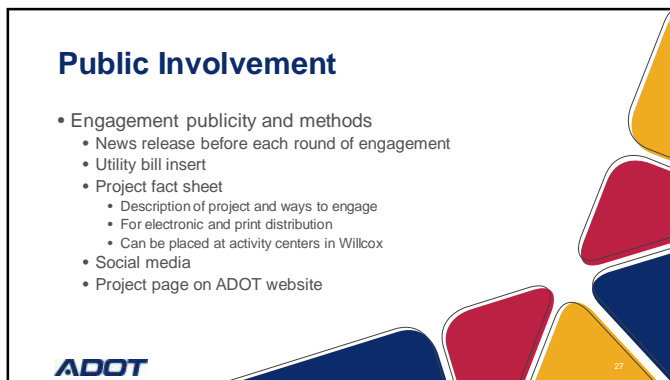
24



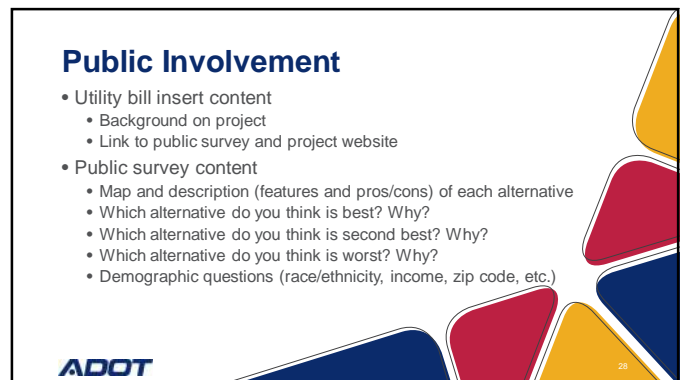
25



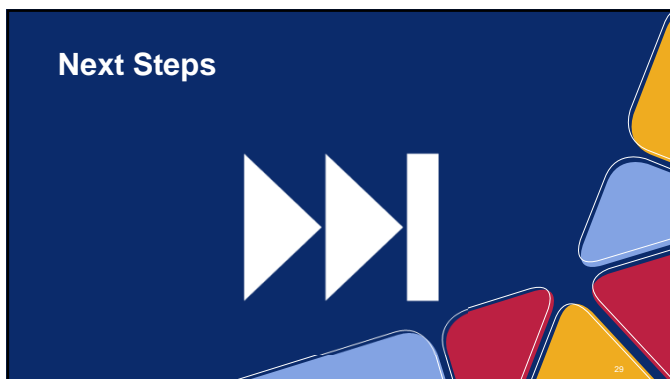
26



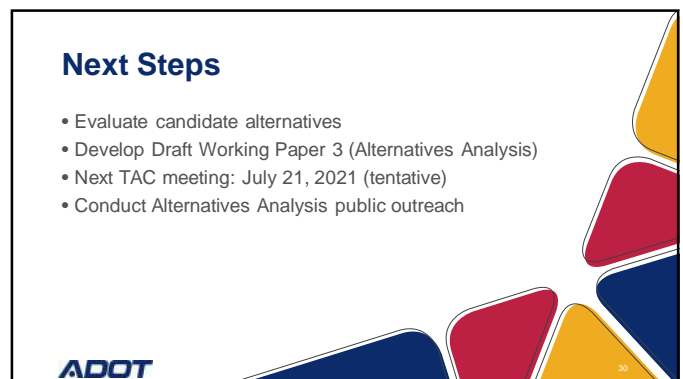
27



28



29



30

Date: Wednesday, July 21, 2021

Time: 1:00 pm – 2:30 pm MST

Attendees:

- Brian Jevas, *ADOT Southeast District*
- James Norwood, *ADOT Southeast District*
- Bill Harmon, *ADOT Southeast District*
- Mark Hoffman, *ADOT MPD*
- Jerimiah Moerke, *ADOT Communications*
- Julia Mendoza, *ADOT Roadway Pre-Design*
- Brandi Hall, *ADOT Civil Rights*
- Sayeed Hani, *ADOT Railroad Liaison*
- Caleb Blaschke, *City Manager, City of Willcox*
- Mary Peterson, *Willcox Chamber of Commerce and Agriculture*
- Kathy Mendez, *Mesquite Ranch Realty*
- Jackie Watkins, *Cochise County*
- Michael Grandy, *Kimley-Horn Project Manager*
- Chris Joannes, *Kimley-Horn*
- Jan Gordley, *Gordley Group*

Meeting Notes:

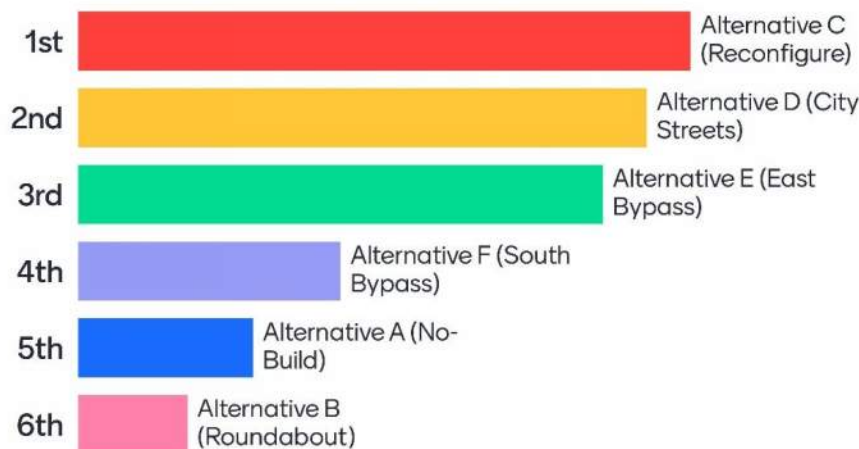
Michael Grandy, Chris Joannes, and Jan Gordley led the group through a PowerPoint presentation (attached), which included an overview of the project tasks and schedule, a review of candidate improvement alternatives, an overview of the evaluation methodology used to screen the candidate alternatives, and an overview of public engagement activities that will be conducted in August 2021. Comments and discussion on information presented are summarized below:

- Michael presented the candidate alternatives, which were:
 - Alternative A: No-Build
 - Alternative B: Roundabout
 - Alternative C: Reconfigured Intersection
 - Alternative D: Truck Route on City Streets
 - Alternative E: New Street East Bypass
 - Alternative F: New Street South Bypass
- Michael noted that more detail on the information presented in the TAC meeting was available in Draft Working Paper 3, which was out for review by the TAC, with a deadline of 8/6 for comments.
- Mark asked if there is enough space between Haskell Avenue (B-10) and the railroad tracks for grade separation.
 - Michael responded that there does appear to be enough space for the roadway to get over the Union Pacific Railroad (UPRR) tracks from the intersection of Haskell Avenue (B-10) and Rex Allen Drive.
- Brandi asked if the team identified where local truck generators are within Willcox?
 - Michael responded that the locations of major truck generators near downtown Willcox are known and clarified that local trucks will still be able to use existing roadways for their operations and local deliveries, regardless of which of the alternatives is ultimately selected.
 - Caleb added that most trucks are generated along SR 186 southeast of downtown, southeast of where most of the alternatives connect to the existing SR 186 alignment.
- Caleb stated that Alternative F does not really support Riverview Dairy trucks because of out-of-direction travel and cuts downtown out of predominant travel patterns. This alternative may have negative impacts on downtown businesses and right-of-way acquisition will be expensive. He asked if this alternative should even be shown to the public.

- Michael stated that at the last TAC meeting, feedback from some TAC members was that they thought there should be two new street options instead of just one, so the South Bypass alternative was added, but the TAC can discuss if that is still appropriate to present to the public.
- Mary stated that it is sometimes good to have something that people can dismiss right away.
- Sayeed stated that the group needs to keep in mind that if we add a new at-grade crossing, that UPRR often requires the closure of two existing crossings. Adding traffic to existing crossings may also require additional infrastructure changes to the existing system.
 - Bill added that creating new railroad crossings (at-grade or grade-separated) adds to the complexity and uncertainty around constructing improvements due to railroad involvement and requirements (clearances, etc.). UPRR may require bridge foundations to be outside of UPRR right-of-way, creating a long bridge. He suggested that it be made clear to the public that new railroad crossings are expensive – especially grade-separated ones – and take a long time to implement and as such would not likely be near-term solutions but rather future long-term opportunities.
 - Michael stated that there may be phased recommendations with a near-term improvement and a long-term solution. He asked if planning-level costs should be presented to the public.
 - Bill and Caleb thought that presenting costs would be good so that people can get a sense of the magnitude of the potential cost impact.
- Kathy asked Sayeed if traffic were limited to trucks in Alternative D, would UPRR require significant upgrades to the existing Stewart Street crossing?
 - Sayeed responded that ADOT would need to make the case for why safety would not be adversely impacted by shifting more trucks from the Maley Street (SR 186) crossing to the Stewart Street crossing.
- Bill asked if the splitter islands on Alternative B would block access.
 - Michael responded that the splitter islands would be mountable, and portions of them could even be only striped, if needed, to maintain access, but also pointed out that a benefit of roundabouts is ease of doing U-turns if needed.
- Bill stated people are often apprehensive of roundabouts until they get implemented and then end up liking them more than signalized intersections. The Southeast District has been implementing roundabouts in Southeastern Arizona lately.
- Jackie stated that wide loads sometimes go through the Haskell Avenue (B-10) and Maley Street (SR 186) intersection and stated that the County would be interested to see AutoTURN results of how trucks navigate this type of intersection.
 - Michael responded that the roundabout's central island and splitter islands would be mountable so it shouldn't be an issue for wide loads. He mentioned the AutoTurn truck paths are shown in Draft Working Paper 3, which is out for review by the TAC.
- Bill asked if split phasing would be required for all legs of the intersection of Haskell Avenue (B-10) and Maley Street (SR 186) in Alternative C.
 - Michael responded that split phasing would be required, otherwise there could be multiple trucks trying to use the striped-out area at the same time that could crash into each other. He then asked whether a pulled back left-turn lane or a single lane for all movements should be the assumed geometry on each leg.
 - Bill responded that he would rather show a single lane because a left-turn lane far back from the intersection would be confusing.
 - Kathy asked if it would help to remove on-street parking near the intersection.

- Michael responded that there is already no parking near the intersection, so additional parking restrictions wouldn't have a major impact on truck movements right at the intersection but could potentially help a little farther back.
 - James indicated the removal of on-street parking would likely generate negative reactions from the downtown businesses
- Michael asked the TAC what alternatives they would like to see implemented and why.
 - Mary and Kathy stated that they preferred Alternative D because it keeps traffic close to downtown while removing trucks from problematic intersection.
 - Julia stated that she preferred Alternative E.
 - Caleb stated that he preferred Alternative C, D, or E. He said he also liked Alternative B but didn't think the community would like it.
 - Bill stated that he was leaning toward Alternative B or C because they are low-cost solutions that can likely be implemented in the near-term. He also mentioned he was hesitant to put trucks on local streets, as proposed in Alternative D, and that Alternatives E and F were of concern because of the cost.
 - Subsequent to the meeting, Mark contacted Michael and stated he preferred Alternative B as a near-term, low-cost solution, with Alternative E as a potential long-term solution if the cost and railroad coordination issues can be resolved
 - Subsequent to the meeting, Brent Haas with Riverview Dairy contacted Michael and stated he preferred Alternative E and thought the at-grade railroad crossing option would work well, despite it likely meaning the existing at-grade crossings at Patte Road and Stewart Street would have to be closed.
- A Mentimeter online poll was also used to allow the TAC to rank the alternatives. The results are shown below for the eight TAC members that took the poll.

Please rank the candidate alternatives?



- Brandi asked if Alternative F should be removed if the TAC does not believe it is a viable alternative.
 - Bill stated that he would be ok with removing Alternative F, and potentially Alternative B also if the TAC and Tazeen, ADOT Project Manager, agreed.
- Michael asked the TAC if we should split Alternative E into an at-grade option and a grade-separated option if we remove Alternatives B and/or F.
 - Kathy stated she thought that would be fine as long as it was very clear what the difference was between the two railroad crossing options to avoid confusion in the public survey.
- Jan requested that if TAC members share the link for the public survey through their social media or some other publication to please let the project team know so survey advertisement activity can be tracked and measured.
- Brandi requested that the demographic information be removed from the end of the survey and placed in a separate survey.
 - Michael agreed this would be good.
- Michael concluded the meeting by summarizing that there seemed to be consensus to remove Alternative F and split Alternative E into at-grade and grade-separated railroad crossing options, with some support for removing Alternative B as well. Michael noted that Tazeen, the ADOT Project Manager, was unable to attend the TAC meeting due to a family emergency, but that he would follow up with her to review the TAC meeting discussion and make a determination of how to proceed in concert with Bill and Caleb.

Next Steps:

- Conduct Alternatives Analysis public outreach
- Finalize Working Paper 3 (Alternatives Analysis)
- Next TAC meeting: mid-September

Attachment:

1. PowerPoint Presentation

ADOT Willcox Circulation Study

TAC Meeting #4 – July 21, 2021

ADOT KimleyHorn

1

Agenda

- Project background
- Project tasks/schedule
- Candidate alternatives
 - Evaluation methodology
 - Preliminary results
- Public involvement
- Next steps

2

Project Study Area

3

Project Background

- Most freight producers on southeast side of City
- Main freight destination is I-10 on west side of City
- Union Pacific Railroad
 - Limits east-west connectivity
 - Complaints of travel time reliability
- Truck traffic must navigate through downtown Willcox
 - Narrow turning radii
 - Impacts to historic district and structures
 - Local roads not built to handle truck traffic

4

Project Tasks/Schedule

5

Project Schedule

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1. Project Kickoff	█												
2. Data Collection		█											
3. Data Analysis			█										
4. Environmental Overview				█									
5. Potential Heavy Truck Route Solutions					█								
6. Public Outreach and Input						█							
7. Preferred Alternative and Planning-Level Scoping								█					
8. Final Report												█	

█ = TAC Meeting

We are here

6



7

Conceptual Alternatives Evaluation

Conceptual Alternative	Description	Historical District/ Priorities	Cost	Travel Pattern Interruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
3A	Operational: One-Way Streets	0	2	0	1	1	4
3B	Operational: Relocate Truck Turns from Haskell Ave (B-10) and Maley St (SR 186)	1	2	0	0	0	3
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
4B	Truck Route: Arizona Ave and Maley St	0	1	0	2	1	4
4C	Truck Route: Grant St and 2nd Ave	1	0	1	0	1	3
5A	New Street: Patte d'rd to Maley St (SR 186)	2	0	0	0	2	4
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	2	0	1	2	2	7
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186)	2	0	0	0	2	4

0 = Negative Impact 0 = High 0 = High 0 = Negative Impact 0 = Negative Impact
 1 = Minimal Impact 1 = Moderate 1 = Moderate 1 = Minimal Impact 1 = Minimal Impact
 2 = Positive Impact 2 = Low 2 = Low/None 2 = Positive Impact 2 = Positive Impact

8

Candidate Alternatives

Conceptual Alternative ID	Description	Candidate Alternative ID
1	No-Build: Existing Conditions	A
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	B
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	C
4A	Truck Route: Stewart St and Railroad Ave	D
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186)	E
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186)	F

9

Alternative A. No-Build: Existing Conditions

- Pros
 - No disruption to the existing roadway network
- Cons
 - Does not address the issue of truck traffic going on the sidewalk and into opposing lanes

10

Alternative B. Roundabout

- Pros
 - Allows trucks to make turns by driving over the center island as needed
 - Does not require acquisition of ROW
- Cons
 - Unconventional intersection
 - Does not remove truck traffic from intersection

11

Alternative C. Reconfigured Intersection

- Pros
 - Allows trucks to make turns
- Cons
 - Restricts where left-turning vehicles can be
 - Requires traffic signals to serve each direction separately
 - Does not remove truck traffic from intersection

12

Alternative D. Truck Route on City Streets: Stewart St and Railroad Ave

- Pros
 - Makes use of existing facilities
 - Removes trucks from Haskell/Maley intersection
- Cons
 - Requires trucks to travel on local streets not currently built for regular truck traffic

ADOT

13

Alternative E. New Street East Bypass: Rex Allen Dr (SR 186) to Maley St (SR 186)

- Pros
 - New street can better accommodate trucks
 - Keeps traffic relatively close to downtown
 - Removes traffic from Haskell/Maley intersection
- Cons
 - Requires new railroad crossing at Rex Allen Dr

ADOT

14

Alternative F. New Street South Bypass: Haskell Ave (B-10) to Maley St (SR 186)

- Pros
 - New street can better accommodate trucks
 - Reduces truck turns at Maley St and Haskell Ave
- Cons
 - Requires new railroad crossing
 - Requires out-of-direction travel

ADOT

15

Candidate Alternative Evaluation Methodology

ADOT

16

Evaluation Criteria

<ul style="list-style-type: none"> Historic district/properties Protected populations Travel pattern change Traffic operations Safety Economic impacts Biological impacts 	<ul style="list-style-type: none"> Jurisdictional complexities Implementation feasibility Total cost Right-of-way Stakeholder acceptability Public acceptability
--	--

ADOT

17

Evaluation Process

- Some criteria are not numerically quantifiable
- Instead, we look at relative impacts:
 - Strong advantage
 - Advantage
 - Neutral
 - Disadvantage
 - Strong disadvantage

ADOT

18



19

Candidate Alternative Evaluation Results

Evaluation Criterion	Alt A (No-Build)	Alt B (Roundabout)	Alt C (Reconfigured)	Alt D (City Streets)	Alt E (East Bypass)	Alt F (South Bypass)
Historic Districts/Properties	⊖	⊖	⊖	○	⊕	⊖
Protected Populations	⊖	⊖	⊖	⊖	○	⊖
Travel Pattern Change	○	○	○	⊖	○	⊖
Traffic Operations	⊖	⊖	⊖	⊖	⊖	⊖
Safety	⊖	⊖	○	⊖	⊖	⊖
Economic Impacts	○	○	○	○	⊖	⊖
Biological Impacts	○	○	○	○	⊖	⊖
Jurisdictional Complexities	○	○	○	⊖	⊖	⊖
Implementation Feasibility	○	⊖	⊖	⊖	⊖	⊖
Total Cost	○	⊖	○	⊖	⊖	⊖
Right-of-Way	○	○	○	⊖	⊖	⊖
Stakeholder Acceptability						
Public Acceptability						

ADOT Legend: ⊕ Strong Advantage, ⊖ Disadvantage, ○ Neutral

20

Alt A (No-Build) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Disadvantage	Noise and pollution from truck traffic
Protected Populations	Disadvantage	Noise and pollution from truck traffic
Travel Pattern Change	Neutral	No change in patterns
Traffic Operations	Disadvantage	Multiple turns, tight turning radii for trucks
Safety	Strong Disadvantage	Crash concentration at Maley/Haskell; trucks have to swing out into oncoming traffic lanes
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing jurisdictional responsibilities
Implementation Feasibility	Neutral	Nothing to implement
Total Cost	Neutral	No cost
Right-of-Way	Neutral	No change to right-of-way
Stakeholder Acceptability		
Public Acceptability		

21

Alt B (Roundabout) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Disadvantage	Noise and pollution from truck traffic
Protected Populations	Disadvantage	Noise and pollution from truck traffic
Travel Pattern Change	Neutral	No major change in traffic patterns expected
Traffic Operations	Advantage	Adequate turning radius for truck traffic
Safety	Advantage	Decreases vehicle conflict at intersection of Maley/Haskell
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing condition
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Disadvantage	Relatively moderate construction cost
Right-of-Way	Neutral	No right-of-way impacts expected
Stakeholder Acceptability		
Public Acceptability		

22

Alt C (Reconfigured) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Disadvantage	Noise and pollution from truck traffic
Protected Populations	Disadvantage	Noise and pollution from truck traffic
Travel Pattern Change	Neutral	No major change in traffic patterns expected
Traffic Operations	Strong Disadvantage	Requires traffic signal to serve each direction separately
Safety	Neutral	Decreases vehicle conflict at intersection of Maley/Haskell but has sight distance concerns
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Neutral	No change to existing condition
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Neutral	Very low construction cost
Right-of-Way	Neutral	No right-of-way impacts expected
Stakeholder Acceptability		
Public Acceptability		

23

Alt D (City Streets) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Neutral	Removes trucks traffic to edge of Historic District
Protected Populations	Disadvantage	Noise and pollution from truck traffic
Travel Pattern Change	Disadvantage	Increases the number of required turns by trucks
Traffic Operations	Advantage	Truck traffic turns removed from constrained Maley/Haskell intersection
Safety	Advantage	Decreases vehicle conflict at intersection of Maley/Haskell
Economic Impacts	Neutral	No change to existing condition
Biological Impacts	Neutral	No change to existing condition
Jurisdictional Complexities	Strong Disadvantage	Requires jurisdictional changes of truck route
Implementation Feasibility	Disadvantage	Requires some steps to implement
Total Cost	Strong Disadvantage	Relatively high construction cost
Right-of-Way	Disadvantage	Some expected right-of-way impacts on truck route roadways
Stakeholder Acceptability		
Public Acceptability		

24

Alt E (East Bypass) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Strong Advantage	Removes much traffic from Historic District
Protected Populations	Advantage	Removes some traffic from protected populations
Travel Pattern Change	Neutral	Changes travel pattern significantly but for many travelers will improve travel route
Traffic Operations	Strong Advantage	New street designed to accommodate trucks
Safety	Strong Advantage	Decreases vehicle conflict potential at intersection of Maley/Haskell
Economic Impacts	Strong Disadvantage	Most travelers will likely bypass downtown Willcox
Biological Impacts	Disadvantage	Impacts natural desert habitats
Jurisdictional Complexities	Disadvantage	Requires jurisdictional changes of roadways
Implementation Feasibility	Strong Disadvantage	Requires multiple steps to implement
Total Cost	Strong Disadvantage	Relatively high construction cost
Right-of-Way	Disadvantage	Some new right-of-way needed for new street
Stakeholder Acceptability		
Public Acceptability		

25

Alt F (South Bypass) Evaluation Results

Evaluation Criterion	Net Effect	Considerations
Historic Districts/Properties	Advantage	Removes some traffic from Historic District
Protected Populations	Advantage	Removes some traffic from protected populations
Travel Pattern Change	Strong Disadvantage	Requires out of direction travel for most travelers
Traffic Operations	Strong Advantage	New street designed to accommodate trucks
Safety	Strong Advantage	Decreases vehicle conflict potential at intersection of Maley/Haskell
Economic Impacts	Disadvantage	Some travelers will likely bypass downtown Willcox
Biological Impacts	Disadvantage	Impacts natural desert habitats
Jurisdictional Complexities	Disadvantage	Requires jurisdictional changes of roadways
Implementation Feasibility	Strong Disadvantage	Requires multiple steps to implement
Total Cost	Strong Disadvantage	Relatively high construction cost
Right-of-Way	Strong Disadvantage	Significant new right-of-way needed for new street
Stakeholder Acceptability		
Public Acceptability		

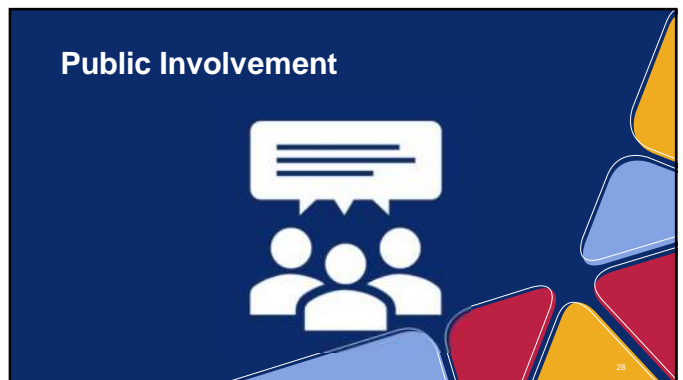
26

Candidate Alternative Evaluation Results

Evaluation Criterion	Alt A (No-Build)	Alt B (Roundabout)	Alt C (Reconfigured)	Alt D (City Streets)	Alt E (East Bypass)	Alt F (South Bypass)
Historic Districts/Properties	●	○	○	○	●	○
Protected Populations	●	○	○	○	○	○
Travel Pattern Change	○	○	○	○	○	○
Traffic Operations	●	○	○	○	○	○
Safety	●	○	○	○	○	○
Economic Impacts	○	○	○	○	○	○
Biological Impacts	○	○	○	○	○	○
Jurisdictional Complexities	○	○	○	○	○	○
Implementation Feasibility	○	○	○	○	○	○
Total Cost	○	○	○	○	○	○
Right-of-Way	○	○	○	○	○	○
Stakeholder Acceptability						
Public Acceptability						

● Strong Advantage
 ○ Disadvantage
 ○ Advantage
 ○ Strong Disadvantage
 ○ Neutral

27



28

- ### Public Involvement
- First round of engagement: Alternatives Analysis
 - Virtual and paper public survey
 - Describe the study and planning process
 - Enable respondents to review and comment on candidate alternatives
 - Engagement publicity
 - Utility bill insert – next slide
 - News release – under development
 - Project fact sheet – complete
 - For electronic and print distribution
 - Will be placed at activity centers in Willcox
 - Social media
 - Project webpage on ADOT website

29

Utility Bill Insert

Tell us what you think!
 Help us reduce the impact of truck traffic through downtown Willcox.

The Arizona Department of Transportation (ADOT), in collaboration with the City of Willcox and area businesses, is working to reduce the impact of heavy truck traffic through downtown Willcox and would like your input. Currently, heavy trucks from businesses on the southeast side of the city (along State Route 186) must go through downtown to access interstate 10, creating congestion and safety issues.

Visit www.azdot.gov/willcoxstudy to take a brief survey about the potential improvement alternatives.


A paper version of the survey is available at the locations below.
The survey ends Tuesday, August 31, 2021.

- ▶ Willcox City Hall, 101 S. Railroad Avenue B
- ▶ Elsie S. Hogan Community Library, 100 N. Curtis Avenue

30

Public Involvement

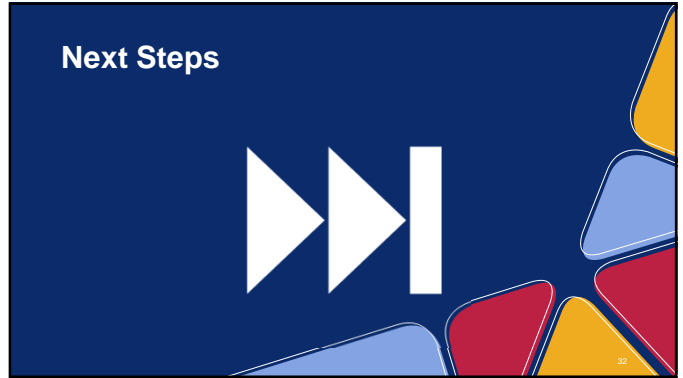
- Public survey content
 - Map and description (features and pros/cons) of each alternative
 - Rank each alternative on scale of 1 to 5
 - Open comment box for each alternative
 - Demographic questions (race/ethnicity, income, zip code, etc.)
- Will be developed in SurveyMonkey and linked from the project webpage on ADOT's website



31

31

Next Steps




32

32

Next Steps

- Conduct Alternatives Analysis public outreach
- Finalize Working Paper 3 (Alternatives Analysis)
- Preferred Alternative development
- Next TAC meeting: mid-September



33

33

Date: Tuesday, September 21, 2021

Time: 1:00 pm – 2:00 pm MST

Attendees:

- Tazeen Dewan, *ADOT Project Manager*
- Brian Jervas, *ADOT Southeast District*
- Jason Hart, *ADOT Southeast District*
- Jay Gomes, *ADOT Regional Traffic*
- James Norwood, *ADOT Southeast District*
- Jeremiah Moerke, *ADOT Communications*
- Julia Mendoza, *ADOT Roadway Pre-Design*
- Brandi Hall, *ADOT Civil Rights*
- Sayeed Hani, *ADOT Railroad Liaison*
- Christina Pippin, *ADOT Permitting*
- Carlos Lopez, *ADOT Corridor Planning*
- Caleb Blaschke, *City of Willcox*
- Robert Wisler, *City of Willcox*
- Jeff Stoddard, *City of Willcox*
- Mary Peterson, *Willcox Chamber of Commerce and Agriculture*
- Brent Haas, *Riverview Dairy*
- Michael Grandy, *Kimley-Horn Project Manager*
- Chris Joannes, *Kimley-Horn*
- Jan Gordley, *Gordley Group*

Meeting Notes:

Michael Grandy, Chris Joannes, and Jan Gordley led the group through a PowerPoint presentation (attached), which included an overview of the project tasks and schedule, the alternatives evaluation process, a review of candidate improvement alternatives and evaluation results, and a review of the public survey results received during the first round of public engagement. The presentation also provided pros and cons of potential short-term and long-term preliminary preferred alternative options to inform an open discussion on a preferred alternative among the TAC. The short-term preliminary preferred alternative options are Alternative A (No-Build) and a scaled-back version of Alternative C (Reconfigured Intersection) where the left-turn lane is removed only on Haskell Avenue (B-10) as part of an impending pavement rehabilitation project. The long-term preliminary preferred alternative options are Alternative E (East Bypass with At-Grade Railroad Crossing) and Alternative F (East Bypass with Grade-Separated Railroad Crossing). Comments and discussion on information presented are summarized below:

- Tazeen asked if Kimley-Horn had talked to the Southeast District staff about the potential preferred alternatives.
 - Michael responded that he had spoken with Bill Harmon (who was not able to attend the TAC meeting due to a schedule conflict) and that he was supportive of either of the proposed short-term alternatives (Alternative A and a modified version of Alternative C). Bill also indicated he was not opposed to either of the long-term alternatives (Alternatives E and F), but he believed they would require funding sources outside of ADOT's typical funding streams due to ADOT's focus being on maintaining and modernizing existing facilities rather than constructing new facilities.
- Mary asked who would be responsible for advocating for funding for Alternative E or F.
 - Michael responded that the City would likely need to take the lead in pursuing funding, but that ADOT would likely support City staff.
 - Jay and Tazeen added that ADOT could help with grant writing support and that the City could also work with SEAGO and the State Transportation Board to pursue funding.
 - Carlos added that this study will document issues and the proposed solutions will go into ADOT's Planning-to-Programming (P2P) process to compete with other projects statewide.

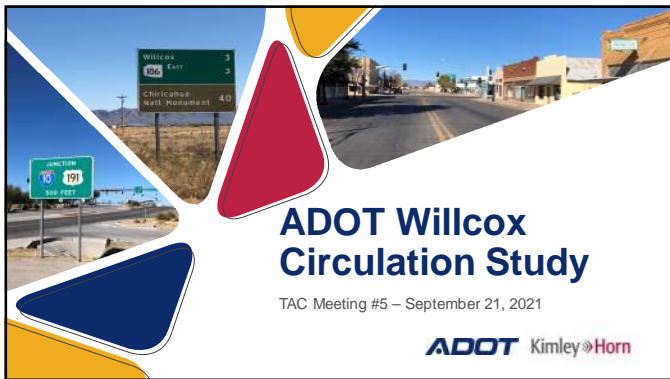
- Caleb stated that he believes the City should support a long-term bypass alternative and thinks that the at-grade railroad crossing (Alternative E) is more feasible than the grade-separated crossing (Alternative F) from a cost standpoint in terms of being able to potentially secure the necessary funding.
- Christina stated that a roundabout (Alternative B) could be problematic for oversize/overweight trucks so she was not in favor of that alternative. She asked if anyone from the trucking industry responded to the public survey. She believes much of the truck traffic on Haskell Avenue (B-10) is from trucks diverting around a low-clearance bridge on I-10 at Airport Road.
 - Michael responded that there is a representative from Riverview Dairy, a major freight generator in the study area, on the TAC who has provided insight throughout the planning process.
 - Jan added that there were a couple responses to the public survey from people who identified themselves as truck drivers or part of the trucking industry.
 - Jay added that addressing the low-clearance bridge on I-10 should be included in the recommendations from this study so it can be included in P2P for potential funding consideration in the future.
- Brent stated that he is in support of the long-term bypass (Alternatives E and F) and has discussed the alternatives with many business owners in Willcox who feel the same. He believes that small changes at Haskell Ave and Maley St (modified Alternative C) are not worth doing and that the City should focus on the bypass alternatives.
 - Mary supported Brent's views.
- Sayeed stated that the City would be responsible for maintaining signals and other infrastructure surrounding the new at-grade crossing in Alternative E, so there would be more ongoing maintenance costs than a grade-separated crossing.
- Brandi asked how the project team would target getting more low-income and non-white respondents in the second round of engagement to better match the city's demographics.
 - Michael responded that the team would send out another utility bill and place paper copies at local activity centers again.
 - Brandi stated that she would brainstorm potential alternatives for reaching more of these targeted demographics.
- Jay requested that Synchro capacity analysis be conducted on the modified version of Alternative C to determine the traffic delay impacts of going to a less-efficient signal phasing plan, which would be required due to overlapping left-turn paths on Haskell Avenue (B-10).
- Several TAC members asked if an exhibit could be prepared showing the modified version of Alternative C, any impacts to on-street parking, and what the truck-turning paths would be with that modified geometry.
- The TAC came to a consensus that Alternative E should be the preliminary preferred long-term alternative. No consensus was reached on whether to pursue the modified version of Alternative C or the No-Build Alternative A as the preliminary preferred short-term alternative, as the TAC would like more information before making a recommendation.
- Kimley-Horn will develop a Synchro model for the modified version of Alternative C and a graphic showing the modified Alternative C alternative with truck-turning paths and any potential on-street parking conflicts and distribute to the TAC to aid in determination of a preliminary preferred short-term alternative.

Next Steps:

- Develop Working Paper 4 (Preferred Alternative)
- Conduct the second round of public engagement
- Next TAC meeting: early December

Attachment:

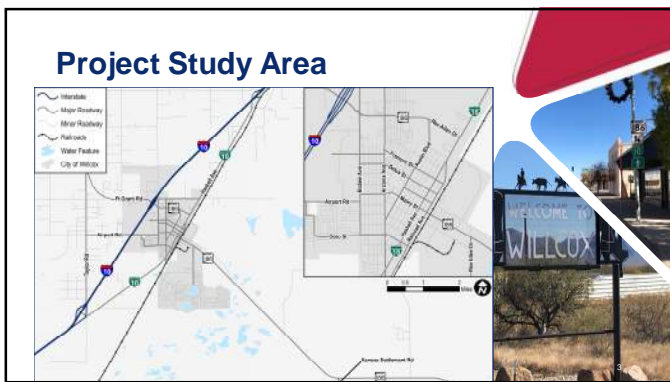
1. PowerPoint Presentation



1



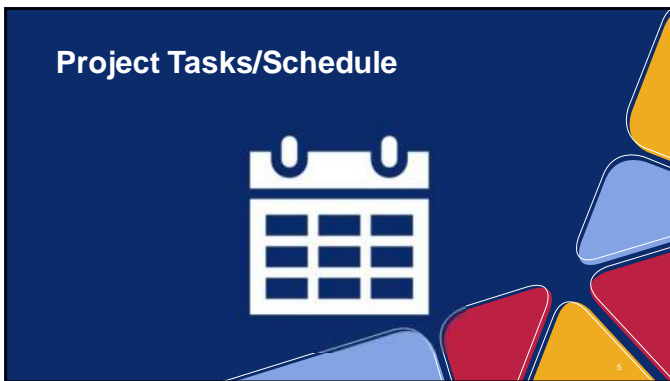
2



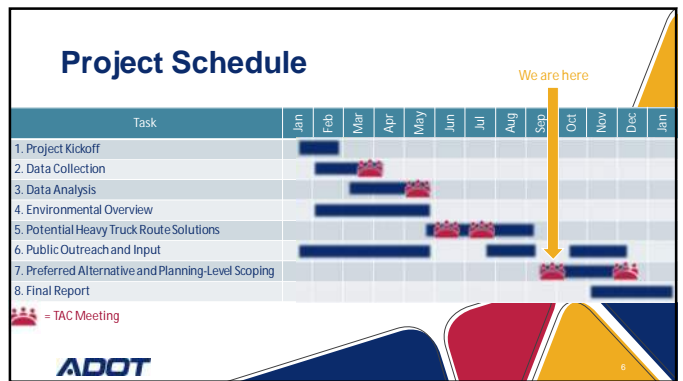
3



4



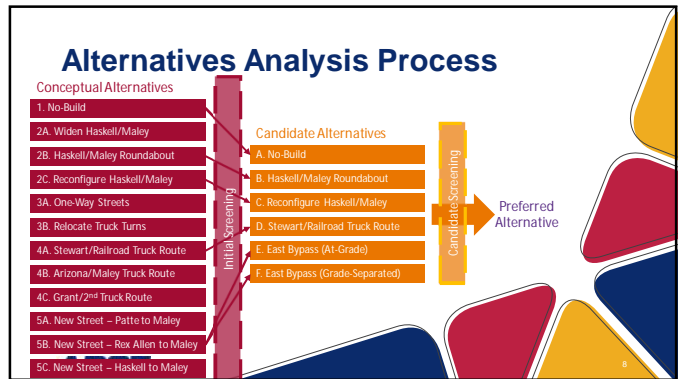
5



6

Alternatives Evaluation

7



8

Candidate Alternatives

9

Alternative A. No-Build: Existing Conditions

- Pros**
 - No disruption to the existing roadway network
- Cons**
 - Does not address the issue of truck traffic going on the sidewalk and into opposing lanes

ADOT

10

Alternative B. Roundabout

- Pros**
 - Allows trucks to make turns by driving over the center island as needed
 - Does not require acquisition of ROW
- Cons**
 - Unconventional intersection
 - Does not remove truck traffic from intersection

ADOT

11

Alternative C. Reconfigured Intersection

- Pros**
 - Allows trucks to make turns
- Cons**
 - Restricts where left-turning vehicles can be
 - Requires traffic signals to serve each direction separately
 - Does not remove truck traffic from intersection

ADOT

12

Alternative D. Truck Route on City Streets: Stewart St and Railroad Ave

- Pros
 - Removes trucks from Haskell Avenue and Maley Street intersection
- Cons
 - Requires trucks to travel on local streets
 - Jurisdictional negotiations surrounding roadway ownership and maintenance responsibilities
 - Moderate cost to implement (\$2.6M)

ADOT

13

Alternative E. New Street East Bypass: Rex Allen Dr (SR 186) to Maley St (SR 186)

- Pros
 - Removes traffic from the Haskell Ave and Maley St intersection
 - Keeps traffic out of, but close to, downtown Willcox
- Cons
 - Moderate cost (\$4.3M) to construct a new roadway
 - Requires new at-grade railroad crossing at Rex Allen Dr, likely requiring closing two existing nearby at-grade railroad crossings

ADOT

14

Alternative F. New Street East Bypass: Rex Allen Dr (SR 186) to Maley St (SR 186)

- Pros
 - Removes traffic from the Haskell Ave and Maley St intersection
 - Keeps traffic out of, but close to, downtown Willcox
- Cons
 - High cost (\$28.3M) to construct a new roadway
 - Requires new overpass on Rex Allen Dr over the railroad

ADOT

15

Candidate Alternative Evaluation Results

Evaluation Criterion	Alternative A (No-Build)	Alternative B (Roundabout)	Alternative C (Reconfigured Intersection)	Alternative D (Truck Route on City Streets)	Alternative E (East Bypass - At-Grade)	Alternative F (East Bypass - Grade Separated)
Historic Districts/Properties	●	●	●	○	●	●
Protected Populations	●	●	●	○	●	●
Travel Pattern Change	○	○	○	○	○	○
Traffic Operations	●	●	●	●	●	●
Safety	●	●	○	●	●	●
Economic Impacts	○	○	○	○	●	●
Biological Impacts	○	○	○	○	●	●
Jurisdictional Complexities	○	○	○	●	●	●
Implementation Feasibility	○	●	●	●	●	●
Total Cost	○	○	○	●	●	●
Right-of-Way	○	○	○	●	●	●
Stakeholder Acceptability	●	●	●	●	●	●
Public Acceptability	○	○	○	○	○	○

ADOT

Legend: ● Strong Advantage, ○ Strong Disadvantage, ● Advantage, ● Disadvantage, ○ Neutral

16

Public Involvement – Round 1

ADOT

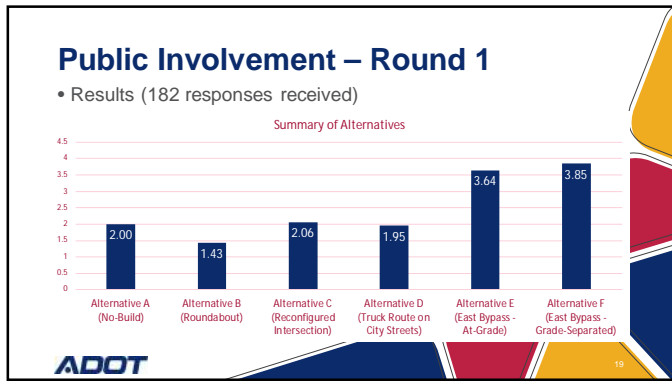
17

Public Involvement – Round 1

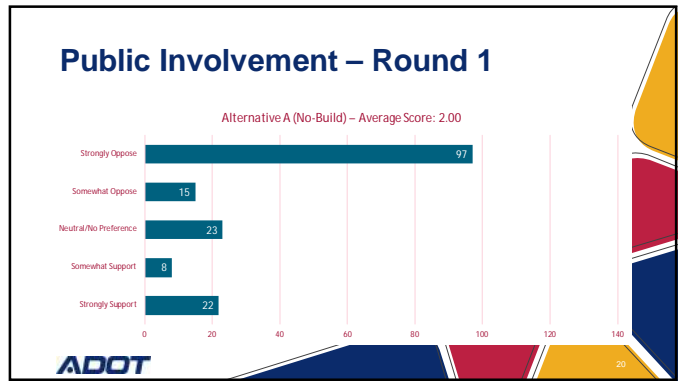
- First round of engagement: Alternatives Analysis
 - Virtual and paper public survey available month of August
 - Map and description (features and pros/cons) of each alternative
 - Rank each alternative on scale of 1 to 5
 - Open comment box for general comments
 - Demographic questions
- Engagement publicity
 - Utility bill insert
 - News release
 - Project fact sheet for electronic and print distribution
 - Social media
 - Project webpage on ADOT website

ADOT

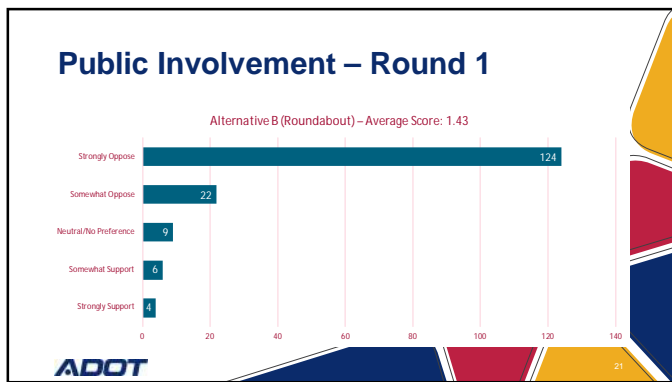
18



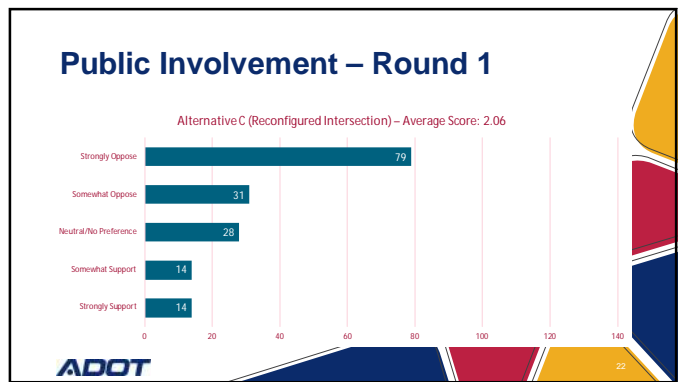
19



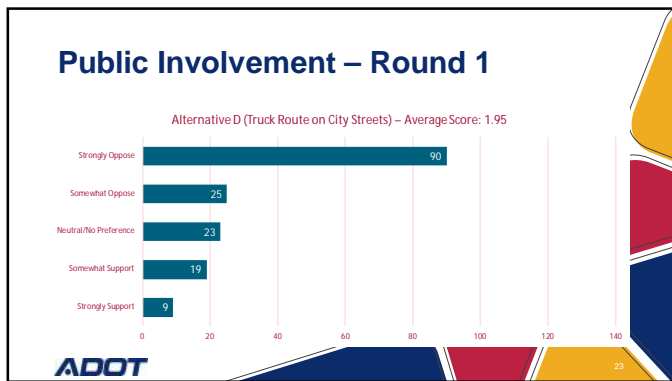
20



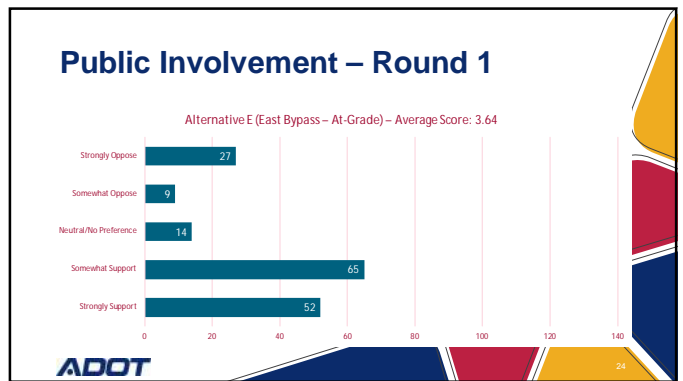
21



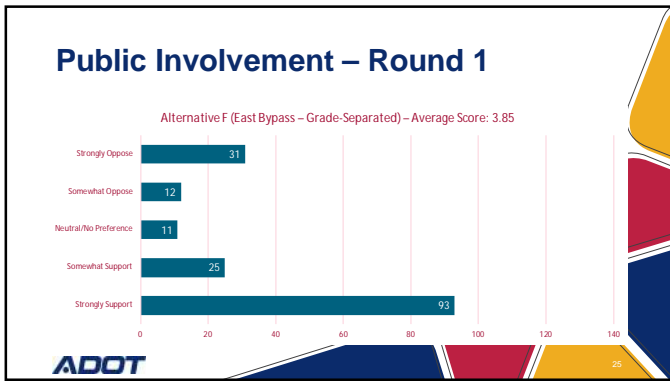
22



23



24



25

Candidate Alternative Evaluation Results

Evaluation Criterion	Alternative A (No-Build)	Alternative B (Roundabout)	Alternative C (Reconfigured Intersection)	Alternative D (Truck Route on City Streets)	Alternative E (East Bypass – At-Grade)	Alternative F (East Bypass – Grade-Separated)
Historic Districts/Properties	○	○	○	○	●	●
Protected Populations	○	○	○	○	●	●
Travel Pattern Change	○	○	○	○	○	○
Traffic Operations	○	○	○	○	●	●
Safety	○	○	○	○	●	●
Economic Impacts	○	○	○	○	●	●
Biological Impacts	○	○	○	○	●	●
Jurisdictional Complexities	○	○	○	○	●	●
Implementation Feasibility	○	○	○	○	●	●
Total Cost	○	○	○	○	●	●
Right-of-Way	○	○	○	○	●	●
Stakeholder Acceptability	○	○	○	○	●	●
Public Acceptability	○	○	○	○	●	●

Legend: ● Strong Advantage, ○ Advantage, ○ Neutral, ○ Strong Disadvantage, ○ Disadvantage

26



27

- ### Preliminary Preferred Alternative Discussion
- Short-term improvement options
 - No-Build
 - Modified Alternative C (Reconfigured Intersection): striping and signal changes only on Haskell Ave as part of upcoming pavement rehabilitation project
 - Long-term improvement options
 - Alternative E (East Bypass – At-Grade Railroad Crossing)
 - Alternative F (East Bypass – Grade-Separated Railroad Crossing)
 - One of the short-term improvement options

28

Short-Term Improvement Options

NO-BUILD		RECONFIGURE HASKELL AVE	
Pros	Cons	Pros	Cons
More efficient signal operations	Continued conflicts with turning trucks	Minimal cost opportunity with Haskell Ave repaving project	Less efficient signal operations
No cost	Continued damage to curbs and signage from turning trucks	Reduces conflicts with turning trucks	Does not eliminate issue of turning trucks

29

Long-Term Improvement Options

AT-GRADE CROSSING		GRADE-SEPARATED CROSSING	
Pros	Cons	Pros	Cons
Much less expensive than grade-separated crossing	Requires closure of two other crossings (Stewart and Patte)	New crossing never blocked by trains	Much more expensive than at-grade crossing
Higher likelihood of finding funding through grant or legislative request	Stopped trains may still block both crossings	Improved emergency response/reliability	Lower likelihood of finding funding through grant or legislative request

30

Preliminary Preferred Alternative

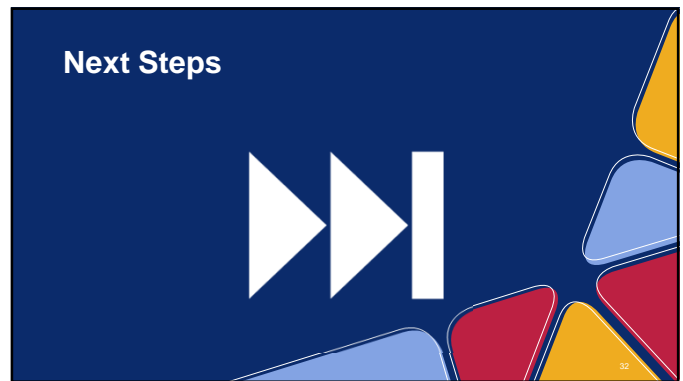
- What do you think should be the preliminary preferred alternative and why?
 - Short-term
 - Long-term
- Round 2 public survey will ask the public if they support or oppose the preliminary preferred alternative(s)

ADOT

31

31

Next Steps



32

32

Next Steps

- Preliminary Preferred Alternative project development
- Develop Alternative Selection Working Paper
- Conduct Public Involvement – Round 2: November
- Next TAC meeting: early December
- Develop Final Report

ADOT

33

33

Date: Thursday, December 9, 2021

Time: 10:30 am – 11:30 am MST

Attendees:

- Tazeen Dewan, *ADOT Project Manager*
- Jay Gomes, *ADOT Regional Traffic*
- Jeremiah Moerke, *ADOT Communications*
- Carlos Lopez, *ADOT Corridor Planning*
- Ahnaf Nur, *ADOT Civil Rights*
- Felicia Beltran, *ADOT Civil Rights*
- Mike Laws, *Mayor, City of Willcox*
- Caleb Blaschke, *City of Willcox*
- Robert Wisler, *City of Willcox*
- Brent Haas, *Riverview Dairy*
- Cheryl Moss, *Maid Rite*
- Michael Grandy, *Kimley-Horn Project Manager*
- Chris Joannes, *Kimley-Horn*

Meeting Notes:

Michael Grandy led the group through a PowerPoint presentation (attached), which included an overview of the project tasks and schedule, a review of the alternatives evaluation process, an overview of the interim and ultimate preferred alternatives (including the roadway geometrics, traffic analysis, roadway network changes, property impacts, estimated costs, and implementation steps), and a review of the public survey results received during the second round of public engagement. Comments and discussion on information presented are summarized below:

- Robert asked what amount of additional traffic would make a traffic signal more desirable than the proposed stop-controlled intersection as part of the interim preferred alternative.
 - Michael responded that it would likely require a significant increase in traffic to warrant a traffic signal again.
 - Caleb added that people who have lived in Willcox a long time may not see stop signs, so it would be good to leave up the existing signal infrastructure with a flashing red light.
 - Jay stated that he would be in favor of leaving up the existing signal infrastructure. He also asked if it would make sense to test out the alternative with cones and temporarily placing the signal on flash.
 - Caleb responded that he would be in favor of testing it out and thinks the City Council will generally be supportive of the interim preferred alternative.
 - Brent added that if this is a temporary measure until a bypass is constructed, people may be more apt to accept this change if it isn't permanent.
- Jay asked if the study team considered a roundabout at Rex Allen Drive (SR 186) and Haskell Avenue (B-10) or at 2nd Avenue and Maley Street (SR 186) in the ultimate preferred alternative.
 - Michael responded that a roundabout wasn't specifically considered at these locations, but a roundabout was a candidate alternative at Haskell Avenue (B-10) and Maley Street (SR 186) and received overwhelming negative feedback during public engagement.
- Brent asked why 2nd Avenue was selected for the ultimate preferred alternative rather than 3rd Avenue or somewhere farther east.
 - Michael responded that direction from the TAC was that the alignment should stay as close to downtown as possible. There are also concerns of impacts to the historic Old Willcox Cemetery along the 3rd Street alignment.
 - Caleb added that there are more steps in the design process where the exact alignment may change. He suggested stating that caveat up-front during the City Council presentation, which may aid in addressing some concerns of the City Council and public.

- Mayor Laws asked if there are any funds available to evaluate the environmental impacts of trucks in the downtown.
 - Michael responded that he is not aware of any specific special funding for that, but that environmental impacts to downtown could be included in future design grants.
- Brent asked how long it would take to start construction once funding is identified.
 - Michael responded that it could be as little as two years, but the railroad may be a wildcard as far as timing for getting new a crossing approved.
 - Carlos added that a National Environmental Policy Act review will likely be needed as an initial step before subsequent phases can move forward, which may add to the schedule depending on the level of analysis required.

Next Steps:

- City Council Presentation
- Final Report

Attachment:

1. PowerPoint Presentation

ADOT Willcox Circulation Study

TAC Meeting #6 – December 9, 2021

ADOT KimleyHorn

1

Agenda

- Project background
- Project tasks/schedule
- Preferred alternatives
 - Alternatives evaluation
 - Interim preferred alternative
 - Ultimate preferred alternative
- Public involvement – Round 2
- Next steps

2

Project Study Area

3

Project Background

- Most freight producers on southeast side of City
- Main freight destination is I-10 on west side of City
- Union Pacific Railroad
 - Limits east-west connectivity
 - Complaints of travel time reliability
- Truck traffic must navigate through downtown Willcox
 - Narrow turning radii
 - Impacts to historic district and structures
 - Local roads not built to handle truck traffic

4

Project Tasks/Schedule

5

Project Schedule

We are here

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1. Project Kickoff													
2. Data Collection													
3. Data Analysis													
4. Environmental Overview													
5. Potential Heavy Truck Route Solutions													
6. Public Outreach and Input													
7. Preferred Alternative and Planning-Level Scoping													
8. Final Report													


- TAC Meeting

6

Interim Preferred Alternative

- Cost Estimate


Stop-Controlled Improvements		Signalized Improvements	
Construction Cost	\$24,900	Construction Cost	\$19,400
Construction Engineering	\$3,735	Construction Engineering	\$2,910
Miscellaneous Work	\$3,735	Miscellaneous Work	\$2,910
Preliminary and Final Design	\$2,988	Preliminary and Final Design	\$2,328
Contingency	\$7,470	Contingency	\$5,820
Indirect Cost Allocation (ICAP)	\$2,465	Indirect Cost Allocation (ICAP)	\$1,921
Total	\$45,293	Total	\$35,289



13

Interim Preferred Alternative

- Implementation Steps
 - ADOT Southeast District to coordinate with design team for impending Haskell Avenue (B-10) resurfacing project
 - Interim Preferred Alternative can likely be included for low or no additional cost
 - If Interim Preferred Alternative cannot be included in resurfacing project, ADOT Southeast District and/or City of Willcox will need to identify alternative funding



14

Ultimate Preferred Alternative



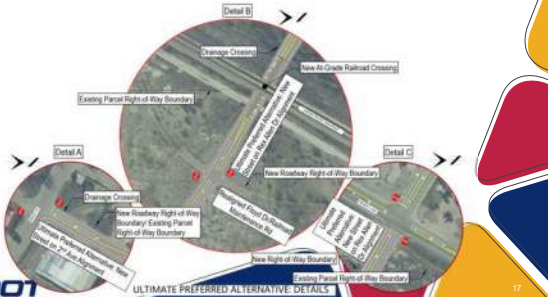


15

Ultimate Preferred Alternative



16

Ultimate Preferred Alternative





17

Ultimate Preferred Alternative

- Traffic Analysis

Location	Peak	Eastbound	Westbound	Northbound	Southbound	Overall
Haskell (B-10) & Rex Allen (SR 186)	AM	B	B	-	-	A
	PM	B	B	-	-	A
Maley (SR 186) & 2nd Ave	AM	-	-	A	B	A
	PM	-	-	A	B	A



18

Ultimate Preferred Alternative

- Roadway Geometrics

Typical Cross-Section

Terminal Intersection Configurations

Ret Allen Drive (SR 186), New Roadway, Highway Avenue (SR 10), Moley Street (SR 186), New Roadway, Highway Avenue (SR 10)

ADOT

19

Ultimate Preferred Alternative

- Railroad Crossing Consolidation
 - To add a new at-grade crossing, two existing must likely be closed

Stewart Street Crossing Closure **Patte Road Crossing Closure**

Existing Parcel Right-of-Way Boundary, Zone Street, Existing Existing Boundary, New Roadway to Old Crossing, Existing Existing Boundary, Existing Existing Boundary, Existing Existing Boundary, Existing Existing Boundary

ADOT

20

Ultimate Preferred Alternative

- Potential Property Impacts
 - Based on conceptual design
 - 9 parcels may be impacted
 - ~250,000 square feet (5.8 acres) of right-of-way may need to be acquired
 - Will be refined as design advances

Preferred Alternative, Impacted Parcels, Other Parcels

ADOT

21

Ultimate Preferred Alternative

- Cost Estimate

Construction Cost	\$1,857,963
Construction Engineering	\$278,694
Miscellaneous Work	\$222,956
Preliminary and Final Design	\$557,389
Contingency	\$183,938
Indirect Cost Allocation (ICAP)	\$183,938
UPRR Allowance	\$1,300,000
Right-of-Way Acquisition	\$243,878
Utility Relocation	\$100,000
Total	\$5,023,512

ADOT

22

Ultimate Preferred Alternative

- Implementation Steps

1. Program Funds
2. Project Scoping/Development
3. Railroad Coordination
4. Public Engagement
5. Preliminary Design
6. Final Design
7. Environmental Clearances
8. Right-of-Way Acquisition
9. Utility Relocation
10. Construction Advertising/Procurement
11. Construction

ADOT

23


Public Involvement – Round 2

ADOT

24

Public Involvement – Round 2

- Second round of engagement: Preferred Alternatives
 - Virtual and paper public survey available month of November
 - Map and description of Interim and Ultimate Preferred Alternatives
 - Score on scale of 1 (strongly opposed) to 5 (strongly support)
 - Demographic questions
- Engagement publicity
 - Utility bill insert
 - Email list from first round of involvement
 - Project webpage on ADOT website

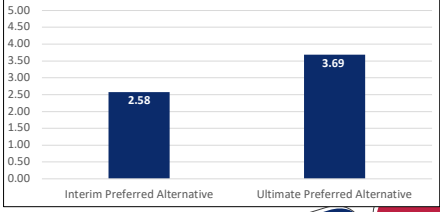


25


25

Public Involvement – Round 2

- Results (67 responses received)



Alternative	Average Score
Interim Preferred Alternative	2.58
Ultimate Preferred Alternative	3.69

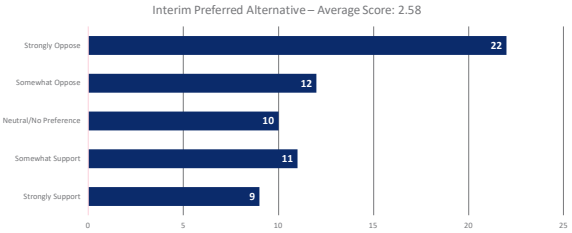


26


26

Public Involvement – Round 2

Interim Preferred Alternative – Average Score: 2.58



Response Category	Count
Strongly Oppose	22
Somewhat Oppose	12
Neutral/No Preference	10
Somewhat Support	11
Strongly Support	9

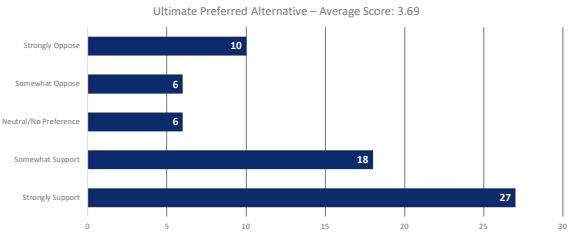


27


27

Public Involvement – Round 2

Ultimate Preferred Alternative – Average Score: 3.69





Response Category	Count
Strongly Oppose	10
Somewhat Oppose	6
Neutral/No Preference	6
Somewhat Support	18
Strongly Support	27



28

28

Next Steps





29

29

Next Steps

- Deliver Willcox City Council Presentation (12/16 at 4pm)
- Develop Final Report (Draft in Dec., Final in Jan.)
- Submit Project Close-Out and GIS Files
- ADOT to implement interim preferred alternative
- City of Willcox to take lead on finding funding for ultimate preferred alternative



30

30

Appendix F. City Council Presentation Slides

ADOT Willcox Circulation Study

Willcox City Council Presentation – December 16, 2021

ADOT Kimley»Horn

1

Agenda

- Project background
- Project study area and schedule
- Alternatives evaluation
- Interim preferred alternative
- Ultimate preferred alternative
- Next steps

2

2

Project Background

- Most freight producers on southeast side of City
- Main freight destination is I-10 on west side of City
- Union Pacific Railroad
 - Limits east-west connectivity
 - Complaints of travel time reliability
- Truck traffic must navigate through downtown Willcox
 - Narrow turning radii
 - Impacts to historic district and structures
 - Local roads not built to handle truck traffic

ADOT

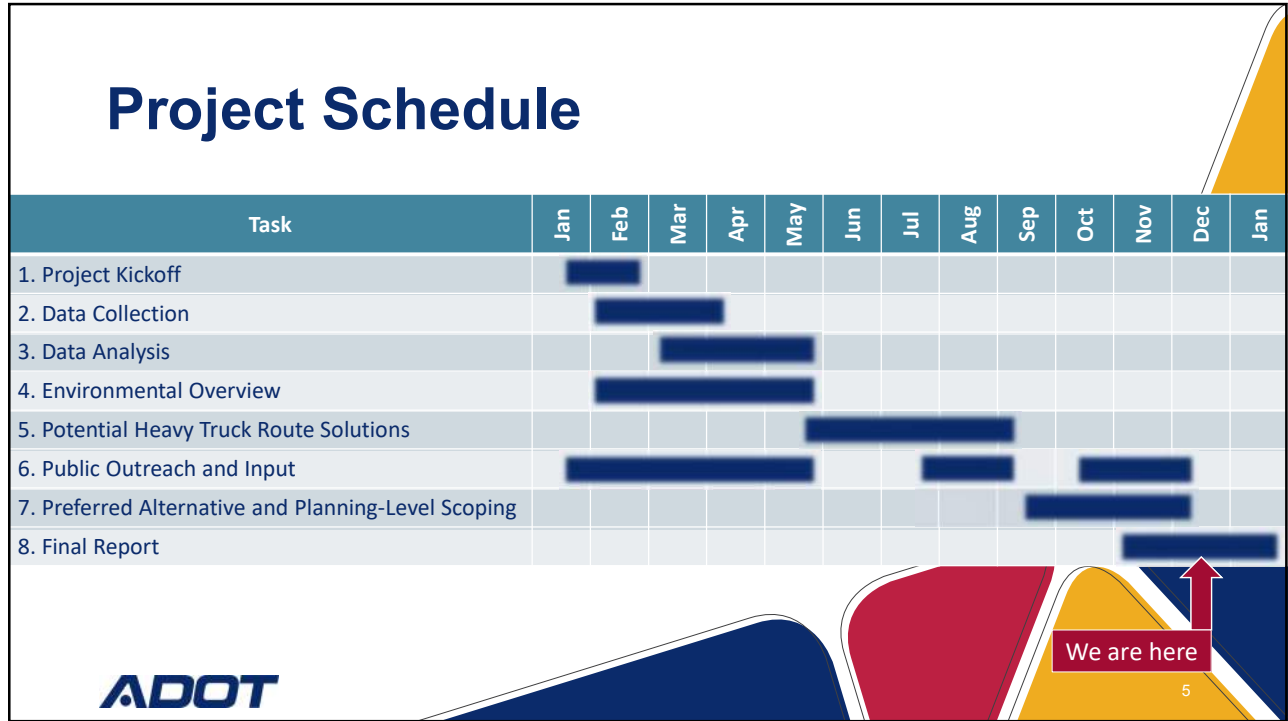
3

3

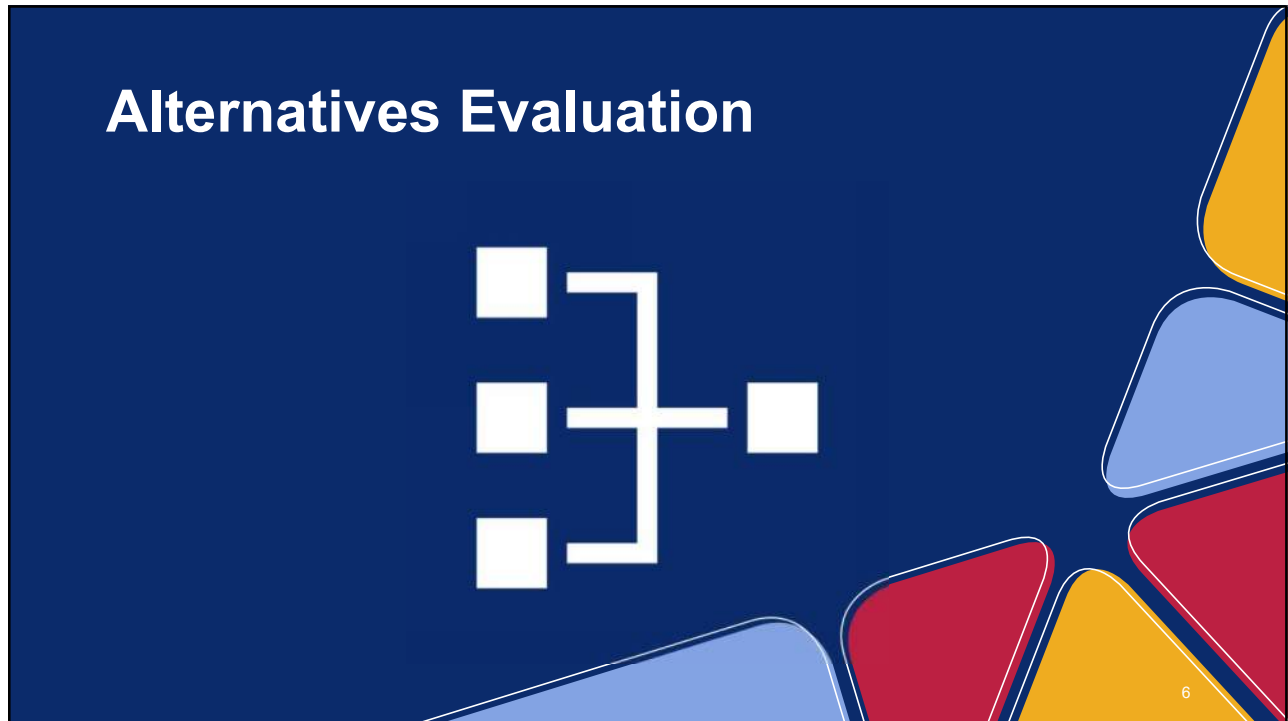
Project Study Area



4



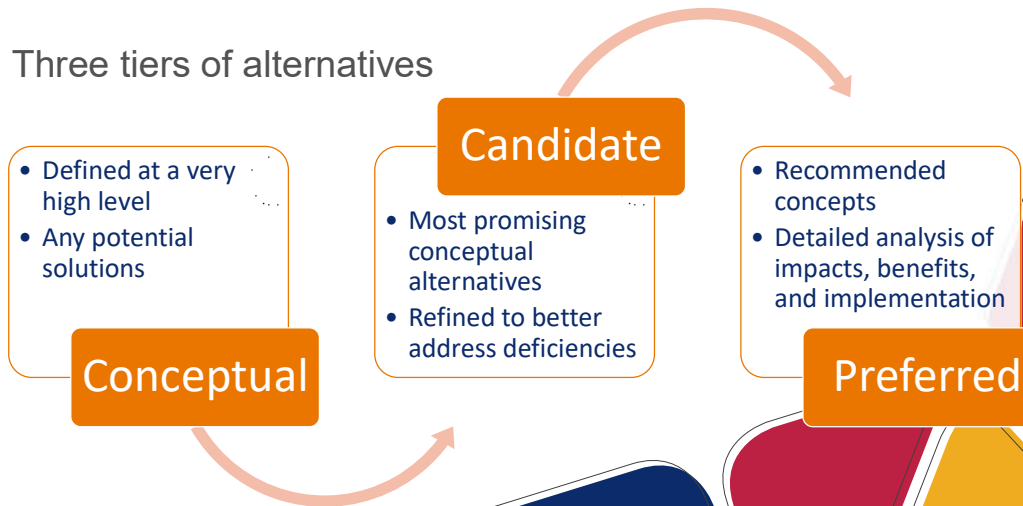
5



6

Alternatives Evaluation

- Three tiers of alternatives



ADOT

7

7

Conceptual Alternatives

Categories of Alternatives

- Alternative 1. No-Build
- Alternative 2. Geometric Intersection Improvements
- Alternative 3. Operational Intersection Improvements
- Alternative 4. Truck Route Improvements
- Alternative 5. New Street Improvements
- Various options and sub-options for categories of alternatives

ADOT

8

8

Conceptual Alternatives Evaluation

Conceptual Alternative	Description	Historical District/ Properties	Cost	Travel Pattern Interruption	Operational Efficiency	Safety	Total Score
1	No-Build: Existing Conditions	1	2	2	0	0	5
2A	Geometric: Widen Haskell Ave (B-10) and Maley St (SR 186)	0	1	2	1	1	5
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	1	1	2	1	2	7
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	1	1	1	0	2	5
3A	Operational: One-Way Streets	0	2	0	1	1	4
3B	Operational: Relocate Truck Turns from Haskell Ave (B-10) and Maley St (SR 186)	1	2	0	0	0	3
4A	Truck Route: Stewart St and Railroad Ave	1	1	1	1	1	5
4B	Truck Route: Arizona Ave and Maley St	0	1	0	2	1	4
4C	Truck Route: Grant St and 2 nd Ave	1	0	1	0	1	3
5A	New Street: Patte Rd to Maley St (SR 186)	2	0	0	0	2	4
5B	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass	2	0	1	2	2	7
5C	New Street: Haskell Ave (B-10) to Maley St (SR 186) South Bypass	2	0	0	0	2	4
Evaluation Criteria Scoring		0 = Negative impact 1 = Minimal impact 2 = Positive impact	0 = High 1 = Moderate 2 = Low	0 = High 1 = Moderate 2 = Low/None	0 = Negative impact 1 = Minimal impact 2 = Positive impact	0 = Negative impact 1 = Minimal impact 2 = Positive impact	

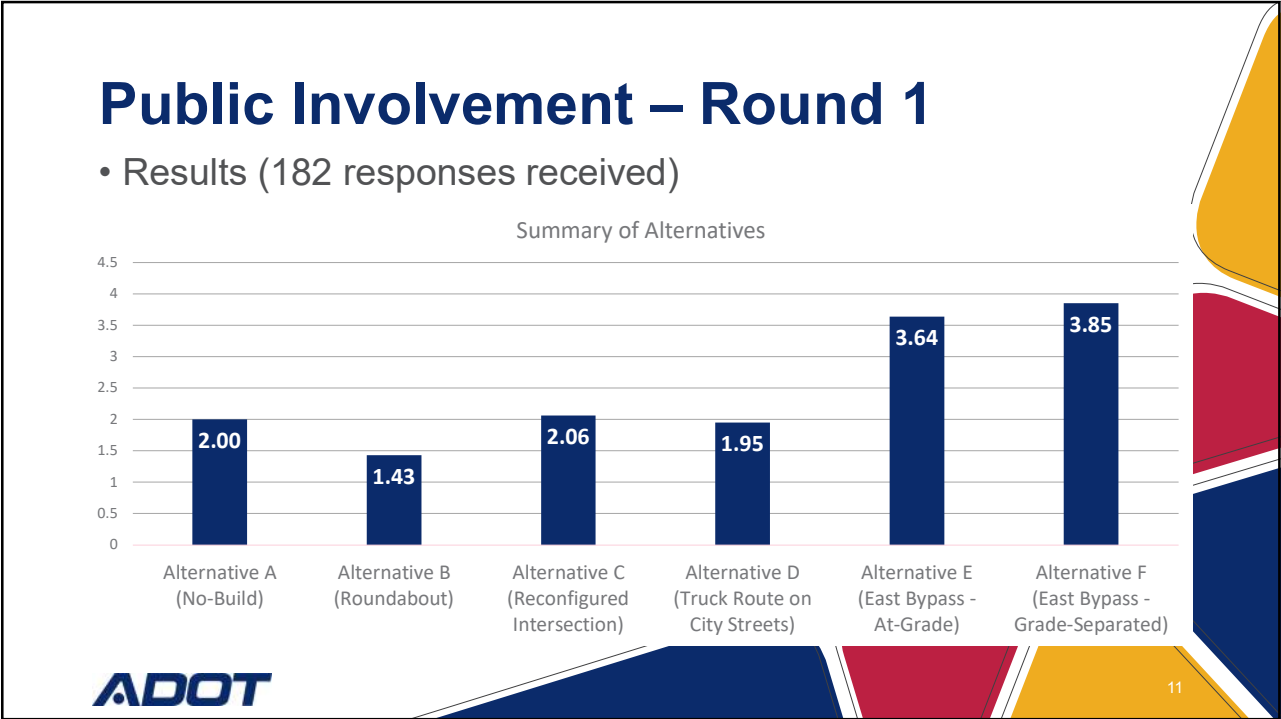
9

Candidate Alternatives

Conceptual Alternative ID	Description	Candidate Alternative ID
1	No-Build: Existing Conditions	A
2B	Geometric: Roundabout at Haskell Ave (B-10) and Maley St (SR 186)	B
2C	Geometric: Reconfigure Haskell Ave (B-10) and Maley St (SR 186)	C
4A	Truck Route: Stewart St and Railroad Ave	D
5B-1	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass w/ at-grade railroad crossing	E
5B-2	New Street: Rex Allen Dr (SR 186) to Maley St (SR 186) East Bypass w/ grade-separated railroad crossing	F



10



11

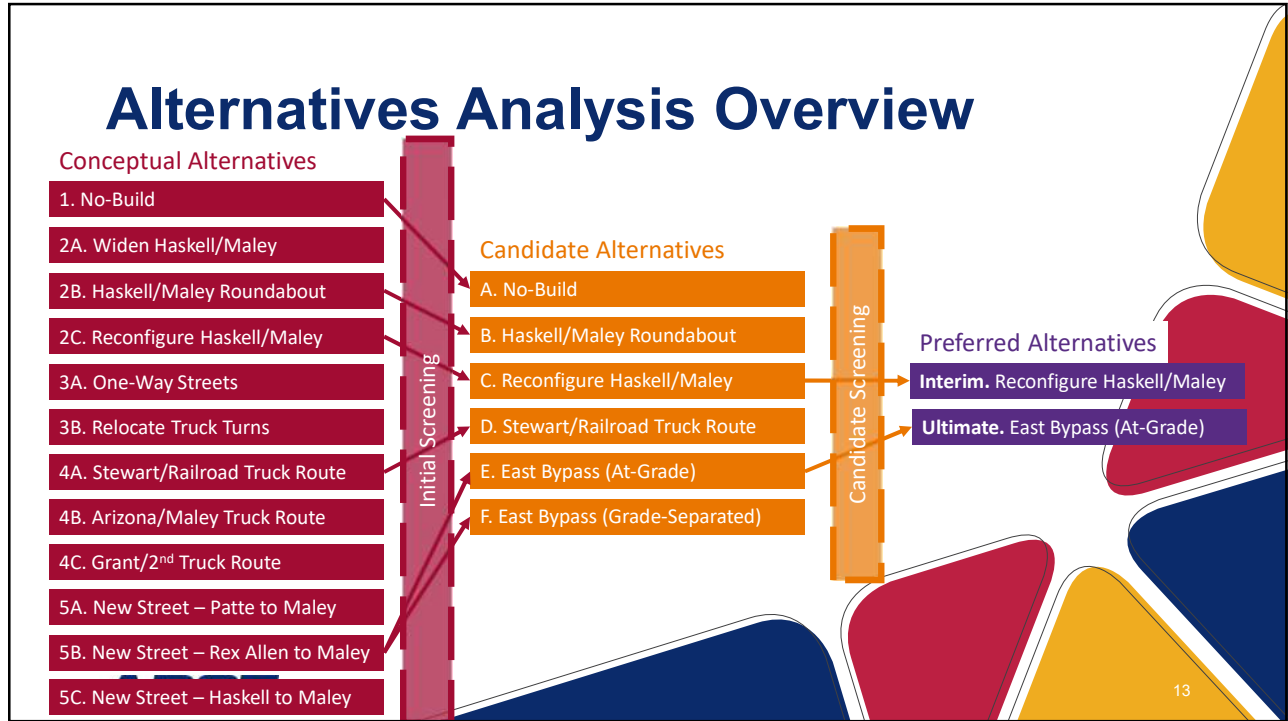
Candidate Alternative Evaluation Results

Evaluation Criterion	Alternative A (No-Build)	Alternative B (Roundabout)	Alternative C (Reconfigured Intersection)	Alternative D (Truck Route on City Streets)	Alternative E (East Bypass – At-Grade)	Alternative F (East Bypass – Grade Separated)
Historic Districts/Properties	⦿	⦿	⦿	⦿	●	●
Protected Populations	⦿	⦿	⦿	⦿	⦿	⦿
Travel Pattern Change	⦿	⦿	⦿	⦿	⦿	⦿
Traffic Operations	⦿	⦿	●	⦿	⦿	●
Safety	●	⦿	⦿	⦿	●	●
Economic Impacts	⦿	⦿	⦿	⦿	●	●
Biological Impacts	⦿	⦿	⦿	⦿	⦿	⦿
Jurisdictional Complexities	⦿	⦿	⦿	●	●	●
Implementation Feasibility	⦿	⦿	⦿	⦿	●	●
Total Cost	⦿	⦿	⦿	⦿	⦿	●
Right-of-Way	⦿	⦿	⦿	⦿	⦿	⦿
Stakeholder Acceptability	⦿	⦿	⦿	⦿	⦿	⦿
Public Acceptability	⦿	●	⦿	⦿	⦿	⦿

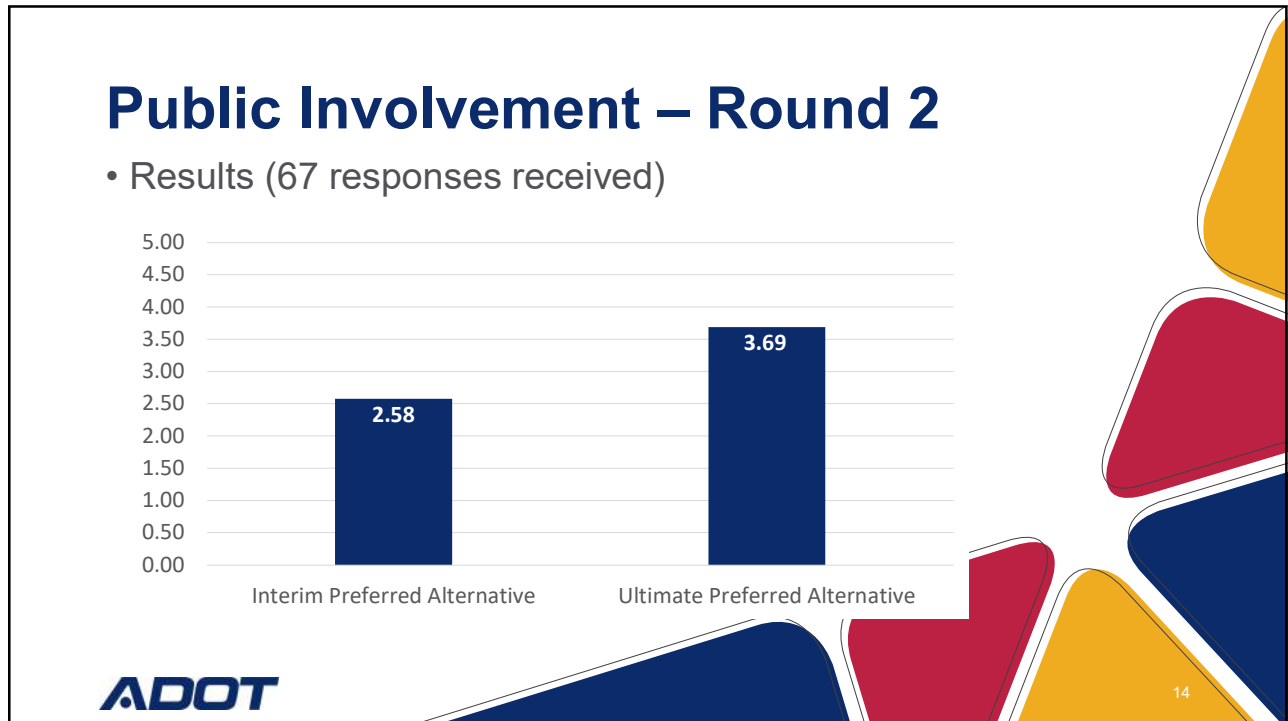
ADOT 12

Strong Advantage ● Advantage ⦿ Neutral ○
 Disadvantage ⦿ Strong Disadvantage ●

12



13



14

Interim Preferred Alternative

- Truck turns
 - New configuration provides more space for trucks to turn
 - Accommodates turning movements of almost all truck sizes
 - No on-street parking impacts
- Traffic analysis
 - Current intersection operates at a LOS A
 - Keeping intersection signalized degrades the LOS to B/C
 - Converting to stop control maintains a LOS A
- Cost estimates for reconfiguration
 - Stop-controlled intersection: \$45,000
 - Signalized intersection: \$35,000

ADOT

17

17

Interim Preferred Alternative

- Implementation steps
 - ADOT to coordinate with design team for impending Haskell Avenue (B-10) resurfacing project
 - Interim Preferred Alternative can likely be included for low or no additional cost
 - If Interim Preferred Alternative cannot be included in resurfacing project, ADOT and/or City of Willcox will need to identify alternative funding

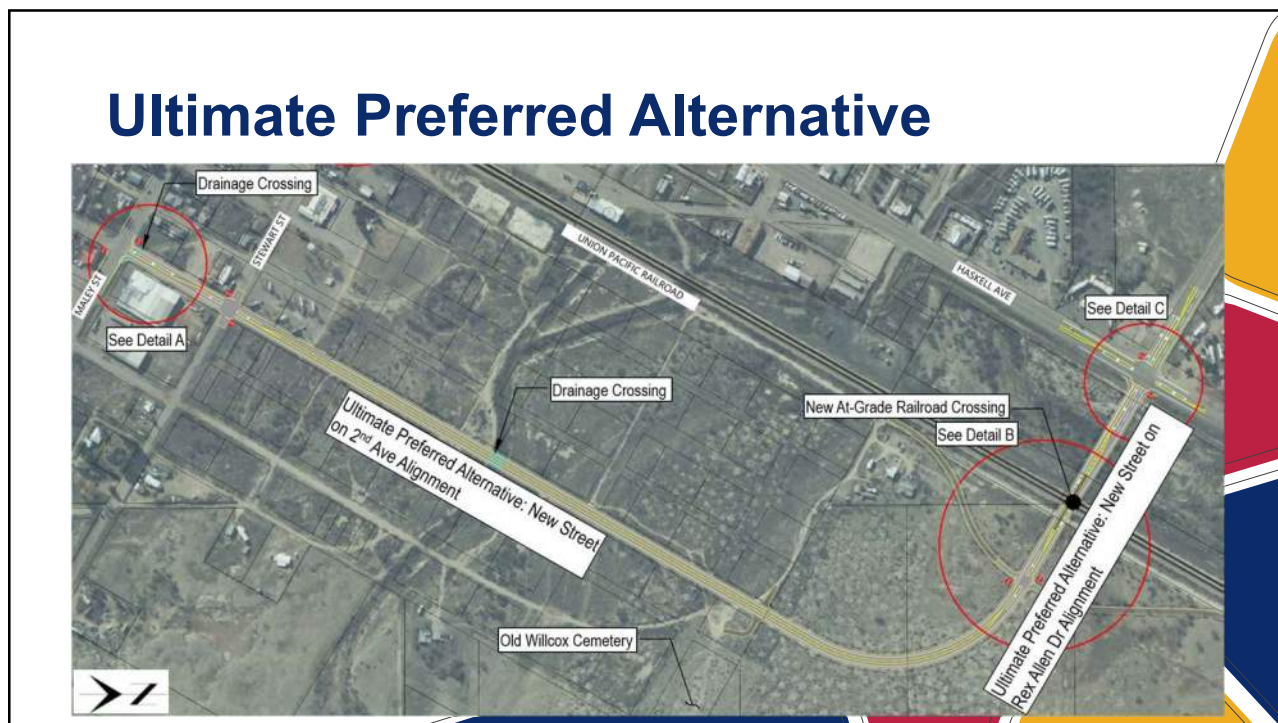
ADOT

18

18

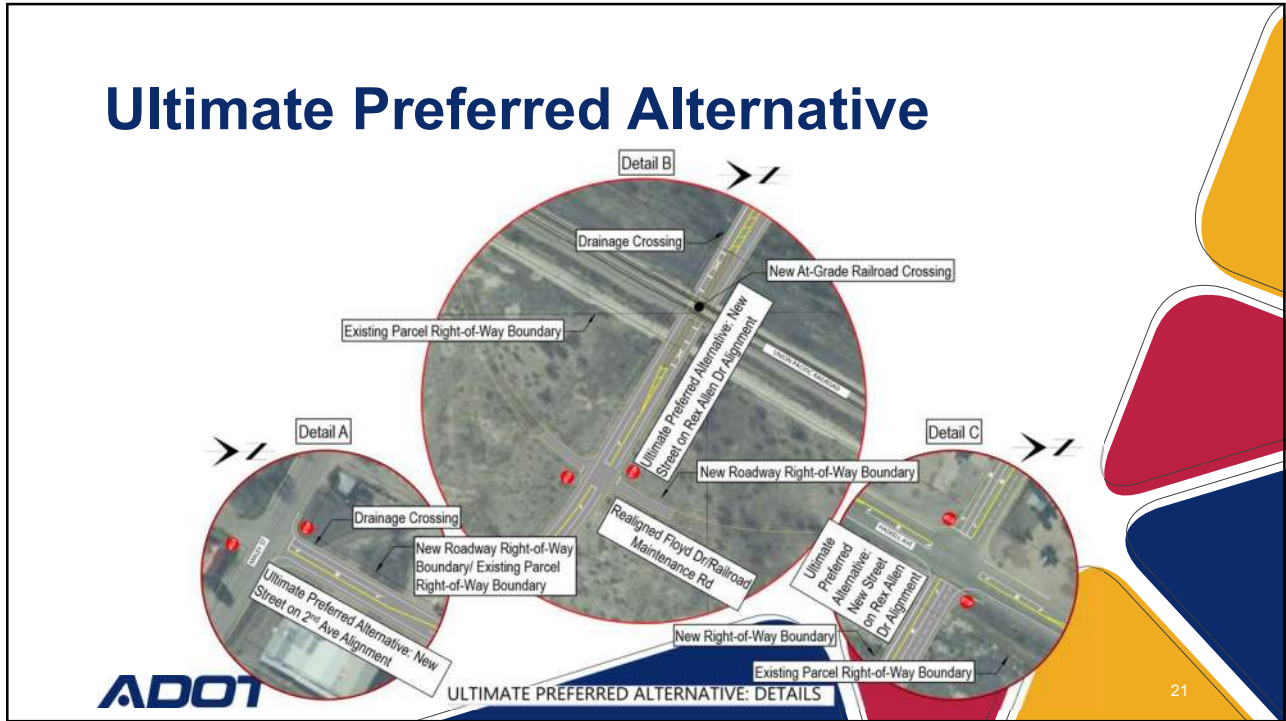


19



20

Ultimate Preferred Alternative

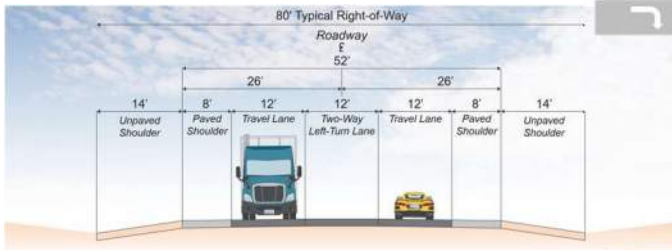


21

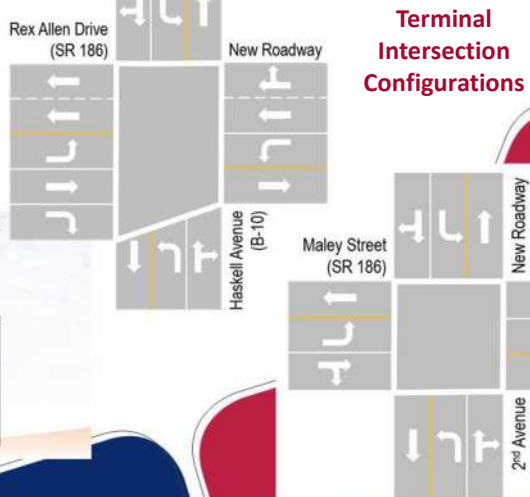
Ultimate Preferred Alternative

- Roadway Geometrics

Typical Cross-Section



ADOT



22

Ultimate Preferred Alternative

- Traffic analysis
 - Haskell Ave (B-10)/Rex Allen Dr (SR 186) and Maley St (SR 186)/ 2nd Ave expected to operate at LOS A
- Railroad crossing consolidation
 - To add a new at-grade crossing, two existing must likely be closed
 - Stewart St and Patte Rd recommended to be closed
- Potential property impacts
 - ≈250,000 square feet (5.8 acres) of right-of-way will likely be needed from 9 parcels
 - Will be refined as design advances
- Cost estimate: \$5 million



23

23

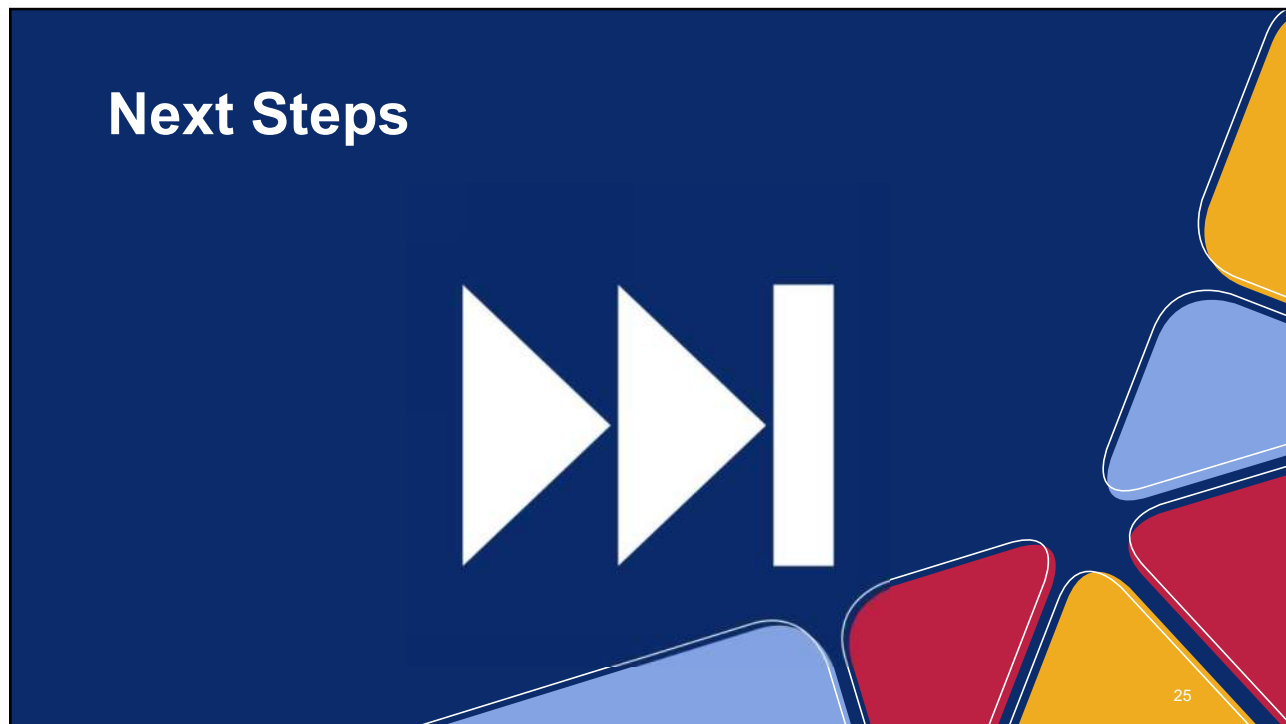
Ultimate Preferred Alternative

- Implementation Steps

1. Program Funds
2. Project Scoping/Development
3. Railroad Coordination
4. Public Engagement
5. Preliminary Design
6. Final Design
7. Environmental Clearances
8. Right-of-Way Acquisition
9. Utility Relocation
10. Construction Advertising/Procurement
11. Construction



24



25



26

Appendix G. MCDOT Generalized Annual Average Daily Service Volumes Tables

FUNCTIONAL CLASSIFICATION	NUMBER OF LANES	MEDIAN TYPE	RURAL	
			MAX LOS	SERVICE VOLUME ^a
Parkway	4	Divided	C	36,900
	6	Divided	C	55,500
	8	Divided	N/A	N/A
Principal Arterial	2	Undivided	C	10,600
	2	Divided	C	11,200
	3	Undivided	C	16,800
	3	Divided	C	17,800
	4	Undivided	C	22,900
	4	Divided	C	24,400
	5	Undivided	C	28,800
	5	Divided	C	30,700
	6	Undivided	C	34,700
	6	Divided	C	36,900
Minor Arterial	8	Divided	N/A	N/A
	2	Undivided	C	9,500
	2	Divided	C	10,100
	3	Undivided	C	15,100
	3	Divided	C	16,100
	4	Undivided	C	20,700
	4	Divided	C	22,000
	5	Undivided	C	26,000
	5	Divided	C	27,600
	6	Undivided	C	31,200
6	Divided	C	33,210	
Major Collector	2	Undivided	B	5,600
	2	Divided	B	5,900
	3	Undivided	B	8,600
	3	Divided	B	9,100
	4	Undivided	B	11,500
	4	Divided	B	12,200
	5	Undivided	B	14,200
	5	Divided	B	15,000
	6	Undivided	B	16,800
	6	Divided	B	17,900
Minor Collector	2	Undivided	B	5,000
	2	Divided	B	5,300
	3	Undivided	B	5,500
	3	Divided	B	8,200
	4	Undivided	B	10,300
	4	Divided	B	11,000
	6	Undivided	N/A	N/A
	6	Divided	N/A	N/A
Local	2	Undivided	A	700
	2	Divided	A	800

^a Average Annual Daily Traffic Volume

Appendix H. Traffic Count Data

Figure 79. Traffic Data Collection Locations

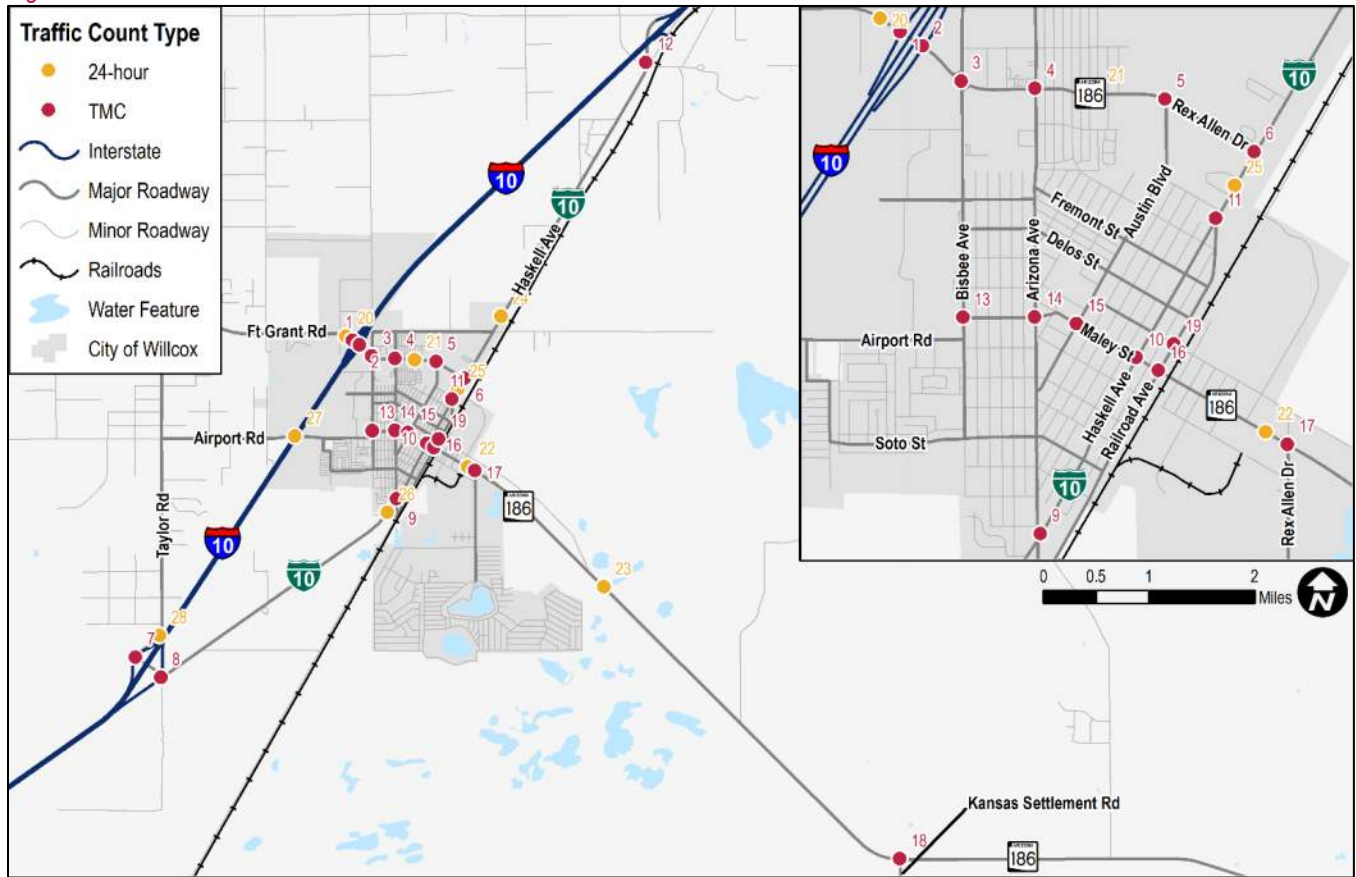


Figure 80. AM Peak-Hour Turning Movement Volumes

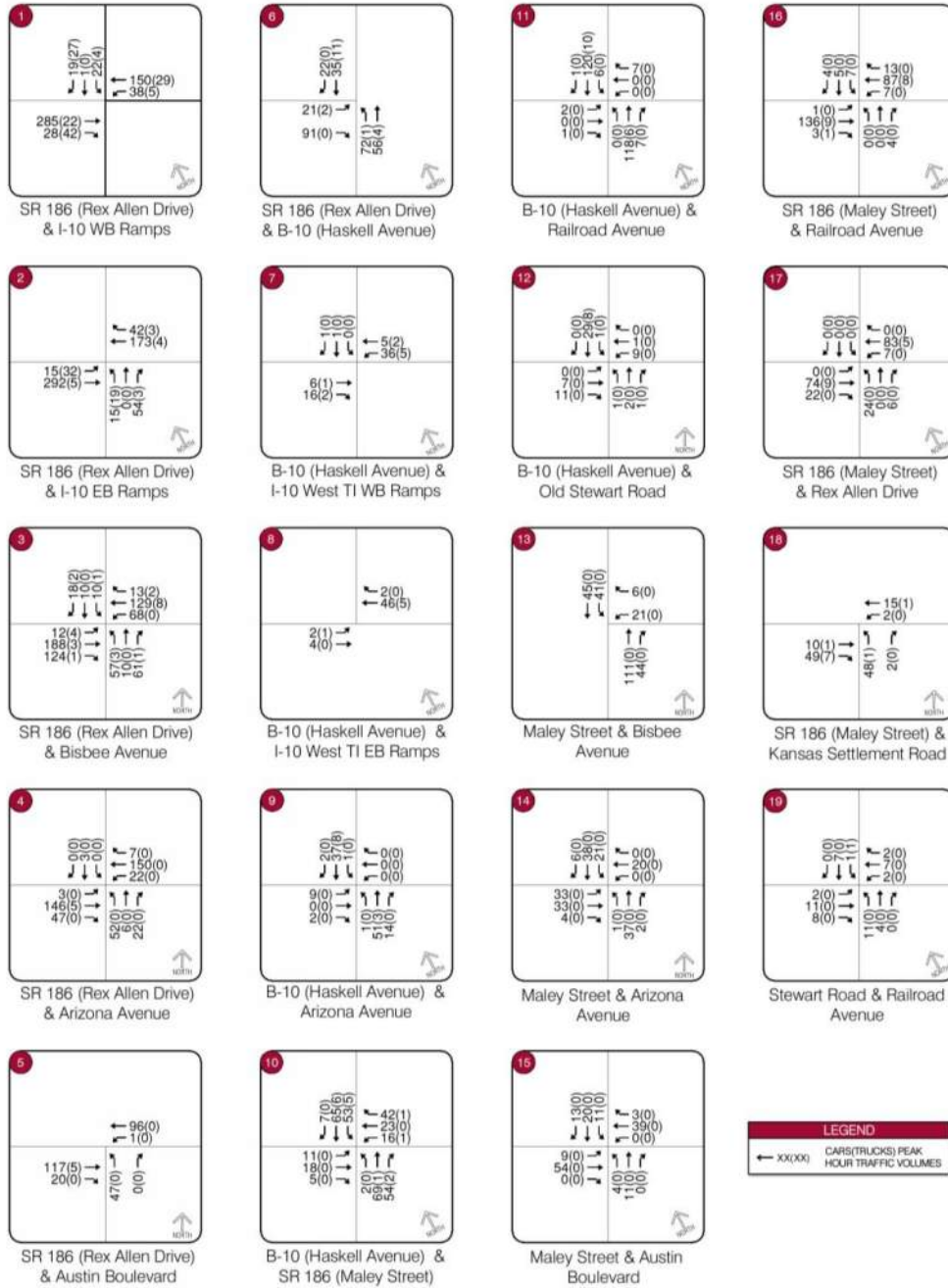
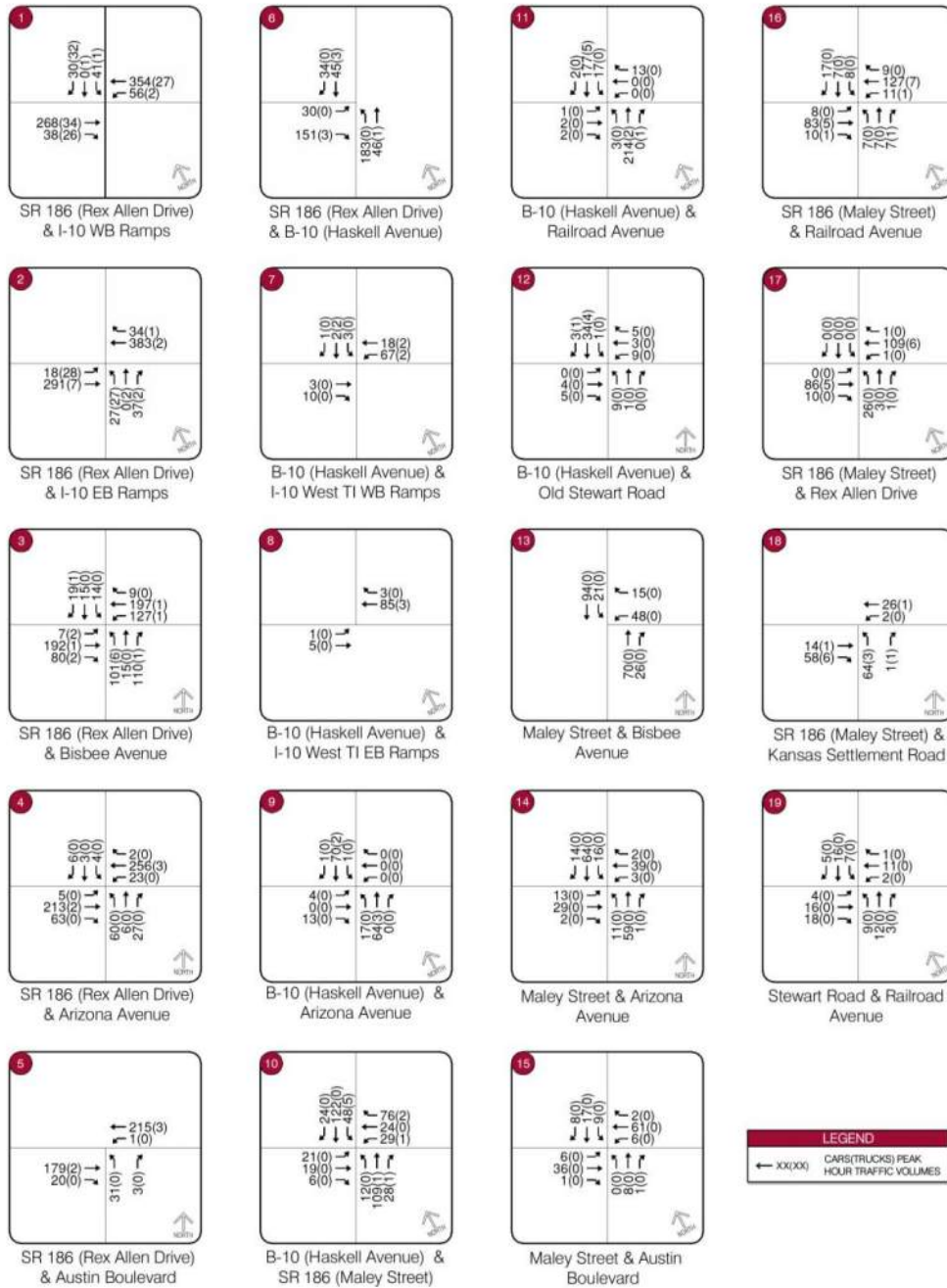
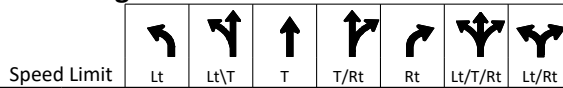


Figure 81. PM Peak Hour Turning Movement Volumes





Turning Movement Count - Cars



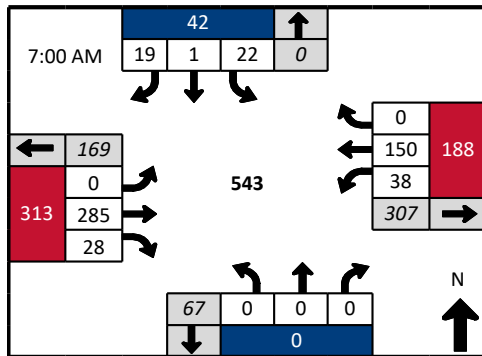
Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound							
Southbound	45	1			1	1	
Eastbound	35		3		1		
Westbound	35	1	2				

Mar-3-2021 (Wednesday)

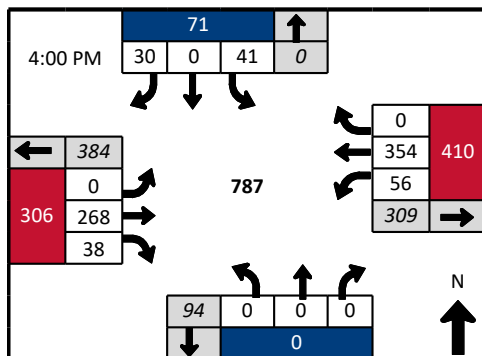
Project No: 1TC21007

Location: I-10 Westbound Ramps
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	3	0	4	0	0	60	6	0	8	32	0	0	113	
7:15 AM	0	0	0	0	5	0	6	0	0	73	12	0	9	27	0	0	132	
7:30 AM	0	0	0	0	6	1	7	1	0	81	3	1	14	43	0	0	155	
7:45 AM	0	0	0	0	8	0	2	0	0	71	7	0	7	48	0	0	143	543
8:00 AM	0	0	0	0	7	1	6	0	0	36	10	0	17	32	0	0	109	539
8:15 AM	0	0	0	0	3	0	13	0	0	36	6	0	13	32	0	0	103	510
8:30 AM	0	0	0	0	8	0	6	0	0	53	12	0	10	31	0	0	120	475
8:45 AM	0	0	0	0	8	0	4	1	0	40	11	0	13	29	0	0	105	437
Peak Hour Total	0	0	0	0	22	1	19	1	0	285	28	1	38	150	0	0	543	



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	1	7	0	7	0	0	60	9	0	19	111	0	0	213	
4:15 PM	0	0	0	0	7	0	7	0	0	47	11	0	15	91	0	0	178	
4:30 PM	0	0	0	0	16	0	7	0	0	87	14	0	12	86	0	0	222	
4:45 PM	0	0	0	1	11	0	9	0	0	74	4	0	10	66	0	0	174	787
5:00 PM	0	0	0	0	10	2	13	0	0	57	8	0	16	69	0	0	175	749
5:15 PM	0	0	0	0	10	0	11	0	0	39	9	0	11	64	0	0	144	715
5:30 PM	0	0	0	1	6	0	6	0	0	55	9	0	13	67	0	0	156	649
5:45 PM	0	0	0	1	12	0	4	0	0	42	5	0	13	65	0	0	141	616
Peak Hour Total	0	0	0	2	41	0	30	0	0	268	38	0	56	354	0	0	787	



Turning Movement Count - Trucks

Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt

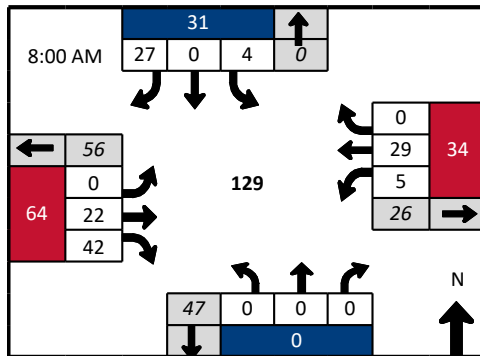
Northbound							
Southbound	45	1			1	1	
Eastbound	35		3		1		
Westbound	35	1	2				

Mar-3-2021 (Wednesday)

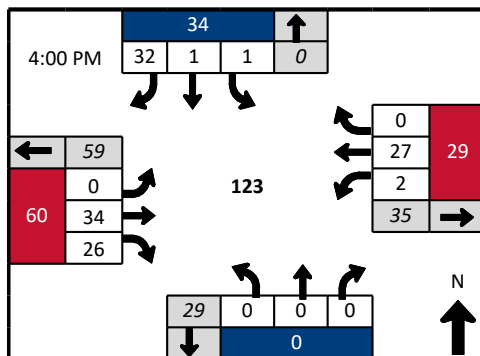
Project No: 1TC21007

Location: I-10 Westbound Ramps
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	7	10	0	2	8	0	0	27	
7:15 AM	0	0	0	0	0	0	5	0	0	4	4	0	1	7	0	0	21	
7:30 AM	0	0	0	0	0	0	2	0	0	14	13	0	0	1	0	0	30	
7:45 AM	0	0	0	0	3	0	3	0	0	9	11	0	0	4	0	0	30	108
8:00 AM	0	0	0	0	0	0	3	0	0	3	10	0	1	5	0	0	22	103
8:15 AM	0	0	0	0	0	0	10	0	0	7	9	0	3	10	0	0	39	121
8:30 AM	0	0	0	0	2	0	6	0	0	4	15	0	1	6	0	0	34	125
8:45 AM	0	0	0	0	2	0	8	1	0	8	8	0	0	8	0	0	34	129
Peak Hour Total	0	0	0	0	4	0	27	1	0	22	42	0	5	29	0	0	129	



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	1	0	12	0	0	15	6	0	0	7	0	0	41	
4:15 PM	0	0	0	0	0	0	5	1	0	8	8	0	0	8	0	0	29	
4:30 PM	0	0	0	0	0	1	7	0	0	7	7	0	2	9	0	0	33	
4:45 PM	0	0	0	0	0	0	8	0	0	4	5	0	0	3	0	0	20	123
5:00 PM	0	0	0	0	0	2	10	0	0	1	9	0	0	2	0	0	24	106
5:15 PM	0	0	0	0	0	0	7	0	0	2	7	0	0	5	0	0	21	98
5:30 PM	0	0	0	0	0	1	7	0	0	4	2	0	0	4	0	0	18	83
5:45 PM	0	0	0	0	1	1	8	0	0	4	4	0	0	3	0	0	21	84
Peak Hour Total	0	0	0	0	1	1	32	1	0	34	26	0	2	27	0	0	123	



Turning Movement Count - Cars

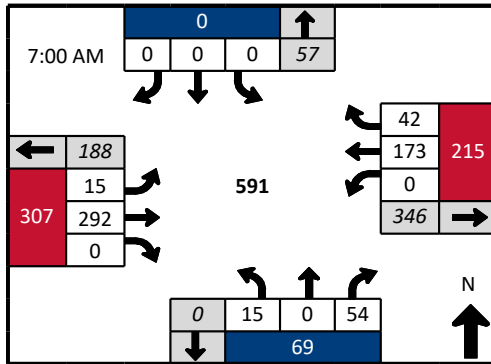
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45	1				1	1	
Southbound								
Eastbound	35	1		2				
Westbound	35			3		1		

Mar-3-2021 (Wednesday)

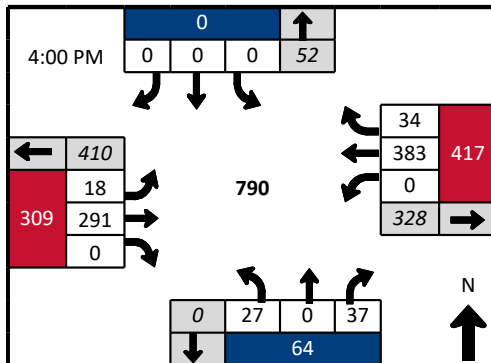
Project No: TC21007

Location: I-10 Eastbound Ramps
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



Start Time	I-10 Eastbound Ramps Northbound				I-10 Eastbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	2	0	10	0	0	0	0	0	5	58	0	0	0	38	10	0	123	
7:15 AM	2	0	16	0	0	0	0	0	1	77	0	0	0	34	8	0	138	
7:30 AM	6	0	18	0	0	0	0	1	6	81	0	0	0	51	11	0	173	
7:45 AM	5	0	10	0	0	0	0	0	3	76	0	0	0	50	13	0	157	591
8:00 AM	2	0	13	0	0	0	0	0	2	41	0	0	0	47	10	0	115	583
8:15 AM	4	0	15	0	0	0	0	0	4	35	0	0	0	41	13	0	112	557
8:30 AM	1	1	15	0	0	0	0	0	2	59	0	0	0	40	6	0	124	508
8:45 AM	5	0	14	0	0	0	0	1	3	45	0	0	0	37	5	0	109	460
Peak Hour Total	15	0	54	0	0	0	0	1	15	292	0	0	0	173	42	0	591	



Start Time	I-10 Eastbound Ramps Northbound				I-10 Eastbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	8	0	10	1	0	0	0	0	3	64	0	0	0	122	11	0	218	
4:15 PM	8	0	5	0	0	0	0	0	8	46	0	0	0	98	10	0	175	
4:30 PM	7	0	12	0	0	0	0	0	5	98	0	0	0	91	11	0	224	
4:45 PM	4	0	10	1	0	0	0	2	2	83	0	0	0	72	2	0	173	790
5:00 PM	5	0	11	0	0	0	0	0	2	65	0	0	0	80	16	0	179	751
5:15 PM	6	0	15	0	0	0	0	0	2	47	0	0	0	69	15	0	154	730
5:30 PM	5	0	14	2	0	0	0	0	1	60	0	0	0	75	6	0	161	667
5:45 PM	10	0	12	0	0	0	0	0	2	52	0	0	0	68	7	0	151	645
Peak Hour Total	27	0	37	2	0	0	0	2	18	291	0	0	0	383	34	0	790	



Turning Movement Count - Trucks

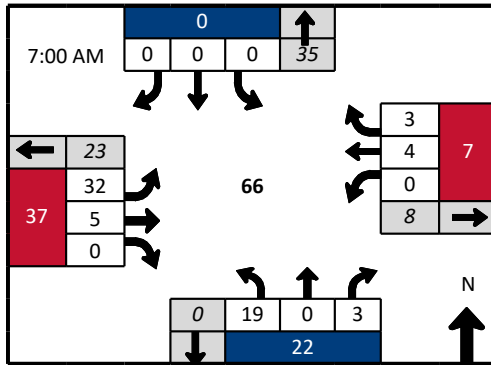
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45	1				1	1	
Southbound								
Eastbound	35	1		2				
Westbound	35			3		1		

Mar-3-2021 (Wednesday)

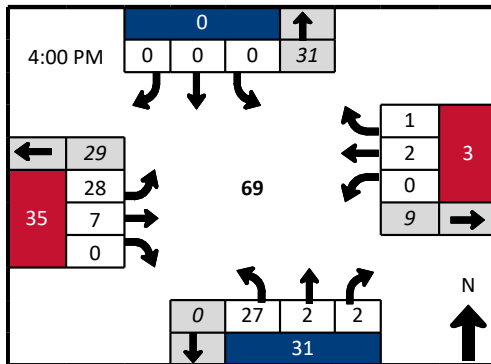
Project No: TC21007

Location: I-10 Eastbound Ramps
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



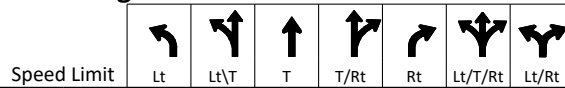
Start Time	I-10 Eastbound Ramps Northbound				I-10 Eastbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	8	0	1	0	0	0	0	0	7	0	0	0	0	2	1	0	19	
7:15 AM	6	0	0	0	0	0	0	0	4	0	0	0	0	2	1	0	13	
7:30 AM	1	0	0	0	0	0	0	0	12	2	0	0	0	0	0	0	15	
7:45 AM	4	0	2	0	0	0	0	0	9	3	0	0	0	0	1	0	19	66
8:00 AM	5	0	0	0	0	0	0	0	2	1	0	0	0	1	2	0	11	58
8:15 AM	10	0	0	0	0	0	0	0	7	0	0	0	0	3	1	0	21	66
8:30 AM	6	0	1	0	0	0	0	0	5	1	0	0	0	1	0	0	14	65
8:45 AM	8	0	1	0	0	0	0	0	8	2	0	0	0	0	0	0	19	65
Peak Hour Total	19	0	3	0	0	0	0	0	32	5	0	0	0	4	3	0	66	



Start Time	I-10 Eastbound Ramps Northbound				I-10 Eastbound Ramps Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	6	0	0	0	0	0	0	0	11	5	0	0	0	1	0	0	23	
4:15 PM	8	2	1	0	0	0	0	1	6	2	0	0	0	0	0	0	19	
4:30 PM	10	0	0	0	0	0	0	0	7	0	0	0	0	1	0	0	18	
4:45 PM	3	0	1	0	0	0	0	0	4	0	0	0	0	0	1	0	9	69
5:00 PM	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	4	50
5:15 PM	4	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	8	39
5:30 PM	4	0	0	1	0	0	0	0	3	1	0	0	0	0	1	0	9	30
5:45 PM	3	0	0	0	0	0	0	0	5	0	0	0	0	0	1	0	9	30
Peak Hour Total	27	2	2	0	0	0	0	1	28	7	0	0	0	2	1	0	69	



Turning Movement Count - Cars



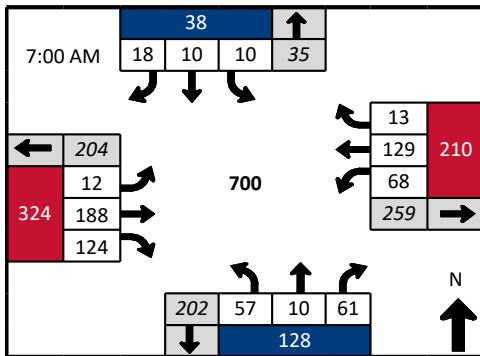
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25	1		1		1		
Southbound	25	1		1		1		
Eastbound	35	1		2		1		
Westbound	35	1		1	1			

Mar-2-2021 (Tuesday)

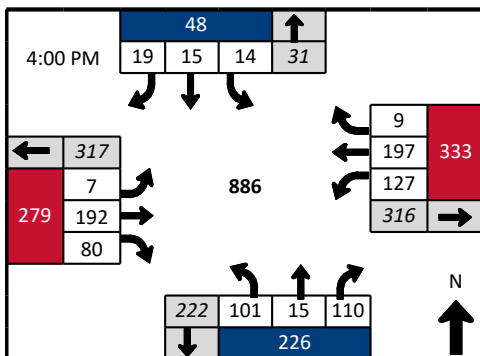
Project No: 1TC21007

Location: Bisbee Avenue
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	8	2	13	0	1	1	5	0	7	56	19	0	15	29	4	0	160	
7:15 AM	11	3	11	0	3	5	2	0	1	31	34	0	26	23	1	0	151	
7:30 AM	27	3	21	1	5	2	5	0	2	44	57	1	18	26	3	0	213	
7:45 AM	11	2	16	0	1	2	6	0	2	57	14	0	9	51	5	0	176	700
8:00 AM	7	1	8	0	0	0	1	0	1	39	11	0	5	30	2	0	105	645
8:15 AM	11	2	6	0	4	1	3	0	2	50	10	0	9	33	0	0	131	625
8:30 AM	12	2	8	0	2	2	4	0	2	37	17	0	9	21	1	0	117	529
8:45 AM	12	0	11	0	0	3	3	1	8	35	14	0	13	36	0	0	135	488
Peak Hour Total	57	10	61	1	10	10	18	0	12	188	124	1	68	129	13	0	700	



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	29	3	30	3	4	3	4	0	2	50	22	0	33	57	1	0	238	
4:15 PM	25	3	26	0	5	4	2	0	3	47	21	0	27	46	2	0	211	
4:30 PM	25	4	21	1	4	4	10	0	2	44	12	0	38	50	1	0	215	
4:45 PM	22	5	33	0	1	4	3	0	0	51	25	1	29	44	5	0	222	886
5:00 PM	33	3	28	0	4	5	5	0	4	36	8	0	33	54	1	0	214	862
5:15 PM	40	2	22	2	1	3	1	2	3	36	25	0	23	44	0	5	200	851
5:30 PM	21	1	34	0	1	6	2	0	3	38	25	0	26	35	2	0	194	830
5:45 PM	22	1	26	0	3	0	0	0	1	30	37	0	21	44	1	0	186	794
Peak Hour Total	101	15	110	4	14	15	19	0	7	192	80	1	127	197	9	0	886	



Turning Movement Count - Trucks

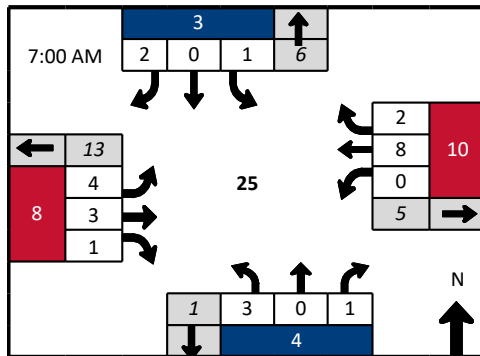
Speed Limit							
	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25	1		1		1	
Southbound	25	1		1		1	
Eastbound	35	1		2		1	
Westbound	35	1		1	1		

Mar-2-2021 (Tuesday)

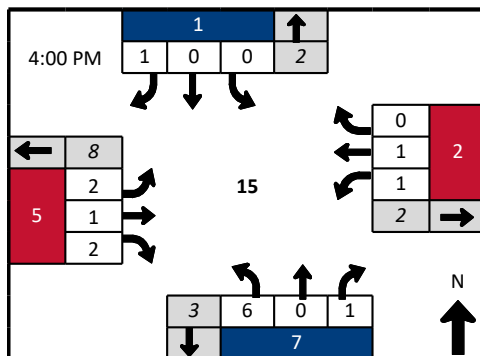
Project No: 1TC21007

Location: Bisbee Avenue
and SR186 (Rex Allen Drive)

Intersection Configuration: Signalized



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	0	6	
7:15 AM	1	0	1	0	0	0	0	0	1	1	1	0	0	2	2	0	9	
7:30 AM	1	0	0	0	1	0	1	0	1	1	0	0	0	1	0	0	6	
7:45 AM	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	4	25
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	23
8:15 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	16
8:30 AM	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4	14
8:45 AM	0	0	0	0	0	0	0	0	3	0	1	0	0	2	0	0	6	16
Peak Hour Total	3	0	1	0	1	0	2	0	4	3	1	0	0	8	2	0	25	



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	4	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	7	
4:15 PM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3	
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
4:45 PM	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	4	15
5:00 PM	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3	11
5:15 PM	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	11
5:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	13
5:45 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	12
Peak Hour Total	6	0	1	0	0	0	1	0	2	1	2	0	1	1	0	0	15	



Turning Movement Count - Cars

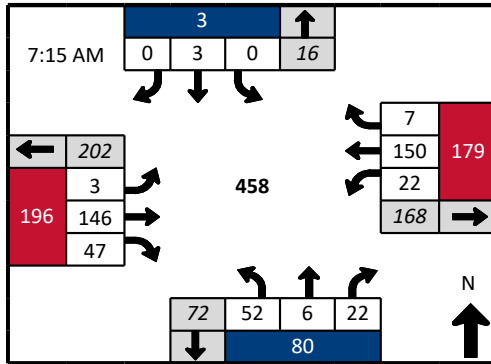
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	35	1		1	1			
Westbound	35	1		1	1			

Mar-3-2021 (Wednesday)

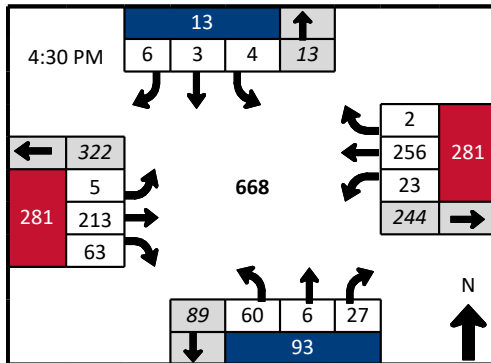
Project No: TC21007

Location: Arizona Avenue
and SR186 (Rex Allen Drive)

Intersection Configuration: Unsignalized



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	9	1	0	0	0	0	0	0	0	30	7	0	0	28	2	0	77	
7:15 AM	6	1	5	0	0	1	0	0	0	32	8	0	8	39	2	0	102	
7:30 AM	18	1	7	0	0	2	0	0	1	39	9	0	3	41	4	0	125	
7:45 AM	13	4	7	0	0	0	0	0	2	43	20	0	8	44	0	0	141	445
8:00 AM	15	0	3	2	0	0	0	0	0	32	10	0	3	26	1	0	90	458
8:15 AM	8	4	2	1	0	0	0	0	0	32	9	0	0	34	0	0	89	445
8:30 AM	10	0	3	0	0	1	0	0	1	36	17	0	2	25	1	0	96	416
8:45 AM	7	1	4	1	0	3	1	0	4	35	8	0	3	26	0	1	92	367
Peak Hour Total	52	6	22	2	0	3	0	0	3	146	47	0	22	150	7	0	458	



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	18	2	4	0	1	2	0	0	1	54	12	0	7	61	1	0	163	
4:15 PM	10	0	8	0	0	1	1	0	0	48	11	0	2	57	1	0	139	
4:30 PM	12	5	9	0	1	1	1	0	0	55	18	0	9	73	0	0	184	
4:45 PM	17	0	5	0	1	0	1	1	1	62	19	0	6	50	0	0	162	648
5:00 PM	17	0	5	0	2	2	4	0	2	45	11	0	5	62	2	0	157	642
5:15 PM	14	1	8	0	0	0	0	0	2	51	15	0	3	71	0	0	165	668
5:30 PM	12	1	2	0	0	0	0	0	1	56	14	0	6	58	0	0	150	634
5:45 PM	11	0	5	0	1	1	1	0	1	45	9	0	3	44	0	0	121	593
Peak Hour Total	60	6	27	0	4	3	6	1	5	213	63	0	23	256	2	0	668	



Turning Movement Count - Trucks

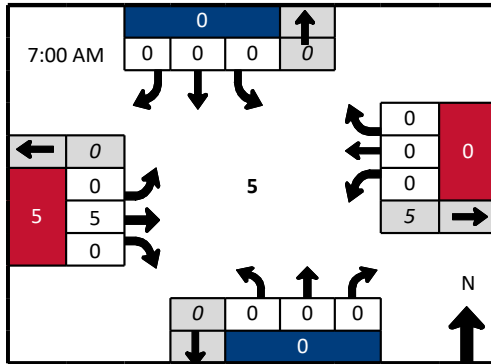
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	35	1		1	1			
Westbound	35	1		1	1			

Mar-3-2021 (Wednesday)

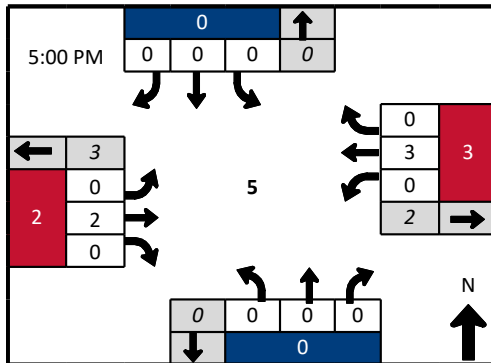
Project No: TC21007

Location: Arizona Avenue
and SR186 (Rex Allen Drive)

Intersection Configuration: Unsignalized



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	4
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3
Peak Hour Total	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	5
Peak Hour Total	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	5	



Turning Movement Count - Cars

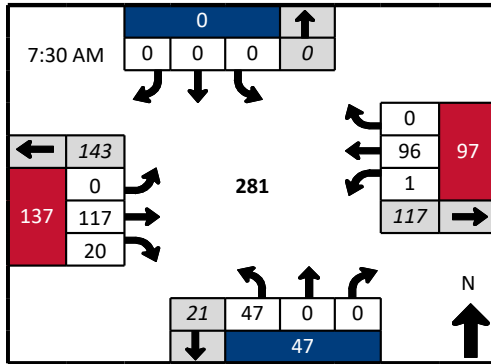
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Southbound								
Eastbound	35			1	1			
Westbound	35	1		2				

Mar-3-2021 (Wednesday)

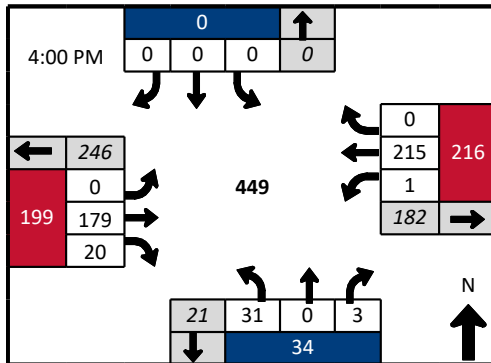
Project No: TC21007

Location: Austin Boulevard
and SR186 (Rex Allen Drive)

Intersection Configuration: Unsignalized



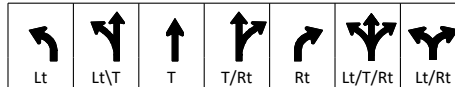
Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	2	0	0	0	0	0	0	0	0	19	2	0	1	26	0	0	50	
7:15 AM	0	0	1	0	0	0	0	0	0	26	3	0	0	25	0	0	55	
7:30 AM	17	0	0	0	0	0	0	0	0	29	9	0	0	26	0	0	81	
7:45 AM	15	0	0	0	0	0	0	0	0	39	8	0	1	26	0	0	89	275
8:00 AM	12	0	0	0	0	0	0	0	0	22	3	0	0	12	0	0	49	274
8:15 AM	3	0	0	0	0	0	0	0	0	27	0	0	0	32	0	0	62	281
8:30 AM	3	0	0	1	0	0	0	0	0	23	4	0	1	14	0	0	45	245
8:45 AM	4	0	1	0	0	0	0	0	0	35	1	0	1	24	0	0	66	222
Peak Hour Total	47	0	0	0	0	0	0	0	0	117	20	0	1	96	0	0	281	



Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	7	0	2	0	0	0	0	0	0	39	3	0	0	61	0	0	112	
4:15 PM	12	0	0	0	0	0	0	0	0	43	6	0	1	48	0	0	110	
4:30 PM	5	0	1	0	0	0	0	0	0	52	6	0	0	60	0	0	124	
4:45 PM	7	0	0	0	0	0	0	0	0	45	5	0	0	46	0	0	103	449
5:00 PM	3	0	0	0	0	0	0	0	0	34	5	0	0	59	0	0	101	438
5:15 PM	9	0	0	0	0	0	0	0	0	40	9	0	1	61	0	0	120	448
5:30 PM	5	0	0	0	0	0	0	0	0	47	4	0	0	47	0	0	103	427
5:45 PM	8	0	0	0	0	0	0	0	0	39	12	0	0	29	0	0	88	412
Peak Hour Total	31	0	3	0	0	0	0	0	0	179	20	0	1	215	0	0	449	



Turning Movement Count - Trucks



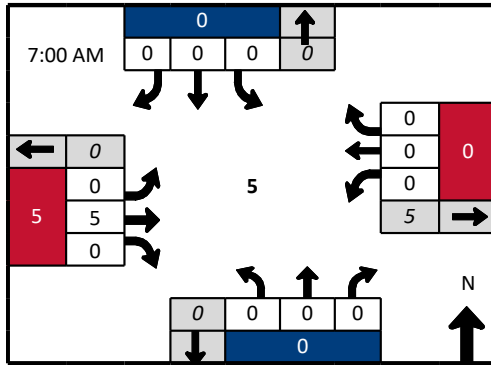
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Southbound								
Eastbound	35			1	1			
Westbound	35	1		2				

Mar-3-2021 (Wednesday)

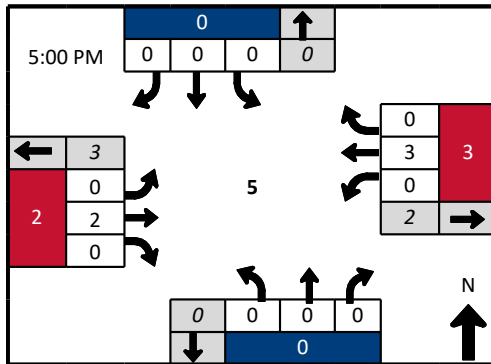
Project No: TC21007

Location: Austin Boulevard
and SR186 (Rex Allen Drive)

Intersection Configuration: Unsignalized



Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
Peak Hour Total	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	



Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	5
Peak Hour Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	



Turning Movement Count - Cars

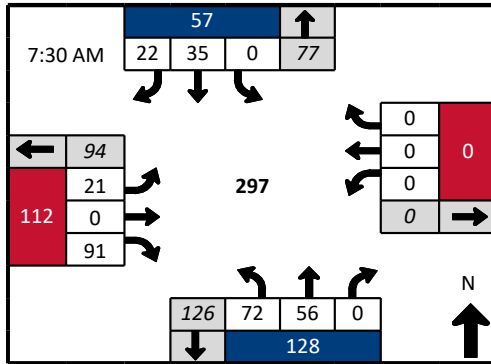
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northeastbound	55	1		1				
Southwestbound	35				1			
Eastbound	35	1				1		
Westbound								

Mar-3-2021 (Wednesday)

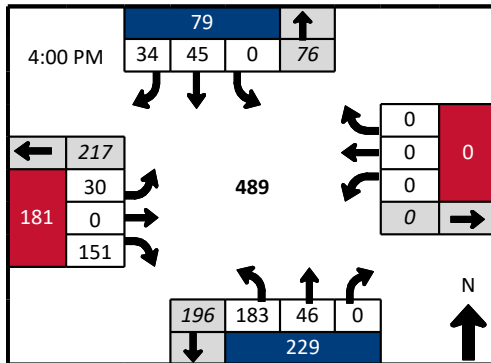
Project No: TC21007

Location: BR10 (Haskell Ave)
and SR186 (Rex Allen Drive)

Intersection Configuration: Unsignalized



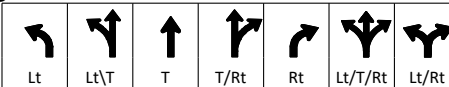
Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	21	10	0	0	0	3	6	0	2	0	16	0	0	0	0	0	58	
7:15 AM	22	4	0	0	0	6	5	0	3	0	25	0	0	0	0	0	65	
7:30 AM	15	16	0	0	0	13	10	0	6	0	19	0	0	0	0	0	79	
7:45 AM	20	19	0	0	0	12	6	0	8	0	29	0	0	0	0	0	94	296
8:00 AM	12	9	0	0	0	3	2	0	1	0	23	0	0	0	0	0	50	288
8:15 AM	25	12	0	0	0	7	4	0	6	0	20	0	0	0	0	0	74	297
8:30 AM	8	10	0	0	0	9	6	0	6	0	15	0	0	0	0	0	54	272
8:45 AM	17	20	0	0	0	13	8	0	8	0	30	0	0	0	0	0	96	274
Peak Hour Total	72	56	0	0	0	35	22	0	21	0	91	0	0	0	0	0	297	



Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Rex Allen Drive) Eastbound				SR186 (Rex Allen Drive) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	56	13	0	0	0	14	8	0	6	0	40	1	0	0	0	0	137	
4:15 PM	37	12	0	0	0	9	8	0	9	0	30	0	0	0	0	0	105	
4:30 PM	50	13	0	0	0	9	11	0	14	0	37	0	0	0	0	0	134	
4:45 PM	40	8	0	0	0	13	7	0	1	0	44	0	0	0	0	0	113	489
5:00 PM	56	17	0	0	0	12	8	0	3	0	31	1	0	0	0	0	127	479
5:15 PM	44	6	0	0	0	7	12	0	7	0	32	0	0	0	0	0	108	482
5:30 PM	33	14	0	0	0	11	13	0	8	0	39	0	0	0	0	0	118	466
5:45 PM	25	10	0	0	0	10	5	0	2	0	34	0	0	0	0	0	86	439
Peak Hour Total	183	46	0	0	0	45	34	0	30	0	151	1	0	0	0	0	489	



Turning Movement Count - Cars



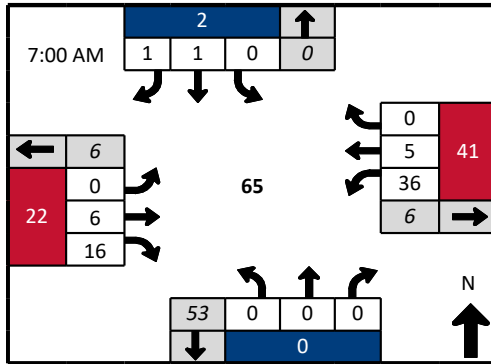
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45							
Southbound	45						1	
Eastbound	35				1			
Westbound	35	1		1				

Mar-3-2021 (Wednesday)

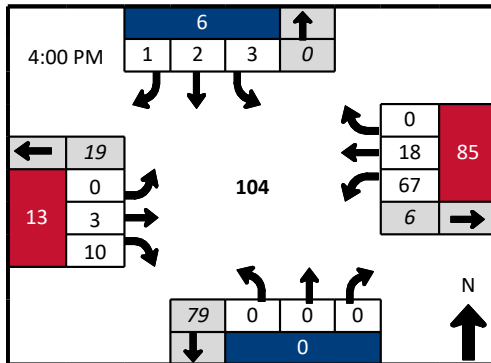
Project No: TC21007

Location: I-10 Westbound Ramps and BR10 (Taylor Rd)

Intersection Configuration: Unsignalized



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				BR10 (Taylor Rd) Eastbound				BR10 (Taylor Rd) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	1	0	0	0	3	0	9	1	0	0	14	
7:15 AM	0	0	0	0	0	0	0	0	0	4	6	0	9	1	0	0	20	
7:30 AM	0	0	0	0	0	1	0	0	0	1	4	0	8	2	0	0	16	
7:45 AM	0	0	0	0	0	0	0	0	0	1	3	0	10	1	0	0	15	65
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	10	2	0	0	14	65
8:15 AM	0	0	0	0	1	0	0	0	0	2	7	0	6	2	0	0	18	63
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	54
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	13	2	0	0	17	56
Peak Hour Total	0	0	0	0	0	1	1	0	0	6	16	0	36	5	0	0	65	



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				BR10 (Taylor Rd) Eastbound				BR10 (Taylor Rd) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	1	0	0	0	0	1	3	0	28	5	0	0	38	
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	9	5	0	0	15	
4:30 PM	0	0	0	0	2	1	1	0	0	2	1	0	20	3	0	0	30	
4:45 PM	0	0	0	0	0	1	0	0	0	0	5	0	10	5	0	0	21	104
5:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	9	6	0	0	17	83
5:15 PM	0	0	0	0	1	0	0	0	0	2	2	0	13	8	0	0	26	94
5:30 PM	0	0	0	0	1	0	0	0	0	1	5	0	10	5	0	0	22	86
5:45 PM	0	0	0	0	0	0	0	0	0	3	4	0	6	6	0	0	19	84
Peak Hour Total	0	0	0	0	3	2	1	0	0	3	10	0	67	18	0	0	104	



Turning Movement Count - Trucks

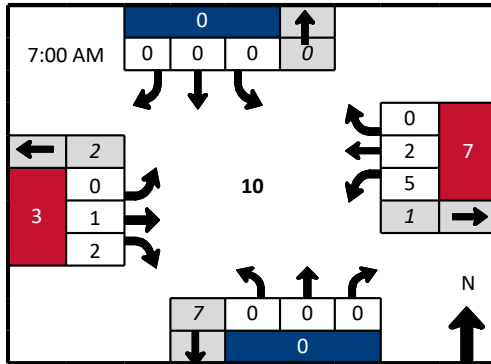
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45							
Southbound	45						1	
Eastbound	35				1			
Westbound	35	1		1				

Mar-3-2021 (Wednesday)

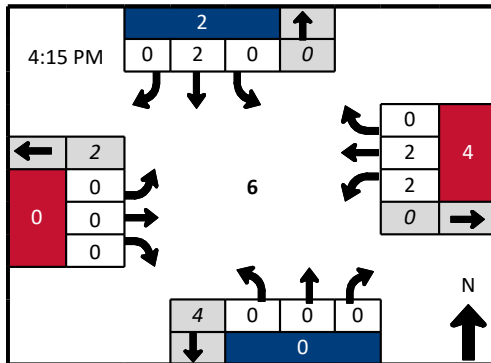
Project No: TC21007

Location: I-10 Westbound Ramps and BR10 (Taylor Rd)

Intersection Configuration: Unsignalized



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				BR10 (Taylor Rd) Eastbound				BR10 (Taylor Rd) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0			0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
7:45 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	4
Peak Hour Total	0	0	0	0	0	0	0	0	0	1	2	0	5	2	0	0	10	



Start Time	I-10 Westbound Ramps Northbound				I-10 Westbound Ramps Southbound				BR10 (Taylor Rd) Eastbound				BR10 (Taylor Rd) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	4	
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	4
Peak Hour Total	0	0	0	0	0	2	0	0	0	0	0	0	2	2	0	0	6	



Turning Movement Count - Cars

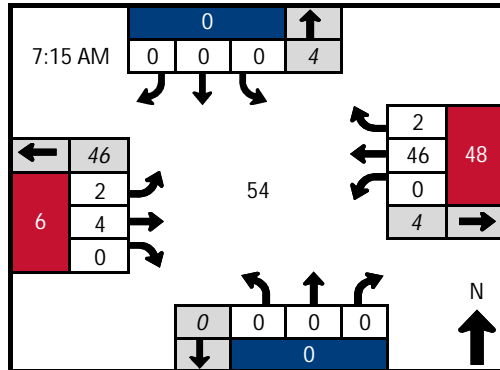
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northeastbound	45							
Southwestbound								
Southeastbound	35		1					
Northwestbound	35				1			

Mar-16-2021 (Tuesday)

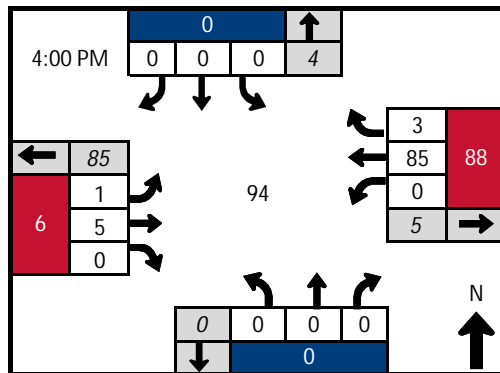
Project No: TC21007

Location: I-10 Eastbound On-Ramp and BR10 (Taylor Rd)

Intersection Configuration: Unsignalized



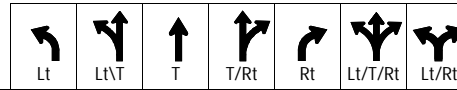
Start Time	I-10 Eastbound On-Ramp Northeastbound				I-10 Eastbound On-Ramp Southwestbound				BR10 (Taylor Rd) Southeastbound				BR10 (Taylor Rd) Northwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	
7:15 AM	0	0	0	0	0	0	0	0	1	3	0	0	0	10	2	0	16	
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	12	0	0	13	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	11	0	0	12	52
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	54
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	11	49
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	0	9	45
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	16	2	0	18	51
Peak Hour Total	0	0	0	0	0	0	0	0	2	4	0	0	0	46	2	0	54	



Start Time	I-10 Eastbound On-Ramp Northeastbound				I-10 Eastbound On-Ramp Southwestbound				BR10 (Taylor Rd) Southeastbound				BR10 (Taylor Rd) Northwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	32	2	0	36	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	
4:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	23	1	0	28	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	94
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	16	2	0	19	77
5:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	22	1	0	27	89
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	15	0	0	17	78
5:45 PM	0	0	0	0	0	0	0	0	1	2	0	0	0	11	2	0	16	79
Peak Hour Total	0	0	0	0	0	0	0	0	1	5	0	0	0	85	3	0	94	



Turning Movement Count - Trucks



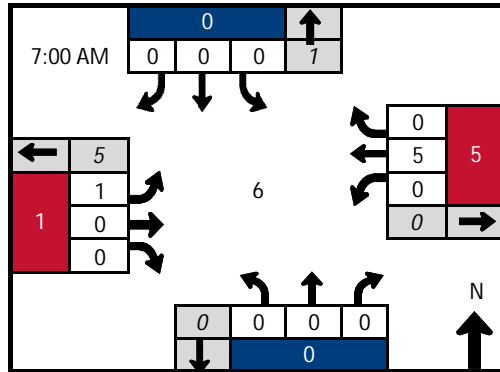
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northeastbound	45							
Southwestbound								
Southeastbound	35		1					
Northwestbound	35				1			

Mar-16-2021 (Tuesday)

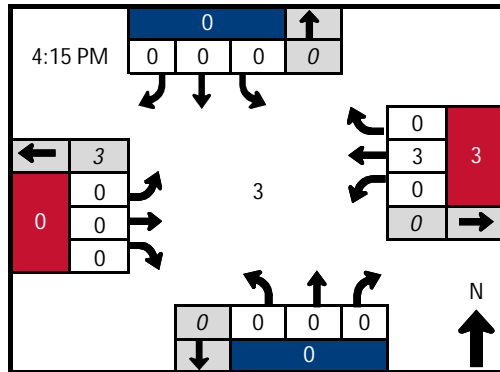
Project No: TC21007

Location: I-10 Eastbound On-Ramp and BR10 (Taylor Rd)

Intersection Configuration: Unsignalized



Start Time	I-10 Eastbound On-Ramp Northeastbound				I-10 Eastbound On-Ramp Southwestbound				BR10 (Taylor Rd) Southeastbound				BR10 (Taylor Rd) Northwestbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2			0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	4
Peak Hour Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	0	0	6	



Start Time	I-10 Eastbound On-Ramp Northeastbound				I-10 Eastbound On-Ramp Southwestbound				BR10 (Taylor Rd) Southeastbound				BR10 (Taylor Rd) Northwestbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
Peak Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	



Turning Movement Count - Cars

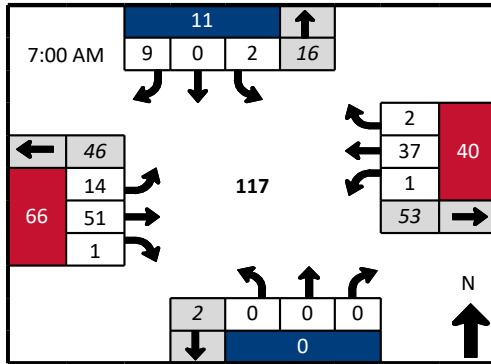
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Northeastbound	35	1			1			
Southwestbound	35	1			1			

Mar-3-2021 (Wednesday)

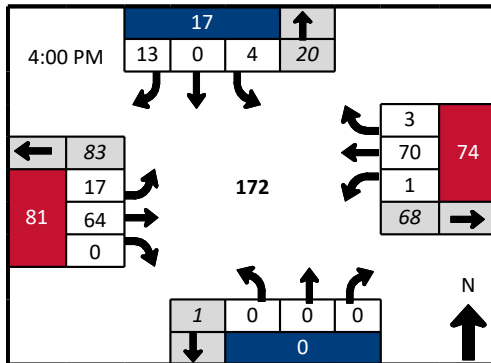
Project No: TC21007

Location: Arizona Avenue
and BR10 (Haskell Ave)

Intersection Configuration: Unsignalized



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	3	0	2	13	0	0	0	9	1	0	28	
7:15 AM	0	0	0	0	1	0	3	0	6	15	1	0	0	5	1	0	32	
7:30 AM	0	0	0	0	0	0	2	0	2	14	0	0	1	11	0	0	30	
7:45 AM	0	0	0	0	1	0	1	0	4	9	0	0	0	12	0	0	27	117
8:00 AM	0	0	0	0	0	0	3	0	1	8	0	0	0	13	0	0	25	114
8:15 AM	0	0	0	0	1	0	2	0	2	11	0	0	0	12	0	0	28	110
8:30 AM	0	0	0	0	0	0	1	0	2	12	0	0	0	5	0	0	20	100
8:45 AM	0	1	0	0	1	0	2	0	2	16	0	0	0	20	1	0	43	116
Peak Hour Total	0	0	0	0	2	0	9	0	14	51	1	0	1	37	2	0	117	



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	5	0	3	18	0	0	0	25	0	0	51	
4:15 PM	0	0	0	0	2	0	3	0	5	16	0	0	0	16	2	0	44	
4:30 PM	0	0	0	0	1	0	5	0	4	18	0	0	0	17	0	0	45	
4:45 PM	0	0	0	0	1	0	0	0	5	12	0	0	1	12	1	0	32	172
5:00 PM	0	0	0	0	3	0	4	0	4	12	0	0	1	17	2	0	43	164
5:15 PM	0	0	0	0	1	0	3	0	8	16	0	0	0	10	0	0	38	158
5:30 PM	0	0	1	0	0	0	2	0	4	12	0	0	0	11	2	0	32	145
5:45 PM	0	0	0	0	1	0	3	0	3	10	1	0	0	13	3	0	34	147
Peak Hour Total	0	0	0	0	4	0	13	0	17	64	0	0	1	70	3	0	172	



Turning Movement Count - Trucks

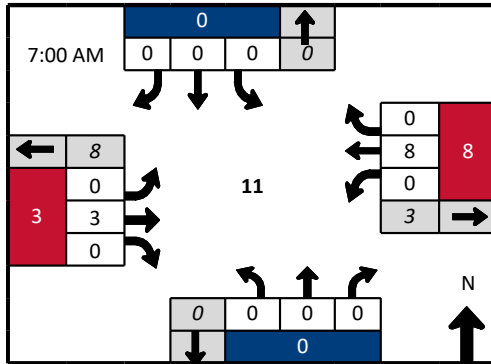
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Northeastbound	35	1			1			
Southwestbound	35	1			1			

Mar-3-2021 (Wednesday)

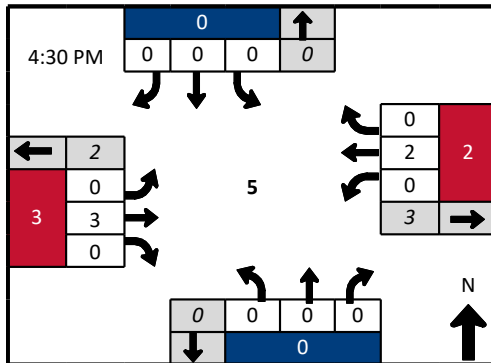
Project No: TC21007

Location: Arizona Avenue
and BR10 (Haskell Ave)

Intersection Configuration: Unsignalized



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	11
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	11
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	9
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	7
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	8
Peak Hour Total	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	11	



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Peak Hour Total	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	



Turning Movement Count - Cars

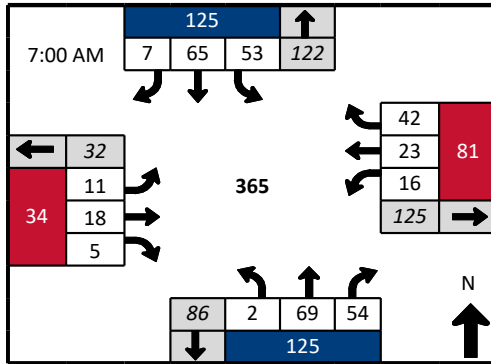
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northeastbound	35	1			1			
Southwestbound	35	1			1			
Eastbound	35						1	
Westbound	35						1	

Mar-3-2021 (Wednesday)

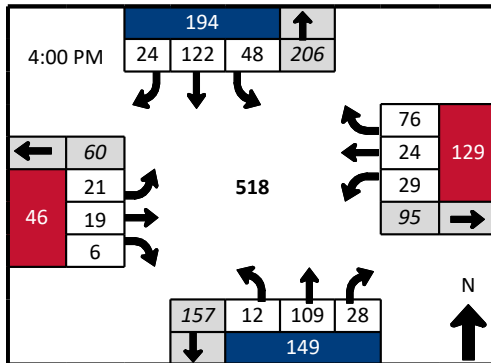
Project No: TC21007

Location: BR10 (Haskell Ave)
and SR186 (Maley Street)

Intersection Configuration: Signalized



Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	14	13	0	19	7	0	0	1	3	1	0	3	5	12	0	78	
7:15 AM	2	12	12	0	9	16	1	0	1	4	1	0	2	9	12	0	81	
7:30 AM	0	22	16	0	16	19	3	0	4	6	2	0	4	7	6	0	105	
7:45 AM	0	21	13	0	9	23	3	0	5	5	1	0	7	2	12	0	101	365
8:00 AM	1	10	9	0	15	17	1	0	0	5	1	0	5	0	9	0	73	360
8:15 AM	0	17	9	0	10	9	4	0	3	6	2	0	7	4	12	0	83	362
8:30 AM	0	12	4	0	4	17	2	0	3	0	1	0	3	0	0	0	46	303
8:45 AM	5	31	6	0	4	31	4	0	3	0	3	0	0	1	2	0	90	292
Peak Hour Total	2	69	54	0	53	65	7	0	11	18	5	0	16	23	42	0	365	



Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	5	37	11	0	15	31	7	0	5	6	2	0	13	12	27	0	171	
4:15 PM	2	21	5	0	9	28	5	0	5	5	2	0	4	8	15	0	109	
4:30 PM	4	26	4	0	10	31	5	0	8	6	2	0	3	2	16	0	117	
4:45 PM	1	25	8	0	14	32	7	0	3	2	0	0	9	2	18	0	121	518
5:00 PM	2	32	3	0	10	29	4	0	3	4	3	0	13	7	24	0	134	481
5:15 PM	2	33	6	0	13	23	4	0	4	4	0	0	3	4	14	0	110	482
5:30 PM	2	23	5	0	13	24	8	0	4	4	2	0	6	5	18	0	114	479
5:45 PM	4	24	1	0	11	35	5	0	3	5	2	0	5	6	9	0	110	468
Peak Hour Total	12	109	28	0	48	122	24	0	21	19	6	0	29	24	76	0	518	



Turning Movement Count - Trucks

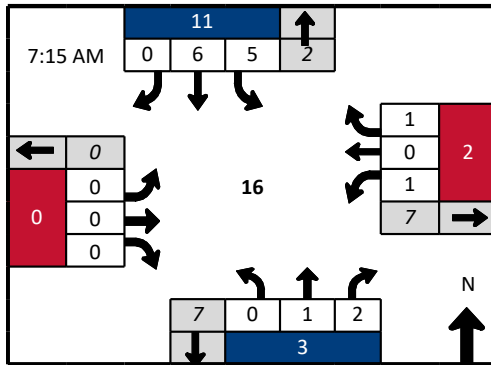
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northeastbound	35	1			1			
Southwestbound	35	1			1			
Eastbound	35						1	
Westbound	35						1	

Mar-3-2021 (Wednesday)

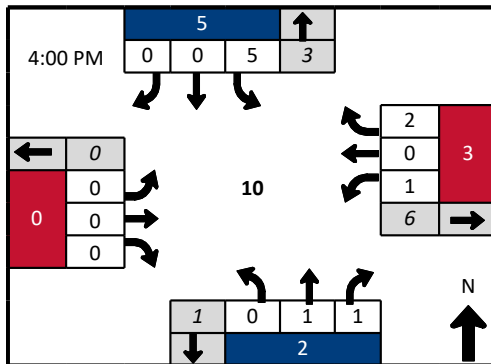
Project No: TC21007

Location: BR10 (Haskell Ave)
and SR186 (Maley Street)

Intersection Configuration: Signalized



Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1			0	3
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	
7:30 AM	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	6	
7:45 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	15
8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	0	4	16
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	16
8:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	12
8:45 AM	0	3	0	0	1	4	0	0	0	0	0	0	0	0	0	0	8	16
Peak Hour Total	0	1	2	0	5	6	0	0	0	0	0	0	1	0	1	0	16	



Start Time	BR10 (Haskell Ave) Northeastbound				BR10 (Haskell Ave) Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1			0	3
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3	
4:30 PM	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	10
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	9
5:15 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Peak Hour Total	0	1	1	0	5	0	0	0	0	0	0	0	1	0	2	0	10	



Turning Movement Count - Cars

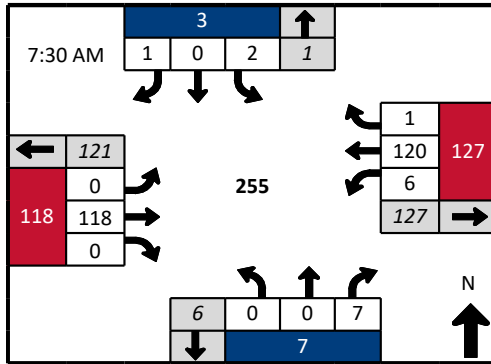
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Westbound	25							1
Northeastbound	55				1			
Southwestbound	35	1		1				

Mar-3-2021 (Wednesday)

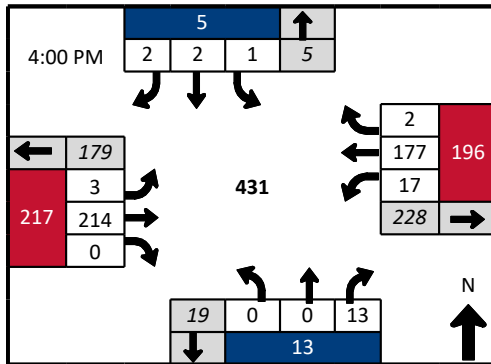
Project No: TC21007

Location: Railroad Avenue
and BR10 (Haskell Ave)

Intersection Configuration: Unsignalized



Start Time	Railroad Avenue				Wood Street				BR10 (Haskell Ave)				BR10 (Haskell Ave)				Total	Peak Hour
	Northbound				Westbound				Northeastbound				Southwestbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	1	30	0	0	2	20	0	0	53	
7:15 AM	0	0	2	0	0	0	0	0	1	25	0	0	1	29	0	0	58	
7:30 AM	0	0	2	0	1	0	0	0	0	27	0	0	2	34	0	0	66	
7:45 AM	0	0	2	0	0	0	1	0	0	35	0	0	2	35	1	0	76	253
8:00 AM	0	0	1	0	0	0	0	0	0	23	0	0	2	26	0	0	52	252
8:15 AM	0	0	2	0	1	0	0	0	0	33	0	0	0	25	0	0	61	255
8:30 AM	0	0	4	0	0	0	0	0	0	16	0	0	1	21	0	0	42	231
8:45 AM	0	0	2	0	0	0	0	0	0	31	0	0	5	39	0	0	77	232
Peak Hour Total	0	0	7	0	2	0	1	0	0	118	0	0	6	120	1	0	255	



Start Time	Railroad Avenue				Wood Street				BR10 (Haskell Ave)				BR10 (Haskell Ave)				Total	Peak Hour
	Northbound				Westbound				Northeastbound				Southwestbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	5	0	0	1	1	0	1	62	0	0	5	46	1	0	122	
4:15 PM	0	0	3	0	1	0	1	0	1	47	0	0	6	35	0	0	94	
4:30 PM	0	0	5	0	0	0	0	0	1	55	0	0	2	40	1	0	104	
4:45 PM	0	0	0	0	0	1	0	0	0	50	0	0	4	56	0	0	111	431
5:00 PM	0	0	3	0	1	0	0	0	0	66	0	0	1	43	0	0	114	423
5:15 PM	0	0	2	0	0	0	0	0	0	48	0	0	2	37	0	0	89	418
5:30 PM	0	0	1	0	0	0	1	0	1	44	0	0	1	51	0	0	99	413
5:45 PM	0	0	2	0	1	0	0	0	1	33	0	0	0	45	0	0	82	384
Peak Hour Total	0	0	13	0	1	2	2	0	3	214	0	0	17	177	2	0	431	



Turning Movement Count - Trucks

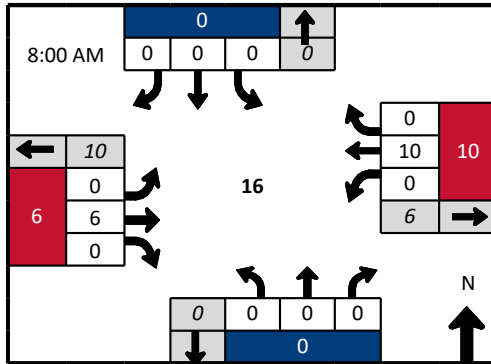
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Westbound	25							1
Northeastbound	55				1			
Southwestbound	35	1		1				

Mar-3-2021 (Wednesday)

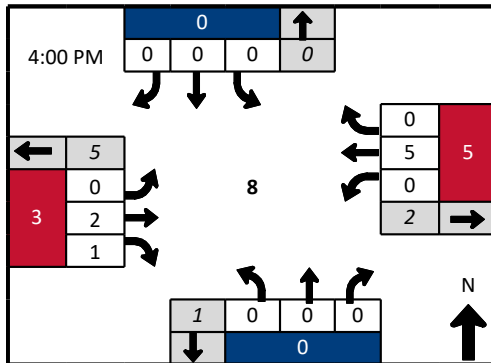
Project No: TC21007

Location: Railroad Avenue
and BR10 (Haskell Ave)

Intersection Configuration: Unsignalized



Start Time	Railroad Avenue				Wood Street				BR10 (Haskell Ave)				BR10 (Haskell Ave)				Total	Peak Hour
	Northbound				Westbound				Northeastbound				Southwestbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	11
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	12
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	14
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	12
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	8	16
Peak Hour Total	0	0	0	0	0	0	0	0	0	6	0	0	0	10	0	0	16	



Start Time	Railroad Avenue				Wood Street				BR10 (Haskell Ave)				BR10 (Haskell Ave)				Total	Peak Hour
	Northbound				Westbound				Northeastbound				Southwestbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	8
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	7
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	8
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7
Peak Hour Total	0	0	0	0	0	0	0	0	0	2	1	0	0	5	0	0	8	



Turning Movement Count - Cars

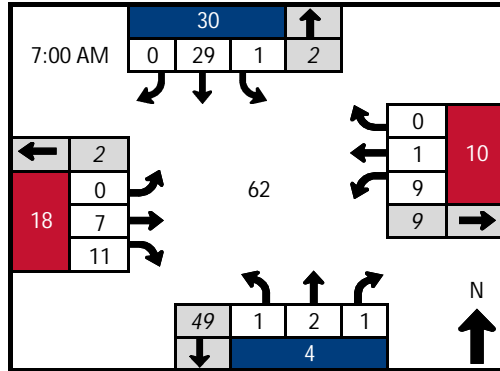
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45						1	
Southbound	45						1	
Eastbound	45						1	
Westbound	45						1	

Mar-16-2021 (Tuesday)

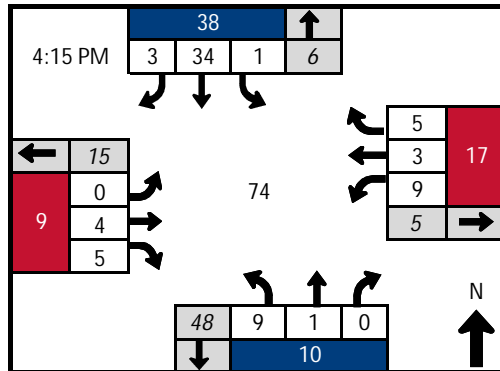
Project No: TC21007

Location: I-10 WB Ramps
and Old Stewart Road

Intersection Configuration: Unsignalized



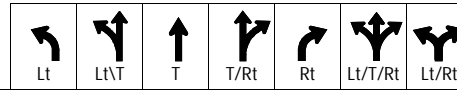
Start Time	I-10 WB Ramps Northbound				I-10 WB Ramps Southbound				Old Stewart Road Eastbound				Old Stewart Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	1	0	0	5	0	0	0	2	3	0	2	0	0	0	13	
7:15 AM	0	0	0	0	0	5	0	0	0	2	2	0	2	0	0	0	11	
7:30 AM	1	1	0	0	0	9	0	0	0	3	2	0	4	0	0	0	20	
7:45 AM	0	1	0	0	1	10	0	0	0	0	4	0	1	1	0	0	18	62
8:00 AM	1	0	0	0	0	6	0	0	0	1	2	0	0	0	0	0	10	59
8:15 AM	1	0	0	0	0	7	0	0	0	0	2	0	0	0	0	0	10	58
8:30 AM	1	1	0	0	2	10	3	0	1	1	0	0	0	0	0	0	19	57
8:45 AM	0	0	0	0	0	4	2	0	0	0	0	0	1	1	0	0	8	47
Peak Hour Total	1	2	1	0	1	29	0	0	0	7	11	0	9	1	0	0	62	



Start Time	I-10 WB Ramps Northbound				I-10 WB Ramps Southbound				Old Stewart Road Eastbound				Old Stewart Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	1	1	1	0	1	7	3	0	0	0	1	0	1	0	0	0	16	
4:15 PM	3	0	0	0	0	7	1	0	0	1	0	0	4	2	3	0	21	
4:30 PM	0	1	0	0	1	6	0	0	0	1	2	0	3	0	0	0	14	
4:45 PM	1	0	0	0	0	11	2	0	0	0	1	0	0	1	2	0	18	69
5:00 PM	5	0	0	0	0	10	0	0	0	2	2	0	2	0	0	0	21	74
5:15 PM	3	0	0	0	0	6	2	0	0	0	2	0	2	0	0	0	15	68
5:30 PM	0	2	0	0	0	5	6	0	0	1	1	0	0	1	0	0	16	70
5:45 PM	4	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	8	60
Peak Hour Total	9	1	0	0	1	34	3	0	0	4	5	0	9	3	5	0	74	



Turning Movement Count - Trucks



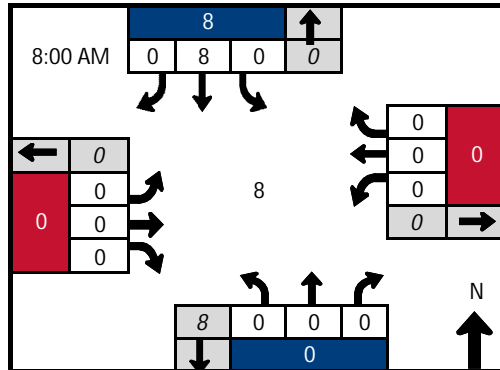
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45						1	
Southbound	45						1	
Eastbound	45						1	
Westbound	45						1	

Mar-16-2021 (Tuesday)

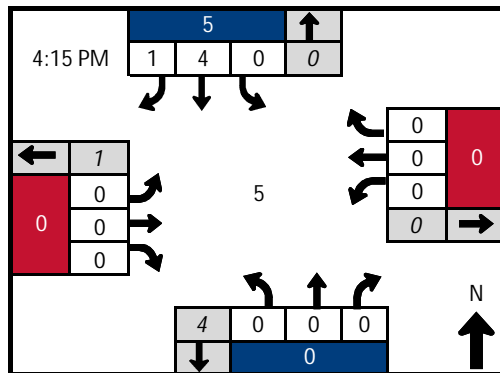
Project No: TC21007

Location: I-10 WB Ramps
and Old Stewart Road

Intersection Configuration: Unsignalized



Start Time	I-10 WB Ramps Northbound				I-10 WB Ramps Southbound				Old Stewart Road Eastbound				Old Stewart Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	4
8:00 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	6
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	6
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	7
8:45 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	8
Peak Hour Total	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8	



Start Time	I-10 WB Ramps Northbound				I-10 WB Ramps Southbound				Old Stewart Road Eastbound				Old Stewart Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	1	4	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Peak Hour Total	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	5	



Turning Movement Count - Cars

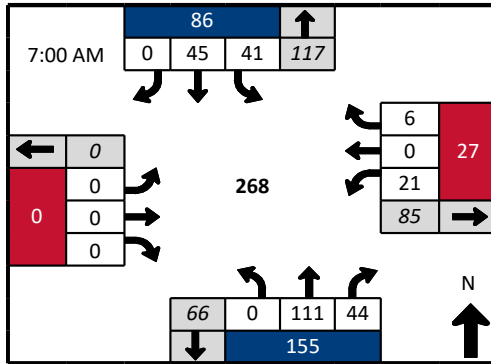
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25				1			
Southbound	25		1					
Eastbound	25							
Westbound								1

Mar-3-2021 (Wednesday)

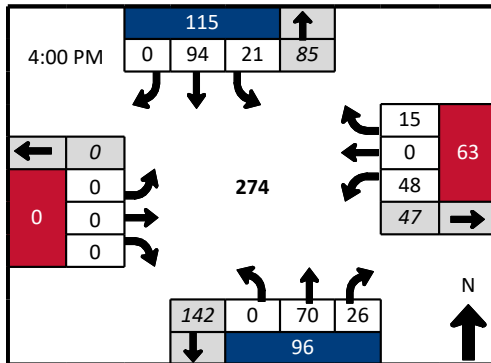
Project No: TC21007

Location: Bisbee Avenue
and SR186 (Maley Street)

Intersection Configuration: Unsignalized



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	17	6	0	5	4	0	0	0	0	0	0	4	0	0	0	36	
7:15 AM	0	45	9	0	13	19	0	0	0	0	0	0	4	0	1	0	91	
7:30 AM	0	37	12	0	19	16	0	0	0	0	0	0	9	0	4	0	97	
7:45 AM	0	12	17	0	4	6	0	0	0	0	0	0	4	0	1	0	44	268
8:00 AM	0	6	3	0	0	7	0	0	0	0	0	0	4	0	0	0	20	252
8:15 AM	0	4	4	0	1	5	0	0	0	0	0	0	4	0	0	0	18	179
8:30 AM	0	7	4	0	0	10	0	0	0	0	0	0	2	0	1	0	24	106
8:45 AM	0	11	12	0	4	10	0	0	0	0	0	0	4	0	1	0	42	104
Peak Hour Total	0	111	44	0	41	45	0	0	0	0	0	0	21	0	6	0	268	



Start Time	Bisbee Avenue Northbound				Bisbee Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	18	8	0	10	19	0	0	0	0	0	0	14	0	5	0	74	
4:15 PM	0	16	5	0	5	18	0	0	0	0	0	0	12	0	5	0	61	
4:30 PM	0	16	6	0	5	29	0	0	0	0	0	0	9	0	3	0	68	
4:45 PM	0	20	7	0	1	28	0	0	0	0	0	0	13	0	2	0	71	274
5:00 PM	0	15	5	0	5	35	0	0	0	0	0	0	7	0	2	1	69	269
5:15 PM	0	17	7	0	2	32	0	0	0	0	0	0	7	0	0	0	65	273
5:30 PM	0	19	3	0	4	19	0	0	0	0	0	0	8	0	1	0	54	259
5:45 PM	0	11	2	0	2	22	0	0	0	0	0	0	10	0	0	0	47	235
Peak Hour Total	0	70	26	0	21	94	0	0	0	0	0	0	48	0	15	0	274	



Turning Movement Count - Cars

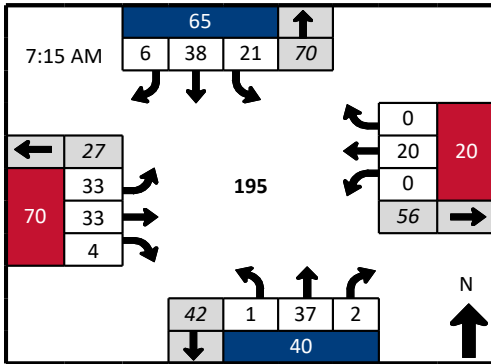
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	25						1	
Westbound	25						1	

Mar-3-2021 (Wednesday)

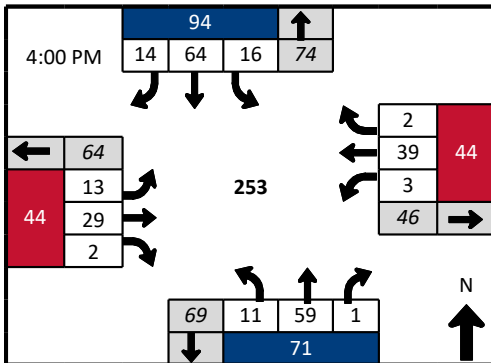
Project No: TC21007

Location: Arizona Avenue
and SR186 (Maley Street)

Intersection Configuration: Unsignalized



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	8	1	0	2	4	1	0	4	4	0	0	0	3	0	0	27	
7:15 AM	1	8	1	0	4	9	1	0	7	8	2	0	0	3	0	0	44	
7:30 AM	0	8	0	0	7	9	0	0	11	14	2	0	0	11	0	0	62	
7:45 AM	0	12	1	0	3	12	2	0	15	8	0	0	0	3	0	0	56	189
8:00 AM	0	9	0	0	7	8	3	0	0	3	0	0	0	3	0	0	33	195
8:15 AM	0	9	0	0	4	4	0	0	1	4	0	0	0	4	0	0	26	177
8:30 AM	1	9	0	0	0	7	0	0	0	5	0	0	0	4	0	0	26	141
8:45 AM	1	6	0	0	3	7	1	0	3	11	1	0	0	6	0	0	39	124
Peak Hour Total	1	37	2	0	21	38	6	0	33	33	4	0	0	20	0	0	195	



Start Time	Arizona Avenue Northbound				Arizona Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	2	14	1	0	5	15	2	0	4	9	1	0	0	16	1	0	70	
4:15 PM	3	17	0	0	4	16	4	0	3	8	0	0	1	10	1	0	67	
4:30 PM	3	16	0	0	4	14	3	0	3	6	1	0	1	7	0	0	58	
4:45 PM	3	12	0	0	3	19	5	0	3	6	0	1	1	6	0	0	58	253
5:00 PM	4	19	1	0	1	13	1	0	0	6	1	1	1	6	0	0	53	236
5:15 PM	0	16	1	0	0	17	2	0	4	4	0	0	1	4	0	0	49	218
5:30 PM	3	8	0	0	4	12	1	0	0	5	0	0	0	8	0	0	41	201
5:45 PM	2	12	0	0	3	11	1	0	0	6	1	0	0	8	0	0	44	187
Peak Hour Total	11	59	1	0	16	64	14	0	13	29	2	1	3	39	2	0	253	



Turning Movement Count - Cars

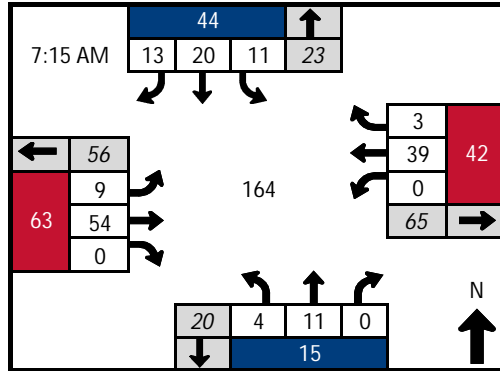
Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25					1	
Southbound	25					1	
Eastbound	25					1	
Westbound	25					1	

Mar-16-2021 (Tuesday)

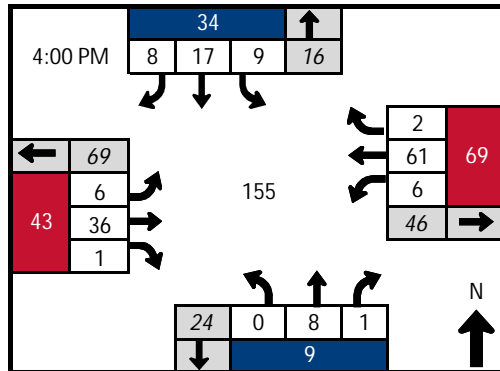
Project No: TC21007

Location: Austin Boulevard
and Maley Street

Intersection Configuration: Unsignalized



Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				Maley Street Eastbound				Maley Street Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	1	0	0	0	1	1	0	0	1	8	0	0	0	5	0	0	17	
7:15 AM	1	2	0	0	0	1	2	0	1	14	0	2	0	14	0	0	35	
7:30 AM	0	4	0	0	2	6	4	0	4	21	0	1	0	13	1	2	55	
7:45 AM	2	4	0	0	6	9	7	0	3	11	0	1	0	5	1	0	48	155
8:00 AM	1	1	0	0	3	4	0	0	1	8	0	0	0	7	1	0	26	164
8:15 AM	0	1	0	0	0	1	0	0	2	10	0	0	0	4	0	0	18	147
8:30 AM	0	1	0	0	0	1	0	0	2	13	0	0	1	6	0	0	24	116
8:45 AM	0	2	1	0	0	2	0	0	1	11	0	0	0	4	0	0	21	89
Peak Hour Total	4	11	0	0	11	20	13	0	9	54	0	4	0	39	3	2	164	



Start Time	Austin Boulevard Northbound				Austin Boulevard Southbound				Maley Street Eastbound				Maley Street Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	1	0	0	2	4	1	0	2	15	0	0	2	19	0	0	46	
4:15 PM	0	3	0	0	4	5	3	0	1	11	0	0	2	12	0	0	41	
4:30 PM	0	2	0	0	2	3	2	0	3	7	0	0	1	15	0	0	35	
4:45 PM	0	2	1	0	1	5	2	0	0	3	1	0	1	15	2	0	33	155
5:00 PM	0	5	1	0	1	0	3	0	3	9	0	0	0	19	1	0	42	151
5:15 PM	0	1	0	0	0	3	5	0	3	7	0	0	1	17	0	0	37	147
5:30 PM	0	3	0	0	3	2	3	0	5	6	0	0	0	8	3	0	33	145
5:45 PM	0	2	1	0	0	3	4	0	0	7	0	0	0	15	1	0	33	145
Peak Hour Total	0	8	1	0	9	17	8	0	6	36	1	0	6	61	2	0	155	



Turning Movement Count - Cars

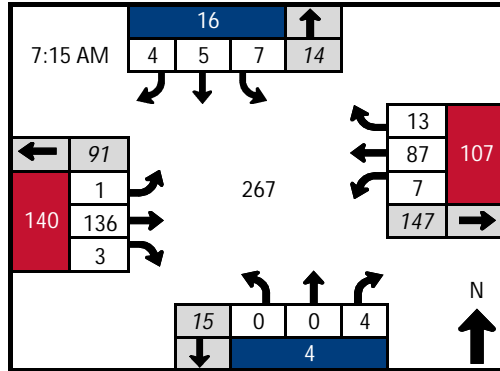
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	30						1	
Westbound	30						1	

Mar-16-2021 (Tuesday)

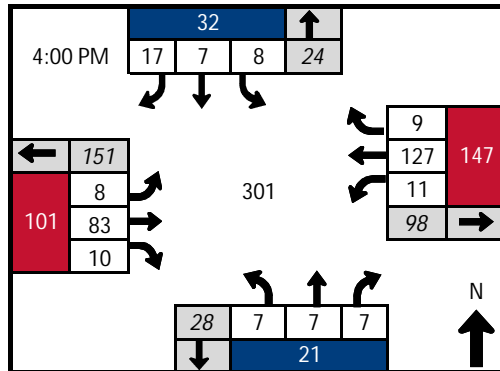
Project No: TC21007

Location: Railroad Avenue
and SR186 (Maley Street)

Intersection Configuration: Unsignalized



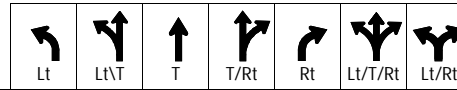
Start Time	Railroad Avenue Northbound				Railroad Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	3	0	3	1	0	0	3	29	1	0	1	12	0	0	53	
7:15 AM	0	0	0	0	0	1	0	0	0	36	1	0	1	24	4	0	67	
7:30 AM	0	0	1	0	2	1	2	0	1	37	0	0	1	23	2	0	70	
7:45 AM	0	0	1	0	4	2	1	0	0	37	2	0	3	17	3	0	70	260
8:00 AM	0	0	2	0	1	1	1	0	0	26	0	0	2	23	4	0	60	267
8:15 AM	1	3	2	0	2	0	0	0	1	24	1	0	4	17	0	0	55	255
8:30 AM	0	0	1	0	3	1	0	0	1	18	2	0	2	17	2	0	47	232
8:45 AM	1	0	3	0	1	0	1	0	1	30	3	0	8	19	2	0	69	231
Peak Hour Total	0	0	4	0	7	5	4	0	1	136	3	0	7	87	13	0	267	



Start Time	Railroad Avenue Northbound				Railroad Avenue Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	2	2	0	3	1	3	0	3	25	3	0	8	39	2	0	91	
4:15 PM	3	2	4	0	0	2	4	0	2	12	3	0	0	15	2	0	49	
4:30 PM	4	1	1	4	1	2	4	0	2	23	3	0	2	34	1	0	78	
4:45 PM	0	2	0	0	4	2	6	0	1	23	1	0	1	39	4	0	83	301
5:00 PM	4	0	3	0	1	0	4	0	2	24	1	0	0	27	5	0	71	281
5:15 PM	1	1	0	0	1	3	5	0	3	17	1	0	3	19	1	0	55	287
5:30 PM	5	1	1	2	2	1	1	0	1	14	5	0	2	16	3	0	52	261
5:45 PM	0	2	1	0	4	1	2	3	2	18	1	0	0	25	1	0	57	235
Peak Hour Total	7	7	7	4	8	7	17	0	8	83	10	0	11	127	9	0	301	



Turning Movement Count - Trucks



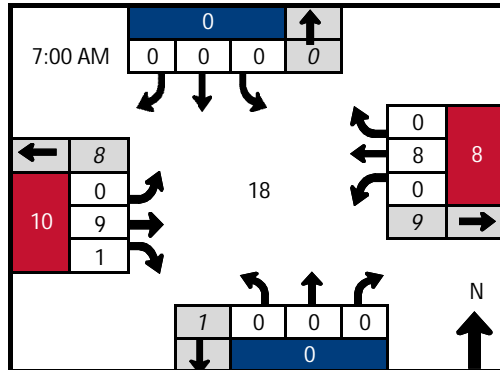
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	30						1	
Westbound	30						1	

Mar-16-2021 (Tuesday)

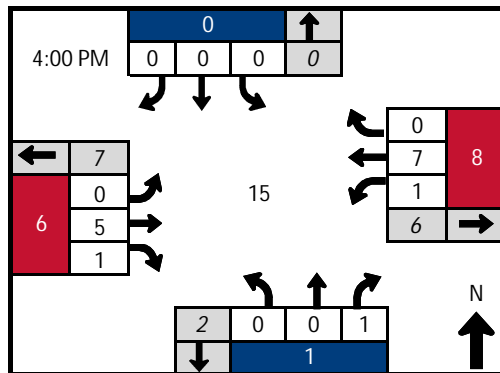
Project No: TC21007

Location: Railroad Avenue
and SR186 (Maley Street)

Intersection Configuration: Unsignalized



Start Time	Railroad Avenue Northeastbound				Railroad Avenue Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	
7:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	
7:45 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	4	18
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	15
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6	17
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	13
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6	15
Peak Hour Total	0	0	0	0	0	0	0	0	0	9	1	0	0	8	0	0	18	



Start Time	Railroad Avenue Northeastbound				Railroad Avenue Southwestbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	1	1	0	0	5	
4:15 PM	0	0	1	0	0	0	0	0	0	2	1	0	0	2	0	0	6	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	15
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	14
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Peak Hour Total	0	0	1	0	0	0	0	0	0	5	1	0	1	7	0	0	15	



Turning Movement Count - Cars

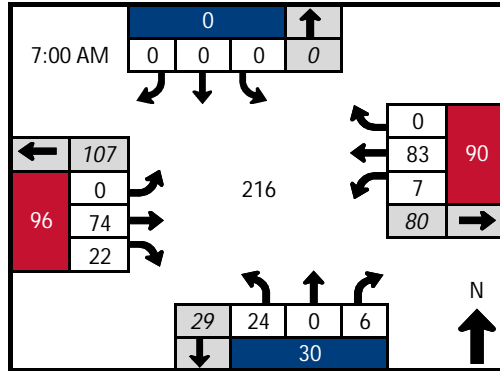
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	45						1	
Westbound	45						1	

Mar-18-2021 (Thursday)

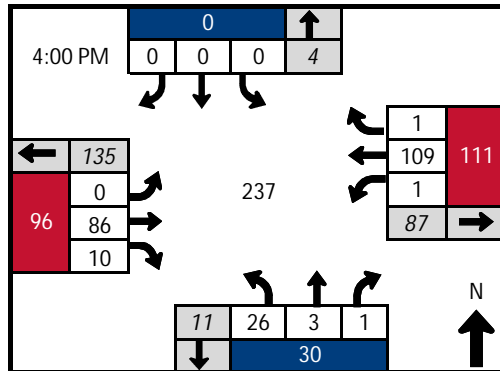
Project No: TC21007

Location: Rex Allen Drive
and SR186 (Maley Street)

Intersection Configuration: Unsignalized



Start Time	Rex Allen Drive Northbound				Rex Allen Drive Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	7	0	0	0	0	0	0	0	0	25	3	0	1	20	0	0	56	
7:15 AM	7	0	2	0	0	0	0	0	0	15	5	0	1	29	0	0	59	
7:30 AM	3	0	1	0	0	0	0	0	0	16	11	0	4	18	0	0	53	
7:45 AM	7	0	3	0	0	0	0	0	0	18	3	0	1	16	0	0	48	216
8:00 AM	0	0	4	0	0	0	0	0	0	16	2	0	1	10	0	0	33	193
8:15 AM	3	0	1	0	0	0	0	0	0	25	4	0	0	22	0	0	55	189
8:30 AM	5	0	3	0	0	0	0	0	0	19	9	0	0	20	0	0	56	192
8:45 AM	1	1	0	0	0	0	0	0	0	15	1	0	0	13	0	0	31	175
Peak Hour Total	24	0	6	0	0	0	0	0	0	74	22	0	7	83	0	0	216	



Start Time	Rex Allen Drive Northbound				Rex Allen Drive Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	12	0	0	0	0	0	0	0	0	26	6	0	0	39	0	0	83	
4:15 PM	6	1	0	0	0	0	0	0	0	20	1	0	0	20	1	0	49	
4:30 PM	4	2	1	0	0	0	0	0	0	18	1	0	1	22	0	0	49	
4:45 PM	4	0	0	0	0	0	0	0	0	22	2	0	0	28	0	0	56	237
5:00 PM	4	0	0	0	0	0	0	0	0	19	2	0	0	24	0	0	49	203
5:15 PM	2	0	0	0	0	0	0	0	0	17	2	0	1	15	0	0	37	191
5:30 PM	6	0	0	0	0	1	0	0	0	14	5	0	0	22	0	0	48	190
5:45 PM	3	0	0	0	0	0	0	0	0	18	4	0	0	16	0	0	41	175
Peak Hour Total	26	3	1	0	0	0	0	0	0	86	10	0	1	109	1	0	237	



Turning Movement Count - Trucks

Project No: TC21007

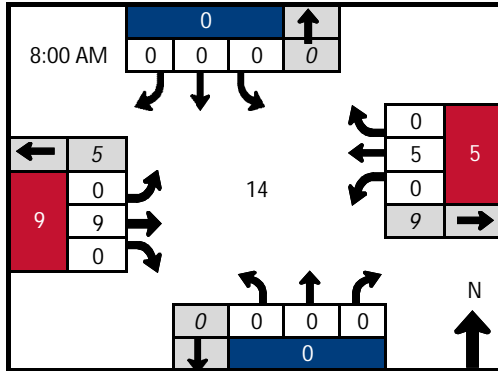
Location: Rex Allen Drive
and SR186 (Maley Street)

Intersection Configuration: Unsignalized

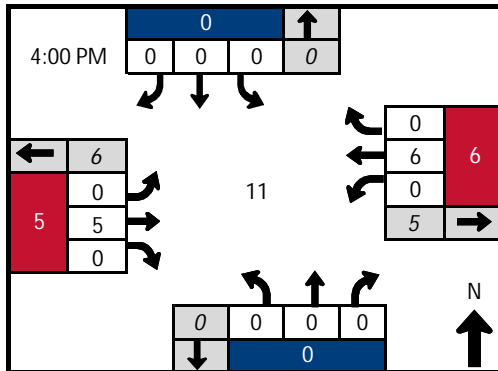
Mar-18-2021 (Thursday)

Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt

Northbound	25					1	
Southbound	25					1	
Eastbound	45					1	
Westbound	45					1	



Start Time	Rex Allen Drive Northbound				Rex Allen Drive Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	12
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	13
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	14
Peak Hour Total	0	0	0	0	0	0	0	0	0	0	9	0	0	0	5	0	0	14	



Start Time	Rex Allen Drive Northbound				Rex Allen Drive Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	11
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Peak Hour Total	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	0	11	



Turning Movement Count - Cars

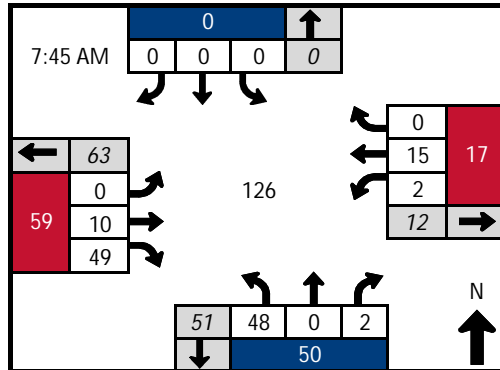
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	50							1
Southbound								
Eastbound	65			1		1		
Westbound	65		1					

Mar-18-2021 (Thursday)

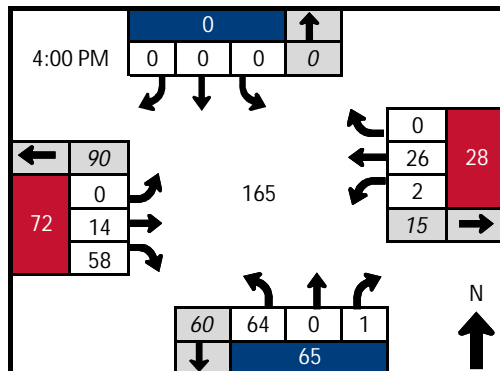
Project No: TC21007

Location: Kansas Settlement Road and SR186 (Maley Street)

Intersection Configuration: Unsignalized



Start Time	Kansas Settlement Road Northbound				Kansas Settlement Road Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	10	0	0	0	0	0	0	0	0	0	11	0	0	1	0	0	22	
7:15 AM	10	0	0	0	0	0	0	0	0	3	5	0	0	4	0	0	22	
7:30 AM	14	0	0	0	0	0	0	0	0	3	8	0	0	4	0	0	29	
7:45 AM	14	0	1	0	0	0	0	0	0	4	8	0	0	3	0	0	30	103
8:00 AM	12	0	0	0	0	0	0	0	0	1	12	0	0	2	0	0	27	108
8:15 AM	11	0	0	0	0	0	0	0	0	3	17	0	1	2	0	0	34	120
8:30 AM	11	0	1	0	0	0	0	0	0	2	12	0	1	8	0	0	35	126
8:45 AM	9	0	0	0	0	0	0	0	0	6	13	0	0	0	0	0	28	124
Peak Hour Total	48	0	2	0	0	0	0	0	0	10	49	0	2	15	0	0	126	



Start Time	Kansas Settlement Road Northbound				Kansas Settlement Road Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	25	0	0	0	0	0	0	0	0	4	13	0	1	10	0	0	53	
4:15 PM	14	0	0	0	0	0	0	0	0	6	15	0	0	5	0	0	40	
4:30 PM	4	0	0	0	0	0	0	0	0	3	11	0	1	2	0	0	21	
4:45 PM	21	0	1	0	0	0	0	0	0	1	19	0	0	9	0	0	51	165
5:00 PM	15	0	1	0	0	0	0	0	0	5	20	0	0	4	0	0	45	157
5:15 PM	12	0	0	0	0	0	0	0	0	1	15	0	0	6	0	0	34	151
5:30 PM	8	0	0	0	0	0	0	0	0	0	19	0	0	6	0	0	33	163
5:45 PM	14	0	0	0	0	0	0	0	0	2	8	0	1	6	0	0	31	143
Peak Hour Total	64	0	1	0	0	0	0	0	0	14	58	0	2	26	0	0	165	



Turning Movement Count - Trucks

Project No.: TC21007

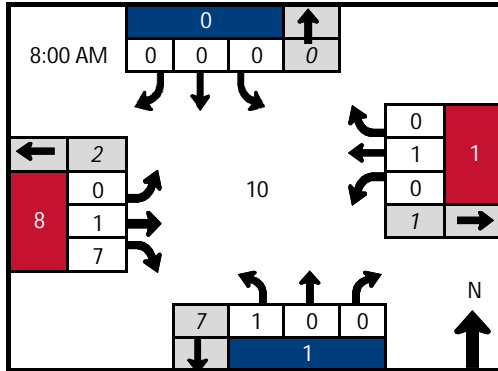
Location: Kansas Settlement Road and SR186 (Maley Street)

Intersection Configuration: Unsignalized

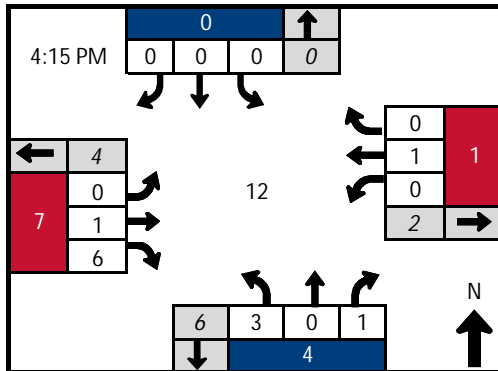
Mar-18-2021 (Thursday)

Speed Limit							
	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt

Northbound	50						1
Southbound							
Eastbound	65		1		1		
Westbound	65	1					



Start Time	Kansas Settlement Road Northbound				Kansas Settlement Road Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
8:45 AM	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
Peak Hour Total	1	0	0	0	0	0	0	0	0	0	1	7	0	0	1	0	0	10



Start Time	Kansas Settlement Road Northbound				Kansas Settlement Road Southbound				SR186 (Maley Street) Eastbound				SR186 (Maley Street) Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	
4:15 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	4	
4:45 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
5:00 PM	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	4	
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour Total	3	0	1	0	0	0	0	0	0	0	1	6	0	0	1	0	12	



Turning Movement Count - Cars

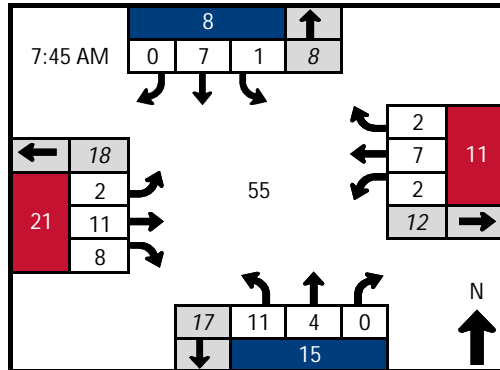
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	25						1	
Westbound	25						1	

Mar-16-2021 (Tuesday)

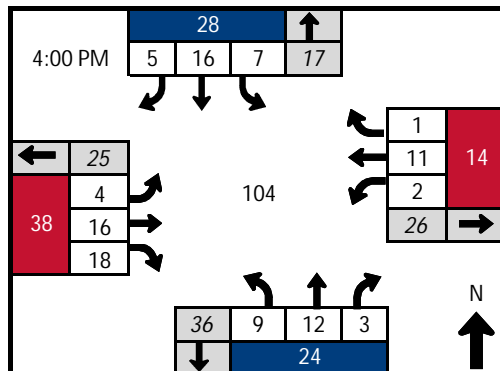
Project No: TC21007

Location: Railroad Avenue
and Stewart Street

Intersection Configuration: Unsignalized



Start Time	Railroad Avenue Northbound				Railroad Avenue Southbound				Stewart Street Eastbound				Stewart Street Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
7:00 AM	0	2	1	0	0	3	0	0	0	1	1	0	0	0	1	0	0	9	
7:15 AM	4	0	0	0	1	0	1	0	0	1	0	0	1	2	0	0	0	10	
7:30 AM	1	1	1	0	0	0	0	0	0	1	5	0	0	2	0	0	0	11	
7:45 AM	2	1	0	0	0	2	0	0	0	5	3	0	1	2	1	0	0	17	47
8:00 AM	3	1	0	0	1	1	0	0	1	3	3	0	0	0	0	0	0	13	51
8:15 AM	2	2	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	8	49
8:30 AM	4	0	0	0	0	3	0	0	1	3	2	0	1	3	0	0	0	17	55
8:45 AM	2	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	0	7	45
Peak Hour Total	11	4	0	0	1	7	0	0	2	11	8	0	2	7	2	0	0	55	



Start Time	Railroad Avenue Northbound				Railroad Avenue Southbound				Stewart Street Eastbound				Stewart Street Westbound				Total	Peak Hour	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
4:00 PM	4	5	0	0	2	4	0	0	3	5	4	0	1	3	0	0	0	31	
4:15 PM	3	2	0	0	2	2	2	0	0	2	4	2	1	4	1	0	0	23	
4:30 PM	0	2	1	0	1	4	3	0	0	4	3	0	0	2	0	0	0	20	
4:45 PM	2	3	2	3	2	6	0	0	1	5	7	0	0	2	0	0	0	30	104
5:00 PM	4	2	1	0	1	3	0	0	0	2	1	0	0	6	0	0	0	20	93
5:15 PM	3	2	0	0	1	4	0	0	2	5	7	0	2	3	0	0	0	29	99
5:30 PM	3	1	0	0	0	0	0	0	0	5	1	0	0	2	0	0	0	12	91
5:45 PM	3	3	0	0	1	5	0	0	0	2	2	0	0	3	1	0	0	20	81
Peak Hour Total	9	12	3	3	7	16	5	0	4	16	18	2	2	11	1	0	0	104	

United Civil Group
2803 N. 7th Avenue
Phoenix, AZ 85007

Street : Taylor Road
Location : North of I-10/BR10 West TI

Site: 01
3/2/2021
Tuesday

24 Hour Volume

Interval Start	NB	SB	Combined	Interval Start	NB	SB	Combined			
00:00	1	1	0	0	1	1	1			
00:15	0		0		0		0			
00:30	0		0		0		0			
00:45	0		0		0		0			
01:00	0	1	0	0	0	0	1			
01:15	1		0		1		1			
01:30	0		0		0		0			
01:45	0		0		0		0			
02:00	1	2	0	0	1	2	2			
02:15	0		0		0		0			
02:30	0		0		0		0			
02:45	1		0		1		1			
03:00	1	1	0	1	1	1	2			
03:15	0		0		0		0			
03:30	0		0		0		0			
03:45	0		1		1		1			
04:00	0	0	3	10	3	10	10			
04:15	0		2		2		2			
04:30	0		3		3		3			
04:45	0		2		2		2			
05:00	0	1	1	9	1	9	10			
05:15	0		2		2		2			
05:30	1		2		3		3			
05:45	0		4		4		4			
06:00	1	13	5	16	6	16	29			
06:15	1		2		3		3			
06:30	7		4		11		11			
06:45	4		5		9		9			
07:00	4	8	3	24	7	24	32			
07:15	2		9		11		11			
07:30	2		9		11		11			
07:45	0		3		3		3			
08:00	1	4	2	14	3	14	18			
08:15	0		8		8		8			
08:30	3		2		5		5			
08:45	0		2		2		2			
09:00	3	15	5	16	8	16	31			
09:15	4		3		7		7			
09:30	3		5		8		8			
09:45	5		3		8		8			
10:00	4	10	1	10	5	10	20			
10:15	3		4		7		7			
10:30	1		3		4		4			
10:45	2		2		4		4			
11:00	3	8	2	10	5	10	18			
11:15	0		3		3		3			
11:30	3		5		8		8			
11:45	2		0		2		2			
12:00	3	13	4	15	7	15	28			
12:15	4		6		10		10			
12:30	1		3		4		4			
12:45	5		2		7		7			
13:00	6	17	4	9	10	9	26			
13:15	3		4		7		7			
13:30	2		1		3		3			
13:45	6		0		6		6			
14:00	3	12	4	8	7	8	20			
14:15	5		1		6		6			
14:30	3		2		5		5			
14:45	1		1		2		2			
15:00	8	27	1	6	9	6	33			
15:15	6		1		7		7			
15:30	4		3		7		7			
15:45	9		1		10		10			
16:00	5	20	6	11	11	11	31			
16:15	5		2		7		7			
16:30	7		2		9		9			
16:45	3		1		4		4			
17:00	5	22	2	16	7	16	38			
17:15	5		3		8		8			
17:30	7		5		12		12			
17:45	5		6		11		11			
18:00	6	13	3	11	9	11	24			
18:15	0		4		4		4			
18:30	2		3		5		5			
18:45	5		1		6		6			
19:00	2	11	2	5	4	5	16			
19:15	4		1		5		5			
19:30	3		1		4		4			
19:45	2		1		3		3			
20:00	2	7	1	5	3	5	12			
20:15	2		1		3		3			
20:30	1		1		2		2			
20:45	2		2		4		4			
21:00	2	9	0	0	2	0	9			
21:15	0		0		0		0			
21:30	6		0		6		6			
21:45	1		0		1		1			
22:00	0	2	0	0	0	0	2			
22:15	1		0		1		1			
22:30	0		0		0		0			
22:45	1		0		1		1			
23:00	0	3	0	1	0	1	4			
23:15	1		0		1		1			
23:30	1		1		2		2			
23:45	1		0		1		1			
								Volume Totals		
								NB	SB	Combined
								00:00 - 12:00		
								64	110	174
								(36.8%)	(63.2%)	
								12:00 - 00:00		
								156	87	243
								(64.2%)	(35.8%)	
								24 Hours		
								220	197	417
								(52.8%)	(47.2%)	
								Peak Hours		
								00:00 - 12:00		
								NB	SB	Combined
								Started		
								06:30	06:45	06:30
								Volume		
								17	26	38
								Factor		
								0.61	0.72	0.86
								12:00 - 00:00		
								NB	SB	Combined
								Started		
								15:00	17:30	17:15
								Volume		
								27	18	40
								Factor		
								0.75	0.75	0.83

United Civil Group

2803 N. 7th Avenue

Phoenix, AZ 85007

Street : Airport Road
 Location : At I-10 Overpass

3/16/2021
 Tuesday

24 Hour Volume

Interval Start	EB	WB	Combined	Interval Start	EB	WB	Combined		
12:00 AM	1	2	1	1	2	3			
12:15 AM	0		0		0				
12:30 AM	0		0		0				
12:45 AM	1		0		1				
1:00 AM	0	0	0	1	0	1			
1:15 AM	0		0		0				
1:30 AM	0		0		0				
1:45 AM	0		1		1				
2:00 AM	1	1	0	0	1	1			
2:15 AM	0		0		0				
2:30 AM	0		0		0				
2:45 AM	0		0		0				
3:00 AM	0	0	0	0	0	0			
3:15 AM	0		0		0				
3:30 AM	0		0		0				
3:45 AM	0		0		0				
4:00 AM	1	5	0	3	1	8			
4:15 AM	1		1		2				
4:30 AM	2		0		2				
4:45 AM	1		2		3				
5:00 AM	0	15	1	7	1	22			
5:15 AM	4		1		5				
5:30 AM	3		0		3				
5:45 AM	8		5		13				
6:00 AM	9	41	3	20	12	61			
6:15 AM	7		5		12				
6:30 AM	14		8		22				
6:45 AM	11		4		15				
7:00 AM	19	82	3	23	22	105			
7:15 AM	22		5		27				
7:30 AM	27		8		35				
7:45 AM	14		7		21				
8:00 AM	7	24	7	19	14	43			
8:15 AM	3		4		7				
8:30 AM	7		3		10				
8:45 AM	7		5		12				
9:00 AM	10	27	4	18	14	45			
9:15 AM	3		3		6				
9:30 AM	6		6		12				
9:45 AM	8		5		13				
10:00 AM	12	30	2	22	14	52			
10:15 AM	5		5		10				
10:30 AM	6		7		13				
10:45 AM	7		8		15				
11:00 AM	6	31	5	21	11	52			
11:15 AM	6		5		11				
11:30 AM	9		7		16				
11:45 AM	10		4		14				
12:00 PM	6	31	7	25	13	56			
12:15 PM	10		6		16				
12:30 PM	12		9		21				
12:45 PM	3		3		6				
1:00 PM	8	28	14	31	22	59			
1:15 PM	5		9		14				
1:30 PM	8		3		11				
1:45 PM	7		5		12				
2:00 PM	6	29	6	25	12	54			
2:15 PM	6		3		9				
2:30 PM	9		10		19				
2:45 PM	8		6		14				
3:00 PM	7	46	7	44	14	90			
3:15 PM	13		10		23				
3:30 PM	13		13		26				
3:45 PM	13		14		27				
4:00 PM	12	42	17	45	29	87			
4:15 PM	8		18		26				
4:30 PM	12		9		21				
4:45 PM	10		1		11				
5:00 PM	12	44	15	45	27	89			
5:15 PM	6		9		15				
5:30 PM	11		10		21				
5:45 PM	15		11		26				
6:00 PM	12	35	11	39	23	74			
6:15 PM	4		10		14				
6:30 PM	10		9		19				
6:45 PM	9		9		18				
7:00 PM	6	21	11	26	17	47			
7:15 PM	6		4		10				
7:30 PM	4		4		8				
7:45 PM	5		7		12				
8:00 PM	3	16	7	19	10	35			
8:15 PM	6		4		10				
8:30 PM	4		4		8				
8:45 PM	3		4		7				
9:00 PM	3	14	6	11	9	25			
9:15 PM	5		1		6				
9:30 PM	3		3		6				
9:45 PM	3		1		4				
10:00 PM	0	5	1	2	1	7			
10:15 PM	1		0		1				
10:30 PM	4		0		4				
10:45 PM	0		1		1				
11:00 PM	0	4	0	0	0	4			
11:15 PM	1		0		1				
11:30 PM	0		0		0				
11:45 PM	3		0		3				

Volume Totals			
	EB	WB	Combined
12:00 AM - 12:00 PM	258	135	393
	(65.6%)	(34.4%)	
12:00 PM - 12:00 AM	315	312	627
	(50.2%)	(49.8%)	
24 Hours	573	447	1020
	(56.2%)	(43.8%)	
Peak Hours			
<u>12:00 AM - 12:00 PM</u>			
	EB	WB	Combined
Started			
7:00 AM		7:15 AM	7:00 AM
Volume	82	27	105
Factor	0.76	0.84	0.75
<u>12:00 PM - 12:00 AM</u>			
	EB	WB	Combined
Started			
3:15 PM		3:30 PM	3:30 PM
Volume	51	62	108
Factor	0.98	0.86	0.93

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : Fort Grant Road
 Location : West of I-10 Interchange

Site: 03
 3/2/2021
 Tuesday

24 Hour Volume

Interval Start	WB	EB	Combined	Interval Start	WB	EB	Combined									
00:00	2	7	2	5	4	12	12:00	30	125	36	114	66	239			
00:15	2		0		2		12:15	36		24		60		Volume Totals		
00:30	1		1		2		12:30	29		25		54		WB	EB	Combined
00:45	2		2		4		12:45	30		29		59		00:00 - 12:00		
01:00	0	4	1	1	1	5	13:00	22	123	25	103	47	226	701	886	1587
01:15	1		0		1		13:15	30		26		56		(44.2%)	(55.8%)	
01:30	2		0		2		13:30	32		22		54		12:00 - 00:00		
01:45	1		0		1		13:45	39		30		69		1351	1075	2426
02:00	0	0	0	5	0	5	14:00	22	120	23	114	45	234	(55.7%)	(44.3%)	
02:15	0		2		2		14:15	28		33		61		24 Hours		
02:30	0		1		1		14:30	42		28		70		2052	1961	4013
02:45	0		2		2		14:45	28		30		58		(51.1%)	(48.9%)	
03:00	1	2	1	7	2	9	15:00	37	179	31	177	68	356			
03:15	1		1		2		15:15	42		43		85		Peak Hours		
03:30	0		2		2		15:30	51		49		100		00:00 - 12:00		
03:45	0		3		3		15:45	49		54		103		WB	EB	Combined
04:00	1	9	3	21	4	30	16:00	39	203	39	155	78	358	Started		
04:15	0		4		4		16:15	53		30		83		06:00	06:45	06:45
04:30	4		7		11		16:30	61		46		107		Volume		
04:45	4		7		11		16:45	50		40		90		162	256	355
05:00	4	50	3	59	7	109	17:00	57	195	27	139	84	334	Factor		
05:15	13		8		21		17:15	58		31		89		0.74	0.84	0.82
05:30	19		23		42		17:30	40		29		69		12:00 - 00:00		
05:45	14		25		39		17:45	40		52		92		WB	EB	Combined
06:00	40	162	20	147	60	309	18:00	37	139	43	120	80	259	Started		
06:15	47		20		67		18:15	35		26		61		06:00	06:45	06:45
06:30	55		34		89		18:30	28		29		57		Volume		
06:45	20		73		93		18:45	39		22		61		162	256	355
07:00	25	104	49	220	74	324	19:00	36	106	17	66	53	172	Factor		
07:15	22		58		80		19:15	24		16		40		0.74	0.84	0.82
07:30	32		76		108		19:30	21		13		34		12:00 - 00:00		
07:45	25		37		62		19:45	25		20		45		WB	EB	Combined
08:00	22	87	35	114	57	201	20:00	20	68	7	36	27	104	Started		
08:15	20		21		41		20:15	21		8		29		16:30	15:15	15:45
08:30	20		27		47		20:30	12		11		23		Volume		
08:45	25		31		56		20:45	15		10		25		226	185	371
09:00	25	89	34	93	59	182	21:00	18	49	6	26	24	75	Factor		
09:15	24		16		40		21:15	12		7		19		0.93	0.86	0.87
09:30	24		20		44		21:30	10		11		21				
09:45	16		23		39		21:45	9		2		11				
10:00	23	95	15	87	38	182	22:00	13	31	5	16	18	47			
10:15	18		25		43		22:15	8		3		11				
10:30	32		19		51		22:30	5		3		8				
10:45	22		28		50		22:45	5		5		10				
11:00	29	92	39	127	68	219	23:00	3	13	6	9	9	22			
11:15	20		24		44		23:15	3		0		3				
11:30	19		27		46		23:30	4		1		5				
11:45	24		37		61		23:45	3		2		5				

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : SR186
 Location : Between Arizona Avenue & Austin Boulevard

Site: 04
 3/2/2021
 Tuesday

24 Hour Volume, per Channel

				EB							
Interval Start				Interval Start							
3/2/2021	00:00	3	6	12:00	58	190					
	00:15	1		12:15	43						
	00:30	2		12:30	40						
	00:45	0		12:45	49						
	01:00	1	4	13:00	56	180					
	01:15	0		13:15	36						
	01:30	1		13:30	50						
	01:45	2		13:45	38						
	02:00	0	1	14:00	45	205					
	02:15	1		14:15	51						
	02:30	0		14:30	56						
	02:45	0		14:45	53						
	03:00	1	4	15:00	52	210					
	03:15	1		15:15	47						
	03:30	1		15:30	62						
	03:45	1		15:45	49						
	04:00	3	10	16:00	55	224					
	04:15	2		16:15	55						
	04:30	1		16:30	54						
	04:45	4		16:45	60						
	05:00	3	45	17:00	51	201					
	05:15	7		17:15	46						
	05:30	22		17:30	50						
	05:45	13		17:45	54						
	06:00	25	118	18:00	47	147					
	06:15	23		18:15	32						
	06:30	26		18:30	26						
	06:45	44		18:45	42						
	07:00	31	144	19:00	24	85					
	07:15	40		19:15	21						
	07:30	42		19:30	25						
	07:45	31		19:45	15						
	08:00	33	112	20:00	17	53					
	08:15	20		20:15	13						
	08:30	27		20:30	12						
	08:45	32		20:45	11						
	09:00	43	164	21:00	9	27					
	09:15	45		21:15	4						
	09:30	39		21:30	6						
	09:45	37		21:45	8						
	10:00	28	138	22:00	6	20					
	10:15	39		22:15	5						
	10:30	35		22:30	7						
	10:45	36		22:45	2						
	11:00	41	161	23:00	4	13					
	11:15	26		23:15	3						
	11:30	45		23:30	3						
	11:45	49		23:45	3						

24 Hour Total
 2462

00:00 - 12:00

12 Hour Count 907
 Peak Hour 09:00
 Peak Volume 164
 Factor 0.91

12:00 - 00:00

12 Hour Count 1555
 Peak Hour 16:00
 Peak Volume 224

Factor 0.93

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : SR186
 Location : Between Arizona Avenue & Austin Boulevard

Site: 04
 3/2/2021
 Tuesday

24 Hour Volume, per Channel

				WB							
Interval Start				Interval Start							
3/2/2021	00:00	5	9	12:00	51	183					
	00:15	3		12:15	43						
	00:30	0		12:30	39						
	00:45	1		12:45	50						
	01:00	0	2	13:00	50	194					
	01:15	0		13:15	48						
	01:30	2		13:30	45						
	01:45	0		13:45	51						
	02:00	0	1	14:00	61	189					
	02:15	1		14:15	41						
	02:30	0		14:30	41						
	02:45	0		14:45	46						
	03:00	1	3	15:00	45	230					
	03:15	2		15:15	56						
	03:30	0		15:30	67						
	03:45	0		15:45	62						
	04:00	2	11	16:00	63	226					
	04:15	1		16:15	55						
	04:30	4		16:30	58						
	04:45	4		16:45	50						
	05:00	4	42	17:00	63	197					
	05:15	10		17:15	55						
	05:30	10		17:30	41						
	05:45	18		17:45	38						
	06:00	24	92	18:00	45	157					
	06:15	27		18:15	46						
	06:30	20		18:30	34						
	06:45	21		18:45	32						
	07:00	30	140	19:00	31	113					
	07:15	29		19:15	29						
	07:30	39		19:30	22						
	07:45	42		19:45	31						
	08:00	28	114	20:00	21	69					
	08:15	32		20:15	22						
	08:30	27		20:30	13						
	08:45	27		20:45	13						
	09:00	38	161	21:00	12	37					
	09:15	38		21:15	12						
	09:30	44		21:30	9						
	09:45	41		21:45	4						
	10:00	38	159	22:00	8	24					
	10:15	30		22:15	9						
	10:30	46		22:30	4						
	10:45	45		22:45	3						
	11:00	51	175	23:00	5	17					
	11:15	44		23:15	1						
	11:30	41		23:30	5						
	11:45	39		23:45	6						

24 Hour Total
 2545

00:00 - 12:00

12 Hour Count 909
 Peak Hour 10:30
 Peak Volume 186
 Factor 0.91

12:00 - 00:00

12 Hour Count 1636
 Peak Hour 15:15
 Peak Volume 248

Factor 0.93

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : BR10 (Haskell Avenue)
 Location : N. of Patte Road
 Lat, Long :

Site: 05
 3/18/2021
 Thursday

24 Hour Volume

Interval Start	SB	NB	Combined	Interval Start	SB	NB	Combined			
12:00 AM	0	0	10	12:00 PM	18	64	33			
12:15 AM	0		5	12:15 PM	16		35			
12:30 AM	0		4	12:30 PM	21		32			
12:45 AM	0		0	12:45 PM	9		27			
1:00 AM	2	5	23	1:00 PM	15	55	48			
1:15 AM	1		5	1:15 PM	11		22			
1:30 AM	0		4	1:30 PM	14		19			
1:45 AM	2		10	1:45 PM	15		30			
2:00 AM	0	5	5	2:00 PM	17	69	57			
2:15 AM	0		5	2:15 PM	26		38			
2:30 AM	2		2	2:30 PM	14		28			
2:45 AM	3		3	2:45 PM	12		29			
3:00 AM	0	1	2	3:00 PM	22	69	62			
3:15 AM	0		1	3:15 PM	21		38			
3:30 AM	0		0	3:30 PM	15		30			
3:45 AM	1		2	3:45 PM	11		25			
4:00 AM	0	2	6	4:00 PM	20	70	45			
4:15 AM	1		2	4:15 PM	15		25			
4:30 AM	0		2	4:30 PM	18		31			
4:45 AM	1		3	4:45 PM	17		27			
5:00 AM	1	15	13	5:00 PM	14	49	39			
5:15 AM	3		7	5:15 PM	13		24			
5:30 AM	5		9	5:30 PM	10		19			
5:45 AM	6		9	5:45 PM	12		22			
6:00 AM	4	20	48	6:00 PM	15	39	35			
6:15 AM	3		15	6:15 PM	9		20			
6:30 AM	5		15	6:30 PM	9		17			
6:45 AM	8		30	6:45 PM	6		11			
7:00 AM	17	51	30	7:00 PM	6	17	18			
7:15 AM	14		23	7:15 PM	4		11			
7:30 AM	10		18	7:30 PM	4		11			
7:45 AM	10		17	7:45 PM	3		7			
8:00 AM	10	43	32	8:00 PM	6	7	17			
8:15 AM	11		17	8:15 PM	0		5			
8:30 AM	15		24	8:30 PM	0		5			
8:45 AM	7		13	8:45 PM	1		3			
9:00 AM	17	46	52	9:00 PM	3	9	10			
9:15 AM	11		25	9:15 PM	3		7			
9:30 AM	11		28	9:30 PM	2		4			
9:45 AM	7		19	9:45 PM	1		3			
10:00 AM	16	46	47	10:00 PM	2	5	6			
10:15 AM	7		21	10:15 PM	1		2			
10:30 AM	11		19	10:30 PM	1		4			
10:45 AM	12		22	10:45 PM	1		1			
11:00 AM	17	68	63	11:00 PM	0	3	4			
11:15 AM	18		29	11:15 PM	1		2			
11:30 AM	14		31	11:30 PM	1		2			
11:45 AM	19		36	11:45 PM	1		2			

Volume Totals			
SB	NB	Combined	
302	331	633	12:00 AM - 12:00 PM
(47.7%)	(52.3%)		
456	404	860	12:00 PM - 12:00 AM
(53.0%)	(47.0%)		
758	735	1493	24 Hours
(50.8%)	(49.2%)		

Peak Hours			
SB	NB	Combined	
			12:00 AM - 12:00 PM
Started			
11:00 AM	11:00 AM	11:00 AM	
Volume	68	63	131
Factor	0.89	0.88	0.91

12:00 PM - 12:00 AM			
SB	NB	Combined	
Started			
2:15 PM	12:15 PM	2:45 PM	
Volume	74	65	135
Factor	0.71	0.86	0.89

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : BR10 (Haskell Avenue)
 Location : Between Railroad Avenue & Rex Allen Drive

Site: 06
 3/18/2021
 Thursday

24 Hour Volume, per Channel

Interval Start				NB Interval Start			
3/18/2021	00:00	2	11	12:00	48	187	
	00:15	2		12:15	48		
	00:30	5		12:30	42		
	00:45	2		12:45	49		
	01:00	7	20	13:00	52	194	
	01:15	4		13:15	52		
	01:30	5		13:30	53		
	01:45	4		13:45	37		
	02:00	3	8	14:00	57	232	
	02:15	4		14:15	50		
	02:30	1		14:30	52		
	02:45	0		14:45	73		
	03:00	1	3	15:00	53	220	
	03:15	1		15:15	35		
	03:30	0		15:30	70		
	03:45	1		15:45	62		
	04:00	2	12	16:00	64	215	
	04:15	0		16:15	54		
	04:30	6		16:30	53		
	04:45	4		16:45	44		
	05:00	5	35	17:00	59	190	
	05:15	10		17:15	50		
	05:30	9		17:30	37		
	05:45	11		17:45	44		
	06:00	18	98	18:00	28	130	
	06:15	34		18:15	49		
	06:30	21		18:30	27		
	06:45	25		18:45	26		
	07:00	26	116	19:00	31	110	
	07:15	27		19:15	31		
	07:30	28		19:30	23		
	07:45	35		19:45	25		
	08:00	37	122	20:00	21	81	
	08:15	29		20:15	25		
	08:30	32		20:30	18		
	08:45	24		20:45	17		
	09:00	32	147	21:00	14	51	
	09:15	36		21:15	17		
	09:30	36		21:30	7		
	09:45	43		21:45	13		
	10:00	48	176	22:00	7	22	
	10:15	40		22:15	6		
	10:30	46		22:30	7		
	10:45	42		22:45	2		
	11:00	53	218	23:00	1	10	
	11:15	43		23:15	2		
	11:30	55		23:30	4		
	11:45	67		23:45	3		

24 Hour Total
2608

00:00 - 12:00

12 Hour Count 966
 Peak Hour 11:00
 Peak Volume 218
 Factor 0.81

12:00 - 00:00

12 Hour Count 1642
 Peak Hour 15:30
 Peak Volume 250

Factor 0.89

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : BR 10 (Haskell Avenue)
 Location : Between Railroad Avenue & Rex Allen Drive

Site: 06
 3/18/2021
 Thursday

24 Hour Volume, per Channel

				SB					
Interval Start				Interval Start					
3/18/2021	00:00	0	3	12:00	54	211			
	00:15	2		12:15	60				
	00:30	1		12:30	52				
	00:45	0		12:45	45				
	01:00	1	5	13:00	52	215			
	01:15	1		13:15	46				
	01:30	1		13:30	76				
	01:45	2		13:45	41				
	02:00	0	3	14:00	45	222			
	02:15	1		14:15	58				
	02:30	0		14:30	63				
	02:45	2		14:45	56				
	03:00	4	5	15:00	42	194			
	03:15	0		15:15	52				
	03:30	0		15:30	48				
	03:45	1		15:45	52				
	04:00	1	8	16:00	58	220			
	04:15	1		16:15	50				
	04:30	5		16:30	57				
	04:45	1		16:45	55				
	05:00	3	39	17:00	57	197			
	05:15	8		17:15	59				
	05:30	11		17:30	34				
	05:45	17		17:45	47				
	06:00	16	90	18:00	45	156			
	06:15	22		18:15	38				
	06:30	20		18:30	37				
	06:45	32		18:45	36				
	07:00	27	123	19:00	38	103			
	07:15	30		19:15	24				
	07:30	35		19:30	24				
	07:45	31		19:45	17				
	08:00	39	129	20:00	16	62			
	08:15	30		20:15	22				
	08:30	18		20:30	15				
	08:45	42		20:45	9				
	09:00	35	145	21:00	9	47			
	09:15	38		21:15	15				
	09:30	36		21:30	14				
	09:45	36		21:45	9				
	10:00	40	185	22:00	9	23			
	10:15	50		22:15	9				
	10:30	54		22:30	2				
	10:45	41		22:45	3				
	11:00	42	191	23:00	1	5			
	11:15	48		23:15	2				
	11:30	44		23:30	1				
	11:45	57		23:45	1				

24 Hour Total
 2581

00:00 - 12:00

12 Hour Count 926
 Peak Hour 11:00
 Peak Volume 191
 Factor 0.84

12:00 - 00:00

12 Hour Count 1655
 Peak Hour 16:30
 Peak Volume 228

Factor 0.97

United Civil Group
 2803 N. 7th Avenue
 Phoenix, AZ 85007

Street : BR10
 Location : West of Arizona Avenue

Site: 07
 3/2/2021
 Tuesday

24 Hour Volume

Interval Start	WB	EB	Combined	Interval Start	WB	EB	Combined									
00:00	2	3	3	6	12:00	13	54	11	53	24	107					
00:15	0		0		12:15	15		14		29		Volume Totals				
00:30	1	1	2		12:30	13		11		24		WB	EB	Combined		
00:45	0		1		12:45	13		17		30		00:00 - 12:00				
01:00	1	2	3	5	13:00	11	50	22	77	33	127	346	375	721		
01:15	1		2		13:15	9		16		25		(48.0%)	(52.0%)			
01:30	0		1		13:30	13		19		32		12:00 - 00:00				
01:45	0		0		13:45	17		20		37		506	538	1044		
02:00	0	0	2	2	14:00	17	75	16	77	33	152	(48.5%)	(51.5%)			
02:15	0		0		14:15	23		15		38		24 Hours				
02:30	0		1		14:30	15		17		32		852	913	1765		
02:45	0		1		14:45	20		29		49		(48.3%)	(51.7%)			
03:00	2	2	2	4	15:00	12	61	12	54	24	115					
03:15	0		1		15:15	18		9		27		Peak Hours				
03:30	0		0		15:30	22		18		40		00:00 - 12:00				
03:45	0		1		15:45	9		15		24		WB	EB	Combined		
04:00	0	5	1	6	16:00	25	96	18	75	43	171	Started				
04:15	0		0		16:15	37		25		62		06:30	07:15	07:15		
04:30	4		4		16:30	19		11		30		Volume				
04:45	1		2		16:45	15		21		36		65	76	126		
05:00	3	23	2	26	5	49	17:00	12	65	16	58	28	123	Factor		
05:15	5		2	7	17:15	21		15		36		0.81	0.86	0.90		
05:30	6		5	11	17:30	18		17		35		12:00 - 00:00				
05:45	9		17	26	17:45	14		10		24		WB	EB	Combined		
06:00	14	58	22	45	36	103	18:00	5	32	10	48	15	80	Started		
06:15	6		8	14	18:15	10		13		23		16:00	13:00	16:00		
06:30	20		9	29	18:30	6		14		20		Volume				
06:45	18		6	24	18:45	11		11		22		0.81	0.86	0.90		
07:00	14	50	10	69	24	119	19:00	10	27	12	39	22	66	12:00 - 00:00		
07:15	13		17	30	19:15	8		13		21		WB	EB	Combined		
07:30	15		20	35	19:30	8		7		15		Started				
07:45	8		22	30	19:45	1		7		8		16:00	13:00	16:00		
08:00	14	53	17	52	31	105	20:00	8	24	4	20	12	44	Volume		
08:15	12		10	22	20:15	6		7		13		0.81	0.86	0.90		
08:30	14		8	22	20:30	6		6		12		12:00 - 00:00				
08:45	13		17	30	20:45	4		3		7		WB	EB	Combined		
09:00	10	51	15	61	25	112	21:00	1	5	3	19	4	24	Started		
09:15	20		22	42	21:15	0		3		3		16:00	13:00	16:00		
09:30	12		11	23	21:30	2		5		7		Volume				
09:45	9		13	22	21:45	2		8		10		0.81	0.86	0.90		
10:00	10	53	10	57	20	110	22:00	1	6	2	10	3	16	12:00 - 00:00		
10:15	21		16	37	22:15	3		2		5		WB	EB	Combined		
10:30	9		12	21	22:30	2		3		5		Started				
10:45	13		19	32	22:45	0		3		3		16:00	13:00	16:00		
11:00	10	46	13	54	23	100	23:00	1	11	2	8	3	19	Volume		
11:15	10		14	24	23:15	7		1		8		0.81	0.86	0.90		
11:30	17		11	28	23:30	3		1		4		12:00 - 00:00				
11:45	9		16	25	23:45	0		4		4		WB	EB	Combined		
												96	77	171		
												Factor				
												0.65	0.88	0.69		

United Civil Group

2803 N. 7th Avenue

Phoenix, AZ 85007

Street : SR186 (Maley Street)
 Location : E. of Stewart Street
 Lat, Long :

Site: 09
 3/16/2021
 Tuesday

24 Hour Volume

Interval Start	WB	EB	Combined	Interval Start	WB	EB	Combined															
12:00 AM	0	1	0	2	0	3	12:00 PM	20	85	23	72	43	157	Volume Totals	WB	EB	Combined					
12:15 AM	0	0	0	12:15 PM	25	14	39	12:00 AM - 12:00 PM	427	430	857											
12:30 AM	1	0	1	12:30 PM	17	20	37	(49.8%)	(50.2%)													
12:45 AM	0	2	2	12:45 PM	23	15	38	12:00 PM - 12:00 AM	519	490	1009											
1:00 AM	0	3	0	3	0	6	1:00 PM	13	69	24	62	37	131	(51.4%)	(48.6%)							
1:15 AM	3	1	4	1:15 PM	18	17	35	24 Hours	946	920	1866											
1:30 AM	0	1	1	1:30 PM	18	9	27	(50.7%)	(49.3%)													
1:45 AM	0	1	1	1:45 PM	20	12	32	Peak Hours														
2:00 AM	0	1	1	2	1	3	2:00 PM	25	83	18	52	43	135	12:00 AM - 12:00 PM								
2:15 AM	0	0	0	2:15 PM	13	9	22	WB				EB				Combined						
2:30 AM	1	1	2	2:30 PM	27	12	39	Started	9:00 AM	7:30 AM	7:15 AM											
2:45 AM	0	0	0	2:45 PM	18	13	31	Volume	83	76	145											
3:00 AM	0	1	0	3	0	4	Factor	0.86	0.76	0.81												
3:15 AM	0	0	0	3:00 PM	10	65	15	52	25	117	12:00 PM - 12:00 AM											
3:30 AM	0	0	0	3:15 PM	23	15	38	WB				EB				Combined						
3:45 AM	1	3	4	3:30 PM	13	11	24	Started	12:00 PM	12:30 PM	12:00 PM											
4:00 AM	1	5	0	13	1	18	Volume	85	76	157												
4:15 AM	1	3	4	3:45 PM	19	11	30	Factor	0.85	0.79	0.91											
4:30 AM	1	5	6	4:00 PM	21	76	21	64	42	140												
4:45 AM	2	5	7	4:15 PM	11	15	26															
5:00 AM	7	36	3	27	10	63	4:30 PM	21	16	37												
5:15 AM	8	2	10	4:45 PM	23	12	35	12:00 PM - 12:00 AM														
5:30 AM	5	9	14	5:00 PM	18	62	24	75	42	137	WB				EB				Combined			
5:45 AM	16	13	29	5:15 PM	11	22	33	Started	12:00 PM	12:30 PM	12:00 PM											
6:00 AM	15	48	9	59	24	107	Volume	83	76	145												
6:15 AM	19	18	37	5:30 PM	13	16	29	Factor	0.86	0.76	0.81											
6:30 AM	7	17	24	5:45 PM	20	13	33	12:00 PM - 12:00 AM														
6:45 AM	7	15	22	6:00 PM	11	41	16	45	27	86	WB				EB				Combined			
7:00 AM	11	64	16	74	27	138	Started	9:00 AM	7:30 AM	7:15 AM												
7:15 AM	15	10	25	6:15 PM	15	10	25	Volume	83	76	145											
7:30 AM	16	25	41	6:30 PM	9	11	20	Factor	0.86	0.76	0.81											
7:45 AM	22	23	45	6:45 PM	6	8	14	12:00 PM - 12:00 AM														
8:00 AM	18	58	16	65	34	123	Started	12:00 PM	12:30 PM	12:00 PM												
8:15 AM	12	12	24	7:00 PM	10	20	7	27	17	47	WB				EB				Combined			
8:30 AM	17	19	36	7:15 PM	5	9	14	Started	12:00 PM	12:30 PM	12:00 PM											
8:45 AM	11	18	29	7:30 PM	3	6	9	Volume	85	76	157											
9:00 AM	24	83	9	57	33	140	Factor	0.85	0.79	0.91												
9:15 AM	22	14	36	7:45 PM	2	5	7	12:00 PM - 12:00 AM														
9:30 AM	21	17	38	8:00 PM	0	6	7	22	7	28	WB				EB				Combined			
9:45 AM	16	17	33	8:15 PM	1	6	7	Started	12:00 PM	12:30 PM	12:00 PM											
10:00 AM	17	58	15	57	32	115	Volume	85	76	157												
10:15 AM	13	18	31	8:30 PM	2	3	5	Factor	0.85	0.79	0.91											
10:30 AM	14	16	30	8:45 PM	3	6	9	12:00 PM - 12:00 AM														
10:45 AM	14	8	22	9:00 PM	0	4	4	12	4	16	WB				EB				Combined			
11:00 AM	18	69	13	68	31	137	Started	12:00 PM	12:30 PM	12:00 PM												
11:15 AM	18	15	33	9:15 PM	1	5	6	Volume	85	76	157											
11:30 AM	12	23	35	9:30 PM	1	2	3	Factor	0.85	0.79	0.91											
11:45 AM	21	17	38	9:45 PM	2	1	3	12:00 PM - 12:00 AM														
				10:00 PM	2	6	1	5	3	11	WB				EB				Combined			
				10:15 PM	2	2	4	Started	12:00 PM	12:30 PM	12:00 PM											
				10:30 PM	0	1	1	Volume	85	76	157											
				10:45 PM	2	1	3	Factor	0.85	0.79	0.91											
				11:00 PM	0	2	0	2	0	4	12:00 PM - 12:00 AM											
				11:15 PM	1	1	2	WB				EB				Combined						
				11:30 PM	1	1	2	Started	12:00 PM	12:30 PM	12:00 PM											
				11:45 PM	0	0	0	Volume	85	76	157											
								Factor	0.85	0.79	0.91											

Appendix I. USDOT Railroad Crossing Inventory Forms

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY) 06 / 19 / 2020	B. Reporting Agency <input checked="" type="checkbox"/> Railroad <input type="checkbox"/> Transit <input type="checkbox"/> State <input type="checkbox"/> Other	C. Reason for Update (Select only one) <input type="checkbox"/> Change in Data <input type="checkbox"/> Re-Open <input type="checkbox"/> New Crossing <input type="checkbox"/> Date Change Only <input type="checkbox"/> Closed <input type="checkbox"/> Change in Primary Operating RR <input type="checkbox"/> No Train Traffic <input checked="" type="checkbox"/> Admin. Correction <input type="checkbox"/> Quiet Zone Update	D. DOT Crossing Inventory Number 741397H
---	--	--	--

Part I: Location and Classification Information

1. Primary Operating Railroad Union Pacific Railroad Company [UP]		2. State ARIZONA		3. County COCHISE	
4. City / Municipality <input checked="" type="checkbox"/> In <input type="checkbox"/> Near WILLCOX		5. Street/Road Name & Block Number MALEY STREET (Street/Road Name) | * (Block Number)		6. Highway Type & No. LOCAL	
7. Do Other Railroads Operate a Separate Track at Crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Specify RR			8. Do Other Railroads Operate Over Your Track at Crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Specify RR ATK		
9. Railroad Division or Region <input type="checkbox"/> None LOS ANGELES		10. Railroad Subdivision or District <input type="checkbox"/> None LORDSBURG SUB		11. Branch or Line Name <input checked="" type="checkbox"/> None	
12. RR Milepost 1074.750 (prefix) | (nnnn.nnn) | (suffix)		13. Line Segment *		14. Nearest RR Timetable Station *	
15. Parent RR (if applicable) <input checked="" type="checkbox"/> N/A		16. Crossing Owner (if applicable) <input type="checkbox"/> N/A UP			
17. Crossing Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		18. Crossing Purpose <input checked="" type="checkbox"/> Highway <input type="checkbox"/> Pathway, Ped. <input type="checkbox"/> Station, Ped.		19. Crossing Position <input checked="" type="checkbox"/> At Grade <input type="checkbox"/> RR Under <input type="checkbox"/> RR Over	
20. Public Access (if Private Crossing) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		21. Type of Train <input checked="" type="checkbox"/> Freight <input checked="" type="checkbox"/> Intercity Passenger <input type="checkbox"/> Commuter <input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Tourist/Other		22. Average Passenger Train Count Per Day <input checked="" type="checkbox"/> Less Than One Per Day <input type="checkbox"/> Number Per Day	
23. Type of Land Use <input type="checkbox"/> Open Space <input type="checkbox"/> Farm <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Recreational <input type="checkbox"/> RR Yard					
24. Is there an Adjacent Crossing with a Separate Number? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide Crossing Number			25. Quiet Zone (FRA provided) <input type="checkbox"/> No <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> Partial <input type="checkbox"/> Chicago Excused Date Established 4/14/2015 12:00:0		
26. HSR Corridor ID <input checked="" type="checkbox"/> N/A		27. Latitude in decimal degrees (WGS84 std: nn.nnnnnnn) 32.2517792		28. Longitude in decimal degrees (WGS84 std: -nnn.nnnnnnn) -109.8308785	
29. Lat/Long Source <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated		30.A. Railroad Use *			
30.B. Railroad Use *		31.A. State Use * ENS ON BUNGALOW			
30.C. Railroad Use *		31.B. State Use *			
30.D. Railroad Use *		31.C. State Use *			
30.E. Railroad Use *		31.D. State Use *			
32.A. Narrative (Railroad Use) * MED E AND W <80FT 7IN CRB CROSS ROADS			32.B. Narrative (State Use) * MED EAST = 75FT, MED WEST = 100FT CROSS R		
33. Emergency Notification Telephone No. (posted) 800-848-8715		34. Railroad Contact (Telephone No.) 402-544-3721		35. State Contact (Telephone No.) 602-712-7149	

Part II: Railroad Information

1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains (6 AM to 6 PM) 20	1.B. Total Night Thru Trains (6 PM to 6 AM) 20	1.C. Total Switching Trains 0	1.D. Total Transit Trains 0	1.E. Check if Less Than One Movement Per Day <input type="checkbox"/> How many trains per week? _____
2. Year of Train Count Data (YYYY) 2016		3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 79 3.B. Typical Speed Range Over Crossing (mph) From 35 to 70		
4. Type and Count of Tracks Main 2 Siding 0 Yard 0 Transit 0 Industry 0				
5. Train Detection (Main Track only) <input checked="" type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other <input type="checkbox"/> None				
6. Is Track Signaled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.A. Event Recorder <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.B. Remote Health Monitoring <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date (MM/DD/YYYY) 06/19/2020		PAGE 2		D. Crossing Inventory Number (7 char.) 741397H	
Part III: Highway or Pathway Traffic Control Device Information					
1. Are there Signs or Signals? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Types of Passive Traffic Control Devices associated with the Crossing			
2.A. Crossbuck Assemblies (count) 0		2.B. STOP Signs (R1-1) (count) 0	2.C. YIELD Signs (R1-2) (count) 0	2.D. Advance Warning Signs (Check all that apply; include count) <input type="checkbox"/> None <input checked="" type="checkbox"/> W10-1 2 <input type="checkbox"/> W10-3 <input type="checkbox"/> W10-11 <input type="checkbox"/> W10-2 <input type="checkbox"/> W10-4 <input type="checkbox"/> W10-12	
2.E. Low Ground Clearance Sign (W10-5) <input type="checkbox"/> Yes (count _____) <input checked="" type="checkbox"/> No		2.F. Pavement Markings <input checked="" type="checkbox"/> Stop Lines <input type="checkbox"/> Dynamic Envelope <input checked="" type="checkbox"/> RR Xing Symbols <input type="checkbox"/> None		2.G. Channelization Devices/Medians <input checked="" type="checkbox"/> All Approaches <input checked="" type="checkbox"/> Median <input type="checkbox"/> One Approach <input type="checkbox"/> None	2.H. EXEMPT Sign (R15-3) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.I. ENS Sign (I-13) Displayed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.J. Other MUTCD Signs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count 0		2.K. Private Crossing Signs (if private) <input type="checkbox"/> Yes <input type="checkbox"/> No	2.L. LED Enhanced Signs (List types)
3. Types of Train Activated Warning Devices at the Grade Crossing (specify count of each device for all that apply)					
3.A. Gate Arms (count) Roadway 2 Pedestrian 0	3.B. Gate Configuration <input checked="" type="checkbox"/> 2 Quad <input type="checkbox"/> Full (Barrier) Resistance <input type="checkbox"/> 3 Quad <input type="checkbox"/> Median Gates	3.C. Cantilevered (or Bridged) Flashing Light Structures (count) Over Traffic Lane 2 <input checked="" type="checkbox"/> Incandescent Not Over Traffic Lane 0 <input type="checkbox"/> LED		3.D. Mast Mounted Flashing Lights (count of masts) 2 <input type="checkbox"/> Incandescent <input checked="" type="checkbox"/> LED <input checked="" type="checkbox"/> Back Lights Included <input type="checkbox"/> Side Lights Included	3.E. Total Count of Flashing Light Pairs 8
3.F. Installation Date of Current Active Warning Devices: (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> Not Required		3.G. Wayside Horn <input type="checkbox"/> Yes Installed on (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> No		3.H. Highway Traffic Signals Controlling Crossing <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.I. Bells (count) 2
3.J. Non-Train Active Warning <input type="checkbox"/> Flagging/Flagman <input type="checkbox"/> Manually Operated Signals <input type="checkbox"/> Watchman <input type="checkbox"/> Floodlighting <input checked="" type="checkbox"/> None				3.K. Other Flashing Lights or Warning Devices Count 0 Specify type _____	
4.A. Does nearby Hwy Intersection have Traffic Signals? <input type="checkbox"/> Yes <input type="checkbox"/> No	4.B. Hwy Traffic Signal Interconnection <input checked="" type="checkbox"/> Not Interconnected <input type="checkbox"/> For Traffic Signals <input type="checkbox"/> For Warning Signs	4.C. Hwy Traffic Signal Preemption <input type="checkbox"/> Simultaneous <input type="checkbox"/> Advance	5. Highway Traffic Pre-Signals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Storage Distance * _____ Stop Line Distance * _____	6. Highway Monitoring Devices (Check all that apply) <input type="checkbox"/> Yes - Photo/Video Recording <input type="checkbox"/> Yes - Vehicle Presence Detection <input checked="" type="checkbox"/> None	
Part IV: Physical Characteristics					
1. Traffic Lanes Crossing Railroad <input type="checkbox"/> One-way Traffic <input checked="" type="checkbox"/> Two-way Traffic Number of Lanes 2 <input type="checkbox"/> Divided Traffic		2. Is Roadway/Pathway Paved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3. Does Track Run Down a Street? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Is Crossing Illuminated? (Street lights within approx. 50 feet from nearest rail) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Crossing Surface (on Main Track, multiple types allowed) Installation Date * (MM/YYYY) 04/2008 Width * _____ Length * _____ <input type="checkbox"/> 1 Timber <input type="checkbox"/> 2 Asphalt <input type="checkbox"/> 3 Asphalt and Timber <input checked="" type="checkbox"/> 4 Concrete <input type="checkbox"/> 5 Concrete and Rubber <input type="checkbox"/> 6 Rubber <input type="checkbox"/> 7 Metal <input type="checkbox"/> 8 Unconsolidated <input type="checkbox"/> 9 Composite <input type="checkbox"/> 10 Other (specify) _____					
6. Intersecting Roadway within 500 feet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Approximate Distance (feet) 75			7. Smallest Crossing Angle <input type="checkbox"/> 0° - 29° <input type="checkbox"/> 30° - 59° <input checked="" type="checkbox"/> 60° - 90°		8. Is Commercial Power Available? * <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Part V: Public Highway Information					
1. Highway System <input type="checkbox"/> (01) Interstate Highway System <input type="checkbox"/> (02) Other Nat Hwy System (NHS) <input checked="" type="checkbox"/> (03) Federal AID, Not NHS <input type="checkbox"/> (08) Non-Federal Aid		2. Functional Classification of Road at Crossing <input checked="" type="checkbox"/> (0) Rural <input type="checkbox"/> (1) Urban <input type="checkbox"/> (1) Interstate <input checked="" type="checkbox"/> (5) Major Collector <input type="checkbox"/> (2) Other Freeways and Expressways <input type="checkbox"/> (3) Other Principal Arterial <input type="checkbox"/> (6) Minor Collector <input type="checkbox"/> (4) Minor Arterial <input type="checkbox"/> (7) Local		3. Is Crossing on State Highway System? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4. Highway Speed Limit 30 MPH <input checked="" type="checkbox"/> Posted <input type="checkbox"/> Statutory
5. Linear Referencing System (LRS Route ID) *					
6. LRS Milepost *					
7. Annual Average Daily Traffic (AADT) Year 2014 AADT 2614		8. Estimated Percent Trucks 15 %	9. Regularly Used by School Buses? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Average Number per Day 10		10. Emergency Services Route <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Submission Information - This information is used for administrative purposes and is not available on the public website.					
Submitted by _____ Organization _____ Phone _____ Date _____					
Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.					

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY) 06 / 19 / 2020	B. Reporting Agency <input checked="" type="checkbox"/> Railroad <input type="checkbox"/> Transit <input type="checkbox"/> State <input type="checkbox"/> Other	C. Reason for Update (Select only one) <input type="checkbox"/> Change in Data <input type="checkbox"/> Re-Open <input type="checkbox"/> New Crossing <input type="checkbox"/> Date Change Only <input type="checkbox"/> Closed <input type="checkbox"/> Change in Primary Operating RR <input type="checkbox"/> No Train Traffic <input type="checkbox"/> Quiet Zone Update <input checked="" type="checkbox"/> Admin. Correction	D. DOT Crossing Inventory Number 741398P
---	--	--	--

Part I: Location and Classification Information

1. Primary Operating Railroad Union Pacific Railroad Company [UP]		2. State ARIZONA		3. County COCHISE	
4. City / Municipality <input checked="" type="checkbox"/> In <input type="checkbox"/> Near WILLCOX		5. Street/Road Name & Block Number STEWART STREET (Street/Road Name) | * (Block Number)		6. Highway Type & No. CITY	
7. Do Other Railroads Operate a Separate Track at Crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Specify RR			8. Do Other Railroads Operate Over Your Track at Crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Specify RR ATK		
9. Railroad Division or Region <input type="checkbox"/> None LOS ANGELES		10. Railroad Subdivision or District <input type="checkbox"/> None LORDSBURG SUB		11. Branch or Line Name <input checked="" type="checkbox"/> None	
12. RR Milepost 1074.850 (prefix) | (nnnn.nnn) | (suffix)		13. Line Segment *		14. Nearest RR Timetable Station *	
15. Parent RR (if applicable) <input checked="" type="checkbox"/> N/A		16. Crossing Owner (if applicable) <input type="checkbox"/> N/A UP			
17. Crossing Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		18. Crossing Purpose <input checked="" type="checkbox"/> Highway <input type="checkbox"/> Pathway, Ped. <input type="checkbox"/> Station, Ped.		19. Crossing Position <input checked="" type="checkbox"/> At Grade <input type="checkbox"/> RR Under <input type="checkbox"/> RR Over	
20. Public Access (if Private Crossing) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		21. Type of Train <input checked="" type="checkbox"/> Freight <input checked="" type="checkbox"/> Intercity Passenger <input type="checkbox"/> Commuter		22. Average Passenger Train Count Per Day <input checked="" type="checkbox"/> Less Than One Per Day <input type="checkbox"/> Number Per Day	
23. Type of Land Use <input type="checkbox"/> Open Space <input type="checkbox"/> Farm <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Recreational <input type="checkbox"/> RR Yard					
24. Is there an Adjacent Crossing with a Separate Number? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide Crossing Number			25. Quiet Zone (FRA provided) <input type="checkbox"/> No <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> Partial <input type="checkbox"/> Chicago Excused Date Established 4/14/2015 12:00:0		
26. HSR Corridor ID <input checked="" type="checkbox"/> N/A		27. Latitude in decimal degrees (WGS84 std: nn.nnnnnnn) 32.2529225		28. Longitude in decimal degrees (WGS84 std: -nnn.nnnnnnn) -109.8301026	
29. Lat/Long Source <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated		30.A. Railroad Use *			
30.B. Railroad Use *		31.A. State Use * ENS ON BUNGALOW			
30.C. Railroad Use *		31.B. State Use *			
30.D. Railroad Use *		31.C. State Use *			
30.E. Railroad Use *		31.D. State Use *			
32.A. Narrative (Railroad Use) * CROSS STREET E AND W			32.B. Narrative (State Use) * CROSS STREET E AND W		
33. Emergency Notification Telephone No. (posted) 800-848-8715		34. Railroad Contact (Telephone No.) 402-544-3721		35. State Contact (Telephone No.) 602-712-7149	

Part II: Railroad Information

1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains (6 AM to 6 PM) 20	1.B. Total Night Thru Trains (6 PM to 6 AM) 20	1.C. Total Switching Trains 0	1.D. Total Transit Trains 0	1.E. Check if Less Than One Movement Per Day <input type="checkbox"/> How many trains per week? _____
2. Year of Train Count Data (YYYY) 2016		3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 79 3.B. Typical Speed Range Over Crossing (mph) From 35 to 70		
4. Type and Count of Tracks Main 2 Siding 0 Yard 0 Transit 0 Industry 0				
5. Train Detection (Main Track only) <input checked="" type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other <input type="checkbox"/> None				
6. Is Track Signaled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.A. Event Recorder <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.B. Remote Health Monitoring <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date (MM/DD/YYYY) 06/19/2020		PAGE 2		D. Crossing Inventory Number (7 char.) 741398P	
Part III: Highway or Pathway Traffic Control Device Information					
1. Are there Signs or Signals? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Types of Passive Traffic Control Devices associated with the Crossing			
2.A. Crossbuck Assemblies (count) 0		2.B. STOP Signs (R1-1) (count) 0	2.C. YIELD Signs (R1-2) (count) 0	2.D. Advance Warning Signs (Check all that apply; include count) <input type="checkbox"/> None <input type="checkbox"/> W10-1 _____ <input type="checkbox"/> W10-3 _____ <input type="checkbox"/> W10-11 _____ <input checked="" type="checkbox"/> W10-2 <u>2</u> <input type="checkbox"/> W10-4 _____ <input type="checkbox"/> W10-12 _____	
2.E. Low Ground Clearance Sign (W10-5) <input type="checkbox"/> Yes (count _____) <input checked="" type="checkbox"/> No		2.F. Pavement Markings <input checked="" type="checkbox"/> Stop Lines <input type="checkbox"/> Dynamic Envelope <input checked="" type="checkbox"/> RR Xing Symbols <input type="checkbox"/> None		2.G. Channelization Devices/Medians <input type="checkbox"/> All Approaches <input type="checkbox"/> Median <input type="checkbox"/> One Approach <input checked="" type="checkbox"/> None	2.H. EXEMPT Sign (R15-3) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.I. ENS Sign (I-13) Displayed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.J. Other MUTCD Signs <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Specify Type <u>W10-9</u> Count <u>3</u> Specify Type <u>R8-10</u> Count <u>2</u> Specify Type <u>R15-2P</u> Count <u>2</u>		2.K. Private Crossing Signs (if private) <input type="checkbox"/> Yes <input type="checkbox"/> No	2.L. LED Enhanced Signs (List types)
3. Types of Train Activated Warning Devices at the Grade Crossing (specify count of each device for all that apply)					
3.A. Gate Arms (count) Roadway <u>2</u> Pedestrian <u>0</u>	3.B. Gate Configuration <input checked="" type="checkbox"/> 2 Quad <input type="checkbox"/> Full (Barrier) Resistance <input type="checkbox"/> 3 Quad <input type="checkbox"/> Median Gates	3.C. Cantilevered (or Bridged) Flashing Light Structures (count) Over Traffic Lane <u>0</u> <input type="checkbox"/> Incandescent Not Over Traffic Lane <u>0</u> <input type="checkbox"/> LED		3.D. Mast Mounted Flashing Lights (count of masts) <u>2</u> <input type="checkbox"/> Incandescent <input checked="" type="checkbox"/> LED <input checked="" type="checkbox"/> Back Lights Included <input type="checkbox"/> Side Lights Included	3.E. Total Count of Flashing Light Pairs <u>4</u>
3.F. Installation Date of Current Active Warning Devices: (MM/YYYY) _____/_____/_____ <input checked="" type="checkbox"/> Not Required		3.G. Wayside Horn <input type="checkbox"/> Yes Installed on (MM/YYYY) ____/____/_____ <input checked="" type="checkbox"/> No		3.H. Highway Traffic Signals Controlling Crossing <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.I. Bells (count) <u>2</u>
3.J. Non-Train Active Warning <input type="checkbox"/> Flagging/Flagman <input type="checkbox"/> Manually Operated Signals <input type="checkbox"/> Watchman <input type="checkbox"/> Floodlighting <input checked="" type="checkbox"/> None				3.K. Other Flashing Lights or Warning Devices Count <u>0</u> Specify type _____	
4.A. Does nearby Hwy Intersection have Traffic Signals? <input type="checkbox"/> Yes <input type="checkbox"/> No	4.B. Hwy Traffic Signal Interconnection <input checked="" type="checkbox"/> Not Interconnected <input type="checkbox"/> For Traffic Signals <input type="checkbox"/> For Warning Signs	4.C. Hwy Traffic Signal Preemption <input type="checkbox"/> Simultaneous <input type="checkbox"/> Advance	5. Highway Traffic Pre-Signals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Storage Distance * _____ Stop Line Distance * _____	6. Highway Monitoring Devices (Check all that apply) <input type="checkbox"/> Yes - Photo/Video Recording <input type="checkbox"/> Yes - Vehicle Presence Detection <input checked="" type="checkbox"/> None	
Part IV: Physical Characteristics					
1. Traffic Lanes Crossing Railroad Number of Lanes <u>2</u> <input type="checkbox"/> One-way Traffic <input checked="" type="checkbox"/> Two-way Traffic <input type="checkbox"/> Divided Traffic		2. Is Roadway/Pathway Paved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3. Does Track Run Down a Street? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Is Crossing Illuminated? (Street lights within approx. 50 feet from nearest rail) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Crossing Surface (on Main Track, multiple types allowed) Installation Date * (MM/YYYY) <u>04</u> / <u>2008</u> Width * <u>32</u> Length * <u>32</u> <input type="checkbox"/> 1 Timber <input type="checkbox"/> 2 Asphalt <input type="checkbox"/> 3 Asphalt and Timber <input checked="" type="checkbox"/> 4 Concrete <input type="checkbox"/> 5 Concrete and Rubber <input type="checkbox"/> 6 Rubber <input type="checkbox"/> 7 Metal <input type="checkbox"/> 8 Unconsolidated <input type="checkbox"/> 9 Composite <input type="checkbox"/> 10 Other (specify) _____					
6. Intersecting Roadway within 500 feet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Approximate Distance (feet) <u>75</u>			7. Smallest Crossing Angle <input type="checkbox"/> 0° - 29° <input type="checkbox"/> 30° - 59° <input checked="" type="checkbox"/> 60° - 90°		8. Is Commercial Power Available? * <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Part V: Public Highway Information					
1. Highway System <input type="checkbox"/> (01) Interstate Highway System <input type="checkbox"/> (02) Other Nat Hwy System (NHS) <input type="checkbox"/> (03) Federal AID, Not NHS <input checked="" type="checkbox"/> (08) Non-Federal Aid		2. Functional Classification of Road at Crossing <input checked="" type="checkbox"/> (0) Rural <input type="checkbox"/> (1) Urban <input type="checkbox"/> (1) Interstate <input type="checkbox"/> (5) Major Collector <input type="checkbox"/> (2) Other Freeways and Expressways <input type="checkbox"/> (3) Other Principal Arterial <input type="checkbox"/> (6) Minor Collector <input type="checkbox"/> (4) Minor Arterial <input checked="" type="checkbox"/> (7) Local		3. Is Crossing on State Highway System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Highway Speed Limit <u>25</u> MPH <input checked="" type="checkbox"/> Posted <input type="checkbox"/> Statutory
5. Linear Referencing System (LRS Route ID) *					
6. LRS Milepost *					
7. Annual Average Daily Traffic (AADT) Year <u>2019</u> AADT <u>329</u>		8. Estimated Percent Trucks <u>00</u> %	9. Regularly Used by School Buses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Average Number per Day _____		10. Emergency Services Route <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Submission Information - This information is used for administrative purposes and is not available on the public website.					
Submitted by _____ Organization _____ Phone _____ Date _____					
Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.					

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY) 07 / 14 / 2020	B. Reporting Agency <input checked="" type="checkbox"/> Railroad <input type="checkbox"/> Transit <input type="checkbox"/> State <input type="checkbox"/> Other	C. Reason for Update (Select only one) <input checked="" type="checkbox"/> Change in Data <input type="checkbox"/> Re-Open <input type="checkbox"/> New Crossing <input type="checkbox"/> Date Change Only <input type="checkbox"/> Closed <input type="checkbox"/> Change in Primary Operating RR <input type="checkbox"/> No Train Traffic <input type="checkbox"/> Quiet Zone Update <input type="checkbox"/> Admin. Correction	D. DOT Crossing Inventory Number 741399W
---	--	--	--

Part I: Location and Classification Information

1. Primary Operating Railroad Union Pacific Railroad Company [UP]		2. State ARIZONA		3. County COCHISE	
4. City / Municipality <input type="checkbox"/> In <input checked="" type="checkbox"/> Near WILLCOX		5. Street/Road Name & Block Number PATTIE ROAD (Street/Road Name) | * (Block Number)		6. Highway Type & No. COUNTY	
7. Do Other Railroads Operate a Separate Track at Crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Specify RR			8. Do Other Railroads Operate Over Your Track at Crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Specify RR ATK		
9. Railroad Division or Region <input type="checkbox"/> None LOS ANGELES		10. Railroad Subdivision or District <input type="checkbox"/> None LORDSBURG SUB		11. Branch or Line Name <input checked="" type="checkbox"/> None	
12. RR Milepost 1076.040 (prefix) | (nnnn.nnn) | (suffix)		13. Line Segment *		14. Nearest RR Timetable Station *	
15. Parent RR (if applicable) <input checked="" type="checkbox"/> N/A		16. Crossing Owner (if applicable) <input type="checkbox"/> N/A UP			
17. Crossing Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		18. Crossing Purpose <input checked="" type="checkbox"/> Highway <input type="checkbox"/> Pathway, Ped. <input type="checkbox"/> Station, Ped.		19. Crossing Position <input checked="" type="checkbox"/> At Grade <input type="checkbox"/> RR Under <input type="checkbox"/> RR Over	
20. Public Access (if Private Crossing) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		21. Type of Train <input checked="" type="checkbox"/> Freight <input checked="" type="checkbox"/> Intercity Passenger <input type="checkbox"/> Commuter		<input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Tourist/Other	
22. Average Passenger Train Count Per Day <input checked="" type="checkbox"/> Less Than One Per Day <input type="checkbox"/> Number Per Day					
23. Type of Land Use <input type="checkbox"/> Open Space <input type="checkbox"/> Farm <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Recreational <input type="checkbox"/> RR Yard					
24. Is there an Adjacent Crossing with a Separate Number? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide Crossing Number			25. Quiet Zone (FRA provided) <input type="checkbox"/> No <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> Partial <input type="checkbox"/> Chicago Excused Date Established 4/14/2015 12:00:0		
26. HSR Corridor ID <input checked="" type="checkbox"/> N/A		27. Latitude in decimal degrees (WGS84 std: nn.nnnnnnn) 32.2678534		28. Longitude in decimal degrees (WGS84 std: -nnn.nnnnnnn) -109.8199957	
29. Lat/Long Source <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated		30.A. Railroad Use *			
30.B. Railroad Use *		31.A. State Use * ENS ON BUNGALOW			
30.C. Railroad Use *		31.B. State Use *			
30.D. Railroad Use *		31.C. State Use *			
30.E. Railroad Use *		31.D. State Use *			
32.A. Narrative (Railroad Use) *			32.B. Narrative (State Use) *		
33. Emergency Notification Telephone No. (posted) 800-848-8715		34. Railroad Contact (Telephone No.) 402-544-3721		35. State Contact (Telephone No.) 602-712-7149	

Part II: Railroad Information

1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains (6 AM to 6 PM) 20		1.B. Total Night Thru Trains (6 PM to 6 AM) 20		1.C. Total Switching Trains 0
1.D. Total Transit Trains 0		1.E. Check if Less Than One Movement Per Day <input type="checkbox"/> How many trains per week? _____		
2. Year of Train Count Data (YYYY) 2016		3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 79 3.B. Typical Speed Range Over Crossing (mph) From 35 to 70		
4. Type and Count of Tracks Main 2 Siding 0 Yard 0 Transit 0 Industry 0				
5. Train Detection (Main Track only) <input checked="" type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other <input type="checkbox"/> None				
6. Is Track Signaled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.A. Event Recorder <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.B. Remote Health Monitoring <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date (MM/DD/YYYY) 07/14/2020		PAGE 2		D. Crossing Inventory Number (7 char.) 741399W	
Part III: Highway or Pathway Traffic Control Device Information					
1. Are there Signs or Signals? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Types of Passive Traffic Control Devices associated with the Crossing			
2.A. Crossbuck Assemblies (count) 0		2.B. STOP Signs (R1-1) (count) 0	2.C. YIELD Signs (R1-2) (count) 0	2.D. Advance Warning Signs (Check all that apply; include count) <input type="checkbox"/> None <input checked="" type="checkbox"/> W10-1 2 <input type="checkbox"/> W10-3 <input type="checkbox"/> W10-11 <input type="checkbox"/> W10-2 <input type="checkbox"/> W10-4 <input type="checkbox"/> W10-12	
2.E. Low Ground Clearance Sign (W10-5) <input type="checkbox"/> Yes (count _____) <input checked="" type="checkbox"/> No		2.F. Pavement Markings <input type="checkbox"/> Stop Lines <input type="checkbox"/> Dynamic Envelope <input type="checkbox"/> RR Xing Symbols <input checked="" type="checkbox"/> None		2.G. Channelization Devices/Medians <input type="checkbox"/> All Approaches <input type="checkbox"/> Median <input type="checkbox"/> One Approach <input checked="" type="checkbox"/> None	2.H. EXEMPT Sign (R15-3) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.I. ENS Sign (I-13) Displayed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.J. Other MUTCD Signs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count 0		2.K. Private Crossing Signs (if private) <input type="checkbox"/> Yes <input type="checkbox"/> No	2.L. LED Enhanced Signs (List types)
3. Types of Train Activated Warning Devices at the Grade Crossing (specify count of each device for all that apply)					
3.A. Gate Arms (count) Roadway 2 Pedestrian 0	3.B. Gate Configuration <input checked="" type="checkbox"/> 2 Quad <input type="checkbox"/> Full (Barrier) Resistance <input type="checkbox"/> 3 Quad <input type="checkbox"/> Median Gates	3.C. Cantilevered (or Bridged) Flashing Light Structures (count) Over Traffic Lane 0 <input type="checkbox"/> Incandescent Not Over Traffic Lane 0 <input type="checkbox"/> LED		3.D. Mast Mounted Flashing Lights (count of masts) 3 <input type="checkbox"/> Incandescent <input checked="" type="checkbox"/> LED <input checked="" type="checkbox"/> Back Lights Included <input checked="" type="checkbox"/> Side Lights Included	3.E. Total Count of Flashing Light Pairs 5
3.F. Installation Date of Current Active Warning Devices: (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> Not Required		3.G. Wayside Horn <input type="checkbox"/> Yes Installed on (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> No		3.H. Highway Traffic Signals Controlling Crossing <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.I. Bells (count) 2
3.J. Non-Train Active Warning <input type="checkbox"/> Flagging/Flagman <input type="checkbox"/> Manually Operated Signals <input type="checkbox"/> Watchman <input type="checkbox"/> Floodlighting <input checked="" type="checkbox"/> None				3.K. Other Flashing Lights or Warning Devices Count 0 Specify type _____	
4.A. Does nearby Hwy Intersection have Traffic Signals? <input type="checkbox"/> Yes <input type="checkbox"/> No	4.B. Hwy Traffic Signal Interconnection <input checked="" type="checkbox"/> Not Interconnected <input type="checkbox"/> For Traffic Signals <input type="checkbox"/> For Warning Signs	4.C. Hwy Traffic Signal Preemption <input type="checkbox"/> Simultaneous <input type="checkbox"/> Advance	5. Highway Traffic Pre-Signals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Storage Distance * _____ Stop Line Distance * _____	6. Highway Monitoring Devices (Check all that apply) <input type="checkbox"/> Yes - Photo/Video Recording <input type="checkbox"/> Yes - Vehicle Presence Detection <input checked="" type="checkbox"/> None	
Part IV: Physical Characteristics					
1. Traffic Lanes Crossing Railroad <input type="checkbox"/> One-way Traffic <input checked="" type="checkbox"/> Two-way Traffic Number of Lanes 2 <input type="checkbox"/> Divided Traffic		2. Is Roadway/Pathway Paved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Does Track Run Down a Street? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Is Crossing Illuminated? (Street lights within approx. 50 feet from nearest rail) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Crossing Surface (on Main Track, multiple types allowed) Installation Date * (MM/YYYY) 04/2008 Width * _____ Length * _____ <input type="checkbox"/> 1 Timber <input type="checkbox"/> 2 Asphalt <input type="checkbox"/> 3 Asphalt and Timber <input checked="" type="checkbox"/> 4 Concrete <input type="checkbox"/> 5 Concrete and Rubber <input type="checkbox"/> 6 Rubber <input type="checkbox"/> 7 Metal <input type="checkbox"/> 8 Unconsolidated <input type="checkbox"/> 9 Composite <input type="checkbox"/> 10 Other (specify) _____					
6. Intersecting Roadway within 500 feet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Approximate Distance (feet) 75		7. Smallest Crossing Angle <input type="checkbox"/> 0° - 29° <input checked="" type="checkbox"/> 30° - 59° <input type="checkbox"/> 60° - 90°		8. Is Commercial Power Available? * <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Part V: Public Highway Information					
1. Highway System <input type="checkbox"/> (01) Interstate Highway System <input type="checkbox"/> (02) Other Nat Hwy System (NHS) <input type="checkbox"/> (03) Federal AID, Not NHS <input checked="" type="checkbox"/> (08) Non-Federal Aid		2. Functional Classification of Road at Crossing <input checked="" type="checkbox"/> (0) Rural <input type="checkbox"/> (1) Urban <input type="checkbox"/> (1) Interstate <input type="checkbox"/> (5) Major Collector <input type="checkbox"/> (2) Other Freeways and Expressways <input type="checkbox"/> (3) Other Principal Arterial <input type="checkbox"/> (6) Minor Collector <input type="checkbox"/> (4) Minor Arterial <input checked="" type="checkbox"/> (7) Local		3. Is Crossing on State Highway System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Highway Speed Limit 25 MPH <input checked="" type="checkbox"/> Posted <input type="checkbox"/> Statutory
5. Linear Referencing System (LRS Route ID) *					
6. LRS Milepost *					
7. Annual Average Daily Traffic (AADT) Year 2014 AADT 13		8. Estimated Percent Trucks 00 %	9. Regularly Used by School Buses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Average Number per Day _____		10. Emergency Services Route <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Submission Information - This information is used for administrative purposes and is not available on the public website.					
Submitted by _____ Organization _____ Phone _____ Date _____					
Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.					

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY) 06 / 19 / 2020	B. Reporting Agency <input checked="" type="checkbox"/> Railroad <input type="checkbox"/> Transit <input type="checkbox"/> State <input type="checkbox"/> Other	C. Reason for Update (Select only one) <input type="checkbox"/> Change in Data <input type="checkbox"/> Re-Open <input type="checkbox"/> New Crossing <input type="checkbox"/> Date Change Only <input type="checkbox"/> Closed <input type="checkbox"/> Change in Primary Operating RR <input type="checkbox"/> No Train Traffic <input checked="" type="checkbox"/> Admin. Correction <input type="checkbox"/> Quiet Zone Update	D. DOT Crossing Inventory Number 741400N
---	--	--	--

Part I: Location and Classification Information

1. Primary Operating Railroad Union Pacific Railroad Company [UP]		2. State ARIZONA		3. County COCHISE	
4. City / Municipality <input type="checkbox"/> In <input checked="" type="checkbox"/> Near WILLCOX		5. Street/Road Name & Block Number COUNTRY CLUB DRIVE (Street/Road Name) | * (Block Number)		6. Highway Type & No. COUNTY	
7. Do Other Railroads Operate a Separate Track at Crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Specify RR			8. Do Other Railroads Operate Over Your Track at Crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Specify RR ATK		
9. Railroad Division or Region <input type="checkbox"/> None LOS ANGELES		10. Railroad Subdivision or District <input type="checkbox"/> None LORDSBURG SUB		11. Branch or Line Name <input checked="" type="checkbox"/> None	
12. RR Milepost 1078.940 (prefix) | (nnnn.nnn) | (suffix)		13. Line Segment *		14. Nearest RR Timetable Station *	
15. Parent RR (if applicable) <input checked="" type="checkbox"/> N/A		16. Crossing Owner (if applicable) <input type="checkbox"/> N/A UP			
17. Crossing Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		18. Crossing Purpose <input checked="" type="checkbox"/> Highway <input type="checkbox"/> Pathway, Ped. <input type="checkbox"/> Station, Ped.		19. Crossing Position <input checked="" type="checkbox"/> At Grade <input type="checkbox"/> RR Under <input type="checkbox"/> RR Over	
20. Public Access (if Private Crossing) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		21. Type of Train <input checked="" type="checkbox"/> Freight <input checked="" type="checkbox"/> Intercity Passenger <input type="checkbox"/> Commuter <input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Tourist/Other		22. Average Passenger Train Count Per Day <input checked="" type="checkbox"/> Less Than One Per Day <input type="checkbox"/> Number Per Day	
23. Type of Land Use <input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Farm <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Recreational <input type="checkbox"/> RR Yard					
24. Is there an Adjacent Crossing with a Separate Number? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide Crossing Number			25. Quiet Zone (FRA provided) <input checked="" type="checkbox"/> No <input type="checkbox"/> 24 Hr <input type="checkbox"/> Partial <input type="checkbox"/> Chicago Excused Date Established		
26. HSR Corridor ID <input checked="" type="checkbox"/> N/A		27. Latitude in decimal degrees (WGS84 std: nn.nnnnnnn) 32.3044823		28. Longitude in decimal degrees (WGS84 std: -nnn.nnnnnnn) -109.7952231	
29. Lat/Long Source <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated		30.A. Railroad Use *			
30.B. Railroad Use *		31.A. State Use * ENS ON BUNGALOW			
30.C. Railroad Use *		31.B. State Use * ADV WARN SIGN DOWN			
30.D. Railroad Use *		31.C. State Use *			
30.E. Railroad Use *		31.D. State Use *			
32.A. Narrative (Railroad Use) *			32.B. Narrative (State Use) *		
33. Emergency Notification Telephone No. (posted) 800-848-8715		34. Railroad Contact (Telephone No.) 402-544-3721		35. State Contact (Telephone No.) 602-712-6193	

Part II: Railroad Information

1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains (6 AM to 6 PM) 20	1.B. Total Night Thru Trains (6 PM to 6 AM) 20	1.C. Total Switching Trains 0	1.D. Total Transit Trains 0	1.E. Check if Less Than One Movement Per Day <input type="checkbox"/> How many trains per week? _____
2. Year of Train Count Data (YYYY) 2016		3. Speed of Train at Crossing 3.A. Maximum Timetable Speed (mph) 79 3.B. Typical Speed Range Over Crossing (mph) From 35 to 70		
4. Type and Count of Tracks Main 2 Siding 0 Yard 0 Transit 0 Industry 0				
5. Train Detection (Main Track only) <input checked="" type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other <input type="checkbox"/> None				
6. Is Track Signaled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.A. Event Recorder <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.B. Remote Health Monitoring <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date (MM/DD/YYYY) 06/19/2020		PAGE 2		D. Crossing Inventory Number (7 char.) 741400N		
Part III: Highway or Pathway Traffic Control Device Information						
1. Are there Signs or Signals? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Types of Passive Traffic Control Devices associated with the Crossing				
2.A. Crossbuck Assemblies (count) 0		2.B. STOP Signs (R1-1) (count) 0	2.C. YIELD Signs (R1-2) (count) 0	2.D. Advance Warning Signs (Check all that apply; include count) <input checked="" type="checkbox"/> None <input type="checkbox"/> W10-1 <input type="checkbox"/> W10-3 <input type="checkbox"/> W10-11 <input type="checkbox"/> W10-2 <input type="checkbox"/> W10-4 <input type="checkbox"/> W10-12		
2.E. Low Ground Clearance Sign (W10-5) <input type="checkbox"/> Yes (count 0) <input checked="" type="checkbox"/> No		2.F. Pavement Markings <input type="checkbox"/> Stop Lines <input type="checkbox"/> Dynamic Envelope <input type="checkbox"/> RR Xing Symbols <input checked="" type="checkbox"/> None		2.G. Channelization Devices/Medians <input type="checkbox"/> All Approaches <input type="checkbox"/> Median <input type="checkbox"/> One Approach <input checked="" type="checkbox"/> None	2.H. EXEMPT Sign (R15-3) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2.I. ENS Sign (I-13) Displayed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.J. Other MUTCD Signs Specify Type R15-2P Count 2 Specify Type _____ Count 0 Specify Type _____ Count 0		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.K. Private Crossing Signs (if private) <input type="checkbox"/> Yes <input type="checkbox"/> No	2.L. LED Enhanced Signs (List types)		
3. Types of Train Activated Warning Devices at the Grade Crossing (specify count of each device for all that apply)						
3.A. Gate Arms (count) Roadway 2 Pedestrian 0	3.B. Gate Configuration <input checked="" type="checkbox"/> 2 Quad <input type="checkbox"/> Full (Barrier) Resistance <input type="checkbox"/> 3 Quad <input type="checkbox"/> Median Gates	3.C. Cantilevered (or Bridged) Flashing Light Structures (count) Over Traffic Lane 0 <input type="checkbox"/> Incandescent Not Over Traffic Lane 0 <input type="checkbox"/> LED		3.D. Mast Mounted Flashing Lights (count of masts) 2 <input type="checkbox"/> Incandescent <input checked="" type="checkbox"/> LED <input checked="" type="checkbox"/> Back Lights Included <input type="checkbox"/> Side Lights Included	3.E. Total Count of Flashing Light Pairs 4	
3.F. Installation Date of Current Active Warning Devices: (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> Not Required		3.G. Wayside Horn <input type="checkbox"/> Yes Installed on (MM/YYYY) ____/____/____ <input checked="" type="checkbox"/> No		3.H. Highway Traffic Signals Controlling Crossing <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.I. Bells (count) 2	
3.J. Non-Train Active Warning <input type="checkbox"/> Flagging/Flagman <input type="checkbox"/> Manually Operated Signals <input type="checkbox"/> Watchman <input type="checkbox"/> Floodlighting <input type="checkbox"/> None				3.K. Other Flashing Lights or Warning Devices Count 0 Specify type _____		
4.A. Does nearby Hwy Intersection have Traffic Signals? <input type="checkbox"/> Yes <input type="checkbox"/> No	4.B. Hwy Traffic Signal Interconnection <input type="checkbox"/> Not Interconnected <input type="checkbox"/> For Traffic Signals <input type="checkbox"/> For Warning Signs	4.C. Hwy Traffic Signal Preemption <input type="checkbox"/> Simultaneous <input type="checkbox"/> Advance	5. Highway Traffic Pre-Signals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Storage Distance * _____ Stop Line Distance * _____	6. Highway Monitoring Devices (Check all that apply) <input type="checkbox"/> Yes - Photo/Video Recording <input type="checkbox"/> Yes - Vehicle Presence Detection <input type="checkbox"/> None		
Part IV: Physical Characteristics						
1. Traffic Lanes Crossing Railroad Number of Lanes 2 <input type="checkbox"/> One-way Traffic <input checked="" type="checkbox"/> Two-way Traffic <input type="checkbox"/> Divided Traffic		2. Is Roadway/Pathway Paved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Does Track Run Down a Street? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Is Crossing Illuminated? (Street lights within approx. 50 feet from nearest rail) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Crossing Surface (on Main Track, multiple types allowed) Installation Date * (MM/YYYY) ____/____/____ Width * _____ Length * _____ <input type="checkbox"/> 1 Timber <input type="checkbox"/> 2 Asphalt <input type="checkbox"/> 3 Asphalt and Timber <input checked="" type="checkbox"/> 4 Concrete <input type="checkbox"/> 5 Concrete and Rubber <input type="checkbox"/> 6 Rubber <input type="checkbox"/> 7 Metal <input type="checkbox"/> 8 Unconsolidated <input type="checkbox"/> 9 Composite <input type="checkbox"/> 10 Other (specify) _____						
6. Intersecting Roadway within 500 feet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Approximate Distance (feet) 200			7. Smallest Crossing Angle <input type="checkbox"/> 0° - 29° <input type="checkbox"/> 30° - 59° <input checked="" type="checkbox"/> 60° - 90°		8. Is Commercial Power Available? * <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Part V: Public Highway Information						
1. Highway System <input type="checkbox"/> (01) Interstate Highway System <input type="checkbox"/> (02) Other Nat Hwy System (NHS) <input type="checkbox"/> (03) Federal AID, Not NHS <input checked="" type="checkbox"/> (08) Non-Federal AID		2. Functional Classification of Road at Crossing <input checked="" type="checkbox"/> (0) Rural <input type="checkbox"/> (1) Urban <input type="checkbox"/> (1) Interstate <input type="checkbox"/> (5) Major Collector <input type="checkbox"/> (2) Other Freeways and Expressways <input type="checkbox"/> (3) Other Principal Arterial <input type="checkbox"/> (6) Minor Collector <input type="checkbox"/> (4) Minor Arterial <input checked="" type="checkbox"/> (7) Local		3. Is Crossing on State Highway System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Highway Speed Limit 25 _____ MPH <input checked="" type="checkbox"/> Posted <input type="checkbox"/> Statutory	
5. Linear Referencing System (LRS Route ID) *						
6. LRS Milepost *						
7. Annual Average Daily Traffic (AADT) Year 1988 AADT 120		8. Estimated Percent Trucks 39 _____ %	9. Regularly Used by School Buses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Average Number per Day 0		10. Emergency Services Route <input type="checkbox"/> Yes <input type="checkbox"/> No	
Submission Information - This information is used for administrative purposes and is not available on the public website.						
Submitted by _____ Organization _____ Phone _____ Date _____						
Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.						

Appendix J. Candidate Alternative Cost Estimates

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative B
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative B (Roundabout)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	790	\$ 4.50	\$ 3,555
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	27	\$ 70.00	\$ 1,890
4040111	BITUMINOUS TACK COAT	TON	1	\$ 2,000.00	\$ 2,000
4040125	FOG COAT	TON	1	\$ 1,800.00	\$ 1,800
4160009	ASPHALTIC CONCRETE (END PRODUCT) (5" AC over 6" AB	TON	45	\$ 70.00	\$ 3,150
6070035	SIGN POST (PERFORATED) (SINGLE)	L.SUM	1	\$ 5,000.00	\$ 5,000
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L.SUM	1	\$ 5,000.00	\$ 5,000
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L.SUM	1	\$ 5,000.00	\$ 5,000
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 4,000.00	\$ 4,000
7015052	OBLITERATE PAVEMENT MARKING (STRIPE)	L.SUM	1	\$ 4,000.00	\$ 4,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 10,000.00	\$ 10,000
7330550	REMOVE AND SALVAGE TRAFFIC SIGNALS AND LOAD CENTER CABINETS	L.SUM	1	\$ 60,000.00	\$ 60,000
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 35,000.00	\$ 2,000
9010001	MOBILIZATION	L.SUM	1	\$ 68,000.00	\$ 3,000
9080084	CONCRETE CURB AND GUTTER (MOUNTABLE)	L.FT.	1,375	\$ 40.00	\$ 55,000
9210011	MEDIAN PAVING	SQ.YD.	410	\$ 80.00	\$ 32,773
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 39,000.00	\$ 2,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 49,000.00	\$ 2,000
CONSTRUCTION SUBTOTAL					\$ 202,168
	CONSTRUCTION ENGINEERING			15%	\$ 30,325
	MISCELLANEOUS WORK			15%	\$ 30,325
	PRELIMINARY AND FINAL DESIGN			12%	\$ 24,260
	CONTINGENCY			30%	\$ 60,651
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 20,015
	UTILITY RELOCATION				\$ 10,000
TOTAL CONSTRUCTION COST					\$ 367,744

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative C
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative C (Reconfigure Intersection)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
6070035	SIGN POST (PERFORATED) (SINGLE)	L.SUM	1	\$ 2,500.00	\$ 2,500
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L.SUM	1	\$ 2,500.00	\$ 2,500
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L.SUM	1	\$ 2,500.00	\$ 2,500
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 1,000.00	\$ 1,000
7015052	OBLITERATE PAVEMENT MARKING (STRIPE)	L.SUM	1	\$ 4,000.00	\$ 4,000
7350208	VIDEO DETECTION SYSTEM (TO REPLACE LOOP DETECTORS)	L.SUM	1	\$ 10,000.00	\$ 10,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 8,000.00	\$ 8,000
9010001	MOBILIZATION	L.SUM	1	\$ 1,000.00	\$ 1,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 1,000.00	\$ 1,000
CONSTRUCTION SUBTOTAL					\$ 25,000
	CONSTRUCTION ENGINEERING			15%	\$ 3,750
	MISCELLANEOUS WORK			15%	\$ 3,750
	PRELIMINARY AND FINAL DESIGN			12%	\$ 3,000
	CONTINGENCY			30%	\$ 7,500
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 2,475
TOTAL CONSTRUCTION COST					\$ 45,475

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative D
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative D (Truck Route on City Streets)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1	\$ 20,000.00	\$ 20,000
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	18,430	\$ 4.50	\$ 82,935
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	3,072	\$ 70.00	\$ 215,040
4040111	BITUMINOUS TACK COAT	TON	5	\$ 2,000.00	\$ 10,000
4040125	FOG COAT	TON	5	\$ 1,800.00	\$ 9,000
4160009	ASPHALTIC CONCRETE (END PRODUCT) (5" AC over 6" AB	TON	5,115	\$ 70.00	\$ 358,050
6070035	SIGN POST (PERFORATED) (SINGLE)	L.SUM	1	\$ 5,000.00	\$ 5,000
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L.SUM	1	\$ 5,000.00	\$ 5,000
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L.SUM	1	\$ 5,000.00	\$ 5,000
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 98,000.00	\$ 98,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 15,000.00	\$ 15,000
7040074	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC) (ALKYD) (0.090")	EACH	14	\$ 250.00	\$ 3,500
7330575	INSTALL NEW TRAFFIC SIGNALS AND EQUIPMENT	L.SUM	1	\$ 250,000.00	\$ 250,000
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 35,000.00	\$ 35,000
9010001	MOBILIZATION	L.SUM	1	\$ 69,000.00	\$ 69,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 40,000.00	\$ 40,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 49,000.00	\$ 49,000
CONSTRUCTION SUBTOTAL					\$ 1,269,525
	CONSTRUCTION ENGINEERING			15%	\$ 190,429
	MISCELLANEOUS WORK			15%	\$ 190,429
	PRELIMINARY AND FINAL DESIGN			12%	\$ 152,343
	CONTINGENCY			30%	\$ 380,858
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 125,683
	UPRR ALLOWANCE (DESIGN, CONCRETE PANELS, AND TRAFFIC CONTROL ADJUSTMENTS)				\$ 100,000
	RIGHT-OF-WAY-ACQUISITION *THIS ITEM WILL REQUIRE MORE INVESTIGATION*				\$ 43,400
	UTILITY RELOCATION				\$ 100,000
TOTAL CONSTRUCTION COST					\$ 2,552,666

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative E
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative E (East Bypass with At-Grade RR Crossing)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2010011	CLEARING AND GRUBBING	ACRE	220	\$ 500.00	\$ 110,000
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1	\$ 5,000.00	\$ 5,000
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	4,191	\$ 6.00	\$ 25,145
2050003	GRADING ROADWAY FOR PAVEMENT (	SQ.YD.	22,054	\$ 6.00	\$ 132,325
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	4,375	\$ 70.00	\$ 306,250
4040111	BITUMINOUS TACK COAT	TON	7	\$ 2,000.00	\$ 14,000
4040125	FOG COAT	TON	7	\$ 1,800.00	\$ 12,600
4160009	ASPHALTIC CONCRETE (END PRODUCT) (4.5" AC OVER 5" AB)	TON	7,283	\$ 70.00	\$ 509,810
6070035	SIGN POST (PERFORATED) (SINGLE)(2 1/2T)	L. SUM	1	\$ 2,500.00	\$ 2,500
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L. SUM	1	\$ 2,500.00	\$ 2,500
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L. SUM	1	\$ 2,500.00	\$ 2,500
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 125,000.00	\$ 125,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 23,000.00	\$ 23,000
7040074	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC) (ALKYD) (0.090")	EACH	11	\$ 250.00	\$ 2,750
7330575	INSTALL NEW TRAFFIC SIGNALS AND EQUIPMENT	L.SUM	1	\$ 100,000.00	\$ 100,000
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 44,000.00	\$ 44,000
9010001	MOBILIZATION	L.SUM	1	\$ 87,000.00	\$ 87,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 50,000.00	\$ 50,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 62,000.00	\$ 62,000
CONSTRUCTION SUBTOTAL					\$ 1,616,380
	CONSTRUCTION ENGINEERING			15%	\$ 242,457
	MISCELLANEOUS WORK			15%	\$ 242,457
	PRELIMINARY AND FINAL DESIGN			12%	\$ 193,966
	CONTINGENCY			30%	\$ 484,914
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 160,022
	UPRR ALLOWANCE (DESIGN, CONCRETE PANELS, AND TRAFFIC CONTROL ADJUSTMENTS)				\$ 1,000,000
	RIGHT-OF-WAY-ACQUISITION *THIS ITEM WILL REQUIRE MORE INVESTIGATION*				\$ 297,729
	UTILITY RELOCATION				\$ 100,000
TOTAL CONSTRUCTION COST					\$ 4,337,924

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative F

Project Location : Willcox, AZ

Bid Advertisement :

Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative F (East Bypass with Grade-Separated RR Crossing)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2010011	CLEARING AND GRUBBING	ACRE	220	\$ 500.00	\$ 110,000
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1	\$ 5,000.00	\$ 5,000
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	4,191	\$ 6.00	\$ 25,145
2050003	GRADING ROADWAY FOR PAVEMENT (	SQ.YD.	22,054	\$ 6.00	\$ 132,325
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	4,375	\$ 70.00	\$ 306,250
4040111	BITUMINOUS TACK COAT	TON	7	\$ 2,000.00	\$ 14,000
4040125	FOG COAT	TON	7	\$ 1,800.00	\$ 12,600
4160009	ASPHALTIC CONCRETE (END PRODUCT) (4.5" AC OVER 5" AB)	TON	7,283	\$ 70.00	\$ 509,810
6070035	SIGN POST (PERFORATED) (SINGLE)(2 1/2T)	L.SUM	1	\$ 2,500.00	\$ 2,500
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L.SUM	1	\$ 2,500.00	\$ 2,500
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L.SUM	1	\$ 2,500.00	\$ 2,500
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 125,000.00	\$ 125,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 23,000.00	\$ 23,000
7040074	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC) (ALKYD) (0.090")	EACH	11	\$ 250.00	\$ 2,750
7330575	INSTALL NEW TRAFFIC SIGNALS AND EQUIPMENT	L.SUM	1	\$ 100,000.00	\$ 100,000
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 44,000.00	\$ 44,000
9010001	MOBILIZATION	L.SUM	1	\$ 87,000.00	\$ 87,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 50,000.00	\$ 50,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 62,000.00	\$ 62,000
CONSTRUCTION SUBTOTAL					\$ 1,616,380
	CONSTRUCTION ENGINEERING			15%	\$ 242,457
	MISCELLANEOUS WORK			15%	\$ 242,457
	PRELIMINARY AND FINAL DESIGN			12%	\$ 193,966
	CONTINGENCY			30%	\$ 484,914
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 160,022
	UPRR ALLOWANCE (DESIGN, CONCRETE PANELS, AND TRAFFIC CONTROL ADJUSTMENTS)				\$ 25,000,000
	RIGHT-OF-WAY-ACQUISITION *THIS ITEM WILL REQUIRE MORE INVESTIGATION*				\$ 297,729
	UTILITY RELOCATION				\$ 100,000
TOTAL CONSTRUCTION COST					\$ 28,337,924

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative G
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative G (South Bypass with At-Grade RR Crossing)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2010011	CLEARING AND GRUBBING	ACRE	333	\$ 500.00	\$ 166,500
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1	\$ 5,000.00	\$ 5,000
2050003	GRADING ROADWAY FOR PAVEMENT (	SQ.YD.	43,275	\$ 5.00	\$ 216,375
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	7,213	\$ 60.00	\$ 432,780
4040111	BITUMINOUS TACK COAT	TON	11	\$ 2,000.00	\$ 22,000
4040125	FOG COAT	TON	11	\$ 1,800.00	\$ 19,800
4160009	ASPHALTIC CONCRETE (END PRODUCT) (5" AC OVER 6" AB)	TON	12,009	\$ 50.00	\$ 600,450
6070035	SIGN POST (PERFORATED) (SINGLE)(2 1/2T)	L. SUM	1	\$ 2,500.00	\$ 2,500
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L. SUM	1	\$ 2,500.00	\$ 2,500
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L. SUM	1	\$ 2,500.00	\$ 2,500
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 151,000.00	\$ 151,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 30,000.00	\$ 30,000
7040074	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC) (ALKYD) (0.090")	EACH	6	\$ 250.00	\$ 1,500
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 54,000.00	\$ 54,000
9010001	MOBILIZATION	L.SUM	1	\$ 106,000.00	\$ 106,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 61,000.00	\$ 61,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 76,000.00	\$ 76,000
CONSTRUCTION SUBTOTAL					\$ 1,949,905
	CONSTRUCTION ENGINEERING			15%	\$ 292,486
	MISCELLANEOUS WORK			15%	\$ 292,486
	PRELIMINARY AND FINAL DESIGN			12%	\$ 233,989
	CONTINGENCY			30%	\$ 584,971
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 193,041
	UPRR ALLOWANCE (DESIGN, CONCRETE PANELS, AND TRAFFIC CONTROL ADJUSTMENTS)				\$ 1,000,000
	RIGHT-OF-WAY-ACQUISITION *THIS ITEM WILL REQUIRE MORE INVESTIGATION*				\$ 537,728
	UTILITY RELOCATION				\$ 100,000
TOTAL CONSTRUCTION COST					\$ 5,184,605

ADOT Willcox Circulation Study
COST ESTIMATE



Project Description : Alternative H
Project Location : Willcox, AZ
Bid Advertisement :
Project Manager : Michael Grandy

Date: 9/8/2021

Willcox Circulation Study - Alternative H (South Bypass with Grade-Separated RR Crossing)

ITEM NO.		UNIT	QUANTITY	UNIT PRICE	AMOUNT
2010011	CLEARING AND GRUBBING	ACRE	333	\$ 500.00	\$ 166,500
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1	\$ 5,000.00	\$ 5,000
2050003	GRADING ROADWAY FOR PAVEMENT (	SQ.YD.	43,275	\$ 5.00	\$ 216,375
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	7,213	\$ 60.00	\$ 432,780
4040111	BITUMINOUS TACK COAT	TON	11	\$ 2,000.00	\$ 22,000
4040125	FOG COAT	TON	11	\$ 1,800.00	\$ 19,800
4160009	ASPHALTIC CONCRETE (END PRODUCT) (5" AC OVER 6" AB)	TON	12,009	\$ 50.00	\$ 600,450
6070035	SIGN POST (PERFORATED) (SINGLE)(2 1/2T)	L. SUM	1	\$ 2,500.00	\$ 2,500
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	L. SUM	1	\$ 2,500.00	\$ 2,500
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	L. SUM	1	\$ 2,500.00	\$ 2,500
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	\$ 151,000.00	\$ 151,000
7041501	PAVEMENT MARKINGS	L.SUM	1	\$ 30,000.00	\$ 30,000
7040074	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC) (ALKYD) (0.090")	EACH	6	\$ 250.00	\$ 1,500
8101013	EROSION CONTROL (AZPDES/NPDES)	L.SUM	1	\$ 54,000.00	\$ 54,000
9010001	MOBILIZATION	L.SUM	1	\$ 106,000.00	\$ 106,000
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1	\$ 61,000.00	\$ 61,000
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1	\$ 76,000.00	\$ 76,000
CONSTRUCTION SUBTOTAL					\$ 1,949,905
	CONSTRUCTION ENGINEERING			15%	\$ 292,486
	MISCELLANEOUS WORK			15%	\$ 292,486
	PRELIMINARY AND FINAL DESIGN			12%	\$ 233,989
	CONTINGENCY			30%	\$ 584,971
	INDIRECT COST ALLOCATION (ICAP)			9.9%	\$ 193,041
	UPRR ALLOWANCE (DESIGN, CONCRETE PANELS, AND TRAFFIC CONTROL ADJUSTMENTS)				\$ 25,000,000
	RIGHT-OF-WAY-ACQUISITION *THIS ITEM WILL REQUIRE MORE INVESTIGATION*				\$ 537,728
	UTILITY RELOCATION				\$ 100,000
TOTAL CONSTRUCTION COST					\$ 29,184,605

Appendix K. Preferred Alternative Synchro Reports

Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	18	5	17	23	43	2	70	56	58	71	7
Future Volume (vph)	11	18	5	17	23	43	2	70	56	58	71	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99		1.00	0.99		1.00	1.00	
Frt		0.980			0.930			0.933			0.987	
Flt Protected		0.984			0.990		0.950			0.950		
Satd. Flow (prot)	0	1790	0	0	1629	0	1770	1693	0	1641	1787	0
Flt Permitted		0.854			0.918		0.697			0.663		
Satd. Flow (perm)	0	1553	0	0	1510	0	1296	1693	0	1144	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			51			66			8	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1843			2771			1323			3761	
Travel Time (s)		35.9			54.0			25.8			73.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%	2%	5%	2%	10%	5%	2%
Adj. Flow (vph)	13	21	6	20	27	51	2	82	66	68	84	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	98	0	2	148	0	68	92	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		24.5	24.5		24.5	24.5	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effect Green (s)		10.0			10.0		23.7	23.7		23.7	23.7	
Actuated g/C Ratio		0.27			0.27		0.64	0.64		0.64	0.64	
v/c Ratio		0.09			0.22		0.00	0.13		0.09	0.08	
Control Delay		10.0			7.8		7.0	4.9		7.3	6.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		10.0			7.8		7.0	4.9		7.3	6.5	
LOS		B			A		A	A		A	A	

Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

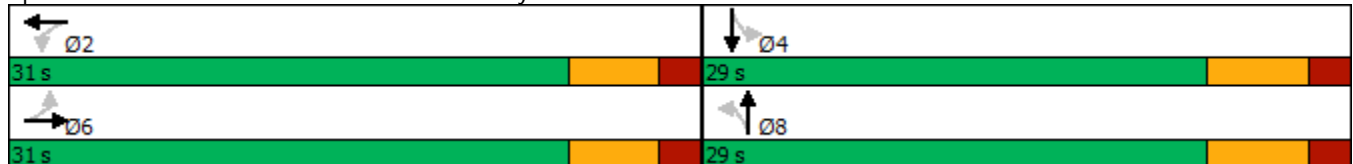
09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		10.0			7.8			4.9			6.8	
Approach LOS		B			A			A			A	
Queue Length 50th (ft)		5			7		0	10		8	10	
Queue Length 95th (ft)		18			27		2	29		22	26	
Internal Link Dist (ft)		1763			2691			1243			3681	
Turn Bay Length (ft)							100			120		
Base Capacity (vph)		1048			1034		985	1302		869	1360	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.09		0.00	0.11		0.08	0.07	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	37.1
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.22
Intersection Signal Delay:	6.7
Intersection LOS:	A
Intersection Capacity Utilization	49.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 10: Haskell Ave - B-10 & Maley St - SR 186



Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	19	6	30	24	78	12	110	29	53	122	24
Future Volume (vph)	21	19	6	30	24	78	12	110	29	53	122	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.982			0.920			0.969			0.976	
Flt Protected		0.977			0.989		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1598	0	1770	1756	0	1641	1768	0
Flt Permitted		0.777			0.906		0.649			0.654		
Satd. Flow (perm)	0	1417	0	0	1464	0	1207	1756	0	1128	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			92			25			19	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1843			2771			1323			3761	
Travel Time (s)		35.9			54.0			25.8			73.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%	2%	5%	2%	10%	5%	2%
Adj. Flow (vph)	25	22	7	35	28	92	14	129	34	62	144	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	155	0	14	163	0	62	172	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		24.5	24.5		24.5	24.5	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effect Green (s)		10.0			10.0		19.4	19.4		19.4	19.4	
Actuated g/C Ratio		0.27			0.27		0.52	0.52		0.52	0.52	
v/c Ratio		0.14			0.34		0.02	0.18		0.11	0.19	
Control Delay		10.6			7.9		7.1	7.1		7.9	7.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		10.6			7.9		7.1	7.1		7.9	7.4	
LOS		B			A		A	A		A	A	

Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

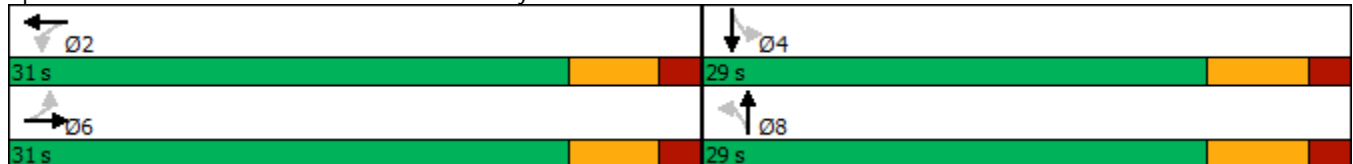
09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		10.6			7.9			7.1			7.5	
Approach LOS		B			A			A			A	
Queue Length 50th (ft)		7			10		2	17		8	19	
Queue Length 95th (ft)		23			36		7	39		21	42	
Internal Link Dist (ft)		1763			2691			1243			3681	
Turn Bay Length (ft)							100			120		
Base Capacity (vph)		952			1011		821	1202		766	1208	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.06			0.15		0.02	0.14		0.08	0.14	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	37.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.34
Intersection Signal Delay:	7.8
Intersection LOS:	A
Intersection Capacity Utilization	49.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 10: Haskell Ave - B-10 & Maley St - SR 186



Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	18	5	17	23	43	2	70	56	58	71	7
Future Volume (vph)	11	18	5	17	23	43	2	70	56	58	71	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.99			1.00	
Frt		0.980			0.930			0.941			0.993	
Flt Protected		0.984			0.990			0.999			0.979	
Satd. Flow (prot)	0	1790	0	0	1628	0	0	1705	0	0	1725	0
Flt Permitted		0.854			0.918			0.990			0.794	
Satd. Flow (perm)	0	1553	0	0	1509	0	0	1690	0	0	1397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			51			41			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1843			2771			1323			3761	
Travel Time (s)		35.9			54.0			25.8			73.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%	2%	5%	2%	10%	5%	2%
Adj. Flow (vph)	13	21	6	20	27	51	2	82	66	68	84	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	98	0	0	150	0	0	160	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			1				2
Permitted Phases	3			3			1			2		
Detector Phase	3	3		3	3		1	1		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		24.5	24.5		29.0	29.0	
Total Split (s)	30.0	30.0		30.0	30.0		27.0	27.0		33.0	33.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		30.0%	30.0%		36.7%	36.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.5			6.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)		12.4			12.4			18.5			14.0	
Actuated g/C Ratio		0.26			0.26			0.38			0.29	
v/c Ratio		0.10			0.23			0.22			0.40	
Control Delay		18.9			13.7			14.3			22.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.9			13.7			14.3			22.2	
LOS		B			B			B			C	
Approach Delay		18.9			13.7			14.3			22.2	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		9			13			27			46	

Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		31			47			69			89	
Internal Link Dist (ft)		1763			2691			1243			3681	
Turn Bay Length (ft)												
Base Capacity (vph)		844			841			852			818	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.05			0.12			0.18			0.20	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 48.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 45.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Haskell Ave - B-10 & Maley St - SR 186



Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	19	6	30	24	78	12	110	29	53	122	24
Future Volume (vph)	21	19	6	30	24	78	12	110	29	53	122	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			1.00				1.00
Frt		0.982			0.920			0.974				0.984
Flt Protected		0.977			0.989			0.996				0.987
Satd. Flow (prot)	0	1782	0	0	1597	0	0	1761	0	0	1737	0
Flt Permitted		0.821			0.906			0.903				0.854
Satd. Flow (perm)	0	1496	0	0	1462	0	0	1596	0	0	1502	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			81			12				8
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1843			2771			1323				3761
Travel Time (s)		35.9			54.0			25.8				73.3
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%	2%	5%	2%	10%	5%	2%
Adj. Flow (vph)	25	22	7	35	28	92	14	129	34	62	144	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	155	0	0	177	0	0	234	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			1				2
Permitted Phases	3			3			1			2		
Detector Phase	3	3		3	3		1	1		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		24.5	24.5		29.0	29.0	
Total Split (s)	31.0	31.0		31.0	31.0		27.0	27.0		32.0	32.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		30.0%	30.0%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.5			6.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		11.4			11.4			16.3			14.6	
Actuated g/C Ratio		0.20			0.20			0.29			0.26	
v/c Ratio		0.18			0.43			0.38			0.60	
Control Delay		21.9			17.2			21.6			26.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.9			17.2			21.6			26.5	
LOS		C			B			C			C	
Approach Delay		21.9			17.2			21.6			26.5	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)		14			22			46			69	

Lanes, Volumes, Timings
 10: Haskell Ave - B-10 & Maley St - SR 186

09/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		44			73			112			140	
Internal Link Dist (ft)		1763			2691			1243			3681	
Turn Bay Length (ft)												
Base Capacity (vph)		694			718			611			725	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.08			0.22			0.29			0.32	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 56.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 22.4
 Intersection LOS: C
 Intersection Capacity Utilization 43.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: Haskell Ave - B-10 & Maley St - SR 186



Intersection

Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	18	5	17	23	43	2	70	56	58	71	7
Future Vol, veh/h	11	18	5	17	23	43	2	70	56	58	71	7
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	10	2	5	2	10	5	2
Mvmt Flow	13	21	6	20	27	51	2	82	66	68	84	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8	8.1	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	32%	20%	43%
Vol Thru, %	55%	53%	28%	52%
Vol Right, %	44%	15%	52%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	34	83	136
LT Vol	2	11	17	58
Through Vol	70	18	23	71
RT Vol	56	5	43	7
Lane Flow Rate	151	40	98	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.053	0.12	0.204
Departure Headway (Hd)	4.174	4.727	4.412	4.599
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	860	758	813	782
Service Time	2.195	2.753	2.435	2.62
HCM Lane V/C Ratio	0.176	0.053	0.121	0.205
HCM Control Delay	8.1	8	8	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0.4	0.8

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	19	6	30	24	78	12	110	29	53	122	24
Future Vol, veh/h	21	19	6	30	24	78	12	110	29	53	122	24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	10	2	5	2	10	5	2
Mvmt Flow	25	22	7	35	28	92	14	129	34	62	144	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.6			8.9			9			9.9		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	46%	23%	27%
Vol Thru, %	73%	41%	18%	61%
Vol Right, %	19%	13%	59%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	46	132	199
LT Vol	12	21	30	53
Through Vol	110	19	24	122
RT Vol	29	6	78	24
Lane Flow Rate	178	54	155	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.077	0.201	0.309
Departure Headway (Hd)	4.618	5.117	4.662	4.759
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	775	696	766	752
Service Time	2.668	3.18	2.713	2.807
HCM Lane V/C Ratio	0.23	0.078	0.202	0.311
HCM Control Delay	9	8.6	8.9	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.7	1.3

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	39	52	5	24	19	49	41	5	19	27	22
Future Vol, veh/h	23	39	52	5	24	19	49	41	5	19	27	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	200	-	-	155	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	2	2	5	5	2	2	5	2
Mvmt Flow	27	46	61	6	28	22	58	48	6	22	32	26

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	281	259	45	310	269	51	58	0	0	54	0	0
Stage 1	89	89	-	167	167	-	-	-	-	-	-	-
Stage 2	192	170	-	143	102	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.25	7.12	6.52	6.22	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	671	645	1016	642	637	1017	1527	-	-	1551	-	-
Stage 1	918	821	-	835	760	-	-	-	-	-	-	-
Stage 2	810	758	-	860	811	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	608	612	1016	546	605	1017	1527	-	-	1551	-	-
Mov Cap-2 Maneuver	608	612	-	546	605	-	-	-	-	-	-	-
Stage 1	883	810	-	803	731	-	-	-	-	-	-	-
Stage 2	733	729	-	752	800	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.2		10.3		3.8		2.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1527	-	-	608	612	1016	546	605	805	1551	-	-
HCM Lane V/C Ratio	0.038	-	-	0.045	0.075	0.06	0.011	0.023	0.045	0.014	-	-
HCM Control Delay (s)	7.5	-	-	11.2	11.4	8.8	11.7	11.1	9.7	7.4	-	-
HCM Lane LOS	A	-	-	B	B	A	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0.2	0	0.1	0.1	0	-	-

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	47	5	5	69	43	5	5	5	58	5	5
Future Vol, veh/h	5	47	5	5	69	43	5	5	5	58	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	5	2	2	5	10	2	2	2	10	2	2
Mvmt Flow	6	55	6	6	81	51	6	6	6	68	6	6

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	132	0	0	61	0	0	195	214	58	195	192	107
Stage 1	-	-	-	-	-	-	70	70	-	119	119	-
Stage 2	-	-	-	-	-	-	125	144	-	76	73	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.2	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.2	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.2	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.59	4.018	3.318
Pot Cap-1 Maneuver	1453	-	-	1542	-	-	764	684	1008	747	703	947
Stage 1	-	-	-	-	-	-	940	837	-	866	797	-
Stage 2	-	-	-	-	-	-	879	778	-	914	834	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1453	-	-	1542	-	-	749	679	1008	734	697	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	749	679	-	734	697	-
Stage 1	-	-	-	-	-	-	936	834	-	863	794	-
Stage 2	-	-	-	-	-	-	864	775	-	899	831	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.7		0.3		9.6		10.3	
HCM LOS					A		B	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	749	811	1453	-	-	1542	-	-	734	803
HCM Lane V/C Ratio	0.008	0.015	0.004	-	-	0.004	-	-	0.093	0.015
HCM Control Delay (s)	9.8	9.5	7.5	-	-	7.3	-	-	10.4	9.6
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	0.3	0

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	40	114	5	62	16	121	31	5	13	35	34
Future Vol, veh/h	30	40	114	5	62	16	121	31	5	13	35	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	200	-	-	155	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	2	2	5	5	2	2	5	2
Mvmt Flow	35	47	134	6	73	19	142	36	6	15	41	40

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	460	417	61	505	434	39	81	0	0	42	0	0
Stage 1	91	91	-	323	323	-	-	-	-	-	-	-
Stage 2	369	326	-	182	111	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.25	7.12	6.52	6.22	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	512	527	996	478	515	1033	1498	-	-	1567	-	-
Stage 1	916	820	-	689	650	-	-	-	-	-	-	-
Stage 2	651	648	-	820	804	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	408	472	996	352	461	1033	1498	-	-	1567	-	-
Mov Cap-2 Maneuver	408	472	-	352	461	-	-	-	-	-	-	-
Stage 1	829	812	-	624	588	-	-	-	-	-	-	-
Stage 2	507	586	-	662	796	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		12.8		5.9		1.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	408	472	996	352	461	568	1567	-	-
HCM Lane V/C Ratio	0.095	-	-	0.087	0.1	0.135	0.017	0.079	0.097	0.01	-	-
HCM Control Delay (s)	7.7	-	-	14.7	13.5	9.2	15.4	13.5	12	7.3	-	-
HCM Lane LOS	A	-	-	B	B	A	C	B	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.3	0.5	0.1	0.3	0.3	0	-	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	48	5	5	63	78	5	5	5	53	5	5
Future Vol, veh/h	5	48	5	5	63	78	5	5	5	53	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	5	2	2	5	10	2	2	2	10	2	2
Mvmt Flow	6	56	6	6	74	92	6	6	6	62	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	166	0	0	62	0	0	209	249	59	209	206	120
Stage 1	-	-	-	-	-	-	71	71	-	132	132	-
Stage 2	-	-	-	-	-	-	138	178	-	77	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.2	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.2	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.2	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.59	4.018	3.318
Pot Cap-1 Maneuver	1412	-	-	1541	-	-	748	654	1007	731	691	931
Stage 1	-	-	-	-	-	-	939	836	-	853	787	-
Stage 2	-	-	-	-	-	-	865	752	-	912	833	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1412	-	-	1541	-	-	734	649	1007	717	685	931
Mov Cap-2 Maneuver	-	-	-	-	-	-	734	649	-	717	685	-
Stage 1	-	-	-	-	-	-	935	833	-	850	784	-
Stage 2	-	-	-	-	-	-	850	749	-	896	830	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.3			9.7			10.4		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	734	789	1412	-	-	1541	-	-	717	789
HCM Lane V/C Ratio	0.008	0.015	0.004	-	-	0.004	-	-	0.087	0.015
HCM Control Delay (s)	9.9	9.6	7.6	-	-	7.3	-	-	10.5	9.6
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	0.3	0