**NOTICE OF REGULAR COUNCIL MEETING**

In accordance with §38-431.01 of the Arizona Revised Statutes of the State of Arizona, notice is hereby given to the Members of City Council and to the general public that the Mayor and Council of the City of San Luis, Arizona will hold a Regular City Council meeting at 7:00 p.m., Wednesday, July 24, 2019. The meeting will take place at the City Council Chambers, located at 1090 E. Union Street, San Luis, Arizona, 85349. Everyone from the public is invited to attend the open meeting.

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the City of San Luis does not discriminate on the basis of disability in the admission of or access to, or treatment of employment in its programs, activities, or services. For information regarding rights and provisions of the ADA or Section 504, or to request reasonable accommodations for participation in City programs, activities or services contact: ADA/Section 504 Coordinator, City of San Luis Human Resources Department, 1090 E. Union Street, San Luis, Arizona, 85349; (928) 341-8520.

Notice is hereby given that pursuant to A.R.S. §1-602.A.9, subject to certain specified statutory exceptions, parents have a right to consent before the State or any of its political subdivisions make a video or audio recording of a minor child. Meetings of the City Council are audio and/or video recorded, and, as a result, proceedings in which children are present may be subject to such recordings. Parents in order to exercise their rights may either file written consent with the City Clerk to such recordings, or take personal action to ensure that their child or children are not present when a recording may be made. If a child is present at the time a recording is made, the City will assume that the rights afforded parents pursuant to A.R.S. §1-602.A.9 have been waived.

**THIS NOTICE IS GIVEN BY:**

/s/ Melissa Lopez, Deputy City Clerk

**AVISO DE JUNTA REGULAR**

De acuerdo con los Estatutos del Estado de Arizona A.R.S. §38-431.01, se le informa a los miembros del Cabildo y al público en general que el Alcalde y el Cabildo, tendrán una Junta Regular a las 7:00 p.m., el día Miercoles, 24 de Julio del 2019. La junta se llevará a cabo en la Sala del Cabildo, ubicada en el 1090 E. Union Street, San Luis, Arizona, 85349. El público está cordialmente invitado a la junta.

De acuerdo con el Acta de Americanos con Discapacidades y la Sección 504 del Acta de Rehabilitación del 1973, la Ciudad de San Luis, Arizona no discrimina por causa de discapacidad la admisión y acceso a sus programas, actividades, servicios o en el trato en cuanto a empleo. Para más información referente a derechos y provisiones del Acta de Americanos con Discapacidades o Sección 504, o para solicitar adaptaciones qua sean razonables para la participación en programas, actividades o servicios de la Ciudad, contactar al: Coordinador del Acta de Americanos con Discapacidades/Sección 504, Departamento de Recursos Humanos de la Ciudad de San Luis, Arizona, ubicado en el 1090 E. Union Street, San Luis, Arizona, 85349; (928) 341-8520.

Por medio de este aviso y de acuerdo con los Estatutos del Estado de Arizona A.R.S §1-602.A.9, sujeto a ciertas excepciones reglamentarias, los padres de familia tienen el derecho de dar el consentimiento ante el Estado o cualquiera de sus subdivisiones políticas para hacer una grabación de audio o video de su hijo menor de edad. Las juntas del Cabildo se graban en audio y/o video y como resultado, el hecho de que haya menores presentes puede ser sujeto a que sean grabados. Para que los padres de familia puedan ejercer sus derechos pueden dar el consentimiento por escrito con la Secretaria de la Ciudad a tal grabación, o tomar acción personal para asegurarse que su hijo menor no esté presente cuando la grabación se lleve a cabo. Si un menor de edad está presente en el momento de la grabación, la Ciudad asumirá que los padres de familia están cediendo los derechos sobre una posible grabación de acuerdo con los Estatutos del Estado de Arizona A.R.S. §1-602.A.9.

**ESTE AVISO ES DADO POR:**

/f/ Melissa Lopez, Asistente a la Actuaria de la Ciudad

# AGENDA
# Regular Meeting
# San Luis City Council
# San Luis Council Chambers
# 1090 E. Union Street
# San Luis, AZ 85349
# July 24, 2019
# 7:00 p.m.

**PLEASE TAKE NOTICE THAT MEMBERS OF THE CITY COUNCIL WILL ATTEND EITHER IN PERSON, TELEPHONE, OR VIDEO CONFERENCE COMMUNICATION. THE MAYOR OR ACTING MAYOR FOR THIS MEETING MAY CHANGE THE ORDER OF THE ITEMS; IF AUTHORIZED BY LAW AND BY A MAJORITY VOTE OF A QUORUM OF CITY COUNCIL MEMBERS PRESENT, AN EXECUTIVE SESSION WILL BE HELD IMMEDIATELY FOLLOWING THE VOTE IN ACCORDANCE WITH A.R.S. §38-431.03(A) AND THE MEETING WILL BE TEMPORARILY RECESSED WHILE THE CITY COUNCIL RETIRES TO EXECUTIVE SESSION WHICH WILL NOT BE OPEN TO THE PUBLIC.**

**1.** **CALL TO ORDER/ROLL CALL** **7:02 p.m.**

**2.** **PLEDGE OF ALLEGIANCE**

**3.** **INVOCATION**

**4.** **PROCLAMATION/PRESENTATIONS**

| | | |
|---|---|---|
| **4. A.** | Proclamation - STEAM Education Month, August 2019 | **Proclaimed** |
| **4. B.** | Introduction of the City of San Luis new hires for the 2nd quarter from April through June 2019. **(Edgardo Carbajal, HR Recruitment Coordinator)** | **Presentation Done** |
| **4. C.** | Presentation and recognition of the 2019 - 2nd Quarter Awardees by the Employee Recognition and Awards Program (ERAP) for their outstanding work with the City of San Luis. **(Angelica Cifuentes, Rogelio Martinez, ERAP Committee Chairs & Fausto Gonzalez, HR Training & Programs Coordinator)** | **Presentation Done** |
| **4. D.** | Presentation of check to Yuma Regional Medical Center - Yuma Regional Cancer Center Hispanic Support Group fund-raised during the Strikeout Cancer Co-Ed Softball Tournament held on Saturday, May 4, 2019. **(Edgar Juarez, Recreation Coordinator)** | **Continued to the Next Scheduled Meeting** |

**5.** **CONSENT AGENDA**
All matters are considered to be routine by the City Council and will be enacted by one motion. If discussion is desired, that item will be removed from the Consent Agenda and will be considered separately.

**5. A.** **MINUTES OF** **Approved**

- Special Council meeting held June 5, 2019
- Regular Council meeting held June 12, 2019
- Special Council meeting held June 19, 2019
- Special Council meeting held June 25, 2019

**5. B.** **DISBURSEMENTS FROM June 15, 2019 THROUGH July 12, 2019** **Approved**

Total Disbursements $2,054,019.42
(Two Million, Fifty-Four Thousand Nineteen Dollars and Forty-Two Cents)

**6.** **DISCUSSION AND POSSIBLE ACTION ITEMS:**

**6. A.** Discussion and possible action on any all matters regarding payment to Yuma County Recorder's Office and Yuma County Election Services for Special Election held May 21, 2019. **(Kay Macuil, City Attorney)** **Approved**

**6. B.** Discussion and possible action on any and all matters regarding payment for Emergency Medical Services Training (Paramedic Class) with Wizard Education. **(Angel Ramirez, Fire Chief)** **Approved**

**6. C.** Discussion and possible action on any and all matters regarding Resolution No. 2084. A Resolution of the Mayor and Council of the City of San Luis, Arizona in support of the Yuma County Multi-Jurisdictional Multi-Hazard Mitigation Plan. **(Angel Ramirez, Fire Chief and Richard Jessup, Chief of Police)** **Approved**

**6. D.** Discussion and possible action on any and all matters regarding Resolution No. 2085. A Resolution of the Mayor and City Council of the City of San Luis, Arizona, approving and adopting the Land Use Assumptions of the City of San Luis 2019. **(Monica Castro, Director of Finance)** **Approved**

**6. E.** Discussion and possible action on any and all matters regarding Resolution No. 2086. A Resolution of the Mayor and City Council of the City of San Luis, Arizona, approving and adopting the Infrastructure Improvements Plan of the City of San Luis 2019. **(Jose A. Guzman, Director of Planning and Zoning; Monica Castro, Director of Finance)** **Approved**

**6. F.** Discussion and possible action on any and all matters regarding Ordinance No. 391. An ordinance of the Mayor and City Council of the City of San Luis, Arizona, amending the San Luis City Code on Building Regulations, Section 150.014 by adding subsection 150.014 (C) Traffic Impact Studies; repealing any conflicting provisions; providing for severability; and declaring an emergency. **(Kay Marion Macuil, City Attorney)** **Approved**

A. Action on Reading of Ordinance No. 391 by title only.
(City Clerk to read Ordinance No. 391 by title only)
B. Action on Ordinance No. 391.

**7.** **SUMMARY OF CURRENT EVENTS**

Events by Mayor, Council Members and/or City Manager pursuant to A.R.S. §38-431.02 (K).

**8. CALL TO THE PUBLIC**

This is the time for the public to comment. Members of the City Council may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. §38-431.01 (H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to any criticism or scheduling the matter for further consideration and decision at a later date.

**9. ADJOURNMENT 8:05 p.m.**

# PROCLAMATION

**Regular City Council Meeting** **4.A.**

Meeting Date: 07/24/2019

Title:

Proclamation - STEAM Education Month, August 2019

Attachments

Proclamation - STEAM Education Month

Request Letter

OFFICE OF THE
MAYOR
CITY OF SAN LUIS

# Proclamation

**STEAM Education Month**
**August 2019**

**WHEREAS**, strong Science, Technology, Engineering, Arts and Mathematics (STEAM) education programs are vital to the intellectual and economic future of the state of Arizona and further, the United States of America; and

**WHEREAS**, the City of San Luis is committed to providing its next generation of leaders with a rigorous and well-rounded education to include engaging and challenging students in Science, Technology, Engineering, Arts and Mathematics; and

**WHEREAS**, each year, a month is designated by the City of San Luis to raise awareness of STEAM education programs and to encourage students to reach their full potential in these fields; and

**WHEREAS**, the City of San Luis encourages its citizens to learn more about STEAM education programs and career options and to encourage the young people in our lives to explore these opportunities before them; and

**NOW, THEREFORE**, I Gerardo Sanchez, Mayor of the City of San Luis, Arizona, do hereby proclaim the month of August 2019 to be recognized as STEAM Educa5tion Month in recognition of the important work teachers contribute to their students through the STEAM Programs.

**PASSED AND ADOPTED** this 24th day of July 2019.

_____
Gerardo Sanchez, Mayor

**ATTEST:**

_____
Sonia Cornelio, City Clerk

MELENDREZ scholarship fund

P.O. BOX 1993, San Luis, AZ 85349
(928) 304-2897
EMelendrez@mscholarfund.org

June 12, 2019

Dear Mayor Sanchez and City Council,

August is Back-to-School month. This month provides an excellent opportunity for the City of San Luis to demonstrate its support for education and the numerous teachers that dedicate themselves to educate our children. Moreover, it is a wonderful opportunity to educate the public on the importance of STEAM — Science, Technology, Engineering, Arts, and Mathematics — programs in our community.

Speaking on behalf of the teachers and students of San Luis, Arizona, we would be honored if you would sponsor an official proclamation to recognize the month of August as *STEAM Education Month*. Your proclamation would lend official recognition to the important work teachers are contributing to their students through the form of STEAM programs, as well as emphasize your personal commitment to support public education. I have enclosed a sample proclamation which may help your office compose the appropriate proclamation for our city.

Although there is no official public awareness event, I know plenty of educators that would like to assist a City Council meeting where we hope you can read your proclamation. I would like to gather as much media attention if you choose to approve the proclamation because we need to remind our community, especially our teachers, the City of San Luis will continue to support educators and public education.

If you, or your staff, have any questions concerning the request or the sample proclamation, please call me at (928) 304-2897. I will follow-up with your office on this request in the next few days. As always, the citizens of San Luis, Arizona appreciate your support of *STEAM Education Month* and your ongoing support of educators throughout the city. Thank you for your consideration on this special request.

Warm regards,

Edgar I. Melendrez, NREMT
Melendrez Scholarship Fund, Inc., President/Founder
EMelendrez@mscholarfund.org

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **4.B.**

Meeting Date: 07/24/2019

Summary

Introduction of the City of San Luis new hires for the 2nd quarter from April through June 2019.
**(Edgardo Carbajal, HR Recruitment Coordinator)**

Attachments

2nd Qtr. (April-June 2019) New Hire Report

# Employee New Hire Report

| Employee | Date of Hire | Primary Department | Position |
|---|---|---|---|
| DE LA CRUZ, LEILANI | 04/06/2019 | AQUATIC CENTER | HEAD LIFE GUARD |
| VARGAS, ALVARO | 04/06/2019 | AQUATIC CENTER | LIFE GUARD |
| ASTORGA, ERICK | 04/15/2019 | Police Department | POLICE OFFICER RECRUIT |
| GONZALEZ HERNANDEZ, AARON | 04/15/2019 | Police Department | POLICE OFFICER RECRUIT |
| PEREDA BAEZ, JOSE J | 04/15/2019 | Police Department | POLICE OFFICER |
| HERNANDEZ GARCIA, LIZETH | 04/26/2019 | AQUATIC CENTER | LIFE GUARD |
| ANGULO INOCENCIO, OMAR A | 05/06/2019 | Police Department | TRANSIT ENFORCEMENT OFFICER |
| CANO, AMERICA | 05/13/2019 | Development Services | ADMINISTRATIVE COORDINATOR |
| CEBALLOS TORRES, ADOLFO H | 05/13/2019 | Public Works/Waste Water | WASTEWATER PLANT OPERATOR |
| FIMBRES RUIZ, OSCAR | 05/13/2019 | AQUATIC CENTER | HEAD LIFE GUARD |
| LANDEROS, GABRIELA | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| LINAREZ, JOSE | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| ORTIZ-HOYOS, DIEGO | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| QUEZADA, JOSEPH A | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| ROMO HERRERA, ANNEY | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| SALAZAR, VIRIDIANA M | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| SANCHEZ, ABRAHAM G | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| SANDOVAL, MARA A | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| SONI, NITANT | 05/13/2019 | AQUATIC CENTER | LIFE GUARD |
| ESCALANTE BENITEZ, JACOBO | 05/17/2019 | AQUATIC CENTER | LIFE GUARD |
| FLORES, ANTHONY N | 05/17/2019 | AQUATIC CENTER | LIFE GUARD |
| LEON MOSQUEDA, HECTOR | 05/17/2019 | AQUATIC CENTER | LIFE GUARD |
| PINA, LUZ | 05/17/2019 | AQUATIC CENTER | LIFE GUARD |
| SOTO AMBRIZ, CHARLES | 05/17/2019 | AQUATIC CENTER | LIFE GUARD |
| GONZALEZ AGUIRRE, ARALE | 05/20/2019 | City Clerk | OFFICE ASSISTANT |
| SOTO YESCAS, ANDREA | 05/20/2019 | City Administration | OFFICE ASSISTANT |
| VALDOVINOS LARES, MARIA F | 05/20/2019 | Human Resources | OFFICE ASSISTANT |
| CAZAREZ, MAYTE | 06/03/2019 | Youth Center | RECREATION INTERN |
| VARELA, KASSANDRA E | 06/03/2019 | Youth Center | RECREATION INTERN |
| ZEPEDA, CESAR A | 06/06/2019 | Municipal Court | COURT INTERPRETER |
| ALVARADOSANDOVAL, RIGOBERTO | 06/17/2019 | Public Works/Waste Water | WASTEWATER PLANT OPERATOR |

# Employee New Hire Report
# Arizona State University Interns

| | |
|---|---|
| ALFREDO ALEGRIA | ADMINISTRATION INTERN |
| GRISELDA TIZCARENO | MUNICIPAL COURT INTERN |
| ERWIN PANUCO GAMEZ | FINANCE INTERN |
| KENYA CORNEJO | FIRE INTERN |
| LESLEY GONZALEZ | FIRE INTERN |
| ISRAEL DELGADO | IT INTERN |
| GUILLERMO RODRIGUEZ | IT INTERN |
| MARCO ZEPEDA | PARKS & RECREATION INTERN |
| JESUS RAMIREZ | PUBLIC WORKS INTERN |
| CARLOS RIVAS | PUBLIC WORKS INTERN |

# University of Arizona Intern

| | |
|---|---|
| NATHALIE GONZALEZ | PROCECUTOR'S OFFICE INTERN |

# PRESENTATION

**Regular City Council Meeting** **4.C.**

Meeting Date: 07/24/2019

Presentation Topic/Summary:

Presentation and recognition of the 2019 - 2nd Quarter Awardees by the Employee Recognition and Awards Program (ERAP) for their outstanding work with the City of San Luis. **(Angelica Cifuentes, Rogelio Martinez, ERAP Committee Chairs & Fausto Gonzalez, HR Training & Programs Coordinator)**

Attachments

2019 2nd Quarter ERAP Recipients

# 2019 2ND QUARTER RECIPIENTS
# EMPLOYEE RECOGNITION & AWARDS PROGRAM (ERAP)

## Years of Service

**5 Years**

Jose A. Vasquez, *Police*

Juan de los Reyes, *Police*

Cynthia Henderson, *Billing & Collections*

**15 Years**

Oscar Romo, *Police*

## Customer Service Award

## Ana Camacho de Cibrian, *Facilities*

Since Ana first started working with the City, she has displayed excellent customer service, and maintains that still today. Ana is hard working and takes pride in her job performance and responsibilities. She is really attentive and always asks checks to see how she can be of service. Ana always greets you with a warm and welcoming smile and she is able to project happiness to others she comes in contact with. She loves her job here with the city and is always making sure you are satisfied with her work. She is willing to go above and beyond what is expected of her and does so happily.

## Achievement Award

## Chief Jessup, Lt. Alvarez, Lt. Reynoso & Lt. Santana, *Police*

The Achievement Award goes to Chief Jessup, Lt. Alvarez, Lt. Nigel Reynoso and Lt. Marco Santana. They have shown ongoing initiative, leadership and dedication while enrolled in the prestigious School of Police Staff and Command through Northwestern University. It is an intensive 22-week program that is designed to challenge and teach law enforcement executives management and leadership principals. Not only did they handle their daily duties with a strong sense of commitment, but they took every free moment of personal time to leave a lasting, strong, sustainable legacy by completing this program. They have proven to be outstanding managers, leaders, and members of the community.

## Award of Excellence

## Debora Luna, *Finance*

Ms. Debora Luna was nominated and is the Award of Excellence recipient for going beyond her call of duty assisting an employee with their identity theft problem. This employee had their account compromised and Ms. Luna made sure to assist the employee on time to work with the bank linked to the employee's direct deposit, so that the employee got paid on time. This avoided additional follow-up from employee to resolve it on his own and possibly having to wait until his identity theft issue was resolved in order to have access his bank account and paycheck.

## Employee of the Quarter

## Janet Taylor, *City Attorney's*

Janet Taylor joined the City of San Luis for the 'administration wing' in December of 2015. As soon as hired, she showed eagerness and desire to grow within the organization. She was at City Hall's front desk until August 2016 when she was promoted to Legal Secretary with the Office of the City Attorney. During her tenure at the front desk, where approximately and because of our demographics, 75% of the people coming through the front door and calling the main number speak Spanish only and she was able to manage. Not only that, she never hesitated to provide answers or to seek the appropriate person to help customers.

Janet can be seen practicing Spanish with co-workers and trying to communicate with colleagues that do not speak the English language. This self-initiative comes to tell us her effort and willingness to grow not only as an employee but as a person that demonstrates genuine initiative and teamwork.

Janet has been part of the ERAP Committee, the Safety Committee and has been back-up City Clerk when the Clerks need to go out of town and preside over City Council meetings. Janet also 'clerks' for other boards and commissions and completes her agenda items, packet and minutes in a timely, accurately, and professional manner.

Ms. Janet Taylor was awarded the employee of the quarter as she goes above and beyond while performing her duties.

# PROCLAMATION

**Regular City Council Meeting** **4.D.**

Meeting Date: 07/24/2019

Title:

Presentation of check to Yuma Regional Medical Center - Yuma Regional Cancer Center Hispanic Support Group fund-raised during the Strikeout Cancer Co-Ed Softball Tournament held on Saturday, May 4, 2019. **(Edgar Juarez, Recreation Coordinator)**

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **5.A.**

Meeting Date: 07/24/2019

Summary

**MINUTES OF**

- Special Council meeting held June 5, 2019
- Regular Council meeting held June 12, 2019
- Special Council meeting held June 19, 2019
- Special Council meeting held June 25, 2019

Attachments

6/05/2019 SCM

6/12/2019 RCM

6/19/2019 SCM

6/25/2019 SCM

**M I N U T E S**
**Special Council Meeting**
**San Luis City Council**
**San Luis Council Chambers**
**1090 E. Union Street**
**June 5, 2019**
**6:30 p.m**.

**1. CALL TO ORDER/ROLL CALL:** Mayor Gerardo Sanchez called the Special City Council meeting to order at approximately 6:34 p.m.

**PRESENT:** Mayor Gerardo Sanchez
Vice Mayor Maria Cecilia Ramos
Council Member Mario Buchanan Jr.
Council Member Africa Luna-Carrasco
Council Member Matias Rosales

**ABSENT:** Council Member Jose Ponce
Council Member Gloria Torres

**OTHERS PRESENT:** Tadeo A. De La Hoya, City Manager
Jose L. Cisneros, Acting City Clerk
Glenn Gimbut, Assistant City Attorney
Angel Ramirez, Fire Chief
Eulogio Vera, Director of Public Works
Francia Alonso, PIO/Assistant to Council
Jenny Torres, Economic Development Manager
Jorge Mungaray, IT Technician
Lizandro Galaviz, Director of Parks & Recreation
Richard Jessup, Chief of Police

**2. PLEDGE OF ALLEGIANCE**

The Pledge of Allegiance was led by Council Member Mario Buchanan Jr.

**3. DISCUSSION AND POSSIBLE ACTION ITEM:**

**3. A. Discussion and possible action on any and all matters regarding Resolution No. 2075. A resolution of the Mayor and Council of the City of San Luis, Arizona declaring and adopting the results of the Special Election held May 21, 2019, in the City of San Luis, Arizona. (Sonia Cornelio, City Clerk)**

Mr. Tadeo A. De La Hoya, City Manager, informed that attached to the agenda item are the results of the special election held on May 21, 2019 and informed that by State

Statue, the city must canvas the results within 20 days. He asked if there were any questions regarding the resolution and/or the results.

Mayor Gerardo Sanchez took a moment to thank the community for taking time and voting on this decision. He stated that in his opinion, council did not have the power in deciding whether property taxes should be implemented. It was a decision of the community and that the community decided. He wanted to let it be known that there were 384 Yes and there were 2,015 Nays and that it was not approved.

**MOTION:** Council Member Africa Luna-Carrasco/Council Member Mario Buchanan Jr. to approve and adopt Resolution No. 2075. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Matias Rosales | Aye |

## 4. ADJOURNMENT

**MOTION:** Mayor Gerardo Sanchez/ Council Member Africa Luna-Carrasco to adjourn the Special Council meeting at approximately 6:37 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Matias Rosales | Aye |

**M I N U T E S**
**Regular Council Meeting**
**San Luis City Council**
**San Luis Council Chambers**
**1090 E. Union Street**
**June 12 2019**
**7:00 p.m**.

**1. CALL TO ORDER/ROLL CALL:** Mayor Gerardo Sanchez called the Regular City Council meeting to order at approximately 7:03 p.m.

| | |
|---|---|
| **PRESENT:** | Mayor Gerardo Sanchez<br>Vice Mayor Maria Cecilia Ramos<br>Council Member Mario Buchanan Jr.<br>Council Member Africa Luna-Carrasco<br>Council Member Jose Ponce<br>Council Member Matias Rosales<br>Council Member Gloria Torres |
| **OTHERS PRESENT:** | Tadeo A. De La Hoya, City Manager<br>Melissa Lopez, Deputy City Clerk<br>Glenn Gimbut, Assistant City Attorney<br>Angel Ramirez, Fire Chief<br>Aracely De La Hoya, Senior Center Manager<br>Carlos Cortes, Assistant Director of Finance<br>Edgar Carbajal, Recruitment Coordinator<br>Eulogio Vera, Director of Public Works<br>Francia Alonso, PIO/Assistant to Council<br>Jenny Torres, Economic Development Manager<br>Jonathan Dumadag, Senior IT Technician<br>Jorge Perez, Billing & Collections Manager<br>Jose Guzman, Director of Planning & Zoning<br>Lizandro Galaviz, Director of Parks & Recreation<br>Monica Castro, Director of Finance<br>Ralph Velez, City Consultant<br>Richard Jessup, Chief of Police<br>Roula Encinas, Accountant<br>Cesar Neyoy, Reporter<br>Christian Cuevas, Simultaneous Interpreter<br>Gary Black, Comite de Bienestar<br>Vianey Vega, Vega & Vega Engineering<br>Socorro Perucho, Resident |

**2. PLEDGE OF ALLEGIANCE**

The Pledge of Allegiance was led by Vice Mayor Maria Cecilia Ramos.

**3. INVOCATION**

The Invocation was led by Mr. Richard Jessup, Chief of Police.

**4. PROCLAMATION**

-Elder Abuse Awareness Day June 15, 2019

Ms. Melissa Lopez, Deputy City Clerk, read the proclamation in its entirety.

Mayor Gerardo Sanchez commented that unfortunately, elder abuse does happen and no elderly is abstained from it. He is very grateful for the different agencies and the Senior Center, as they provide a safe place for them. Mayor Gerardo Sanchez thanked Ms. Aracely De La Hoya, Senior Center Manager.

**5. CONSENT AGENDA**

**5. A. MINUTES OF**
- Budget Retreat held April 26, 2019
- Work Session held May 1, 2019
- Regular Council meeting held May 8, 2019
- Work Session held May 15, 2019

**5. B. DISBURSEMENTS FROM 5/11/2019 THROUGH 5/30/2019.**
Total Disbursements $ 1,305,760.88
(One Million, Three Hundred Five Thousand, Seven Hundred Sixty Dollars and Eighty-Eight Cents)

**5.C. Discussion and possible action on any and all matters regarding the approval of Lighting and Retention Basin Assessment Districts Budget for Fiscal Year 2019-2020. (Carlos Cortes, Assistant Director of Finance)**

**5.D. Discussion and possible action on any and all matters regarding Order No. 2019-8. An order of the Mayor and City Council of the City of San Luis, Arizona authorizing and directing the entering into an Intergovernmental Agreement with the City of Phoenix for the use of the Phoenix Municipal Tax Reporting Tool. (Monica Castro, Director of Finance)**

**5.E. Discussion and possible action on any and all matters regarding approval of contract with Lantis Productions, Inc., for a fireworks presentation during the 4th of July Celebration. (Lizandro Galaviz, Parks & Recreation Director)**

**5.F. Discussion and possible action on any and all matters regarding the waiving of procurement code for the rental of inflatable slides from Poly's Party Rentals for the 4th of July Celebration. (Lizandro Galaviz, Director of Parks and Recreation)**

**5.G. Discussion and possible action on any and all matters regarding the Memorandum of Understanding between the City of San Luis and MJS Properties**

**Limited Partnership for the proposed Lot Split Case No. 2019-0155. (Jose A. Guzman, Director of Planning and Zoning)**

**5.H. Discussion and possible action on any and all matters regarding Resolution No. 2076. A resolution of the Mayor and City Council of the City of San Luis, Arizona, creating a Street Lighting Improvement District and declaring its intention to purchase electricity, and maintain poles, luminaries, and underground conduit, together with a charge for the use of lighting facilities, for lighting public streets within the area described as Bienestar Estates 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**5.I. Discussion and possible action on any and all matters regarding Resolution No. 2077. A resolution of the Mayor and City Council of the City of San Luis, Arizona, declaring its intention to provide the Enhanced Municipal Services of operating and maintaining certain retention basins within the area described as Bienestar Estates 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**5.J. Discussion and possible action on any and all matters regarding Resolution No. 2078. A resolution of the Mayor and City Council of the City of San Luis, Arizona declaring its intention of operating, maintaining and repairing certain landscape improvements included within, near and adjacent to the retention and detention basins and parking and parkways and related facilities together with appurtenant structures within the area described as Bienestar Estates 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**5.K. Discussion and possible action on any and all matters regarding Resolution No. 2079. A resolution of the Mayor and City Council of the City of San Luis, Arizona, authorizing and directing the city engineer to order the purchase of electricity and to order the maintenance of poles, luminaries and underground conduit incident to the installation of street lights for lighting public streets within the area described as Bienestar Estates 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**5.L. Discussion and possible action on any and all matters regarding Resolution No. 2080. A resolution of the Mayor and City Council of the City of San Luis Arizona, authorizing and directing the city engineer to order the operation and maintenance of certain retention basins for the area described as Bienestar 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**5.M. Discussion and possible action on any and all matters regarding Resolution No. 2081. A resolution of the Mayor and City Council of the City of San Luis, Arizona, authorizing and ordering the operation, maintenance and repair of certain landscape improvements included within, near and adjacent to the retention and detention basins and parking and parkways and related facilities together with appurtenant structures for the area described as Bienestar Estates 10 Subdivision, San Luis, Arizona. (Jose A. Guzman, Director of Planning & Zoning)**

**MOTION:** Council Member Gloria Torres/Council Member Africa Luna-Carrasco to approve the Consent Agenda as presented. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

Mayor Gerardo Sanchez moved Call to the Public to be next on the agenda, there were no objections from the City Council.

## 8. CALL TO THE PUBLIC

Ms. Socorro Perucho, 1478 Bentu Avenue, San Luis, Arizona, thanked the Mayor and City Council as after 40 years the city serviced the area. This is the only City Council that listened to the residents of that area. It seems that there are some issues with the sewer but the pavement has been fixed and that helped the residents in that area.

## 6. DISCUSSION AND POSSIBLE ACTION ITEMS:

### 6. A. Discussion and possible action on any and all matters regarding the approval and acceptance for filing the Comprehensive Annual Financial Report for the City of San Luis, fiscal year ended June 30, 2018. (Heinfeld, Meech & Co., P.C.)

Ms. Monica Castro, Director of Finance, recognized the Finance Department for the effort they put into completing the financial information that will be presented tonight. She introduced Ms. Britney Williams from Heinfiled, Meech & Co., P.C. via skype. Ms. Williams explained the Comprehensive Annual Financial Report (CAFR) which is an audit of governmental activities, the business-type activities, the aggregate discretely presented component unit, each major fund and the aggregate remaining fund information of the City as of and for the year ended June 30, 2018. She thanked the Finance Department for their work and assistance provided. The report is filed at the City Clerk's Office and posted on the city's website.

Council Member Africa Luna-Carrasco asked Ms. Castro what is being done in regards to the deficiencies.

Ms. Castro responded that the state used to have a reporting system and the accountants were reporting that they were using in the past as it was a procedure they

were following in the past years. But now that the state changed the reporting tool and it specifies the periods better to be recorded so it was noted by the auditors and the city has been doing everything the way it is supposed to be since the Mayor Gerardo Sanchez asked Ms. Castro if the state notified the City of San Luis that they were changing how things were done. Ms. Castro responded the state did not notify the city.

Mayor Gerardo Sanchez thanked the Finance Department for their work and Ms. Williams for the audit performed.

**MOTION**: Council Member Matias Rosales/Vice Mayor Maria Cecilia Ramos to approve and accept the filing of the Comprehensive Annual Financial Report for the City of San Luis for the Fiscal Year ended June 30, 2018. Motion passed unanimously.
The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**6. B. Discussion and possible action on any and all matters regarding the acceptance and approval of the Tentative Budget for Fiscal Year 2019-2020. (Monica Castro, Director of Finance)**

Ms. Monica Castro, Director of Finance, explained that this year was no different than last year, there were significant challenges to produce a balanced budget that would deliver the services of infrastructure and programs that the community needs with the limited funds the city received. She added that as discussed in previous meetings, the major challenge was with the general fund. At the budget retreat, it showed that there was a $4.75 million deficit and with the collaboration of the departments and administration, the deficit was reduced to $ 2.6 million. The main reductions came from capital projects and the revenues were maximized with grants and special revenues. Another account that had a deficit was the Highway Users Revenue Fund (HURF) of $700,000.00. Some of the projects were eliminated and a priority analysis was conducted that identified the needed projects and it brought the fund to a $2,000.00 positive balance. The budget includes the second phase of the salary adjustment; last year public safety was prioritized and this year the employees of the general class will receive the bigger adjustment. Therefore, after this adjustment, most of the employees will be at the 90% or more from market. In order to make this salary adjustment sustainable, a cap of $2.00 was placed and does not affect reaching the city's goal. The years of service, time and position are considered to determine what adjustment the employee will receive effective August 2019. Ms. Castro explained the annual budget by organization report.

Mayor Gerardo Sanchez asked if the adopted budget last year was $62.8 million. Ms. Castro stated no, that last year the expenditures were $62.8 million this year the expenditures is $77.3 million, the jump seems very drastic but the main reason of that change is the detention facility expenditures as it increased by $11 million. Although this has no effect for the city, but for presentation purposes, it needs to be included. The proposed budget is $77.3 million. She briefly explained the list of capital projects expenditures.

Mayor Gerardo Sanchez stated that his biggest concern was the salary adjustments and the city needed to place a cap. The surrounding cities are also having issues and adjusting their property taxes, something that the City of San Luis does not have. Also, there has been a lot of uncertainty with the situation at the border, but hopefully the new port of entry can be obtained and that will change the demographics of downtown and once the hotel is built it will be good. A new medical mall is under construction and it will bring approximately 250 jobs. Subdivisions are being built and a cost assessment needs to be performed to determine how much it costs to perform city services. A point will be reached where new homes are being built but the city will not be able to provide those services, as a city cannot be sustained with just homes, businesses are needed too.

**MOTION:** Vice Mayor Maria Cecilia Ramos/Council Member Africa Luna-Carrasco to approve the tentative budget for Fiscal Year 2019-2020. Motion passed unanimously. The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**6.C. Discussion and possible action on any and all matters regarding Order No. 2019-6. An order of the Mayor and City Council of the City of San Luis, Arizona authorizing and directing the entering into an intergovernmental agreement with the Arizona Department of Revenue regarding the uniform administration, licensing, collection, and auditing of transaction privilege tax, use tax, severance tax, jet fuel excise and use tax and rental occupancy taxes imposed by the State or cities or towns. (Monica Castro, Finance Director)**

Ms. Monica Castro, Director of Finance, stated that this intergovernmental agreement (IGA) was negotiated with the Department of Revenue (DOR) by a consortium of city/town representatives and the League of Arizona Cities and Towns. Additionally, several attorneys and tax experts from many cities and towns reviewed and commented on the language during the process, resulting in a document that provides the maximum

level of information and assurances for the cities. DOR administers and distributes the sales tax to the municipalities. The objective of this agreement is to clearly define the working relationship between DOR and Arizona cities and towns. The IGA addresses confidentiality, including the authorized handling of confidential taxpayer information, expectations for the discreet use of taxpayer data to prevent unauthorized disclosure, and the process to follow in the event of a disclosure. There is also guidance on the use of aggregated taxpayer data for public reporting and analysis. The agreement runs on a calendar year basis and contains a provision for automatic renewal. It is a recommendation of the Finance and Legal Departments to approve this agreement.

**MOTION:** Council Member Gloria Torres/Council Member Jose Ponce to approve and adopt Order No.2019-6. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**6. D. Discussion and possible action on any and all matters regarding appointment to fill a vacancy on the Board of the East San Luis Facilities District. (Glenn J. Gimbut, Assistant City Attorney)**

Mr. Glenn Gimbut, Assistant City Attorney, explained that this board is a five (5) member board and currently there are two (2) vacancies as Mr. Henry Chavez and Mr. Gerald Hunt have resigned.

Council Member Matias Rosales recommended Ms. Shelly Ostrowski as she is interested in being more involved in the different boards with the City of San Luis.

**MOTION**: Council Member Matias Rosales/Vice Mayor Maria Cecilia Ramos to appoint Shelly Ostrowski and Gustavo MacGrew to the board of the East San Luis Community Facilities District. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**6. E. Discussion and possible action on any and all matters regarding Subdivision Case No. 2019-0114F. A request by Vega and Vega Engineering, PLC, on behalf of Comite de Bienestar Inc., property owner, for the final plat approval for Bienestar Estates 10 Subdivision. The property is located on the southeast corner of Avenue F and County 24th Street, San Luis, Arizona. (Jose A. Guzman, Director of Planning and Zoning)**

Mr. Jose Guzman, Director of Planning & Zoning, said that the subject property is located on the east mesa of the City of San Luis, on the southeast corner of Avenue F and County 24th Street. Santa Cecilia No. 1 and Santa Cecilia No. 2, two single-family residential subdivisions, are located north of the proposed subdivision. The proposed subdivision consists of approximately 40.91 acres and is proposed to be divided into 163 lots and 2 tracts. One tract for future commercial development and the other tract to be dedicated to the city for stormwater retention. The lots will range in size from approximately 6,022.96 square feet to 10,150.51 square feet. This item was presented to the Planning and Zoning Commission meeting during their regular meeting held on May 14, 2019. The Commission recommended approval of the request with the condition that the applicant had to address all comments pending before scheduling this item to be presented to the City Council. Staff received the complete resubmittal on May 21, 2019. After review, staff sent out partial comments on June 3rd, 2019 and one additional comment on June 7th, 2019. All comments were put together and send out to the applicant on a letter dated June 7, 2019. Applicant submitted revised plans and are under review by staff.

Staff recommends approval of Subdivision Case No. 2019-0114F with the condition that the applicant addresses review comments letter dated June 7, 2019.

Mayor Gerardo Sanchez asked Mr. Vianey Vega, Engineer, if there were any concerns regarding the comments. Mr. Vega replied that he had the opportunity to meet with staff and they are in agreement with the comments from staff.

**MOTION:** Vice Mayor Maria Cecilia Ramos/Council Member Jose Ponce to approve Subdivision Case No. 2019-0114F with the condition that the applicant address staff's June 7, 2019 letter to the applicant as presented. Council Member Gloria Torres abstained for a possible conflict of interest. Motion passed with six (6) aye votes and one abstention vote by Council Member Gloria Torres.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Abstained |

## 7. SUMMARY OF CURRENT EVENTS

Mayor Gerardo Sanchez reported he was invited by the Mexican Consulate to attend El Primer Cumbre de Alcaldes de Norte America, there were 56 American Mayors from different regions from the United States and at least 49 Mexican Mayors from different areas in Mexico as well as people from Canada. Tourism, safety and terrorism were discussed. It was nice to listen to the perspective of the Canadians and interesting to find out that they are recruiting Mexican workers in most of their towns to cultivate. The City of San Luis was the smallest city present. On a different note, he added the Arizona/Mexico Commission came and the City of San Luis was awarded the Paul J. Fan Award and it is something big as this award is not given just to anyone but to an individual or entity that harvest the idea of having good relationships with Mexico and the United States. The City of San Luis should feel very proud as the city is making a difference.

Vice Mayor Maria Cecilia Ramos reported she was invited to Women's Empowerment Conference titled Moving Beyond Trauma related to domestic violence.

## 9. ADJOURNMENT

**MOTION:** Council Member Africa Luna-Carrasco/Vice Mayor Maria Cecilia Ramos to adjourn the Regular Council meeting at approximately 8:09 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Africa Luna-Carrasco | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**M I N U T E S**
**Special Council Meeting**
**San Luis City Council**
**San Luis Council Chambers**
**1090 E. Union Street**
**June 19, 2019**
**6:30 p.m**.

**1. CALL TO ORDER/ROLL CALL:** Mayor Gerardo Sanchez called the Special City Council meeting to order at approximately 6:33 p.m.

| | |
|---|---|
| **PRESENT:** | Mayor Gerardo Sanchez<br>Council Member Mario Buchanan Jr.<br>Council Member Africa Luna-Carrasco Via Phone Call<br>Council Member Matias Rosales |
| **ABSENT:** | Vice Mayor Maria Cecilia Ramos<br>Council Member Jose Ponce<br>Council Member Gloria Torres |
| **OTHERS PRESENT:** | Jose L. Cisneros, Acting City Clerk<br>Kay Macuil, City Attorney<br>Angel Ramirez, Fire Chief<br>Axel Chayra, IT Technician<br>Eulogio Vera, Director of Public Works<br>Francia Alonso, PIO/Assistant to Council<br>Jenny Torres, Economic Development Manager<br>Jorge Perez, Utilities Manager<br>Jose A. Guzman, Director of Planning & Zoning<br>Monica Castro, Director of Finance<br>Richard Jessup, Chief of Police |

**2. PLEDGE OF ALLEGIANCE**

The Pledge of Allegiance was led by Council Member Matias Rosales.

**3. DISCUSSION AND POSSIBLE ACTION ITEM:**

**3. A. Public hearing followed by discussion and possible action on any and all matters regarding the proposed update of the Land Use Assumptions and Infrastructure Improvement Plan, part of the process of reviewing development impact fees. (Jose A. Guzman, Director of Planning and Zoning and Monica Castro, Director of Finance.**

**A. Open Public Hearing**

**MOTION:** Council Member Mario Buchanan Jr./Council Member Matias Rosales to open the public hearing. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Africa Luna-Carrasco | Aye |

**1. Presentation by staff**

Mr. Jose A. Guzman, Director of Planning and Zoning, explained that the Special Council Meeting is to give the public the opportunity to comment on proposed update of the Land Use Assumptions and Infrastructure Improvement Plan. He stated that the next public hearing will be on July 24, 2019, another on August 28, 2019 and the proposed day of adoption is December 11, 2019.

Mayor Gerardo Sanchez asked Ms. Kay Macuil, City Attorney, if the proposed impact fees or adjustments were previously discussed.

Ms. Macuil stated that they have been discussed several times.

Mayor Gerardo Sanchez asked if there had been any objections by the public because he recalled the fee increases were minimal. Mayor Gerardo Sanchez then asked Council Member Matias Rosales about the fees.

Council Member Matias Rosales stated that compared to the rest of the communities, the fees were below average. He explained that some fees were reduced and that some services that were missing were implemented.

Ms. Macuil explained that one major change is that water is going to be included, which has not happened in the last 5 years.

Mayor Gerardo Sanchez asked if there were any comments from the public or staff. He then asked Mr. Guzman what he thought.

Mr. Guzman stated that there are limits to the services the city can provide, so the fees cannot be increased by that much and that they are ok the way they have been established.

Mr. Eulogio Vera, Director of Public Works, stated that he would like to comment that in the previous implementation of impact fees, there were some increases and that this time it is not very much. He thinks the reason behind it is that impact fees can only be increased to maintain the level of service the city offers. He thinks there a perception that the city imposes impact fees in developments so that developers pay for new parks, stations, streets, without a limit. He stated that the city can only increase fees enough to maintain the level of service. This is the reason fees did not increase by much because the city is providing enough to pay for infrastructure. He believes that in the future, fees will increase steadily, unless the city increases the level of services.

Mayor Gerardo Sanchez stated that if for example, the police force was to increase in the future; this would definitely increase impact fees. He stated that this would increase the need for the construction of a bigger police station.

Mr. Vera explained that this is done through ratios in population. In the future, if the city needs additional officers, fees can be increased. He stated that he has heard from the public that they think the city can increase fees as they like. He explained this is not the case.

Mayor Gerardo Sanchez thanked Mr. Vera for this clarification. He stated that in the past, developers were asked to provide specific things and that there were fewer restrictions. He stated that before they came into council, the state legislature made changes to impact fees; what you can and cannot do.

Ms. Macuil stated that those changes were made in 2012.

Mayor Gerardo Sanchez stated that in the past, developers were afraid because they were asked to do a lot of things. He thanked Mr. Vera again for clarifying that, because council does not have that authority.

Council Member Matias Rosales suggested going into recess and returning at 7:05 p.m.

Mayor Gerardo Sanchez suggested returning from recess at 7:03 p.m.

There was no opposition from council.

**MOTION:** Council Member Mario Buchanan Jr./ Council Member Matias Rosales to go into recess until 7:03 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Africa Luna-Carrasco | Aye |

**MOTION:** Council Member Mario Buchanan Jr./ Council Member Matias Rosales to go back to regular session at 7:03 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Africa Luna-Carrasco | Aye |

**2. Public Comments on this item.**

There were no comments from the public.

**B. Motion to close public hearing**

**MOTION:** Council Member Mario Buchanan Jr./ Council Member Matias Rosales to close public hearing. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Africa Luna-Carrasco | Aye |

**A. Action and possible direction to staff.**

**3. ADJOURNMENT**

**MOTION:** Council Member Mario Buchanan Jr. /Council Member Africa Luna-Carrasco to adjourn the Special Council meeting at approximately 7:03 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Africa Luna-Carrasco | Aye |

**M I N U T E S**
**Special Council Meeting**
**San Luis City Council**
**San Luis Council Chambers**
**1090 E. Union Street**
**June 25, 2019**
**6:30 p.m.**

**1. CALL TO ORDER/ROLL CALL:** Mayor Gerardo Sanchez called the Special City Council meeting to order at approximately 6:33 p.m.

**PRESENT:** Mayor Gerardo Sanchez
Vice Mayor Maria Cecilia Ramos
Council Member Mario Buchanan Jr.
Council Member Jose Ponce
Council Member Matias Rosales
Council Member Gloria Torres

**ABSENT:** Council Member Africa Luna-Carrasco

**OTHERS PRESENT:** Tadeo A. De La Hoya, City Manager
Sonia Cornelio, City Clerk
Kay Marion Macuil, City Attorney
Aracely De La Hoya, Senior Services Manager
Carlos Cortes, Assistant Director of Finace
Edgar Carbajal, Recruitment Coordinator
Enrique Lopez, Assistant Fire Chief
Ernesto Prieto, Police Detective
Eulogio Vera, Director of Public Works
Fausto Carbajal, Training & Programs Coordinator
Francia Alonso, PIO/Assistant to Council
Glenn Gimbut, Assistant City Attorney
Janet Taylor, Legal Secretary
Jesus Meza, Assistant Director of Parks & Recreation
Jorge Mungaray, Senior IT Technician
Jorge Perez, Billing & Collections Manager
Maria Muñoz, Benefits Coordinator
Miguel Ramirez, Accountant
Monica Castro, Director of Finance
Ralph Velez, City Consultant
Roula Encinas, Accountant
Ric Bauermann, Fire Inspector
Christian Cuevas, Simultaneous Interpreter
Cesar Neyoy, Reporter
Lucy Lopez, Reporter

## 2. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was led by Vice Mayor Maria Cecilia Ramos.

## 3. INVOCATION

The Invocation was led by Ms. Maria Alegria, resident.

## 4. CONSENT AGENDA

**4. A. MINUTES OF**
- Regular Council meeting held May 22, 2019
- Work Session held June 5, 2019

**4. B. DISBURSEMENTS FROM June 1, 2019, THROUGH June 14, 2019.**
Total Disbursements $1,287,924.31
(One Million, Two Hundred Eighty-Seven Thousand, Nine Hundred Twenty-Four Dollars and Thirty-One Cents)

**4. C. Discussion and possible action on any and all matters regarding the purchase of 17 Mobile Data Computers (MDCs) with associated hardware to be purchased using funding approved by an Intergovernmental Agreement under Subrecipient Agreement Number 180436-02, Operation Stonegarden Grant Program Award. (Richard Jessup, Chief of Police)**

**4. D. Discussion and possible action on any and all matters regarding Memorandum of Understanding between the City of San Luis and Comite de Bienestar Inc., for the proposed Lot Split Case No. 2019-0113. (Jose A. Guzman, Director of Planning and Zoning)**

**MOTION:** Council Member Gloria Torres/Council Member Jose Ponce to approve the Consent Agenda as presented. Motion passed unanimously.
The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

Mayor Gerardo Sanchez stated that he knows there are members of the community who want to address the Mayor and City Council. The item cannot be discussed and a work session will be held to discuss the item in depth. Mayor Gerardo Sanchez moved Call to the Public to be next on the Agenda. There was no objection from the City Council.

## 7. CALL TO THE PUBLIC

Ms. Ariana Estrada, Avenida Sinaloa 33 y 34, San Luis R.C. Sonora, Mexico, representing the Cesar Chavez Organization, thanked the city for all the support given.

Ms. Maria Robles, 1195 California Street, San Luis, AZ, presented the Mayor and Council with a recognition award to the city for all the support given during the Cesar Chavez Project. She also presented Comite de Bien Estar with an award.

Mayor Gerardo Sanchez thanked the Cesar Chavez Project committee for their hard and excellent work done.

Ms. Maria Alegria, 3741 E Los Olivos Dr., San Luis, AZ, also thanked the Mayor, Council, and staff for the support given.

Mr. Jesus Meza, Assistant Director of Parks & Recreation, thanked the committee for the great job done in the organization of this event. He stated that it was a pleasure to the City of San Luis Parks & Recreation Department to work with the committee.

This presentation was followed by a round of applause.

## 5. DISCUSSION AND POSSIBLE ACTION ITEMS:

### 5. A. Discussion and possible action on any and all matters regarding the City of San Luis offering to provide congregate meals nutrition services at the Senior Center in exchange for WACOG providing up to $74,400.00 to support the service. (Lizandro Galaviz, Director of Parks & Recreation)

Mr. Jesus Meza, Assistant Director of Parks & Recreation, informed that the city would like to take over the kitchen at the Senior Center. He stated that the Western Arizona Council of Government (WACOG) would provide up to $74,500.00 to support this service. He mentioned that WACOG would donate a van and a refrigerator to the Senior Center.

Vice-Mayor Maria Cecilia Ramos asked if the cook currently at the Senior Center, will be hired automatically or if she needs to apply for the positions.

Mr. Tadeo A. De La Hoya, City Manager, replied that since this will be special circumstances, she will be hired as she is already certified.

Mayor Gerardo Sanchez stated that it is his understanding that a diet prescribed by a dietitian is required, he asked if the city will also need to hire one.

Mr. Meza replied that the city would keep the same menus and special accommodations will be done as needed. He added that the menus would be monitored by WACOG and the state.

Council Member Jose Ponce asked if the city will be hiring two (2) additional people to assist with the kitchen.

Mr. Meza replied that the Senior Center currently has two (2) full-time employees and a part-time employee, which will be helping Ms. Aracely De La Hoya, Senior Services Manager.

Ms. Kay Marion Macuil, City Attorney, explained that the grant would help pay staff to devote time to the program.

**MOTION:** Council Member Jose Ponce/Council Member Gloria Torres to approve the office to WACOG as presented and authorized the Director of Parks and Recreation to enter into an agreement with WACOG consistent with this offer. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. B. Discussion and possible action on any and all matters regarding proposals from Border Gym Fitness, L.L.C., and 24/7 Get Fit Gym. (Fausto Gonzalez, HR Training & Programs Coordinator)**

Mr. Fausto Gonzalez, HR Training & Program Coordinator, informed that staff is recommending approval of the Border Gym Fitness and 24/7 Get Fit Gym, to provide Gym Membership to employees. He stated that gym memberships have remained consistent and are split in half between both providers. He informed that Border Gym Fitness is proposing a 6-month contract ending on December 31, 2019, and 24/7 Get Fit is proposing a 1-year contract ending on June 30, 2019. Mr. Gonzalez informed that the number of memberships is 60, which is split amongst the two (2) gyms. There was a total of 55 memberships used during the past year.

Mayor Gerardo Sanchez thanked both gyms and stated that pretty soon membership will have to be increased as an incentive.

**MOTION:** Council Member Jose Ponce/Council Member Gloria Torres to approve the contract with Border Gym Fitness, the contract with 24/7 Get Fit Gym and 60 gym memberships as presented. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. C. Discussion and possible action on any and all matters regarding Order No. 2019-5. An order of the Mayor and City Council of the City of San Luis, Arizona implementing a uniform video and cable service license, a standard form application with an affidavit by mandate of the Arizona Legislature. (ITEM CONTINUED FROM REGULAR COUNCIL MEETING HELD MAY 22, 2019) (Kay Marion Macuil, City Attorney)**

Ms. Kay Marion Macuil, City Attorney, informed that the reason this item was continued from the regular council meeting held May 22, 2019, was that there was still some discussion among attorneys on the topic that warranted more investigation, this discussion was about creating an ordinance for a unified way to allow things in the rights-of-way and be able to control them. The presented form is a form of a license agreement with cable companies. She mentioned that regulations of right-of-ways would come later for approval.

Mayor Gerardo Sanchez asked if this item needed to be continued.

Ms. Macuil replied that it does not need to be continued, as it is only for the mandated agreement from the state. She added that there is a form agreement that cable companies have to enter and this form needs to be approved by the city. This form allows for the opening of regulations on the city's right-of-ways.

**MOTION:** Council Member Gloria Torres/Council Member Jose Ponce to approve and adopt Order No. 2019-5. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. D. Discussion and possible action on any and all matters regarding employee benefits contracts which are not administered by the San Luis Employee Benefits Trust. (Maria Muñoz, Human Resources Technician)**

Ms. Maria Muñoz, Human Resources Benefits Coordinator , informed that the renewals were discussed during the budget meeting held April 26, 2019. She stated that Susan Posada, Benefits Broker and Consultant, presented the costs and other information for Council's consideration regarding renewing the employee benefits. Ms. Muñoz informed that the changes negotiated by Ms. Posada this year include, a 4-year lock on the vision care rates, expansion of the short-term disability benefits, which will allow employees who are eligible for short-term disability to take sick leave while on disability up to 100% of their income, accidental death and dismemberment coverage rate changed from a premium of 40¢ per $1,000 of benefits to 50¢ per $1,000 of benefit. She informed that the other contract would remain the same.

**MOTION:** Council Member Jose Ponce/Council Member Gloria Torres to approve the four-year lock on rates for the vision benefit, the amendment to the short-term disability and the rate change for accidental death and dismemberment as presented. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. E. Discussion and possible action on any and all matters regarding Order No. 2019-7. An order of the Mayor and City Council of the City of San Luis, Arizona declaring the Employee Benefits Plans a public record; approving the Employee Benefits Plans for the fiscal year 2019-2020 for administration by the San Luis Employee Benefits Trust; providing for repeal of conflicting actions of City Council; providing for severability; and establishing an effective date for the plan**s. **(Edgardo Carbajal, HR Recruitment Coordinator, and Maria Muñoz, HR Benefits Coordinator)**

Mr. Edgar Carbajal, Human Resources Recruitment Coordinator, presented the new benefit plans for fiscal year 2019-2020, in addition, changes and amendments that will take effect July 1, 2019. He informed that the amount allocated in the final budget for the benefits plan is $2,662.400.00. He stated that the plan amendment was discussed during the budget retreat and the Employee Benefit Trust, and also employees were also informed during the open enrollment process. He mentioned that some of the major highlights is the Employee Assistance Program, which will be available to all employees, and a Win-win incentive program which consists of a list of providers in the Phoenix area, where employees can seek out any outpatient procedure and imaging servoce, along with this plan the employees will get reimbursement of up to $125.00 on lodging up to four (4) nights. He informed that staff is recommending approval of the employee benefits plans to be administered by the San Luis Employees Benefits Trust and city staff for the fiscal year 2019-2020 and to make it effective July 1, 2019.

**MOTION:** Vice-Mayor Maria Cecilia Ramos/Council Member Jose Ponce to approve Order No. 2019-7. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. F. Discussion and possible action on any and all matters regarding the annual pension policy for public safety personnel required by HB 2097. (Monica Castro, Director of Finance)**

Ms. Monica Castro, Director of Finance, informed that on April 3, 2018, the Governor signed HB 2097. This bill requires cities to annually adopt pension funding policies for public safety personnel. The deadline to comply with this requirement is July 1, 2019. In order to comply with this requirement, staff prepared a policy. This policy outlines the assets and liabilities presented in the actuarial valuation report from June 30, 2017. This policy also outlines the actions that Council would take to reach a fund ration of 100%, via maintaining the full annual retirement contribution combined payment of $552,203.00 and $377,580.00 for police and fire. This law also requires that Council formally accept the city's shares of assets and liabilities under the Arizona Public Safety Personnel Retirement System. She mentioned that the city is required to post this policy on the city's official website.

**MOTION:** Council Member Matias Rosales/Vice-Mayor Maria Cecilia Ramos to adopt the pension funding policies as presented; accept the city's share of the assets and liabilities under the Arizona Public Safety Personnel Retirement System's actuarial valuation report; and order that the appropriate city staff post the pension funding policies on the city's website. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

**5. G. Public hearing followed by discussion and possible action on any and all matters regarding Resolution No. 2083. A resolution of the City of San Luis, Arizona, adopting the budget for Fiscal Year 2019 - 2020. (Monica Castro, Director of Finance)**

## A. Open public hearing

**MOTION:** Council Member Mario Buchanan Jr/Council Member Gloria Torres to open the public hearing. Motion passes unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

## 1. Staff Presentation

Ms. Monica Castro, Director of Finance, informed that the Tentative Budget for fiscal year 2019-2020 was presented for acceptance to City Council on June 12, 2019. She informed that no changes were made to the preliminary budget. The appropriate schedules required by law were prepared and published. She stated that the city has a conservative budget that will allow to carry out important projects for the community and a second salary adjustment will be done for the City of San Luis employees. Ms. Castro thanked everyone involved in the budget process.

## 2. Call to the Public on this Item

There were no comments from members of the public.

## B. Close public hearing

**MOTION:** Council Member Gloria Torres/Council Member Mario Buchanan Jr. to close the public hearing. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

## C. Action on Resolution No. 2083

**MOTION:** Council Member Matias Rosales/Council Member Jose Ponce to approve and adopt Resolution No. 2083. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

## 6. SUMMARY OF CURRENT EVENTS

Mayor Gerardo Sanchez informed that he will be attending the Arizona-Mexico Commission, where he will be making a presentation regarding the port of entry and issues regarding tourism and the border. He added that the Canada-Mexico-US Treaty will be discussed. He informed that Council Member Matias Rosales, Vice-Mayor Maria Cecilia Ramos and City Manager Tadeo A. De La Hoya will also be attending this conference. He informed that during this conference, the City of San Luis will be receiving a Paul J. Fannin Award from the Governor. Mayor Gerardo Sanchez also reported that he was interviewed by USA Today.

Council Member Matias Rosales informed that Comite de Bien Estar, Inc., a local non-profit, was awarded Housing Heroes Award for the project done in Las Brisas Subdivision for providing housing for low-income families. He added that the city worked in partnership on this project.

Mr. Tadeo A. de la Hoya, City Manager, introduced Mr. Enrique Lopez, newly appointed Assistant Fire Chief.

Mayor Gerardo Sanchez congratulated Mr. Lopez and the Fire Department for the great job they are doing and for making a difference in the city.

Council Member Jose Ponce informed that he attended the NALEO Conference in Miami, Florida. He congratulated Mr. Tadeo A. De La Hoya for being appointed to the NALEO Board of Directors.

## 8. EXECUTIVE SESSION

Vote to hold an Executive Session pursuant to A.R.S. §§38-431.03(A) (3) and 38-431.03(A)(4)

**MOTION:** Council Member Mario Buchanan Jr./Council Member Jose Ponce to hold an executive session at approximately 7:24 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

Discussion and possible action to hold an Executive Session pursuant to A.R.S. §38-431.03(A)(3) and A.R.S.§38-431.03(A)(4) on any and all matters regarding consultation with the city's attorneys for legal advice and or in order for City Council to consider its position and instruct its attorneys regarding its position regarding contracts that are the subject of negotiations, in pending or contemplated litigation or in settlement discussions conducted in order to avoid or resolve litigation concerning the manganese filtration system at Well Site No. 7. (Kay Marion Macuil, City Attorney)

## 9. MOTION TO GO BACK TO SPECIAL SESSION

**MOTION**: Council Member Mario Buchanan Jr./Council Member Maria Cecilia Ramos to convene into special session. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

## 10. DISCUSSION AND POSSIBLE ACTION ITEM:

Discussion and possible action on any and all matters regarding the approval and ratification to engage outside counsel to litigate Yuma County Superior Court Civil Case No. S1400 CV 2019 00321. (City Council and Kay Marion Macuil, City Attorney)

**MOTION:** Council Member Matias Rosales/Council Member Maria Cecilia Ramos to ratify and approve the engagement of Gust Rosenfeld Law Firm under the terms of the November 28, 2017 engagement letter, to represent and defend the City of San Luis and its officials and employees in any and all matters in the civil action Case No. S1400 CV 2019 00321, and to ratify the filing of the city's answer and counter-claim filed June 13, 2019 and the city's third-party complaint filed June 24, 2019, to represent and prosecute any and all counterclaims, and or third-party complaints against any person or entity that owe either a duty or damages to the City of San Luis arising out of the manganese filtration project for Wellsite No. 7, including but not limited to actions against: Integrated Water Systems; Tres Rios Consulting Engineers; Engineered With

Layton; Darcor and Associates; Jeff Bower; any community of marriage of any named individual; The Guarantee Company of North America, USA Surety; Constructors Bonding, Inc. and or any individual associated with the foregoing entities who bears legal responsibility. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

## 11. ADJOURNMENT

**MOTION:** Council Member Matias Rosales/Council Member Jose Ponce to adjourn the meeting at approximately 8:03 p.m. Motion passed unanimously.

The vote was as follows:

| | |
|---|---|
| Mayor Gerardo Sanchez | Aye |
| Vice Mayor Maria Cecilia Ramos | Aye |
| Council Member Mario Buchanan Jr. | Aye |
| Council Member Jose Ponce | Aye |
| Council Member Matias Rosales | Aye |
| Council Member Gloria Torres | Aye |

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **5.B.**

Meeting Date: 07/24/2019

Summary

**DISBURSEMENTS FROM June 15, 2019 THROUGH July 12, 2019**
Total Disbursements $2,054,019.42
(Two Million, Fifty-Four Thousand Nineteen Dollars and Forty-Two Cents)

Attachments

Disbursements

# City of San Luis
Finance Department

RECEIVED
2019 JUL 15 P 4:15
CITY OF SAN LUIS
OFFICE OF THE CITY CLERK

**COUNCIL MEETING JULY 24, 2019**
**Disbursement Reports from 6/15/2019 to 7/12/2019**

| Bank Accounts | Check Date | Amount | Schedule |
|---|---|---|---|
| Payroll Check Account | 6/19/2019 | $ 51,658.51 | Schedule A |
| Accounts Payable Check Account | 6/20/2019 | $ 384,432.34 | Schedule B |
| Payroll Check Account | 6/25/2019 | $ 299,102.94 | Schedule C |
| Accounts Payable Check Account | 6/27/2019 | $ 425,557.93 | Schedule D |
| Accounts Payable Check Account | 7/3/2019 | $ 343,090.05 | Schedule E |
| Payroll Check Account | 7/9/2019 | $ 4,419.63 | Schedule F |
| Payroll Check Account | 7/10/2019 | $ 324,814.93 | Schedule G |
| Accounts Payable Check Account | 7/11/2019 | $ 220,943.09 | Schedule H |

**Total Disbursements: $ 2,054,019.42**

Please contact Ms. Monica Castro prior to the meeting if additional information is needed.

Prepared by Angelica V. Castro: _____

Verified by Director of Finance: _____

For Council approval on: _____

**Mayor:** _____

**Council:** _____

_____

_____

_____

_____

_____

• P.O. Box 7740 • 1090 East Union Street • San Luis, AZ 85349 • Ph (928) 341-8520 • Fax (928) 341-8549 •

Schedule A

# Pay Day Register

Pay Date Range 06/20/19 - 06/20/19
Pay Batch 201906FH

Pay Batch 201906FH Total

Employees in Pay Batch 35
Female Employees in Pay Batch 1

| Hours Description | Hours | Gross |
|---|---|---|
| 704 - FIRE HOLIDAY EARNED | (318.0000) | .00 |
| 705 - FIRE HOLIDAY PAYOFF | 3,849.8667 | 68,004.14 |
| 900 - COMPENSATION EARNED | (10.6000) | .00 |
| Total | 3,521.2667 | $68,004.14 |

| Withholdings and Deductions | | Gross Base |
|---|---|---|
| Gross | 68,004.14 | |
| Imputed Income | | |
| FEDERAL TAX WITHHOLDING | 3,559.04 | 61,894.54 |
| SOCIAL SECURITY TAX | 4,216.28 | 68,004.14 |
| MEDICARE | 986.13 | 68,004.14 |
| STATE WITHHOLDING | 1,474.58 | 61,894.54 |
| PSPRS FIRE DB RATE - TIER 1a | 3,035.22 | 39,676.32 |
| PSPRS FIRE DB RATE - TIER 1b | 1,695.26 | 14,551.66 |
| PSPRS FIRE DB RATE - TIER 3 | 1,199.10 | 12,063.31 |
| PSPRS FIRE DC RATE - TIER 3 | 154.16 | 1,712.85 |
| PSPRS FIRE DISABILITY RATE | 25.86 | 1,712.85 |
| Net | $51,658.51 | |

| Benefits | | Gross Base |
|---|---|---|
| PSPRS FIRE DB NORM - TIER 1 | 7,656.96 | 54,227.98 |
| PSPRS FIRE DB NORM - TIER 3 | 1,199.10 | 12,063.31 |
| PSPRS FIRE DB UNFUND - TIER | 2,537.86 | 54,227.98 |
| PSPRS FIRE DB UNFUND - TIER | 644.71 | 13,776.16 |
| PSPRS FIRE DCRP - TIER 3 | 154.16 | 1,712.85 |
| PSPRS FIRE DISABILITY - TIER | 25.86 | 1,712.85 |
| Total | $12,218.65 | |

| Workers' Comp | | Gross Base |
|---|---|---|
| FIREFIGHTERS | 133.55 | 3,794.16 |
| FIREFIGHTERS & DRIVERS | 2,260.18 | 64,209.98 |
| Total | $2,393.73 | |

| Direct Deposits | Amount |
|---|---|
| Check | $51,658.51 |

Prepared by:
Debora Luna

Date:

Schedule B

City of San Luis

# Payment Register

**From Payment Date: 6/17/2019 - To Payment Date: 6/20/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | All | Status | Count | Transaction Amount | | Reconciled Amount | |
| | | | | | Open | 120 | $384,432.34 | | $0.00 | |
| | | | | | Reconciled | 0 | $0.00 | | $0.00 | |
| | | | | | Voided | 0 | $0.00 | | $0.00 | |
| | | | | | Stopped | 0 | $0.00 | | $0.00 | |
| | | | | | Total | 120 | $384,432.34 | | $0.00 | |

**Grand Totals:**

| Checks | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | **Open** | **120** | **$384,432.34** | **$0.00** |
| | **Reconciled** | **0** | **$0.00** | **$0.00** |
| | **Voided** | **0** | **$0.00** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **120** | **$384,432.34** | **$0.00** |

| All | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | **Open** | **120** | **$384,432.34** | **$0.00** |
| | **Reconciled** | **0** | **$0.00** | **$0.00** |
| | **Voided** | **0** | **$0.00** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **120** | **$384,432.34** | **$0.00** |

Angelica Vlark
6/20/2019

City of San Luis

# Payment Register

**From Payment Date: 6/17/2019 - To Payment Date: 6/20/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 1BYPAYABLE - 1st BY Accounts Payable | | | | | | | | | |
| Check | | | | | | | | | |
| 89806 | 06/18/2019 | Open | | | Utility Management Refund | ALCAZAR, MARISOL | $142.87 | | |
| 89807 | 06/18/2019 | Open | | | Utility Management Refund | ALVARADO, MARISOL | $47.05 | | |
| 89808 | 06/18/2019 | Open | | | Utility Management Refund | AYALA, MARIA DEL CARMEN | $28.94 | | |
| 89809 | 06/18/2019 | Open | | | Utility Management Refund | CHAVEZ, ROSALBA | $89.76 | | |
| 89810 | 06/18/2019 | Open | | | Utility Management Refund | COMITE DE BIENESTAR INC | $31.77 | | |
| 89811 | 06/18/2019 | Open | | | Utility Management Refund | COMITE DE BIENESTAR INC | $30.75 | | |
| 89812 | 06/18/2019 | Open | | | Utility Management Refund | COMITE DE BIENESTAR INC | $23.28 | | |
| 89813 | 06/18/2019 | Open | | | Utility Management Refund | COMITE DE BIENESTAR INC | $21.41 | | |
| 89814 | 06/18/2019 | Open | | | Utility Management Refund | COMITE DE BIENESTAR, INC | $18.14 | | |
| 89815 | 06/18/2019 | Open | | | Utility Management Refund | DE LA O, JOSE, ANTONIO | $74.79 | | |
| 89816 | 06/18/2019 | Open | | | Utility Management Refund | DENNY'S INC | $570.32 | | |
| 89817 | 06/18/2019 | Open | | | Utility Management Refund | EAST SPANISH CONGREGATION OF JEHOVAH'S WITNESSES , C/O ESCOBOSA, ESTANI | $1,845.62 | | |
| 89818 | 06/18/2019 | Open | | | Utility Management Refund | ESCOBAR, CESAR A. & DORELY LOPEZ | $169.59 | | |
| 89819 | 06/18/2019 | Open | | | Utility Management Refund | FLORES-PANUCO, FABIAN | $105.74 | | |
| 89820 | 06/18/2019 | Open | | | Utility Management Refund | GUTIERREZ ABOYTES, JUAN , E | $95.64 | | |
| 89821 | 06/18/2019 | Open | | | Utility Management Refund | LOPEZ, NALLELY | $86.63 | | |
| 89822 | 06/18/2019 | Open | | | Utility Management Refund | LOPEZ, ROBERT | $103.83 | | |
| 89823 | 06/18/2019 | Open | | | Utility Management Refund | MEDINA, JOAQUIN | $6.67 | | |
| 89824 | 06/18/2019 | Open | | | Utility Management Refund | NARVAEZ, GLORIA | $74.79 | | |
| 89825 | 06/18/2019 | Open | | | Utility Management Refund | ORDORICA, MARIA | $43.60 | | |
| 89826 | 06/18/2019 | Open | | | Utility Management Refund | PADILLA, DANIEL & ELVIA AGUIRRE | $176.14 | | |
| 89827 | 06/18/2019 | Open | | | Utility Management Refund | PELAYO, GRISELDA | $32.46 | | |
| 89828 | 06/18/2019 | Open | | | Utility Management Refund | QUINTERO, AMALIA, Y | $160.10 | | |
| 89829 | 06/18/2019 | Open | | | Utility Management Refund | RASCON, JUAN, LEOBARDO | $17.43 | | |

City of San Luis

# Payment Register

From Payment Date: 6/17/2019 - To Payment Date: 6/20/2019

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 89830 | 06/18/2019 | Open | | | Utility Management Refund | RODRIGUEZ, ALEJANDRO & IRMA LOYO | $165.52 | | |
| 89831 | 06/18/2019 | Open | | | Utility Management Refund | VALDEZ-ORTIZ, ANA | $48.52 | | |
| 89832 | 06/18/2019 | Open | | | Utility Management Refund | VARGAS, BRENDA | $196.93 | | |
| 89833 | 06/18/2019 | Open | | | Utility Management Refund | ZAMORA, CARLOS & CRISTELA | $123.47 | | |
| 89834 | 06/18/2019 | Open | | | Utility Management Refund | ALDAPE, RODOLFO, R | $149.25 | | |
| 89835 | 06/18/2019 | Open | | | Utility Management Refund | DAZA RANGEL, IVETTE | $223.26 | | |
| 89836 | 06/18/2019 | Open | | | Utility Management Refund | HOUSE OF CONTRACTORS LLC | $174.55 | | |
| 89837 | 06/18/2019 | Open | | | Utility Management Refund | PEREZ, RICARDO | $28.99 | | |
| 89838 | 06/18/2019 | Open | | | Utility Management Refund | PERUCHO, MARCIAL & SOCORRO | $200.00 | | |
| 89839 | 06/18/2019 | Open | | | Utility Management Refund | PLASCENCIA, RAUL | $227.93 | | |
| 89840 | 06/19/2019 | Open | | | Accounts Payable | SELMAN CHEVROLET CO | $37,575.68 | | |
| 89841 | 06/20/2019 | Open | | | Accounts Payable | ALONSO, FRANCIA | $98.00 | | |
| 89842 | 06/20/2019 | Open | | | Accounts Payable | BARRAGAN, JOSE | $78.00 | | |
| 89843 | 06/20/2019 | Open | | | Accounts Payable | DE LA HOYA, TADEO | $98.00 | | |
| 89844 | 06/20/2019 | Open | | | Accounts Payable | DUENAS, DEREK | $91.00 | | |
| 89845 | 06/20/2019 | Open | | | Accounts Payable | FREGOSO, JESUS | $182.00 | | |
| 89846 | 06/20/2019 | Open | | | Accounts Payable | GUZMAN, JOSE, A | $313.00 | | |
| 89847 | 06/20/2019 | Open | | | Accounts Payable | RAMOS, MARIA, CECILIA | $98.00 | | |
| 89848 | 06/20/2019 | Open | | | Accounts Payable | ROSALES, MATIAS | $98.00 | | |
| 89849 | 06/20/2019 | Open | | | Accounts Payable | SANCHEZ, GERARDO | $98.00 | | |
| 89850 | 06/20/2019 | Open | | | Accounts Payable | SOLIS, ROBERT | $78.00 | | |
| 89851 | 06/20/2019 | Open | | | Accounts Payable | URQUIJO, SALVADOR | $182.00 | | |
| 89852 | 06/20/2019 | Open | | | Accounts Payable | VASQUEZ, SYLVIA, YVONNE | $100.00 | | |
| 89853 | 06/20/2019 | Open | | | Accounts Payable | VILLEGAS, FRANCISCO | $167.00 | | |
| 89854 | 06/20/2019 | Open | | | Accounts Payable | AMERICAN BUSINESS FORMS INC. | $3,554.34 | | |
| 89855 | 06/20/2019 | Open | | | Accounts Payable | APS/CLAIM #414-1352-AH | $100.00 | | |
| 89856 | 06/20/2019 | Open | | | Accounts Payable | AZ STATE PRISON COMPLEX - YUMA | $279.50 | | |
| 89857 | 06/20/2019 | Open | | | Accounts Payable | AZ STATE PRISON COMPLEX - YUMA | $80.10 | | |
| 89858 | 06/20/2019 | Open | | | Accounts Payable | BENEFIT ADMIN SERVICES INT'L CORP | $280.00 | | |
| 89859 | 06/20/2019 | Open | | | Accounts Payable | BORDER CONSTRUCTION SPECIALTIES | $1,050.19 | | |
| 89860 | 06/20/2019 | Open | | | Accounts Payable | BOUND TREE MEDICAL, LLC. | $6,892.66 | | |
| 89861 | 06/20/2019 | Open | | | Accounts Payable | CITY OF YUMA | $567.36 | | |
| 89862 | 06/20/2019 | Open | | | Accounts Payable | CORE ENGINEERING GROUP, PLLC | $3,522.50 | | |
| 89863 | 06/20/2019 | Open | | | Accounts Payable | DESERT WATER | $64.47 | | |
| 89864 | 06/20/2019 | Open | | | Accounts Payable | HANSBERGER REGRIGERATION & ELECTRIC CO | $1,139.25 | | |

City of San Luis

# Payment Register

**From Payment Date: 6/17/2019 - To Payment Date: 6/20/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 89865 | 06/20/2019 | Open | | | Accounts Payable | KS STATE BANK | $1,197.35 | | |
| 89866 | 06/20/2019 | Open | | | Accounts Payable | METRO FIRE EQUIPMENT INC | $1,950.00 | | |
| 89867 | 06/20/2019 | Open | | | Accounts Payable | NEW BORDER TACTICAL, INC. | $200.96 | | |
| 89868 | 06/20/2019 | Open | | | Accounts Payable | OFFICE DEPOT | $8,382.07 | | |
| 89869 | 06/20/2019 | Open | | | Accounts Payable | PHILIPS ELECTRONICS NORTH AMERICA CORP | $3,320.33 | | |
| 89870 | 06/20/2019 | Open | | | Accounts Payable | SOUTHWEST ENTRANCES, INC | $391.33 | | |
| 89871 | 06/20/2019 | Open | | | Accounts Payable | SUPREME PLUMBING SOLUTIONS LLC | $620.00 | | |
| 89872 | 06/20/2019 | Open | | | Accounts Payable | SYNOVIA SOLUTIONS, LLC | $1,625.27 | | |
| 89873 | 06/20/2019 | Open | | | Accounts Payable | THE LAW OFFICES OF RYAN C. HENGL ESQ. P.L.C. | $800.00 | | |
| 89874 | 06/20/2019 | Open | | | Accounts Payable | YUMA REGIONAL MEDICAL CENTER | $1,094.52 | | |
| 89875 | 06/20/2019 | Open | | | Accounts Payable | ALSCO, INC | $1,499.24 | | |
| 89876 | 06/20/2019 | Open | | | Accounts Payable | ARIZONA EMERGENCY PRODUCTS, INC. | $9,642.41 | | |
| 89877 | 06/20/2019 | Open | | | Accounts Payable | ARIZONA WESTERN COLLEGE | $676.50 | | |
| 89878 | 06/20/2019 | Open | | | Accounts Payable | ARROW INTERNATIONAL, INC. | $1,435.81 | | |
| 89879 | 06/20/2019 | Open | | | Accounts Payable | AUTOZONE STORES, INC | $79.86 | | |
| 89880 | 06/20/2019 | Open | | | Accounts Payable | BORDER TRADE ALLIANCE | $7,500.00 | | |
| 89881 | 06/20/2019 | Open | | | Accounts Payable | BTE BODY COMPANY INC | $1,239.83 | | |
| 89882 | 06/20/2019 | Open | | | Accounts Payable | CDWG | $377.96 | | |
| 89883 | 06/20/2019 | Open | | | Accounts Payable | CENTURYLINK | $4,931.52 | | |
| 89884 | 06/20/2019 | Open | | | Accounts Payable | CENTURYLINK | $153.98 | | |
| 89885 | 06/20/2019 | Open | | | Accounts Payable | CITY OF YUMA | $142.43 | | |
| 89886 | 06/20/2019 | Open | | | Accounts Payable | COOPERATIVE PERSONNEL SERVICES | $10,000.00 | | |
| 89887 | 06/20/2019 | Open | | | Accounts Payable | CUEVAS, CHRISTIAN | $212.50 | | |
| 89888 | 06/20/2019 | Open | | | Accounts Payable | DPE CONSTRUCTION, INC | $135,261.00 | | |
| 89889 | 06/20/2019 | Open | | | Accounts Payable | EMERGENCY VEHICLE GROUP, INC. | $31,932.00 | | |
| 89890 | 06/20/2019 | Open | | | Accounts Payable | INTERNATIONAL PUBLIC MANAGEMENT ASSOCIATION | $1,078.00 | | |
| 89891 | 06/20/2019 | Open | | | Accounts Payable | IPS GROUP INC | $539.08 | | |
| 89892 | 06/20/2019 | Open | | | Accounts Payable | JR'S POS DEPOT | $2,544.49 | | |
| 89893 | 06/20/2019 | Open | | | Accounts Payable | L.N. CURTIS & SONS | $7,696.77 | | |
| 89894 | 06/20/2019 | Open | | | Accounts Payable | LAWSON PRODUCTS INC. | $1,235.69 | | |
| 89895 | 06/20/2019 | Open | | | Accounts Payable | LD CONSULTING LLC | $7,850.00 | | |
| 89896 | 06/20/2019 | Open | | | Accounts Payable | LEGROS, BRIAN, SEAN | $271.78 | | |
| 89897 | 06/20/2019 | Open | | | Accounts Payable | LESLIE'S POOL SUPPLY INC. | $87.49 | | |
| 89898 | 06/20/2019 | Open | | | Accounts Payable | MANHATTANLIFE ASSURANCE CO | $317.84 | | |
| 89899 | 06/20/2019 | Open | | | Accounts Payable | MAYA'S CONSTRUCTION LLC. | $3,418.02 | | |
| 89900 | 06/20/2019 | Open | | | Accounts Payable | METRO FIRE EQUIPMENT INC | $576.00 | | |
| 89901 | 06/20/2019 | Open | | | Accounts Payable | O'REILLY AUTO PARTS | $193.20 | | |
| 89902 | 06/20/2019 | Open | | | Accounts Payable | PINNACLE MEDICAL GROUP, AZ-P.C | $880.00 | | |
| 89903 | 06/20/2019 | Open | | | Accounts Payable | QUINONEZ, FRANCISCO | $85.00 | | |
| 89904 | 06/20/2019 | Open | | | Accounts Payable | RAMIREZ ADVISORS INTER-NATIONAL,LLC | $8,333.32 | | |
| 89905 | 06/20/2019 | Open | | | Accounts Payable | RAMON MOSQUEDA | $135.00 | | |

City of San Luis

# Payment Register

**From Payment Date: 6/17/2019 - To Payment Date: 6/20/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 89906 | 06/20/2019 | Open | | | Accounts Payable | REDBURN TIRE COMPANY | $245.13 | | |
| 89907 | 06/20/2019 | Open | | | Accounts Payable | SAN LUIS AIR CONDITIONING LLC | $10,350.00 | | |
| 89908 | 06/20/2019 | Open | | | Accounts Payable | SAN LUIS SPEAR POINT SOLAR I, LLC | $22,690.04 | | |
| 89909 | 06/20/2019 | Open | | | Accounts Payable | SHORE POWER, INC | $390.00 | | |
| 89910 | 06/20/2019 | Open | | | Accounts Payable | SIERRA COATINGS, LLC | $14,380.00 | | |
| 89911 | 06/20/2019 | Open | | | Accounts Payable | SIGN MASTERS | $372.94 | | |
| 89912 | 06/20/2019 | Open | | | Accounts Payable | SIMON'S D ROOFING LLC | $850.00 | | |
| 89913 | 06/20/2019 | Open | | | Accounts Payable | SIRCHIE FINGER PRINT LABORATORIES | $232.90 | | |
| 89914 | 06/20/2019 | Open | | | Accounts Payable | STANDARD PRINTING COMPANY, INC | $1,386.43 | | |
| 89915 | 06/20/2019 | Open | | | Accounts Payable | SUPREME PLUMBING SOLUTIONS LLC | $2,800.00 | | |
| 89916 | 06/20/2019 | Open | | | Accounts Payable | TRANSWESTERN INSURANCE ADMIN | $192.50 | | |
| 89917 | 06/20/2019 | Open | | | Accounts Payable | UNIVERSAL BACKGROUND SCREENING INC | $48.60 | | |
| 89918 | 06/20/2019 | Open | | | Accounts Payable | US POST MASTER | $2,755.44 | | |
| 89919 | 06/20/2019 | Open | | | Accounts Payable | YUMA REGIONAL MEDICAL CENTER | $550.00 | | |
| 89920 | 06/20/2019 | Open | | | Accounts Payable | YUMA SUN INC | $198.00 | | |
| 89921 | 06/20/2019 | Open | | | Accounts Payable | FELIX, ALVARO | $30.00 | | |
| 89922 | 06/20/2019 | Open | | | Accounts Payable | GUEVARA, ALAN | $19.00 | | |
| 89923 | 06/20/2019 | Open | | | Accounts Payable | JIMENEZ, MARTHA | $140.92 | | |
| 89924 | 06/20/2019 | Open | | | Accounts Payable | VISION SERVICE PLAN OF ARIZONA | $3,669.10 | | |
| 89925 | 06/20/2019 | Open | | | Accounts Payable | QUIROZ, FRANCISCO | $900.00 | | |
| Type Check Totals: | | | | | 120 Transactions | | $384,432.34 | | |

1BYPAYABLE - 1st BY Accounts Payable Totals

| Checks | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 120 | $384,432.34 | $0.00 |
| | Reconciled | 0 | $0.00 | $0.00 |
| | Voided | 0 | $0.00 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 120 | $384,432.34 | $0.00 |

Schedule C

# Pay Day Register

Pay Date Range 06/07/19 - 06/21/19
Pay Batch 201913

| | | |
|---|---|---|
| PSPRS FIRE DISABILITY RATE | 23.81 | 1,577.13 |
| PSPRS POLICE DB RATE - TIER | 3,140.78 | 41,055.99 |
| PSPRS POLICE DB RATE - TIER | 3,310.04 | 28,412.47 |
| PSPRS POLICE DB RATE - TIER 2 | 982.33 | 8,432.04 |
| PSPRS POLICE DB RATE - TIER 3 | 1,330.43 | 13,384.68 |
| STANDARD LIFE ADDTNL | 812.63 | .00 |
| TRANSWESTERN MEXICAN | 96.50 | .00 |
| U.S. MEX DENTAL - EE & | 634.80 | .00 |
| U.S. MEX DENTAL - EE & | 63.48 | .00 |
| UNITED WAY | 14.00 | .00 |
| US & MEX DENTAL= FAMILY | 581.24 | .00 |
| US & MEX HEALTH = C | 6,141.80 | .00 |
| US & MEX HEALTH = FAMILY | 4,812.15 | .00 |
| US & MEX HEALTH = SP | 749.00 | .00 |
| VSP - VISION FAMILY | 615.44 | .00 |
| Net | $299,102.94 ✓ | |

| Workers' Comp | | Gross Base |
|---|---|---|
| ANIMAL CONTROL OFFICERS | 54.81 | 2,436.01 |
| ATTORNEY- ALL & CLERICAL- | 69.16 | 31,434.47 |
| AUTO SERVICE/ REPAIR | 185.09 | 6,634.59 |
| BUILDING- NOC OPER BY | 1,363.97 | 37,678.57 |
| BUS COMPANY AND DRIVERS | 140.69 | 2,548.74 |
| CLERICAL OFFICE/ LIBRARY/ | 228.71 | 95,301.65 |
| Electrician | 60.10 | 1,914.00 |
| FIREFIGHTERS | 93.39 | 2,653.20 |
| FIREFIGHTERS & DRIVERS | 2,433.11 | 69,121.69 |
| GARBAGE/ ASH/ REFUSE | 266.68 | 4,266.81 |
| MUNICIPAL/ TOWN/ | 69.23 | 3,956.00 |
| PARKS- NOC ALL EMPLOYEES | 486.84 | 15,704.06 |
| POLICE OFFICERS | 4,181.44 | 95,465.70 |
| RECREATION- ALL EMPLOYEES/ | 240.24 | 17,535.95 |
| SEWAGE DISPOSAL/ PLANT | 670.34 | 19,486.73 |
| Street or Road Construction | 1,267.89 | 15,789.19 |
| WATERWORKS OPERATIONS | 560.94 | 16,165.27 |
| Total | $12,372.63 | |

| Direct Deposits | Amount |
|---|---|
| 1st Bank Yuma | 20,961.76 |
| ACADEMY BANK | 2,770.16 |
| Bank of America | 1,469.69 |
| BANKCORP BANK | 250.00 |
| BBVA COMPASS | 856.64 |
| Charles Sch | 200.00 |
| Chase Bank | 132,398.44 |
| CHASE BANK CA | 2,325.35 |
| CHASE BANK MORGAN | 1,617.85 |
| chase centro | 929.80 |
| Federal Credit Union | 37,133.51 |
| FF CREDIT UNION | 300.00 |
| FIREFIGHTER FIRST CREDIT UNION | 1,406.15 |
| GREEN DOT BANK | 968.42 |
| National Bank | 500.00 |
| Navy Federal | 9,699.06 |
| NetSpend Corporation DD | 120.00 |
| NORTH ISLAND CREDIT UNION | 1,193.56 |
| Sunbank | 1,048.22 |
| USAA FEDERAL SAVING | 1,079.26 |
| WASHINGTON FEDERAL | 878.35 |
| Wells Fargo | 55,048.47 |

Prepared by:
Debora Luna
Date:

Schedule D

City of San Luis

# Payment Register

**From Payment Date: 6/24/2019 - To Payment Date: 6/27/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Voided | 0 | $0.00 | | $0.00 | |
| | | | | | Stopped | 0 | $0.00 | | $0.00 | |
| | | | | | Total | 106 | $425,557.93 | | $0.00 | |

| | | | | |
|---|---|---|---|---|
| All | Status | Count | Transaction Amount | Reconciled Amount |
| | Open | 106 | $425,557.93 | $0.00 |
| | Reconciled | 0 | $0.00 | $0.00 |
| | Voided | 0 | $0.00 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 106 | $425,557.93 | $0.00 |

**Grand Totals:**

| **Checks** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **106** | **$425,557.93** | **$0.00** |
| | **Reconciled** | **0** | **$0.00** | **$0.00** |
| | **Voided** | **0** | **$0.00** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **106** | **$425,557.93** | **$0.00** |

| **All** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **106** | **$425,557.93** | **$0.00** |
| | **Reconciled** | **0** | **$0.00** | **$0.00** |
| | **Voided** | **0** | **$0.00** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **106** | **$425,557.93** | **$0.00** |

Angelica Castro
6/27/2019

City of San Luis

# Payment Register

**From Payment Date: 6/24/2019 - To Payment Date: 6/27/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 1BYPAYABLE - 1st BY Accounts Payable | | | | | | | | | |
| Check | | | | | | | | | |
| 89926 | 06/27/2019 | Open | | | Accounts Payable | CASTILLO, JANNETT | $45.00 | | |
| 89927 | 06/27/2019 | Open | | | Accounts Payable | CENTURYLINK | $1,006.53 | | |
| 89928 | 06/27/2019 | Open | | | Accounts Payable | DE LA HOYA, ARACELY | $192.18 | | |
| 89929 | 06/27/2019 | Open | | | Accounts Payable | ENCINAS, JOSE | $19.00 | | |
| 89930 | 06/27/2019 | Open | | | Accounts Payable | JIMENEZ, MARTHA | $50.00 | | |
| 89931 | 06/27/2019 | Open | | | Accounts Payable | JIMENEZ, SERGIO | $150.00 | | |
| 89932 | 06/27/2019 | Open | | | Accounts Payable | MARTINEZ, CLAUDIA | $35.00 | | |
| 89933 | 06/27/2019 | Open | | | Accounts Payable | PITNEY BOWES CREDIT CORP | $1,913.39 | | |
| 89934 | 06/27/2019 | Open | | | Accounts Payable | POLAR ICE LLC | $820.37 | | |
| 89935 | 06/27/2019 | Open | | | Accounts Payable | PONCE, JOSE | $60.00 | | |
| 89936 | 06/27/2019 | Open | | | Accounts Payable | PURCHASE POWER | $559.78 | | |
| 89937 | 06/27/2019 | Open | | | Accounts Payable | RODRIGUEZ, MARIA | $50.00 | | |
| 89938 | 06/27/2019 | Open | | | Accounts Payable | SABORI, MARIA | $140.92 | | |
| 89939 | 06/27/2019 | Open | | | Accounts Payable | VALENZUELA, ELIZABETH | $50.00 | | |
| 89940 | 06/27/2019 | Open | | | Accounts Payable | VILLARREAL, ZAIDA | $35.00 | | |
| 89941 | 06/27/2019 | Open | | | Accounts Payable | WAL-MART INC.C/O BANK OF AMERICA LOCK BOX | $17,749.51 | | |
| 89942 | 06/27/2019 | Open | | | Accounts Payable | YUMA OFFICE EQUIPMENT | $775.58 | | |
| 89943 | 06/27/2019 | Open | | | Accounts Payable | ZUNIGA LARA, KENDY | $35.00 | | |
| 89944 | 06/27/2019 | Open | | | Accounts Payable | 4 POWERS CONTRACTING, LLC | $22,000.00 | | |
| 89945 | 06/27/2019 | Open | | | Accounts Payable | AMERICAN PLANNING ASSOCIATION | $559.60 | | |
| 89946 | 06/27/2019 | Open | | | Accounts Payable | AMERICAN RED CROSS | $760.00 | | |
| 89947 | 06/27/2019 | Open | | | Accounts Payable | ANGEL'S TOWING SERVICE/AUTO SALES | $450.00 | | |
| 89948 | 06/27/2019 | Open | | | Accounts Payable | ANIMAL CARE EQUIPMENT AND SERVICES | $68.30 | | |
| 89949 | 06/27/2019 | Open | | | Accounts Payable | ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY | $130.00 | | |
| 89950 | 06/27/2019 | Open | | | Accounts Payable | AUTOZONE STORES, INC | $5.30 | | |
| 89951 | 06/27/2019 | Open | | | Accounts Payable | AYALA, ALLEN | $200.00 | | |
| 89952 | 06/27/2019 | Open | | | Accounts Payable | AZ GOVERNOR'S OFFICE OF HIGHWAY SAFETY | $400.00 | | |
| 89953 | 06/27/2019 | Open | | | Accounts Payable | BELTRAN, LEANNA | $249.30 | | |
| 89954 | 06/27/2019 | Open | | | Accounts Payable | CARDENAS, JUAN, A | $108.00 | | |
| 89955 | 06/27/2019 | Open | | | Accounts Payable | CEMEX | $29,916.06 | | |
| 89956 | 06/27/2019 | Open | | | Accounts Payable | CENTURYLINK | $293.83 | | |
| 89957 | 06/27/2019 | Open | | | Accounts Payable | CITY OF YUMA | $1,350.00 | | |
| 89958 | 06/27/2019 | Open | | | Accounts Payable | CSC OF YUMA | $91.01 | | |
| 89959 | 06/27/2019 | Open | | | Accounts Payable | DESERT VALLEY POWER SYSTEMS | $456.10 | | |
| 89960 | 06/27/2019 | Open | | | Accounts Payable | DESERT WATER | $149.44 | | |
| 89961 | 06/27/2019 | Open | | | Accounts Payable | EL FARO LLC | $4,700.00 | | |
| 89962 | 06/27/2019 | Open | | | Accounts Payable | ELLIOTT AUTO SUPPLY CO INC | $125.42 | | |
| 89963 | 06/27/2019 | Open | | | Accounts Payable | ELSPEC NORTH AMERICA, INC | $26,080.50 | | |
| 89964 | 06/27/2019 | Open | | | Accounts Payable | EXCEPTIONAL WATER SYSTEMS, LLC | $2,495.39 | | |
| 89965 | 06/27/2019 | Open | | | Accounts Payable | FRANCO, MARTIN, A | $310.00 | | |

City of San Luis

# Payment Register

**From Payment Date: 6/24/2019 - To Payment Date: 6/27/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 89966 | 06/27/2019 | Open | | | Accounts Payable | FRANCO LUNA, ROSSMART , FELIPE | $348.00 | | |
| 89967 | 06/27/2019 | Open | | | Accounts Payable | FRESH TERRA SERVICES LLC | $1,355.00 | | |
| 89968 | 06/27/2019 | Open | | | Accounts Payable | GARCIA, OSCAR, EDUARDO | $204.00 | | |
| 89969 | 06/27/2019 | Open | | | Accounts Payable | GUST ROSENFELD P.L.C. | $259.20 | | |
| 89970 | 06/27/2019 | Open | | | Accounts Payable | GUTIERREZ, MANUEL | $122.00 | | |
| 89971 | 06/27/2019 | Open | | | Accounts Payable | JAMES DAVEY AND ASSOCIATES | $41,456.95 | | |
| 89972 | 06/27/2019 | Open | | | Accounts Payable | L.N. CURTIS & SONS | $246.70 | | |
| 89973 | 06/27/2019 | Open | | | Accounts Payable | LAWSON PRODUCTS INC. | $983.17 | | |
| 89974 | 06/27/2019 | Open | | | Accounts Payable | LOOMIS | $3,130.34 | | |
| 89975 | 06/27/2019 | Open | | | Accounts Payable | LOU'S GLOVES, INC | $156.00 | | |
| 89976 | 06/27/2019 | Open | | | Accounts Payable | MARKETING DESIGN AND PRINTING | $1,371.96 | | |
| 89977 | 06/27/2019 | Open | | | Accounts Payable | MATRIX DESIGN GROUP, INC | $35,000.00 | | |
| 89978 | 06/27/2019 | Open | | | Accounts Payable | MEDINA, JOSE | $220.00 | | |
| 89979 | 06/27/2019 | Open | | | Accounts Payable | METRO FIRE EQUIPMENT INC | $2,120.00 | | |
| 89980 | 06/27/2019 | Open | | | Accounts Payable | MYRON CORP | $2,635.95 | | |
| 89981 | 06/27/2019 | Open | | | Accounts Payable | NEW BORDER TACTICAL, INC. | $2,050.00 | | |
| 89982 | 06/27/2019 | Open | | | Accounts Payable | NEWEGG BUSINESS INC. | $91.95 | | |
| 89983 | 06/27/2019 | Open | | | Accounts Payable | NICKLAUS ENGINEERING | $10,000.00 | | |
| 89984 | 06/27/2019 | Open | | | Accounts Payable | O'REILLY AUTO PARTS | $1,328.96 | | |
| 89985 | 06/27/2019 | Open | | | Accounts Payable | OFFICE DEPOT | $325.79 | | |
| 89986 | 06/27/2019 | Open | | | Accounts Payable | PEACEKEEPER PRODUCTS INT'L | $1,023.13 | | |
| 89987 | 06/27/2019 | Open | | | Accounts Payable | PFVT MOTORS, INC | $58,327.51 | | |
| 89988 | 06/27/2019 | Open | | | Accounts Payable | POWERDMS, INC | $9.92 | | |
| 89989 | 06/27/2019 | Open | | | Accounts Payable | PRECISION FIRE PROTECTION SRVS, INC | $229.24 | | |
| 89990 | 06/27/2019 | Open | | | Accounts Payable | PROFORCE LAW ENFORCEMENT | $2,297.43 | | |
| 89991 | 06/27/2019 | Open | | | Accounts Payable | PURCELL TIRE CO. | $257.94 | | |
| 89992 | 06/27/2019 | Open | | | Accounts Payable | QUAIL CONSTRUCTION, LLC | $4,228.28 | | |
| 89993 | 06/27/2019 | Open | | | Accounts Payable | QUIÑONES TIRES LLC | $124.00 | | |
| 89994 | 06/27/2019 | Open | | | Accounts Payable | RALPH VELEZ CONSULTING SERVICES | $4,550.00 | | |
| 89995 | 06/27/2019 | Open | | | Accounts Payable | RALPH VELEZ CONSULTING SERVICES | $2,734.32 | | |
| 89996 | 06/27/2019 | Open | | | Accounts Payable | RAMIREZ MUNGUIA, ARTURO, I | $80.00 | | |
| 89997 | 06/27/2019 | Open | | | Accounts Payable | RAMON MOSQUEDA | $183.00 | | |
| 89998 | 06/27/2019 | Open | | | Accounts Payable | REDBURN TIRE COMPANY | $2,411.10 | | |
| 89999 | 06/27/2019 | Open | | | Accounts Payable | SAFETY-KLEEN CORPORATION | $1,769.18 | | |
| 90000 | 06/27/2019 | Open | | | Accounts Payable | SAN LUIS AIR CONDITIONING LLC | $2,730.00 | | |
| 90001 | 06/27/2019 | Open | | | Accounts Payable | SAN LUIS SPEAR POINT SOLAR I, LLC | $18,917.91 | | |
| 90002 | 06/27/2019 | Open | | | Accounts Payable | SCOTTSDALE CAL RIPKEN BASEBALL | $100.00 | | |
| 90003 | 06/27/2019 | Open | | | Accounts Payable | SELECT COUNCIL ON PROGRESSIVE ENFORCEMENT | $100.00 | | |
| 90004 | 06/27/2019 | Open | | | Accounts Payable | SIGN MASTERS | $1,066.77 | | |
| 90005 | 06/27/2019 | Open | | | Accounts Payable | SILVA, JUAN, MANUEL | $210.00 | | |
| 90006 | 06/27/2019 | Open | | | Accounts Payable | SIMS MACKIN, LTD. | $1,860.00 | | |
| 90007 | 06/27/2019 | Open | | | Accounts Payable | SMITH, RALPH E. SR. | $2,190.00 | | |
| 90008 | 06/27/2019 | Open | | | Accounts Payable | SOUTH YUMA COUNTY LANDFILL | $41,617.17 | | |

City of San Luis

# Payment Register

**From Payment Date: 6/24/2019 - To Payment Date: 6/27/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 90009 | 06/27/2019 | Open | | | Accounts Payable | TAYLOR ENGINEERING PLLC | $35,752.60 | | |
| 90010 | 06/27/2019 | Open | | | Accounts Payable | THE ARIZONA REPUBLIC | $978.02 | | |
| 90011 | 06/27/2019 | Open | | | Accounts Payable | THE ROACH PEST CONTROL | $1,175.00 | | |
| 90012 | 06/27/2019 | Open | | | Accounts Payable | THOMSON WEST PUBLISHING CO. | $998.59 | | |
| 90013 | 06/27/2019 | Open | | | Accounts Payable | UNIVERSAL BACKGROUND SCREENING INC | $1,529.00 | | |
| 90014 | 06/27/2019 | Open | | | Accounts Payable | VALENZUELA, GABRIEL, A | $36.00 | | |
| 90015 | 06/27/2019 | Open | | | Accounts Payable | VIVEROS LOS PINOS | $627.00 | | |
| 90016 | 06/27/2019 | Open | | | Accounts Payable | YUMA CARPETS | $491.65 | | |
| 90017 | 06/27/2019 | Open | | | Accounts Payable | YUMA CO. AIRPORT AUTHORITY INC | $167.79 | | |
| 90018 | 06/27/2019 | Open | | | Accounts Payable | YUMA FARM & HOME SUPPLY INC. | $41.54 | | |
| 90019 | 06/27/2019 | Open | | | Accounts Payable | YUMA PRINTING & GRAPHIC DEPT. | $108.85 | | |
| 90020 | 06/27/2019 | Open | | | Accounts Payable | YUMA REGIONAL MEDICAL CENTER | $1,422.00 | | |
| 90021 | 06/27/2019 | Open | | | Accounts Payable | YUMA WINLECTRIC CO. | $619.61 | | |
| 90022 | 06/27/2019 | Open | | | Accounts Payable | YUMA WINNELSON CO. | $3,057.84 | | |
| 90023 | 06/27/2019 | Open | | | Accounts Payable | CALIFORNIA STATE DISBURSEMENT UNIT | $252.91 | | |
| 90024 | 06/27/2019 | Open | | | Accounts Payable | CHARGO PA, GURSTEL | $26.95 | | |
| 90025 | 06/27/2019 | Open | | | Accounts Payable | FOP/ALC | $300.00 | | |
| 90026 | 06/27/2019 | Open | | | Accounts Payable | SAN LUIS POLICE OFFICERS ASSOC | $405.00 | | |
| 90027 | 06/27/2019 | Open | | | Accounts Payable | STANDARD INSURANCE CO. | $7,491.21 | | |
| 90028 | 06/27/2019 | Open | | | Accounts Payable | SUPPORT PAYMENT CLEARINGHOUSE | $4,178.49 | | |
| 90029 | 06/27/2019 | Open | | | Accounts Payable | UNITED WAY OF YUMA COUNTY INC. | $14.00 | | |
| 90030 | 06/27/2019 | Open | | | Accounts Payable | UNITED YUMA FIRE FIGHTERS ASSOC | $75.50 | | |
| 90031 | 06/27/2019 | Open | | | Accounts Payable | UNITED YUMA FIRE FIGHTERS-IAFF | $800.00 | | |
| Type Check Totals: | | | | | 106 Transactions | | $425,557.93 | | |

1BYPAYABLE - 1st BY Accounts Payable Totals

| Checks | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 106 | $425,557.93 | $0.00 |
| | Reconciled | 0 | $0.00 | $0.00 |

Schedule E

City of San Luis

# Payment Register

**From Payment Date: 7/1/2019 - To Payment Date: 7/3/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|

| Checks | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 79 | $343,090.05 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 79 | $343,090.05 | $0.00 |

| All | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 79 | $343,090.05 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 79 | $343,090.05 | $0.00 |

**Grand Totals:**

| **Checks** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **79** | **$343,090.05** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **79** | **$343,090.05** | **$0.00** |

| **All** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **79** | **$343,090.05** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **79** | **$343,090.05** | **$0.00** |

Angelica Vasquez
7/3/2019

City of San Luis

# Payment Register

**From Payment Date: 7/1/2019 - To Payment Date: 7/3/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 1BYPAYABLE - 1st BY Accounts Payable | | | | | | | | | |
| Check | | | | | | | | | |
| 90032 | 07/02/2019 | Open | | | Accounts Payable | ALLUVIAL MEDIA LLC | $2,495.00 | | |
| 90033 | 07/02/2019 | Open | | | Accounts Payable | AZUL CAFE | $553.56 | | |
| 90034 | 07/02/2019 | Open | | | Accounts Payable | FLORES, EDER, R | $4,400.00 | | |
| 90035 | 07/02/2019 | Open | | | Accounts Payable | GARCIA, JESUS | $300.00 | | |
| 90036 | 07/02/2019 | Open | | | Accounts Payable | GOMEZ-DOMINGUEZ, FRANCISCO | $4,433.91 | | |
| 90037 | 07/02/2019 | Open | | | Accounts Payable | LOPEZ CAMARGO, FABIOLA | $850.00 | | |
| 90038 | 07/02/2019 | Open | | | Accounts Payable | MACGREW, GUSTAVO | $1,072.00 | | |
| 90039 | 07/02/2019 | Open | | | Accounts Payable | MACHADO, IVAN & AIXIA GUTIERREZ | $200.00 | | |
| 90040 | 07/02/2019 | Open | | | Accounts Payable | MARKETING DESIGN AND PRINTING | $638.25 | | |
| 90041 | 07/02/2019 | Open | | | Accounts Payable | MGM INTERNET SOLUTIONS, INC | $80.50 | | |
| 90042 | 07/02/2019 | Open | | | Accounts Payable | MOLINA, YOLANDA | $2,140.00 | | |
| 90043 | 07/02/2019 | Open | | | Accounts Payable | PETTY CASH/RECREATION | $300.00 | | |
| 90044 | 07/02/2019 | Open | | | Accounts Payable | POLY'S PARTY RENTALS, LLC | $7,804.80 | | |
| 90045 | 07/02/2019 | Open | | | Accounts Payable | RODRIGUEZ, DANIEL | $850.00 | | |
| 90046 | 07/02/2019 | Open | | | Accounts Payable | RUIZ, JOSE | $1,750.00 | | |
| 90047 | 07/02/2019 | Open | | | Accounts Payable | SOUTHWEST SANITATION SERVICES, LLC | $1,270.37 | | |
| 90048 | 07/02/2019 | Open | | | Accounts Payable | ULTRA SHOW MAKERS LLC | $6,642.60 | | |
| 90049 | 07/03/2019 | Open | | | Accounts Payable | A & H ELECTRIC | $380.00 | | |
| 90050 | 07/03/2019 | Open | | | Accounts Payable | ALBERT HOLLER & ASSOCIATES | $2,000.00 | | |
| 90051 | 07/03/2019 | Open | | | Accounts Payable | ALSCO, INC | $39.84 | | |
| 90052 | 07/03/2019 | Open | | | Accounts Payable | ARTCRAFT & FOREMOST, INC. | $182.71 | | |
| 90053 | 07/03/2019 | Open | | | Accounts Payable | BINGHAM EQUIPMENT CO | $1,344.57 | | |
| 90054 | 07/03/2019 | Open | | | Accounts Payable | BORDER GYM FITNESS LLC | $462.00 | | |
| 90055 | 07/03/2019 | Open | | | Accounts Payable | CDWG | $19,288.06 | | |
| 90056 | 07/03/2019 | Open | | | Accounts Payable | CMI INC. | $337.67 | | |
| 90057 | 07/03/2019 | Open | | | Accounts Payable | COUNTY RV REPAIR & SALES LLC | $507.92 | | |
| 90058 | 07/03/2019 | Open | | | Accounts Payable | DE LA HOYA, ARACELY | $40.00 | | |
| 90059 | 07/03/2019 | Open | | | Accounts Payable | DE LA HOYA, ARACELY | $101.00 | | |
| 90060 | 07/03/2019 | Open | | | Accounts Payable | DESERT WATER | $10.78 | | |
| 90061 | 07/03/2019 | Open | | | Accounts Payable | DPE CONSTRUCTION, INC | $100,981.47 | | |
| 90062 | 07/03/2019 | Open | | | Accounts Payable | G&T LOCKSMITH AND SAFE CO. | $75.00 | | |
| 90063 | 07/03/2019 | Open | | | Accounts Payable | GUARDIAN MEDICAL PRODUCTS, LLC | $740.37 | | |
| 90064 | 07/03/2019 | Open | | | Accounts Payable | JAMES DAVEY AND ASSOCIATES | $5,627.50 | | |
| 90065 | 07/03/2019 | Open | | | Accounts Payable | LEGROS, BRIAN, SEAN | $48.00 | | |
| 90066 | 07/03/2019 | Open | | | Accounts Payable | MAYA'S CONSTRUCTION LLC. | $3,087.39 | | |
| 90067 | 07/03/2019 | Open | | | Accounts Payable | MUNICIPAL EMERGENCY SERVICES, INC | $1,843.72 | | |
| 90068 | 07/03/2019 | Open | | | Accounts Payable | NEW BORDER TACTICAL, INC. | $644.10 | | |
| 90069 | 07/03/2019 | Open | | | Accounts Payable | O'REILLY AUTO PARTS | $484.62 | | |
| 90070 | 07/03/2019 | Open | | | Accounts Payable | OFFICE NATION, INC. | $11,571.45 | | |
| 90071 | 07/03/2019 | Open | | | Accounts Payable | PETTY CASH/ ANGELICA CIFUENTES | $459.90 | | |
| 90072 | 07/03/2019 | Open | | | Accounts Payable | PETTY CASH/POLICE | $157.61 | | |
| 90073 | 07/03/2019 | Open | | | Accounts Payable | PINNACLE MEDICAL GROUP, AZ-P.C | $15,800.00 | | |

City of San Luis

# Payment Register

**From Payment Date: 7/1/2019 - To Payment Date: 7/3/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 90074 | 07/03/2019 | Open | | | Accounts Payable | PURCELL TIRE CO. | $874.31 | | |
| 90075 | 07/03/2019 | Open | | | Accounts Payable | QUIÑONES TIRES LLC | $27.00 | | |
| 90076 | 07/03/2019 | Open | | | Accounts Payable | QUINONEZ, FRANCISCO | $85.00 | | |
| 90077 | 07/03/2019 | Open | | | Accounts Payable | R&M ELECTRIC SUPPLY LLC | $666.72 | | |
| 90078 | 07/03/2019 | Open | | | Accounts Payable | RAMON MOSQUEDA | $380.75 | | |
| 90079 | 07/03/2019 | Open | | | Accounts Payable | REDBURN TIRE COMPANY | $4,155.14 | | |
| 90080 | 07/03/2019 | Open | | | Accounts Payable | RODARTE, RODRIGO | $638.40 | | |
| 90081 | 07/03/2019 | Open | | | Accounts Payable | SAFETY-KLEEN CORPORATION | $1,028.59 | | |
| 90082 | 07/03/2019 | Open | | | Accounts Payable | SAN LUIS AIR CONDITIONING LLC | $3,900.00 | | |
| 90083 | 07/03/2019 | Open | | | Accounts Payable | SERVERSUPPLY.COM, INC | $7,290.35 | | |
| 90084 | 07/03/2019 | Open | | | Accounts Payable | SIGN MASTERS | $162.62 | | |
| 90085 | 07/03/2019 | Open | | | Accounts Payable | TORNADO FENCE LLC | $2,450.00 | | |
| 90086 | 07/03/2019 | Open | | | Accounts Payable | V & V ELECTRIC LLC | $4,900.00 | | |
| 90087 | 07/03/2019 | Open | | | Accounts Payable | VERIZON WIRELESS MESSAGING SVC | $2,086.99 | | |
| 90089 | 07/03/2019 | Open | | | Accounts Payable | BELTRAN, LEANNA | $91.00 | | |
| 90090 | 07/03/2019 | Open | | | Accounts Payable | HERNANDEZ, DIANA | $91.00 | | |
| 90096 | 07/03/2019 | Open | | | Accounts Payable | ARIZONA PUBLIC SERVICE | $79.06 | | |
| 90097 | 07/03/2019 | Open | | | Accounts Payable | EAP PREFERRED | $466.20 | | |
| 90098 | 07/03/2019 | Open | | | Accounts Payable | FELIX, ALVARO | $150.00 | | |
| 90099 | 07/03/2019 | Open | | | Accounts Payable | MANHATTANLIFE ASSURANCE CO | $317.84 | | |
| 90100 | 07/03/2019 | Open | | | Accounts Payable | MASSMUTUAL FINANCIAL GROUP | $40.00 | | |
| 90101 | 07/03/2019 | Open | | | Accounts Payable | NEW YORK LIFE INSURANCE CO. | $169.12 | | |
| 90102 | 07/03/2019 | Open | | | Accounts Payable | PREPAID LEGAL SERVICES | $128.55 | | |
| 90103 | 07/03/2019 | Open | | | Accounts Payable | RUBIO, ELENA | $35.00 | | |
| 90104 | 07/03/2019 | Open | | | Accounts Payable | SAM'S CLUB | $2,927.23 | | |
| 90105 | 07/03/2019 | Open | | | Accounts Payable | TRANSWESTERN INSURANCE ADMIN | $193.00 | | |
| 90106 | 07/03/2019 | Open | | | Accounts Payable | TYLER TECHNOLOGIES, INC. | $105,835.51 | | |
| 90107 | 07/03/2019 | Open | | | Accounts Payable | BARRAGAN, JOSE | $182.00 | | |
| 90108 | 07/03/2019 | Open | | | Accounts Payable | GUTIERREZ, GUADALUPE | $76.00 | | |
| 90109 | 07/03/2019 | Open | | | Accounts Payable | GUTIERREZ, ISAAC | $331.00 | | |
| 90110 | 07/03/2019 | Open | | | Accounts Payable | HUMPHREY, JEREMY | $182.00 | | |
| 90111 | 07/03/2019 | Open | | | Accounts Payable | LOPEZ, ENRIQUE | $199.00 | | |
| 90112 | 07/03/2019 | Open | | | Accounts Payable | MORA, CESAR | $182.00 | | |
| 90113 | 07/03/2019 | Open | | | Accounts Payable | MORRIS, JOHNNIE | $182.00 | | |
| 90114 | 07/03/2019 | Open | | | Accounts Payable | PEREZ, JORGE | $226.00 | | |
| 90115 | 07/03/2019 | Open | | | Accounts Payable | RAMIREZ, ANGEL | $182.00 | | |
| 90116 | 07/03/2019 | Open | | | Accounts Payable | SOLIS, ROBERTO | $182.00 | | |
| Type Check Totals: | | | | | 79 Transactions | | $343,090.05 | | |
| 1BYPAYABLE - 1st BY Accounts Payable Totals | | | | | | | | | |

Schedule F

# Pay Day Register

Pay Date Range 07/01/19 - 07/31/19
Pay Batch 201907M

Pay Batch 201907M Total

Employees in Pay Batch 7
Female Employees in Pay Batch 3

| Hours Description | Hours | Gross |
|---|---|---|
| 102 - SALARY | .0000 | 7,550.00 |
| 806 - TELEPHONE STIPEND | .0000 | 150.00 |
| Total | 0.0000 | $7,700.00 |

| Withholdings and Deductions | | Gross Base |
|---|---|---|
| Gross | 7,700.00 | |
| Imputed Income | | |
| FEDERAL TAX WITHHOLDING | 114.73 | 5,550.86 |
| SOCIAL SECURITY TAX | 477.40 | 7,700.00 |
| MEDICARE | 111.63 | 7,700.00 |
| STATE WITHHOLDING | 151.60 | 5,550.86 |
| Council Retirement EORP | 588.50 | 5,750.00 |
| Dental Council | 147.98 | .00 |
| EODCRS - COUNCIL | 144.00 | 1,800.00 |
| EODCRS - DISABILITY | 2.26 | 1,800.00 |
| GARNISHMENT | 220.87 | .00 |
| Medical Council | 1,216.20 | .00 |
| MISCELLANEOUS | 55.00 | .00 |
| Vision Council | 50.20 | .00 |
| Net | $4,419.63 | |

| Benefits | | Gross Base |
|---|---|---|
| Dental Council | 265.31 | .00 |
| EODCRS - COUNCIL | 108.00 | 1,800.00 |
| EODCRS - DISABILITY | 2.26 | 1,800.00 |
| EODCRS/EORP LEGACY RATE | 997.74 | 1,800.00 |
| Health Council | 6,693.88 | .00 |
| Retirement Council EORP | 3,532.23 | 5,750.00 |
| Vision Council | 76.37 | .00 |
| Total | $11,675.79 | |

| Workers' Comp | | Gross Base |
|---|---|---|
| MUNICIPAL/ TOWN/ | 134.77 | 7,700.00 |
| Total | $134.77 | |

| Direct Deposits | Amount |
|---|---|
| 1st Bank Yuma | 728.71 |
| Chase Bank | 688.14 |
| Federal Credit Union | 918.16 |
| Sunbank | 919.54 |
| WASHINGTON FEDERAL | 751.40 |
| Wells Fargo | 413.68 |
| Total | $4,419.63 |

Check $0.00

Prepared by:
Debora Luna
Date:

Schedule G

# Pay Day Register

Pay Date Range 06/22/19 - 07/05/19

Pay Batch 201914

| | | |
|---|---|---|
| PSPRS POLICE DB RATE - TIER | 3,311.40 | 28,423.99 |
| PSPRS POLICE DB RATE - TIER 2 | 1,201.18 | 10,310.55 |
| PSPRS POLICE DB RATE - TIER 3 | 1,699.31 | 17,095.65 |
| STANDARD LIFE ADDTNL | 876.08 | .00 |
| TRANSWESTERN MEXICAN | 96.50 | .00 |
| U.S. MEX DENTAL - EE & | 634.80 | .00 |
| U.S. MEX DENTAL - EE & | 63.48 | .00 |
| UNITED WAY | 14.00 | .00 |
| US & MEX DENTAL= FAMILY | 581.24 | .00 |
| US & MEX HEALTH = C | 6,141.80 | .00 |
| US & MEX HEALTH = FAMILY | 4,812.15 | .00 |
| US & MEX HEALTH = SP | 749.00 | .00 |
| VSP - VISION FAMILY | 615.44 | .00 |
| Net | $324,814.93 | |

| | | |
|---|---|---|
| BUILDING- NOC OPER BY | 1,312.59 | 36,259.08 |
| BUS COMPANY AND DRIVERS | 138.40 | 2,507.20 |
| CLERICAL OFFICE/ LIBRARY/ | 231.02 | 96,255.96 |
| Electrician | 58.53 | 1,864.00 |
| FIREFIGHTERS & DRIVERS | 3,425.66 | 97,321.01 |
| GARBAGE/ ASH/ REFUSE | 265.30 | 4,244.80 |
| MUNICIPAL/ TOWN/ | 76.32 | 4,361.00 |
| PARKS- NOC ALL EMPLOYEES | 519.51 | 16,758.51 |
| POLICE OFFICERS | 4,571.31 | 104,367.90 |
| RECREATION- ALL EMPLOYEES/ | 277.86 | 20,283.23 |
| SEWAGE DISPOSAL/ PLANT | 701.43 | 20,390.52 |
| Street or Road Construction | 1,246.48 | 15,522.60 |
| WATERWORKS OPERATIONS | 576.93 | 16,626.51 |
| Total | $13,718.71 | |

| Direct Deposits | Amount |
|---|---|
| 1st Bank Yuma | 22,643.19 |
| ACADEMY BANK | 2,967.33 |
| Bank of America | 1,464.31 |
| BANKCORP BANK | 250.00 |
| BBVA COMPASS | 852.35 |
| Charles Sch | 200.00 |
| Chase Bank | 142,673.49 |
| CHASE BANK CA | 3,262.34 |
| CHASE BANK MORGAN | 1,481.40 |
| chase centro | 937.35 |
| Federal Credit Union | 39,850.47 |
| FF CREDIT UNION | 300.00 |
| FIREFIGHTER FIRST CREDIT UNION | 3,131.24 |
| GREEN DOT BANK | 830.35 |
| National Bank | 500.00 |
| Navy Federal | 10,943.98 |
| NetSpend Corporation DD | 120.00 |
| NORTH ISLAND CREDIT UNION | 1,027.55 |
| Sunbank | 1,512.45 |
| USAA FEDERAL SAVING | 1,122.78 |
| WASHINGTON FEDERAL | 1,298.53 |
| Wells Fargo | 59,629.04 |
| WELLS FARGO ARKANSAS | 1,840.25 |
| Total | $298,838.40 |

Check $25,976.53

Prepared by: Debora Luna

Date:

Schedule H

City of San Luis

# Payment Register

**From Payment Date: 7/8/2019 - To Payment Date: 7/11/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 90200 | 07/11/2019 | Open | | | Accounts Payable | 24-7 GET FIT SL, LLC | $1,217.96 | | |
| 90201 | 07/11/2019 | Open | | | Accounts Payable | ARIZONA WESTERN COLLEGE | $500.00 | | |
| 90202 | 07/11/2019 | Open | | | Accounts Payable | BENEFIT ADMIN SERVICES INT'L CORP | $280.00 | | |
| 90203 | 07/11/2019 | Open | | | Accounts Payable | CENTURYLINK | $6,651.06 | | |
| 90204 | 07/11/2019 | Open | | | Accounts Payable | CITY OF SOMERTON | $34,728.21 | | |
| 90205 | 07/11/2019 | Open | | | Accounts Payable | CORE ENGINEERING GROUP, PLLC | $25,796.20 | | |
| 90206 | 07/11/2019 | Open | | | Accounts Payable | CORONADO, JAVIER | $90.00 | | |
| 90207 | 07/11/2019 | Open | | | Accounts Payable | DESERT WATER | $64.20 | | |
| 90208 | 07/11/2019 | Open | | | Accounts Payable | IPS GROUP INC | $530.37 | | |
| 90209 | 07/11/2019 | Open | | | Accounts Payable | JJ KELLER & ASSOCIATES | $1,407.23 | | |
| 90210 | 07/11/2019 | Open | | | Accounts Payable | MCNEECE BROS. OIL COMPANY, INC | $28,879.68 | | |
| 90211 | 07/11/2019 | Open | | | Accounts Payable | SPECTRUM BUSINESS | $8,720.95 | | |
| 90212 | 07/11/2019 | Open | | | Accounts Payable | VERIZON WIRELESS MESSAGING SVC | $4,243.18 | | |
| Type Check Totals: | | | | | 94 Transactions | | $220,943.09 | | |

1BYPAYABLE - 1st BY Accounts Payable Totals

| Checks | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 94 | $220,943.09 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 94 | $220,943.09 | $0.00 |

| All | Status | Count | Transaction Amount | Reconciled Amount |
|---|---|---|---|---|
| | Open | 94 | $220,943.09 | $0.00 |
| | Stopped | 0 | $0.00 | $0.00 |
| | Total | 94 | $220,943.09 | $0.00 |

**Grand Totals:**

| **Checks** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **94** | **$220,943.09** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **94** | **$220,943.09** | **$0.00** |

| **All** | **Status** | **Count** | **Transaction Amount** | **Reconciled Amount** |
|---|---|---|---|---|
| | **Open** | **94** | **$220,943.09** | **$0.00** |
| | **Stopped** | **0** | **$0.00** | **$0.00** |
| | **Total** | **94** | **$220,943.09** | **$0.00** |

Angelica V Castro
7/11/2019

City of San Luis

# Payment Register

**From Payment Date: 7/8/2019 - To Payment Date: 7/11/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 1BYPAYABLE - 1st BY Accounts Payable | | | | | | | | | |
| Check | | | | | | | | | |
| 90119 | 07/11/2019 | Open | | | Accounts Payable | ALDAMA, EMMANUEL | $295.00 | | |
| 90120 | 07/11/2019 | Open | | | Accounts Payable | ALVAREZ, MIGUEL | $192.00 | | |
| 90121 | 07/11/2019 | Open | | | Accounts Payable | CARBAJAL, EDGAR | $59.00 | | |
| 90122 | 07/11/2019 | Open | | | Accounts Payable | CARDENAS, ERNESTO | $295.00 | | |
| 90123 | 07/11/2019 | Open | | | Accounts Payable | DE LA HOYA, TADEO | $96.00 | | |
| 90124 | 07/11/2019 | Open | | | Accounts Payable | HERNANDEZ, DIANA | $59.00 | | |
| 90125 | 07/11/2019 | Open | | | Accounts Payable | JESSUP , RICHARD | $192.00 | | |
| 90126 | 07/11/2019 | Open | | | Accounts Payable | JUAREZ, EDGAR | $182.00 | | |
| 90127 | 07/11/2019 | Open | | | Accounts Payable | MILLER, DAMIAN | $295.00 | | |
| 90128 | 07/11/2019 | Open | | | Accounts Payable | MUNOZ, MARIA | $59.00 | | |
| 90129 | 07/11/2019 | Open | | | Accounts Payable | 4 IMPRINT | $4,217.84 | | |
| 90130 | 07/11/2019 | Open | | | Accounts Payable | ADCO INNOVATIVE PROMOTIONAL PROD INC | $1,887.22 | | |
| 90131 | 07/11/2019 | Open | | | Accounts Payable | AFLAC | $4,174.40 | | |
| 90132 | 07/11/2019 | Open | | | Accounts Payable | ALSCO, INC | $2,952.90 | | |
| 90133 | 07/11/2019 | Open | | | Accounts Payable | ANGEL'S TOWING SERVICE/AUTO SALES | $75.00 | | |
| 90134 | 07/11/2019 | Open | | | Accounts Payable | ARIZONA SUPREME COURT | $9,000.00 | | |
| 90135 | 07/11/2019 | Open | | | Accounts Payable | CAMPA, OMAR | $36.00 | | |
| 90136 | 07/11/2019 | Open | | | Accounts Payable | CARDENAS, JUAN, A | $72.00 | | |
| 90137 | 07/11/2019 | Open | | | Accounts Payable | CDWG | $2,588.25 | | |
| 90138 | 07/11/2019 | Open | | | Accounts Payable | CENTURYLINK | $131.47 | | |
| 90139 | 07/11/2019 | Open | | | Accounts Payable | COULTER VENTURES LLC DBA ROQUE FITNESS | $2,538.61 | | |
| 90140 | 07/11/2019 | Open | | | Accounts Payable | CUEVAS, CHRISTIAN | $437.50 | | |
| 90141 | 07/11/2019 | Open | | | Accounts Payable | DIAMONDBACK POLICE SUPPLY, INC. | $1,460.67 | | |
| 90142 | 07/11/2019 | Open | | | Accounts Payable | DON CHALMERS FORD INC | $613.73 | | |
| 90143 | 07/11/2019 | Open | | | Accounts Payable | EAP PREFERRED | $900.00 | | |
| 90144 | 07/11/2019 | Open | | | Accounts Payable | EXCEPTIONAL WATER SYSTEMS, LLC | $663.04 | | |
| 90145 | 07/11/2019 | Open | | | Accounts Payable | FRANCO, MARTIN, A | $294.00 | | |
| 90146 | 07/11/2019 | Open | | | Accounts Payable | FRANCO LUNA, ROSSMART , FELIPE | $264.00 | | |
| 90147 | 07/11/2019 | Open | | | Accounts Payable | FUENTES, CARLOS | $580.00 | | |
| 90148 | 07/11/2019 | Open | | | Accounts Payable | GALINDO-GARCIA, MIRIAM | $840.00 | | |
| 90149 | 07/11/2019 | Open | | | Accounts Payable | GARCIA, OSCAR, EDUARDO | $96.00 | | |
| 90150 | 07/11/2019 | Open | | | Accounts Payable | GOMEZ-DOMINGUEZ, FRANCISCO | $409.45 | | |
| 90151 | 07/11/2019 | Open | | | Accounts Payable | GUTIERREZ, MANUEL | $132.00 | | |
| 90152 | 07/11/2019 | Open | | | Accounts Payable | HAAKER EQUIPMENT COMPANY | $460.62 | | |
| 90153 | 07/11/2019 | Open | | | Accounts Payable | IRON MOUNTAIN INC | $79.48 | | |
| 90154 | 07/11/2019 | Open | | | Accounts Payable | LABORIN, FERNANDO, L | $200.00 | | |
| 90155 | 07/11/2019 | Open | | | Accounts Payable | LEON, ANDREA | $85.00 | | |
| 90156 | 07/11/2019 | Open | | | Accounts Payable | LEON, APOLINAR | $150.00 | | |
| 90157 | 07/11/2019 | Open | | | Accounts Payable | LESLIE'S POOL SUPPLY INC. | $3,689.21 | | |
| 90158 | 07/11/2019 | Open | | | Accounts Payable | LIMELIGHT CREATIVE GROUP | $1,500.00 | | |
| 90159 | 07/11/2019 | Open | | | Accounts Payable | MCCURLEY, DOYLE | $1,500.00 | | |
| 90160 | 07/11/2019 | Open | | | Accounts Payable | MENDEZ ROBLES, NAZZER, O | $4,977.97 | | |

City of San Luis

# Payment Register

**From Payment Date: 7/8/2019 - To Payment Date: 7/11/2019**

| Number | Date | Status | Void Reason | Reconciled/ Voided Date | Source | Payee Name | Transaction Amount | Reconciled Amount | Difference |
|---|---|---|---|---|---|---|---|---|---|
| 90161 | 07/11/2019 | Open | | | Accounts Payable | METRO FIRE EQUIPMENT INC | $720.00 | | |
| 90162 | 07/11/2019 | Open | | | Accounts Payable | MONREAL, ANDREA | $50.00 | | |
| 90163 | 07/11/2019 | Open | | | Accounts Payable | NAVARRETE PAINTING LLC | $4,880.00 | | |
| 90164 | 07/11/2019 | Open | | | Accounts Payable | NERI , DANIEL | $760.00 | | |
| 90165 | 07/11/2019 | Open | | | Accounts Payable | NEWMAN TRAFFIC SIGNS | $92.61 | | |
| 90166 | 07/11/2019 | Open | | | Accounts Payable | OFFICE DEPOT | $5,966.16 | | |
| 90167 | 07/11/2019 | Open | | | Accounts Payable | PACIFIC COAST AG & INDUSTRIAL SUPPLY, LLC | $129.25 | | |
| 90168 | 07/11/2019 | Open | | | Accounts Payable | PENN NEON SIGN CO., INC. | $2,347.14 | | |
| 90169 | 07/11/2019 | Open | | | Accounts Payable | RADIKAL FASHION ENTERTAINMENT MAGAZINE LLC | $264.50 | | |
| 90170 | 07/11/2019 | Open | | | Accounts Payable | RAMIREZ MUNGUIA, ARTURO, I | $60.00 | | |
| 90171 | 07/11/2019 | Open | | | Accounts Payable | RAMON MOSQUEDA | $556.50 | | |
| 90172 | 07/11/2019 | Open | | | Accounts Payable | RISING STAR COLLISION | $570.76 | | |
| 90173 | 07/11/2019 | Open | | | Accounts Payable | RODRIGUEZ, DANIEL | $150.00 | | |
| 90174 | 07/11/2019 | Open | | | Accounts Payable | SAFELINE LLC | $19,656.15 | | |
| 90175 | 07/11/2019 | Open | | | Accounts Payable | SAN LUIS AIR CONDITIONING LLC | $260.00 | | |
| 90176 | 07/11/2019 | Open | | | Accounts Payable | SAN LUIS AZ ROTARY CLUB | $153.00 | | |
| 90177 | 07/11/2019 | Open | | | Accounts Payable | SILVA, JUAN, MANUEL | $150.00 | | |
| 90178 | 07/11/2019 | Open | | | Accounts Payable | SMITH, RALPH E. SR. | $1,180.00 | | |
| 90179 | 07/11/2019 | Open | | | Accounts Payable | STANDARD INSURANCE CO. | $1,614.45 | | |
| 90180 | 07/11/2019 | Open | | | Accounts Payable | THE ROACH PEST CONTROL | $70.00 | | |
| 90181 | 07/11/2019 | Open | | | Accounts Payable | UNIVERSAL BACKGROUND SCREENING INC | $543.19 | | |
| 90182 | 07/11/2019 | Open | | | Accounts Payable | US BANK EQUIPMENT FINANCE | $780.83 | | |
| 90183 | 07/11/2019 | Open | | | Accounts Payable | US BANK EQUIPMENT FINANCE | $3,051.81 | | |
| 90184 | 07/11/2019 | Open | | | Accounts Payable | VALDEZ, BELIA, M | $35.00 | | |
| 90185 | 07/11/2019 | Open | | | Accounts Payable | VEGA, LUISA, ANGELICA | $300.00 | | |
| 90186 | 07/11/2019 | Open | | | Accounts Payable | VERIZON WIRELESS MESSAGING SVC | $1,642.28 | | |
| 90187 | 07/11/2019 | Open | | | Accounts Payable | VISION SERVICE PLAN OF ARIZONA | $3,919.69 | | |
| 90188 | 07/11/2019 | Open | | | Accounts Payable | WAXIE SANITARY SUPPLY | $1,668.36 | | |
| 90189 | 07/11/2019 | Open | | | Accounts Payable | YUMA COUNTY JUSTICE COURT ADMIN. | $945.00 | | |
| 90190 | 07/11/2019 | Open | | | Accounts Payable | CALIFORNIA STATE DISBURSEMENT UNIT | $252.91 | | |
| 90191 | 07/11/2019 | Open | | | Accounts Payable | CHARGO PA, GURSTEL | $26.95 | | |
| 90192 | 07/11/2019 | Open | | | Accounts Payable | FOP/ALC | $315.00 | | |
| 90193 | 07/11/2019 | Open | | | Accounts Payable | INTERNAL REVENUE SERVICE | $100.00 | | |
| 90194 | 07/11/2019 | Open | | | Accounts Payable | INTERNAL REVENUE SERVICE | $220.87 | | |
| 90195 | 07/11/2019 | Open | | | Accounts Payable | SAN LUIS POLICE OFFICERS ASSOC | $405.00 | | |
| 90196 | 07/11/2019 | Open | | | Accounts Payable | SUPPORT PAYMENT CLEARINGHOUSE | $4,376.78 | | |
| 90197 | 07/11/2019 | Open | | | Accounts Payable | UNITED WAY OF YUMA COUNTY INC. | $14.00 | | |
| 90198 | 07/11/2019 | Open | | | Accounts Payable | UNITED YUMA FIRE FIGHTERS ASSOC | $75.50 | | |
| 90199 | 07/11/2019 | Open | | | Accounts Payable | UNITED YUMA FIRE FIGHTERS-IAFF | $800.00 | | |

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.A.**

**Meeting Date:** 07/24/2019

**Department Head:** Sonia Cornelio, City Clerk, City Clerk's Office

**Submitted By:** Melissa Lopez, Deputy City Clerk, City Clerk's Office

Action Requested: Motion

**ITEM:**

Discussion and possible action on any all matters regarding payment to Yuma County Recorder's Office and Yuma County Election Services for Special Election held May 21, 2019. **(Kay Macuil, City Attorney)**

**SUMMARY:**

The City Clerk's Office contracts with the Yuma County Election Services and Yuma County Recorder's Office to run the city's elections. The city held a Special Election on May 21, 2019. Staff received the invoices from the Yuma County Election Services in the amount of $3,900.79 and from Yuma County Recorder's Office in the amount of $24,775.35 for a total of $28,676.14. The department did not budget for this expense. Staff is requesting authorization to transfer **$28,676.14** from Contingency GL Acct. #100-110-81000 to City Clerk's Contractual Services GL Account #100-116-80000. The remaining balance in the Contingency account is $200,000.00

**RECOMMENDATION / SUGGESTED MOTION:**

**I MOVE TO APPROVE THE TRANSFER OF FUNDS IN THE AMOUNT OF $28,676.14 FROM THE CONTINGENCY FUND TO PAY FOR YUMA COUNTY ELECTION SERVICES AND THE YUMA COUNTY RECORDER's OFFICE AS PRESENTED.**

N/A

**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | Yes |
| **CITY/STATE/FEDERAL FUNDS:** | City |
| **TOTAL:** | $28.676.14 |
| **BUDGETED AMOUNT:** | $0.00 |
| **AVAILABLE AMOUNT TO TRANSFER:** | $200,000.00 |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | Contingency GL Acct.100-110-81000 / Remaining balance $200,000.00 |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

Staff is requesting authorization to transfer $28,676.14 from Contingency GL account #100-110-81000 to City Clerk's Contractual Services GL account #100-116-80000.

**Attachments**

Invoice - Yuma County Recorder's Office
Invoice - Yuma County Election Services
Budget Adjustment Form

YUMA COUNTY RECORDER'S OFFICE
VOTER SERVICES DIVISION
197 S. MAIN STREET
YUMA, AZ 85364

INVOICE #VR1901
DATE: June 24, 2019

# INVOICE - 2019 SPECIAL ELECTION

TO: Tadeo De La Hoya
City of San Luis

| ELECTION | DATE | DESCRIPTION | AMOUNT |
|---|---|---|---|
| Special | May 21, 2019 | Special Election | $24,775.35 |
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| | | TOTAL | $ 24,775.35 |

Make all checks payable to **Yuma County Recorder's Office.** If you have any questions concerning this invoice, contact Robyn Stallworth Pouquette, Yuma County Recorder, at 928.373.6022, robyn.pouquette@yumacountyaz.gov

RECEIVED
JUL - 8 2019
Office of the City Clerk
City of San Luis, Arizona

| | Supplies | Postage Outgoing | Potsage Incoming | Staff Expense | Other | Total |
|---|---|---|---|---|---|---|
| Notices/Early Ballot Requests | $ 11,724.48 | $ 2,203.35 | $ - | $ - | $ - | $ 13,927.83 |
| Official Ballots | $ 4,522.60 | $ 2,224.62 | $ 1,060.30 | $ - | $ - | $ 7,807.52 |
| Staff Overtime | $ - | $ - | $ - | $ - | $ - | $ - |
| Temporary Staff | $ - | $ - | $ - | $ - | | $ - |
| Relia-Vote Solution (Per Election) | $ - | $ - | $ - | $ - | | $ - |
| Relia-Vote Maintenance (Per Election) | $ - | $ - | $ - | $ - | $ 3,040.00 | $ 3,040.00 |
| **TOTAL** | | | | | | **$ 24,775.35** |

ELECTION SERVICES
197 S. MAIN STREET
YUMA, AZ 85364
PHONE: 928-373-1014

# INVOICE

INVOICE NO: 2019-01
DATE: June 25, 2019

**TO:** Tadeo A. De La Hoya
City of San Luis
P.O. Box 1170
San Luis, AZ 85349

| ELECTION | DATE | DESCRIPTION | AMOUNT |
|---|---|---|---|
| Special | May 21, 2019 | Special Election - All Mail | $3,900.79 |
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| | | TOTAL | $ 3,900.79 |

Make all checks payable to **Yuma County Election Services**
If you have any questions concerning this invoice, contact
Paul Melcher, 928.373.1014,
mary.fontes@yumacountyaz.gov

RECEIVED
JUL - 8 2019
Office of the City Clerk
City of San Luis, Arizona

**THANK YOU FOR YOUR BUSINESS!**

## *2019 CITY OF SAN LUIS ELECTION - MAY 21, 2019*

*Pursuant to Fee Schedule adopted 10/12/2015* *Rates effective 1/1/2016*

| *Expediture/Vendor* |
|---|
| *Amount* |
| *Vote Center Supplies* |
| $20.00 |
| Electronic Poll Book Rental |
| $0.00 |
| Voting Devices and Memory Card Rental |
| $50.00 |
| Ballot on Demand Printer |
| $0.00 |
| Pollworker Training Manual |
| $0.00 |
| Postage |
| 0 |
| Publication/Freedom Newspapers |
| $90.14 |
| Pollworker Payroll |
| $0.00 |
| Election Day Runners |
| $0.00 |
| Certification Boards |
| $300.00 |
| Counting Center Boards - Election Night |
| $0.00 |
| Early Board |
| $1,112.00 |
| Write-In Board |
| $0.00 |
| Rental Fee - Vote Centers |
| $0.00 |
| Delivery Truck Cost and Fuel |
| $0.00 |
| Staff Time |
| $462.46 |
| Equipment Delivery Staff |
| $0.00 |
| Temporary Elections Aides |
| $0.00 |
| Payroll Services |
| $68.00 |
| Consultants |
| $1,798.19 |

TOTAL ELECTION COST: $3,900.79

# City of San Luis
# Budget Adjustment Form

**Reason for Budget Adjustment:**

Budget adjustment needed to cover for expenses incurred during the 2019 Special Election held May 21, 2019.

| Account Number | Account Name | Amended Budget FY18-19 | Budget to be revised (Add to) | Budget to be decreased (taken from) | Available Balance Budget FY 18/19 |
|---|---|---|---|---|---|
| 100-110-81000 | Contingency | 200,000.00 | | 28,677.00 | 171,323.00 |
| 100-116-80000 | Contractual Services | 54,520.00 | 28,677.00 | | 83,197.00 |
| | | | | | - |
| | | | | | - |
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| | | | | | - |
| | | | | | - |
| | | | | | - |
| | | | | | - |
| | | | | | - |
| Total | | | 28,677.00 | 28,677.00 | |

Department Head [signature] Date 7/9/19

City Manager [signature] Date 07/09/2019

Finance Department [signature] Date 7/9/19.

RECEIVED

JUL 09 2019

OFFICE OF THE CITY MANAGER

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.B.**

**Meeting Date:** 07/24/2019

**Department Head:** Angel Ramirez, Fire Chief, Fire Department

**Submitted By:** Angel Ramirez, Fire Chief, Fire Department

Action Requested: Motion

**ITEM:**

Discussion and possible action on any and all matters regarding payment for Emergency Medical Services Training (Paramedic Class) with Wizard Education. **(Angel Ramirez, Fire Chief)**

**SUMMARY:**

San Luis Fire Department (SLFD) has been shopping around for providers to have a Certified Emergency Paramedic (CEP) training class here at SLFD.

SLFD contacted Wizard Education who provided the 2013 Paramedic class; the one co-sponsored by Amanda Aguirre's Regional Center for Border Health and held at SLFD. Wizard has the ability to accommodate smaller classes in remote areas by utilizing interactive televised networks (ITN) to provide lectures while having proctored testing and skills. SLFD had ten (10) students enrolled in that class, and all ten (10) became certified.

In 2017, we did the same thing where Wizard Education came to our facility and had six (6) students from the San Luis Fire Department and again in early 2018 with four (4) students. This new class which has four (4) paramedic's students will graduate in March of 2020.

With the growing needs of our city, we must keep up with the trends that are happening. We really need to focus on having a greater number of paramedics in our department so we can staff more ambulances and provide better patient care for our residents of the City of San Luis.

SLFD considers Wizard Education a "sole source provider," which is allowable through city procurement code 36.02 (exclusive services) that can meet our immediate needs, criteria for classes and the education desired.

The Ambulance Service has allocated $50,000.00 for the EMS Training within the Fiscal Year 2020 budget; account 340-341-80036: Non-degree seeking certifications. The Invoice cost for these trainings will be $33,800.00.

**RECOMMENDATION / SUGGESTED MOTION:**

**I MOVE TO APPROVE THE PURCHASE OF PARAMEDIC CLASSES FROM WIZARD EDUCATION AS PRESENTED IN THE AMOUNT OF $33,800.00.**

N/A

**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | YES |
| **CITY/STATE/FEDERAL FUNDS:** | CITY |
| **TOTAL:** | $33,800.00 |
| **BUDGETED AMOUNT:** | $50,000.00 |
| **AVAILABLE AMOUNT TO TRANSFER:** | $50,000.00 |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | 340-341-80036 ($50,000.00) |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

N/A

---

**Attachments**

Paramedic Invoice May class

---

# INVOICE




**WIZARD EDUCATION**

**OFFICE**
9516 W Peoria Ave #7
Peoria, AZ 85345

**PHONE**
623 388 8900

**FAX**
623 388 9614

**EMAIL**
Info@WizardEducation.com

**WEB**
www.WIZARDEDUCATION.com


TO: San Luis FD
Att: Angel Ramirez

COURSE : Paramedic Program
INVOICE NUMBER**:05/06/2019 SLFD**
TAX ID # 80-0018556
TERMS: 30 Days

**DATE: MAY 1, 2019**

| COURSE DATE | DESCRIPTION | QUANTITY | UNIT PRICE | COST |
|---|---|---|---|---|
| 05/06/2019 thru 03/15/2020 | EMT- Paramedic Program | 4 | $ 8,450.00 | $33,800.00 |
| | J. Alliguera, J. Cisneros, E Flores, E Ramirez | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | **Total** | **$33,800.00** |

Please make check payable / Remit to:

Wizard Education
9516 W Peoria Ave #7
Peoria AZ, 85345

For billing questions call : Beth Wichman @ 623 388 8900

To make a payment call : 623 388 8900

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.C.**

**Meeting Date:** 07/24/2019

**Department Head:** Angel Ramirez, Fire Chief, Fire Department

**Submitted By:** Angel Ramirez, Fire Chief, Fire Department

Action Requested: Motion
Resolution

**ITEM:**

Discussion and possible action on any and all matters regarding Resolution No. 2084. A Resolution of the Mayor and Council of the City of San Luis, Arizona in support of the Yuma County Multi-Jurisdictional Multi-Hazard Mitigation Plan. **(Angel Ramirez, Fire Chief and Richard Jessup, Chief of Police)**

**SUMMARY:**

The City of San Luis participated in the development of the new Yuma County Multi-jurisdictional Hazard Plan update. The last plan was approved by the Federal Emergency Management Agency (FEMA) in 2010 and was adopted by the County Board of Supervisors and municipalities within Yuma County. These plans must be updated and approved by FEMA every five years.

What is Hazard Mitigation? The term "Hazard Mitigation" describes actions that can help reduce or eliminate long-term risks caused by hazards, such as floods, wildfires, landslides, tornadoes, and earthquakes. As the costs of disaster impacts continue to rise, governments and citizens must find ways to reduce hazard risks to our communities. Efforts made to reduce hazard risks are easily made compatible with other community goals; safer communities are more attractive to employers as well as residents. As communities plan for new development and improvements to existing infrastructure, mitigation can and should be an important component of the planning effort.
While mitigation activities can and should be taken before a disaster occurs, after disasters hazard mitigation is essential. Oftentimes after disasters, repairs and reconstruction are often completed in such a way as to simply restore damaged property to pre-disaster conditions. These efforts may “get things back to normal,” but the replication of pre-disaster conditions often results in a repetitive cycle of damage, reconstruction, and repeated damage. Hazard mitigation breaks this repetitive cycle by producing less vulnerable conditions through post-disaster repairs and reconstruction. The implementation of such hazard mitigation actions now by state and local governments means building stronger, safer and smarter communities that will be able to reduce future injuries and damages.

How will the plan benefit the City of San Luis?

- **Ensuring eligibility for all sources of hazard mitigation funds made available through FEMA;**
- Increasing public awareness and understanding of vulnerabilities as well as support for specific actions to reduce losses from a future natural disaster;
- Ensuring community policies, programs, and goals are compatible with reducing vulnerability to all hazards and identifying those that are incompatible;
- Building partnerships with diverse stakeholders increasing opportunities to leverage data and resources in reducing workloads as well as achieving shared community objectives;
- Expanding the understanding of potential risk reduction measures to include: local plans and regulations, structure and infrastructure projects, natural systems protection, education and

awareness programs, and other tools; and
- Informing the development, prioritization, and implementation of mitigation projects. Benefits accrue over the life of these projects as losses are avoided from each subsequent hazard event.

**RECOMMENDATION / SUGGESTED MOTION:**

**I MOVE TO APPROVE AND ADOPT RESOLUTION NO. 2084 AS PRESENTED.**

N/A

---

**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | N/A |
| **CITY/STATE/FEDERAL FUNDS:** | N/A |
| **TOTAL:** | N/A |
| **BUDGETED AMOUNT:** | N/A |
| **AVAILABLE AMOUNT TO TRANSFER:** | N/A |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | N/A |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

N/A

---

**Attachments**

Resolution No. 2084
Yuma County Mitigation Plan
Yuma County Review Plan
APA Yuma County

---

OFFICE OF THE
MAYOR
CITY OF SAN LUIS

# Resolution

**No. 2084**

**A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF SAN LUIS, ARIZONA IN SUPPORT OF THE YUMA COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN.**

**WHEREAS**, the City of San Luis desires a community that is resistant to damage from earthquakes, high winds, sand storms and other natural, disastrous events and occurrences, and,

**WHEREAS**, the Yuma County Multi-Jurisdiction Multi-Hazard Mitigation Plan was submitted and approved by on May 13th, 2019 by the Federal Emergency Management Agency (FEMA) and we have received conditional approval from this agency, and,

**WHEREAS**, such a plan is required to be eligible for funding for eligible projects to minimize the risk to these facilities or for reimbursement for repairs and replacement of infrastructure damaged by such natural events, and,

**WHEREAS**, the City of San Luis Fire Department, City of San Luis Police Department and City of San Luis Public Works participated in the research, data collection, public meeting discussions, recommendations and development of the Yuma County Multi-Jurisdiction Multi-Hazard Mitigation Plan, and,

**WHEREAS**, the Yuma County Multi-Jurisdiction Multi-Hazard Mitigation Plan is required by the State of Arizona and the Federal Government in accordance with the Disaster Mitigation Act of 2000, and,

**WHEREAS**, the participation and support of the City of San Luis is required to maintain our eligibility for Federal and State programs, such as the Multi-Hazard Mitigation Grant Program (HMGP) and the Pre-Disaster Program (PDM), and,

**WHEREAS**, the final step for participating governing bodies is to approve the plan to allow each participant to move forward with identified mitigation projects and request hazard mitigation project funds, as available, to complete these projects:

**NOW THEREFORE BE IT RESOLVED**, by the Mayor and City Council of the City of San Luis, State of Arizona, as follows:

**Section 1:** That the document known as the Yuma County Multi-Jurisdiction Multi-Hazard Mitigation Plan, three copies of which will remain on file with the City Clerk as a public record, is hereby supported and approved.

**PASSED AND ADOPTED** by the Mayor and City Council of the City of San Luis, Arizona this _____ day of _____, 2019.

_____
Gerardo Sanchez, Mayor

**ATTEST:**

_____
Sonia Cornelio, City Clerk

**APPROVED AS TO FORM:**

_____
Kay Marion Macuil, City Attorney

**To be replaced with Cover**

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# SECTION 1: JURISDICTIONAL ADOPTION AND FEMA APPROVAL

## 1.1 DMA 2000 Requirements

### *1.1.1 General Requirements*

The Yuma County Multi-Jurisdictional Hazard Mitigation Plan (the Plan) has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act), 42 U.S.C. 5165, as amended by Section 104 of the Disaster Mitigation Act of 2000 (DMA 2000) Public Law 106-390 enacted October 30, 2000. The regulations governing the mitigation planning requirements for local mitigation plans are published under the Code of Federal Regulations (CFR) Title 44, Section 201.6 (44 CFR §201.6). Additionally, a DMA 2000 compliant plan that addresses flooding will also meet the minimum planning requirements for the Flood Mitigation Assistance program as provided for under 44 CFR §78.

DMA 2000 provides requirements for States, Tribes, and local governments to undertake a risk-based approach to reducing risks to hazards through mitigation planning.[1] The local mitigation plan is the representation of the jurisdiction's commitment to reduce risks from hazards, serving as a guide for decision makers as they commit resources to reducing the effects of hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding.

Under 44 CFR §201.6, local governments must have a Federal Emergency Management Agency (FEMA)-approved local mitigation plan in order to apply for and/or receive project grants under the following hazard mitigation assistance programs:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)

### *1.1.2 Update Requirements*

DMA 2000 requires that existing plans be updated every five years, with each plan cycle requiring a complete review, revision, and re-approval of the plan at both the state and FEMA level. Yuma County, the incorporated communities of San Luis, Somerton, Wellton, Yuma City, and the Cocopah Tribe all currently do not have a FEMA approved hazard mitigation plan. This updated Plan is the result of an multi-jurisdictional update process performed by the Yuma County jurisdictions and the Cocopah Tribe, which updates the 2010 Plan.

### *1.1.3 Tribal Government Assurances*

The Cocopah Indian Tribe is familiar with and will continue to comply with all applicable federal statutes and regulations in effect with respect to the periods for which it receives grant funding, including 2 CFR Parts 200 and 3002. The Tribe will also mend its portions of this mitigation plan whenever necessary to reflect changes in tribal or federal laws and statutes.

## 1.2 Official Record of Adoption

Adoption of the Plan is accomplished by the governing body for each participating jurisdiction in accordance with the authority and powers granted to those jurisdictions by the State of Arizona. Participating jurisdictions in the Plan include:

| Counties | Tribes | Cities | Towns |
|---|---|---|---|
| • Yuma | • Cocopah | • San Luis<br>• Somerton | • Wellton |

[1] FEMA, 2008, *Local Multi-Hazard Mitigation Planning Guidance*

| | | | |
|---|---|---|---|
| | | • Yuma | |

A digital copy of each official resolution of adoption is located in Appendix A of the Plan.

## 1.3 FEMA Approval Letter

The Plan was submitted to the Arizona Department of Emergency & Military Affairs (DEMA), the authorized state agency, and FEMA for review and approval. FEMA's approval letter is provided on the following page.

***[Insert FEMA Approval Letter Here]***

# SECTION 2: INTRODUCTION

## 2.1 Plan History

In 2010, Yuma County, all incorporated cities and towns in Yuma County, along with Cocopah Tribe, participated in a multi-jurisdictional mitigation planning process that resulted in one unified plan. Three planning team meetings, one tribal planning meeting, and several other individual community outreach meetings were conducted over the period of March 2009 to June 2010. Collectively and individually, this plan will be referred to herein as the 2010 Plan. The 2010 Plan has expired its FEMA 5-year planning cycle. In 2017, Yuma County initiated a Plan update process. This updated Plan received official FEMA approval on <insert 2018 date> and is set to expire five years from the date of the first formal adoption of this Plan.

## 2.2 Plan Purpose and Authority

The purpose of the Plan is to identify hazards that impact the various jurisdictions and Tribe located within Yuma County, assess the vulnerability and risk posed by those hazards to community-wide human and structural assets, develop strategies for mitigation of those identified hazards, present future maintenance procedures for the plan, and document the planning process. The Plan is prepared in compliance with DMA 2000 requirements and represents a multi-jurisdictional update of the 2010 Plan.

Yuma County and all of the Cities and Towns are political subdivisions of the State of Arizona and are organized under Title 9 (cities/towns) and Title 11 of the Arizona Revised Statutes (ARS). The Cocopah Indian Tribe is a federally recognized sovereign nation that was created by Executive Order in 1917 and is governed by a Tribal Council that is elected by tribal members pursuant to the Tribe's Constitution. As such, each of these entities are empowered to formally plan and adopt the Plan on behalf of their respective jurisdictions.

Funding for the development of the Plan was provided through a PDM planning grant obtained by the State of Arizona from FEMA. Michael Baker International was retained by Yuma County to provide consulting services in guiding the update planning process and Plan development.

## 2.3 General Plan Description

The Plan is generally arranged and formatted to be consistent with the 2013 State of Arizona Multi-Hazard Mitigation Plan (State Plan) and is comprised of the following major sections:

**Community Description** – this section provides an overall description of the participating jurisdictions and the County as a whole.

**Planning Process** – this section summarizes the planning process used to update the Plan, describes the assembly of the Planning Team and meetings conducted, and summarizes the public involvement efforts.

**Risk Assessment** – this section summarizes the identification and profiling of hazards that impact the County and the vulnerability assessment for each hazard that considers exposure/loss estimations and development trend analyses.

**Mitigation Strategy** – this section presents a capability assessment for each participating jurisdiction and summarizes the Plan mitigation goals, objectives, actions/projects, and strategy for implementation of those actions/projects.

**Plan Maintenance Strategy** – this section outlines the proposed strategy for evaluating and monitoring the Plan, updating the Plan in the next 5 years, incorporating plan elements into existing planning mechanisms, and continued public involvement.

**Plan Tools** – this section includes a list of Plan acronyms and a glossary of definitions.

## 2.4 Overall Plan Update Process

The Plan is the result of a thorough update process that included a section by section review and evaluation of the 2010 Plan by the planning participants. Table 2.1 summarizes the review and analysis of each section of the 2010

Plan and generally describes what changes were or were not made and why. Additional details of that process are also discussed in the Plan sections as well.

| **Table 2-1: Summary of 2010 Plan review and 2018 Plan correlation** | | |
|---|---|---|
| **2012 Plan Section** | **2018 Plan Section** | **Review and Changes Description** |
| 1 | 1 | • No major changes occurred in this section, besides inclusion of an updated FEMA Approval Letter. |
| 2 | 2 | • No major changes occurred in this section, besides applicable updates to this table. |
| 3 | 4 | • Sections 3 & 4 were swapped, to place the community descriptions earlier in the plan document.<br>• All other planning process details were updated, as applicable to this updated planning process. |
| 4 | 3 | • Sections 3 & 4 were swapped, to place the community descriptions earlier in the plan document.<br>• Community descriptions updated as updated data allowed. |
| 5 | 5 | • Removed the Transportation Accident profile and added in Drought, Earthquake, Extreme Heat (Power Failure), and Dust Storm (added to Severe Wind).<br>• Updated risk and vulnerability assessments, as improved data allowed.<br>• Produced first time Hazus standard analysis for the hazards of flood and earthquake. |
| 6 | 6 | • Updated all parts of this section, as applicable to this updated planning process and past efforts over the last five years. |
| 7 | 7 | • Plan maintenance updated, as applicable to this updated planning process and past efforts over the last five years. |
| 8 | 8 | • Updated as necessary. |
| Appendixes | Appendixes | • Documentation updated, as applicable to this updated planning process.<br>• Historical completed mitigation actions were migrated from Section 6 to Appendix D. |

# SECTION 3: COMMUNITY DESCRIPTIONS

## 3.1 General

The purpose of this section is to provide updated basic background information on Yuma County as a whole and includes information on geography, climate, population, and economy. Abbreviated details and descriptions are also provided for each participating jurisdiction.

## 3.2 County Overview

### *3.2.1 History & Geography*

The history of Yuma County is quite colorful and continues to live on today in a fast-growing and vibrant community. In 1540, 18 years after the conquest of Mexico by Cortez, and 67 years before the settlement of Jamestown, Hernando de Alarcon visited the site of what is now the current City of Yuma. He was the first European to visit the area and to recognize the best natural crossing of the Colorado River. Much of Yuma County's later development occurred because of this strategic location. From the 1850's through the 1870's, steamboats on the Colorado River transported passengers and goods to various mines, military outposts in the area, and served the ports of Yuma, Laguna, Castle Dome, Norton's Landing, Ehrenberg, Aubry, Fort Mohave and Hardyville. During this time, stagecoaches also carried the mail and passengers on bone-jarring rides through the area.

The Cocopah (Kwapa), also known as the River People, have long lived along the lower Colorado River and delta. When Don Juan de Onate and Father Escobar sailed up the Colorado River, there were estimated to be about 6,000-7,000 Cocopah people living along the delta and the lower Colorado River. Throughout the mid 1800s and early 1900s, the Cocopah Indian Tribe effectively resisted assimilation to an established reservation and maintained its social, religious and cultural identities. In the last half of the nineteenth century, the steamboat business became important to the Cocopah people. Cocopah men, known for their skillful river navigating, were valued pilots.

Yuma County is located in the extreme southwestern corner of Arizona, as depicted in Figure 1. The County is larger than the state of Connecticut, and much of Yuma County's 5,519 square miles is desert land accented by rugged mountains. Yuma County limits generally lie between longitudes 114.82 to 113.33° west and latitudes 32.03 to 33.46° north. According to the Arizona Department of Commerce,[2] Yuma County is one of four original counties designated by the first Territorial Legislature. In 1864, Yuma was selected as the county seat and has remained so to this day. The County maintained its original boundaries until 1983, when voters decided to split Yuma County, forming La Paz County in the north and the new, present day Yuma County in the south.

[2] Arizona Department of Commerce, 2008, *Community Profile for Yuma County*

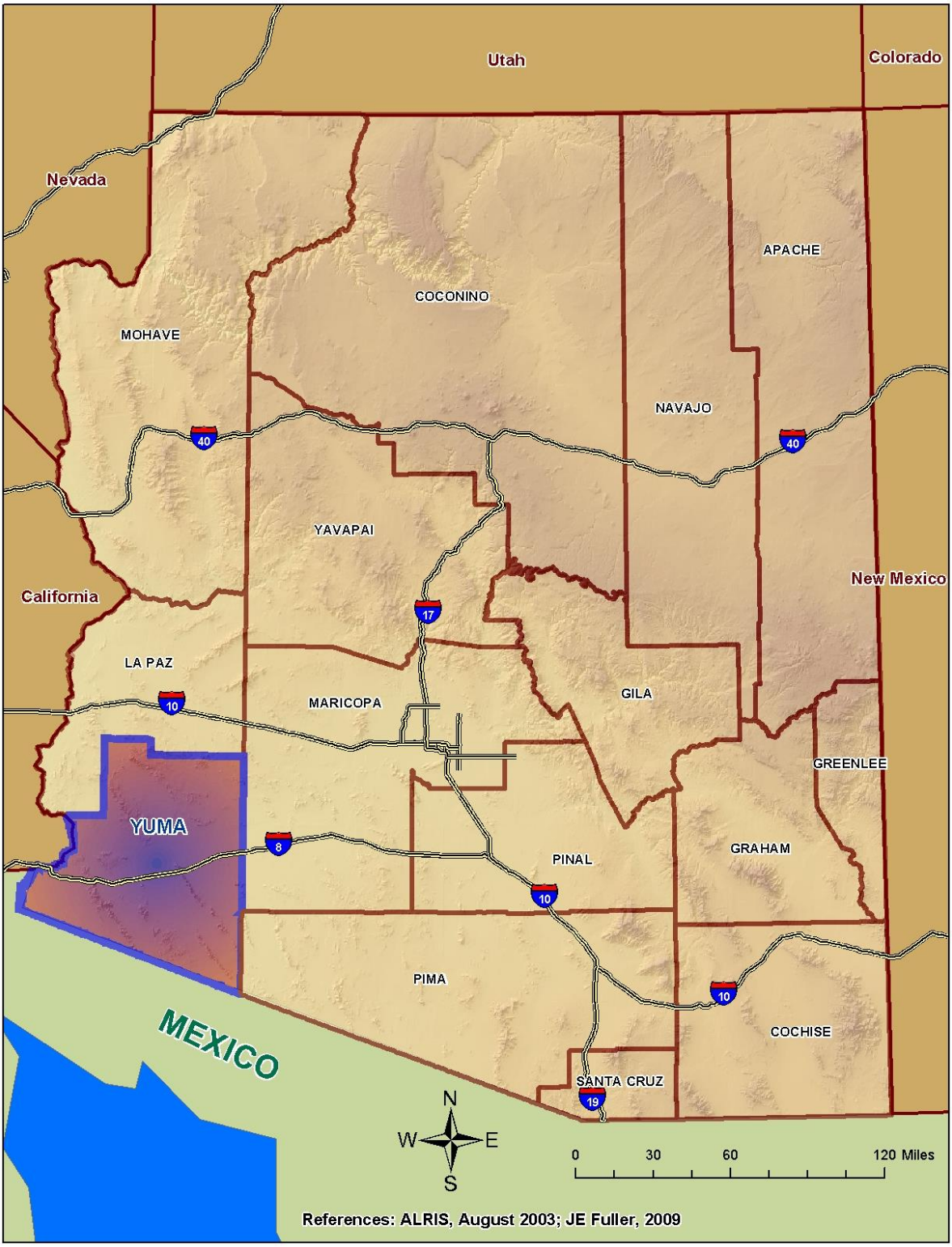



**Figure 1. Yuma County Vicinity Map**

Yuma County is characterized by two prominent river valley regions formed by the Gila and Colorado Rivers. Within these regions exist an abundance of arable land which is irrigated with water from the Colorado River and groundwater supplies. There are also over 200 miles of irrigation canals that extend at regular intervals through the County's agricultural belt. The Colorado and Gila River Valley areas have some of the most fertile soils in the world, having received silt and mineral deposits from flooding of the watercourses until the rivers were "tamed" by an intricate series of dams and canals.

For many years, Yuma served as the gateway to the new western territory of California, which brought thousands of people from around the world in search of gold, or provide services to those who had it. In 1870, the Southern Pacific Railroad bridged the Colorado River and Yuma became a hub for the railroad. The Ocean-to-Ocean Bridge (or Old Highway 80 Bridge) was the first vehicle bridge across the Colorado River. Prior to the construction of the bridge, cars were ferried across. Present day major highways through the County include Interstate 8 and U.S. Highways 95 and 80, and State Highway 195, the high speed truck route from Mexico to Yuma. Yuma County is bordered by California on the West and Mexico on the South. The Marine Corps Air Station (MCAS) shares one of the longest runways in the country with the Yuma International Airport. Additionally, the U.S. Air Force operates Laguna Air Force Base in the central-western portion of the County. Figure 2 depicts the geographic location and major transportation routes, including roadways, railways, and airports, of Yuma County.

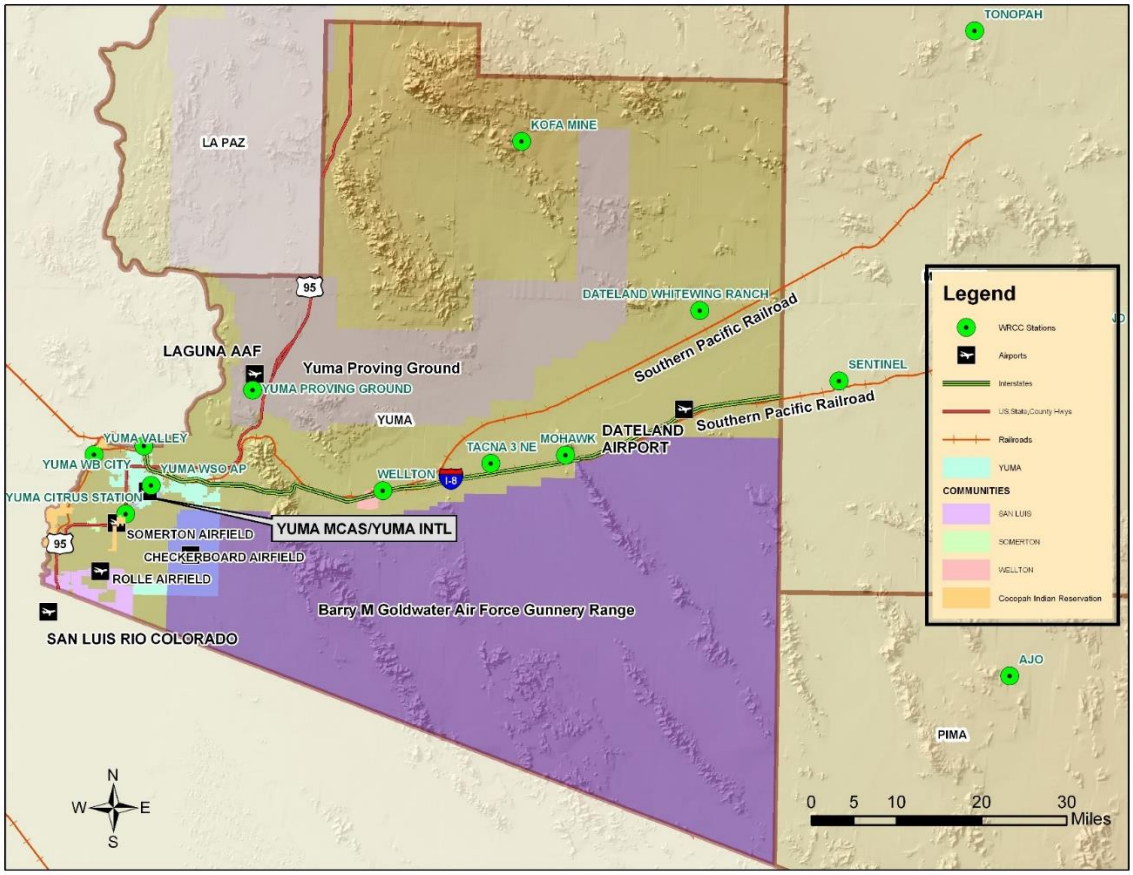



**Figure 2. General Location and Transportation Map**

The U.S. Forest Service and Bureau of Land Management own 42% of Yuma County land; Indian Reservations, 0.5%; and the State of Arizona 5%; individual and corporations 13%; and other public lands 40%. Figure 3 illustrates the land ownership in Yuma County.

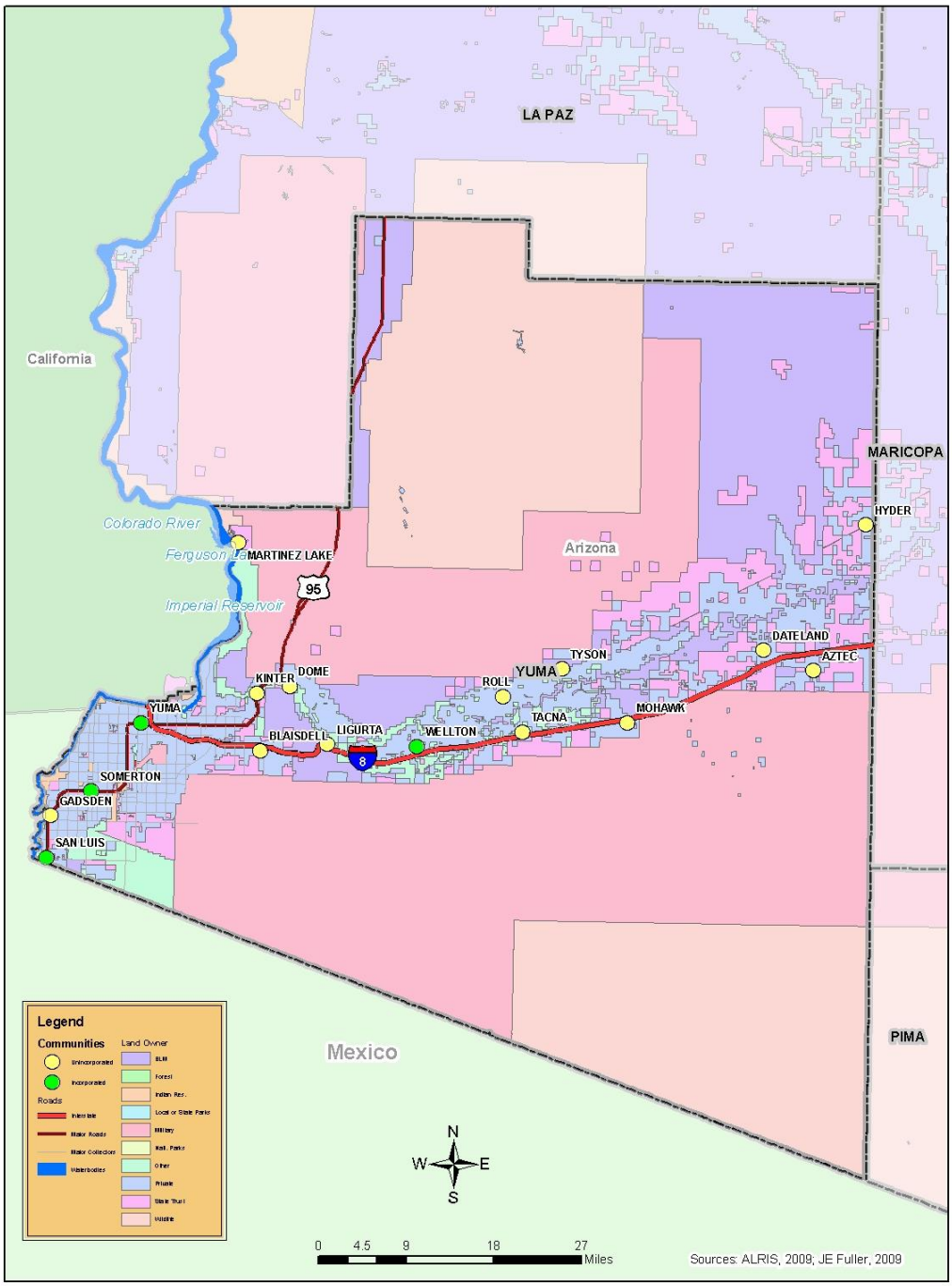



**Figure 3. Community Location and Land Ownership Map**

### *3.2.2 Climate*

The climate in Yuma County is typically hot and dry during the summer and mild during the winter. Climatic statistics for weather stations within Yuma County are produced by the Western Region Climate Center[3] and span records dating back to the early 1900's. Statistics for the Dateland Whitewing Ranch and Yuma Proving Grounds Stations are provided in the following discussions.

Average temperatures within Yuma County are fairly uniform and range from near freezing during the winter months to over 110° Fahrenheit during the hot summer months. Average extreme temperatures have exceeded either end of the spectrum by 10 to 15°. Figure 4 presents a graphical depiction of temperature variability and extremes throughout the year for the Yuma Proving Ground Station, which is situated at an elevation of 320 feet. The Yuma Proving Ground data are fairly representative of the lower valley regions of the County. Additionally, Figure 5 show climate averages for the Yuma Proving Ground Station.

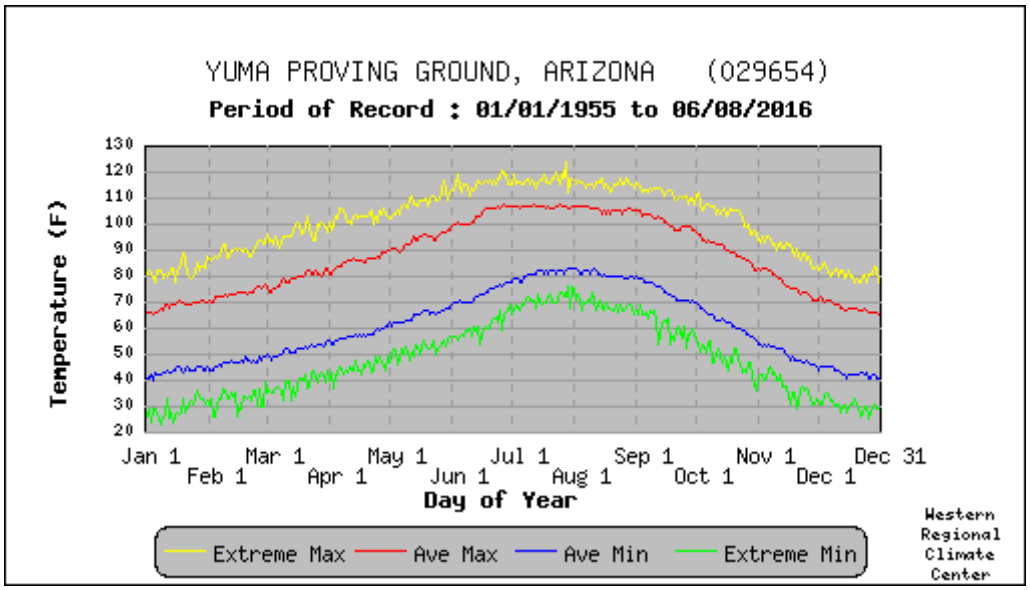



**Figure 4. Daily Temperatures and Extremes for Yuma Proving Grounds, Arizona**

[3] Most of the data provided and summarized in this plan are taken from the WRCC website beginning at the following URL: http://www.wrcc.dri.edu/CLIMATEDATA.html

## YUMA PROVING GROUND, ARIZONA (029654)

**Period of Record Monthly Climate Summary**

**Period of Record : 01/01/1955 to 06/08/2016**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Max. Temperature (F) | 68.6 | 72.9 | 78.6 | 85.6 | 94.1 | 103.2 | 106.7 | 105.5 | 100.6 | 89.8 | 76.9 | 67.8 | 87.5 |
| Average Min. Temperature (F) | 43.3 | 46.8 | 51.4 | 57.2 | 64.8 | 72.9 | 80.8 | 80.8 | 74.2 | 62.1 | 50.0 | 42.7 | 60.6 |
| Average Total Precipitation (in.) | 0.51 | 0.42 | 0.33 | 0.14 | 0.03 | 0.04 | 0.23 | 0.53 | 0.42 | 0.31 | 0.25 | 0.45 | 3.64 |
| Average Total SnowFall (in.) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Average Snow Depth (in.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Percent of possible observations for period of record.
Max. Temp.: 98.4% Min. Temp.: 98.4% Precipitation: 98.2% Snowfall: 98.4% Snow Depth: 98.4%
Check Station Metadata or Metadata graphics for more detail about data completeness.

*Western Regional Climate Center, wrcc@dri.edu*

**Figure 5. Monthly Climate Summary for Yuma Proving Ground, Arizona**

Annual precipitation across Yuma County varies significantly with elevation. For example, the urbanized Yuma Valley area receives less than three (3) inches of rainfall annually while the eastern portion of the County receives nearly five (5) inches annually and the northern areas approach seven (7) inches annually.[4] From a rainfall perspective, the Yuma Valley area is one of the driest areas of the State, however, as residents will testify, "you have to be here on the day it all comes!"

From November through March, storm systems from the Pacific Ocean cross the state as broad winter storms producing mild precipitation events and snowstorms at the higher elevations. Summer rainfall begins early in July and usually lasts until mid-September. Moisture-bearing winds move into Arizona at the surface from the southwest (Gulf of California) and aloft from the southeast (Gulf of Mexico). The shift in wind direction, termed the North American Monsoon, produces summer rains in the form of thunderstorms that result largely from excessive heating of the land surface and the subsequent lifting of moisture-laden air, especially along the primary mountain ranges. Thus, the strongest thunderstorms usually do not form in Yuma County area, but are found in the mountainous regions of the central southeastern portions of Arizona. Thunderstorms that do materialize are often accompanied by strong winds, blowing dust, and infrequent hail storms.[5] During the period of October through February, temperature inversions occur nightly and last about one hour after sunrise. Air pollution levels can rise significantly during this period, as does the potential for fog. Prevailing winds are basically northwesterly, except during the months of June, July, August and September when they become south to southwesterly. Average wind speed through the year is about 7.8 miles per hour.

All of Yuma County is situated within the Sonoran Desert and is characterized by an arid environment typical to much of southwestern Arizona. The elevations vary across the County with mountain peaks that are less than 3,000 feet in elevation to a low elevation of 175 feet. Vegetation in this zone is comprised mainly of a mixture of palo verde, cacti, creosotebush, and bursage communities.[6] The river bottoms are primarily comprised of saltbrush and arroweed scrub, with a few sparse stands of mesquite and riparian deciduous woodland. Figure 6 depicts the various Sonoran Desert biotic regions for the County.

[4] Per WRCC statistics for the Kofa Mine Station, which is at an elevation of 1,780 feet (see Figure 1-2).

[5] Office of the State Climatologist for Arizona, 2004. Partially taken from the following weblink: http://geography.asu.edu/azclimate/narrative.htm

[6] Brown, D.E., University of Utah, 1999, *Biotic Communities; Southwestern United States and Northwest Mexico.*

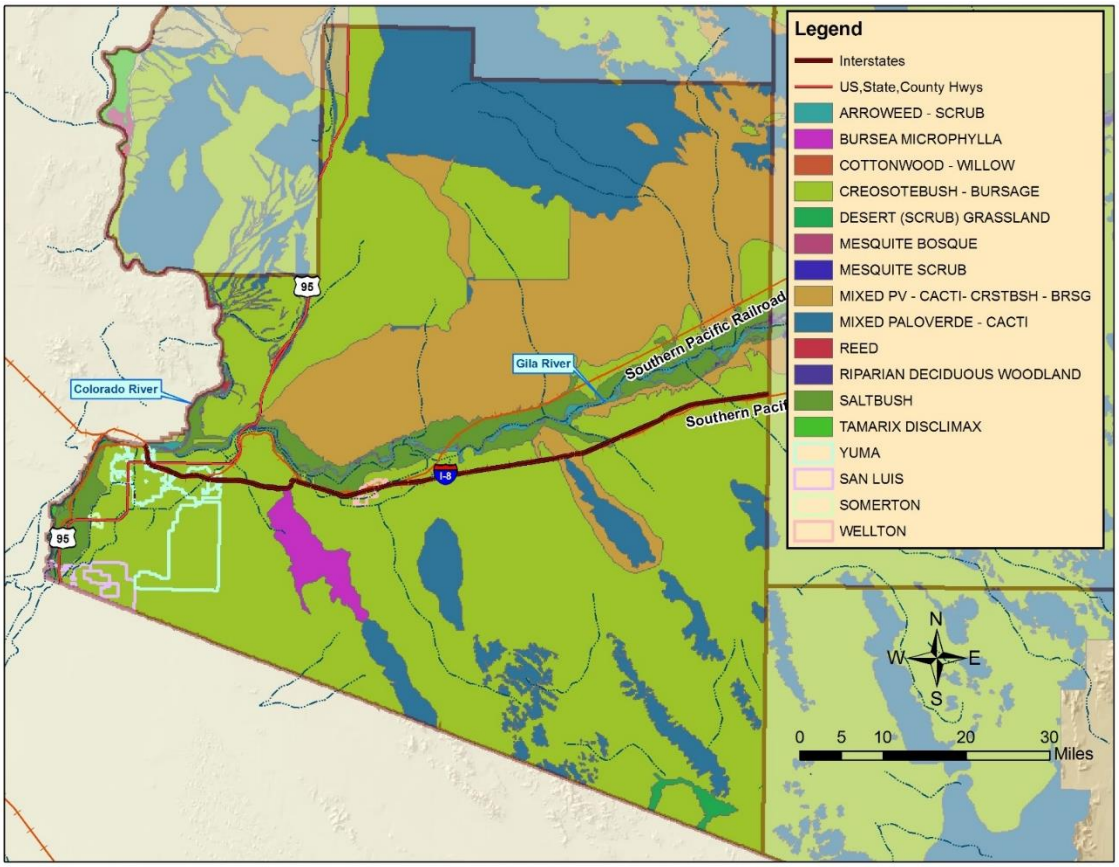



**Figure 6. Vegetative Communities Within Yuma County**

### *3.2.3 Population*

Yuma County is home to 203,779 residents, with the majority of the citizens living in the incorporated communities or Indian Reservation portions of Yuma County. The largest community is the City of Yuma. All three incorporated cities and one town are geographically located in the southwest portion of the County. The other 13 towns and communities located throughout the county, with most situated along major highways are mostly comprised of only a few structures or landmark. Table 1 summarizes jurisdictional population statistics for Yuma County communities and the County as a whole.

**Table 1. Summary of jurisdictional population estimates for Yuma County**

| Jurisdiction | 1990 | 2000 | 2010 | 2025 | 2040 |
|---|---|---|---|---|---|
| Yuma County (total) | 106,895 | 160,026 | 195,751 | 251,130 | 307,708 |
| Cities, Towns and Tribes | | | | | |
| Cocopah Indian Tribe | N/A | 1,025 | 817 | 883 | 876 |
| City of San Luis | 4,212 | 15,322 | 27,909 | 49,888 | 72,566 |
| City of Somerton | 5,282 | 7,266 | 14,287 | 19,929 | 26,834 |
| Town of Wellton | 1,066 | 1,829 | 2,882 | 3,852 | 4,955 |
| City of Yuma | 56,966 | 77,515 | 90,660 | 109,943 | 132,518 |
| Unincorporated | 39,369 | 57,033 | 60,013 | 67,518 | 70,835 |

*Note: Figures for 1990, 2000 and 2010 from US Census Bureau:http://www.azcommerce.com/econinfo/demographics/Census+2000.html*
*Figures for 2025 to 2040: Arizona Office of Economic Opportunity,* https://population.az.gov/population-projections*, accessed March 2018*

### *3.2.4 Economy*

The Yuma valley regions contain an abundant of arable land, which utilizes the close proximity of the Colorado River water through a network of canals. Agriculture, tourism, military and government and retail trade are the county's main industries.

The Yuma County labor force in 2017 numbered 99,001 with an unemployment rate of 15.7%[7]. Farming, cattle raising, tourism, retail trade, and the US Marine Corp Air Station Yuma and US Army Yuma Proving Ground military bases are Yuma County's principal industries. Some of the major tourist attractions in Yuma County include the historical Territorial Prison, Yuma Crossing Historic Park, Kofa Mountain Range and Wildlife Refuge, Martinez and Mittry Lakes, and hunting for a variety of game.

Arizona Western College (AWC) is located in Yuma County, and offers a two-year community college education to full-time and part-time on-campus and off-campus students. AWC shares its campus with a satellite campus of Northern Arizona University, which offers a variety of two year, four year and postgraduate programs.

Yuma County is currently experiencing rapid growth, with the most significant growth having occurred in the last ten years. Growth factors of economic opportunity, beneficial climate, and an active lifestyle are beginning to transform the region's prime agricultural lands into residential, commercial, and industrial development. This rapid growth presents a significant challenge to the County in the effort of maintaining a sustained economic prosperity, enhancing the quality of life, and maintaining the safety of County residents.

In order to plan more efficiently, the County has been divided into nine Designated Study Areas (DSA). A map showing the boundaries of each DSA is provided in Figure 7. The development histories for each

[7] Arizona Office of Economic Opportunity, https://laborstats.az.gov/sites/default/files/documents/files/pr-laus-04cnt-2010to2020-nsa.pdf

DSA are provided in the following text and are excerpts from the Yuma County 2020 Comprehensive Plan. Figure 3 represents the community locations and land ownership throughout Yuma County.

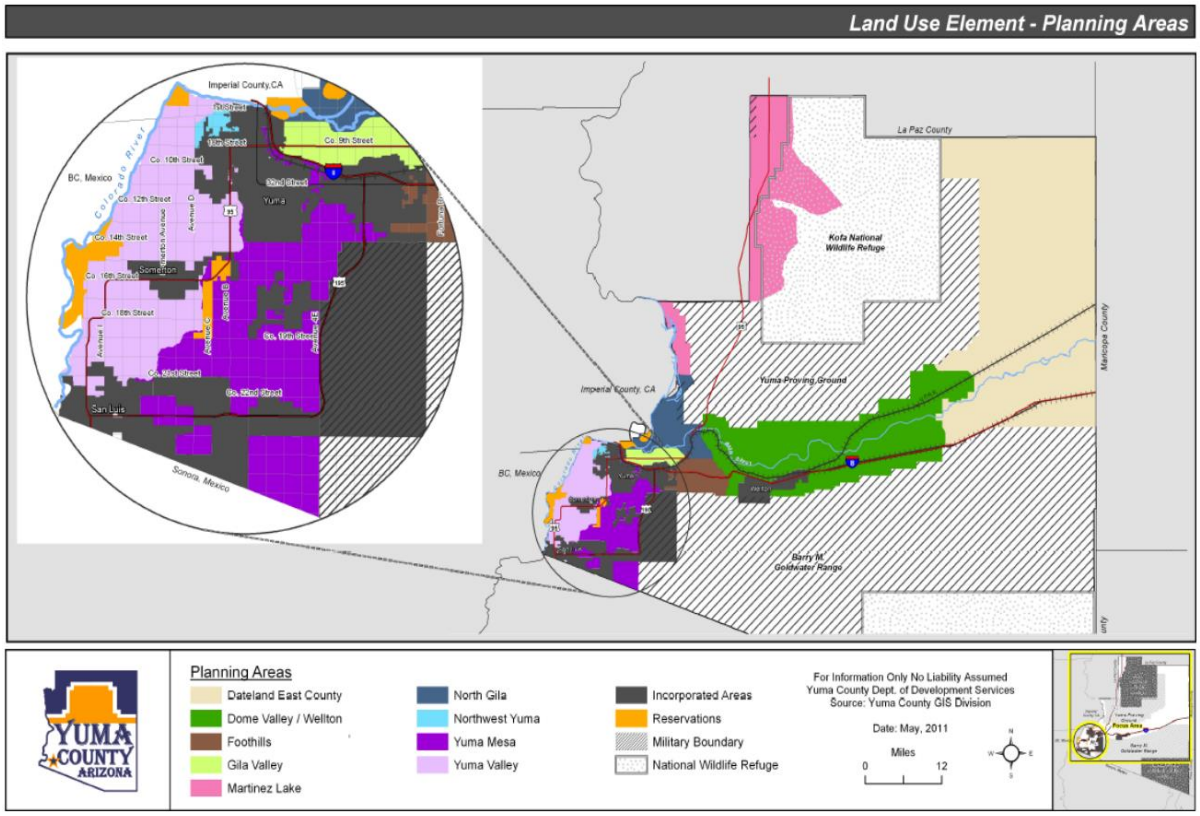



**Figure 7. Development Study Areas within Yuma County**

**North Gila** - The North Gila Planning Area is comprised of the area roughly bounded by California to the west, Yuma Proving Ground and the Gila Mountains to the east, Levee Road to the south and Imperial Dam to the north. The planning area is almost exclusively located in the Colorado and Gila River valley. The confluence of the Colorado and Gila Rivers is located along the southern boundary of the planning area.

- The North Gila Planning Area is a rural area that is predominately used for agricultural purposes with nonagricultural land being mountainous or riparian areas owned by various government entities.
- Farmland within the North Gila Planning Area tends to be of the highest quality found in Yuma County.
- The total population of the North Gila Planning Area is 1,038.
- Low overall population density with 15 persons per square mile over the 60.5 square miles.

**Yuma Mesa** - The Yuma Mesa Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by the East Main Canal and a small portion of the City of Somerton to the west, the Barry M. Goldwater Range and City of Yuma to the east, the City of San Luis and Mexico to the south and Interstate 8 and MCAS-Yuma to the north. A portion of the Cocopah Reservation is located within the planning area; however, it is part of a sovereign nation and not under the land use planning jurisdiction of Yuma County.

- Total population of the Yuma Mesa Planning Area is 7,411.
- The planning area has a low population density of approximately 79 persons per square mile.

- MCAS Yuma is directly adjacent to the planning area.
- All farmland within the planning area is classified by the United States Department of Agriculture as "farmland of unique importance."
- Residential development in the planning area has occurred almost exclusively at rural style densities.

**Northwest Yuma** - The Northwest Yuma Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by Avenue D to the west, the City of Yuma to the south and east and the West Main Canal and 1st Street to the north.

- Almost entirely composed of older residential neighborhoods.
- Because the area has been nearly built out for quite some time, development in the planning area tends to occur as redevelopment or infill development.
- The planning area is located in the Yuma Valley close to the Colorado River. As such, extensive drainage systems and pumping are necessitated due to the high ground water that is found in much of the planning area.
- here are two areas within the Northwest Yuma Planning Area federally recognized by the U.S. Department of Housing and Urban Development (HUD) as a colonia.
- The total population of the planning area is 9,649. The planning area has a relatively high population density of approximately 5,517.12 persons per square mile.

**Gila Valley** - The Gila Valley Planning Area is comprised of the area roughly bounded by Pacific Avenue to the west, Fortuna Wash to the east, Levee Road to the north and the City of Yuma to the south. The planning area is almost exclusively located in the Colorado and Gila River valleys. The confluence of the Colorado and Gila Rivers is located along the northern boundary of the planning area.

- 2010 population of 2,833.
- The overwhelming majority of acreage within the planning area is used for agricultural production.
- Extensive drainage systems and pumping are utilized due to the high groundwater found in much of the planning area.
- MCAS Yuma is located just south of the planning area.

**Foothills** - The Foothills Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by the City of Yuma to the west, the crest of the Gila Mountains to the east, the Barry M. Goldwater Range to the south and the Gila Gravity Main Canal and County 9th Street to the north. Fortuna Wash, which runs in a northeasterly direction, more or less bisects the planning area.

- The Foothills Planning Area is an unincorporated community of 28,867 people located directly east of the City of Yuma. The planning area is the most urbanized area in unincorporated Yuma County.
- The planning area has a mix of young families and retirees. The planning area represents the center of residential growth in Yuma County.

**Yuma Valley** - The Yuma Valley Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by Mexico to the west, the City of Yuma, Avenue D, the City of Somerton and the East Main Canal to the east, the City of San Luis to the south and California to the north. The planning area is located in the Yuma Valley close to the Colorado River.

- Extensive drainage systems and pumping are required due to the high ground water that is found in much of the planning area.

- There are four areas within the Yuma Valley Planning Area federally recognized by the U.S. Department of Housing and Urban Development (HUD) as a colonia.
- The overwhelming majority of the Yuma Valley Planning Area is comprised of large acreage parcels that are actively being used for agricultural purposes.
- Farmland within the planning area tends to be of the highest quality found in Yuma County, all of it located off the mesa in the fertile river bottoms.

**Martinez Lake** - The Martinez Lake Planning Area is comprised of two geographically separate areas that can be roughly defined as the portion of Yuma County that is located north of Imperial Dam and west of Yuma Proving Ground and the Kofa National Wildlife Refuge. The topography of the southern portion of the planning area is dominated by the Colorado River and Martinez Lake which forms the western boundary of the planning area and the County. Development in this area centers around the Martinez Lake shoreline. The northern portion of the Martinez Lake Planning Area is a sliver of land located between the La Paz County line and the Kofa Mountains and the Kofa National Wildlife Refuge.

- Martinez Lake is one of a series of man-made lakes along the Colorado River, and was formed with the construction of Imperial Dam in 1935.
- In 1955, the Martinez Lake Resort began as a fishing camp and eventually expanded into a year-round community that caters to winter visitors, sightseers, fishermen, rock hounds, boaters, hunters, and water skiers.
- Currently, retirees, winter visitors, military personnel, and recreation are fueling the growth and adding another facet to the ever-evolving character of this area.
- The Martinez Lake Planning Area is surrounded on multiple sides by Yuma Proving Ground (YPG). Because of this, activities on YPG have the potential to have a major impact on the planning area.

**Dome Valley/Wellton** - The Dome Valley/Wellton Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by the crest of the Gila Mountains to the west, the Barry M. Goldwater Range to the south, the crest of the Mohawk Mountains to the east and Yuma Proving Ground to the north. The Gila River runs from east to west, bisecting the planning area.

- The valley through which the Gila River flows contains irrigated, prime farmland and is extensively used for agriculture. The mesa rises abruptly above the Gila River Valley and is a flat area drained by washes. The majority of residential development has occurred on the "mesa."
- Located in the northwest corner of the planning area, the Muggins Mountains Wilderness Area covers 12 square miles.
- The Dome Valley/Wellton Planning Area contains 31 platted subdivisions. Combined there are 2,222 lots contained within these subdivisions. The 2010 Census reported a combined population of 2,915.
- Many but not all of the subdivisions have little to no physical infrastructure for improved roads.

**Dateland/East County** - The Dateland/East County Planning Area is comprised of the unincorporated portion of Yuma County that is roughly bounded by the crest of the Mohawk Mountains and Yuma Proving Ground to the west, the Barry M. Goldwater Range to the south, Maricopa County to the east and La Paz County to the north. The Gila River runs from east to west bisecting the planning area. The Eagle Tail Mountains Wilderness Area covers 12 square miles. This area is managed by the Bureau of Land Management in a manner that minimizes as much as possible human impact on the land.

- The economic base is primarily farming, agricultural production and associated railroad activities.
- Planning area covers 554,156 acres or about 861 square miles.

- The 2010 Census reported a combined population of 815, of which 35.7% of the total population of the planning area live in a platted subdivision. Further, the Census reported 118 housing units within in these subdivisions which means that of 5,157 lots contained within platted subdivision, 96.9% are vacant lots.
- Many but not all of the subdivisions have little to no physical infrastructure.
- Low population density (approximately one person per square mile).
- The Dateland Elementary School serves as the focal point for the community.

## 3.3 Jurisdictional Overviews

The following are brief overviews for each of the participating jurisdictions in the Plan.

### *3.3.1 Cocopah Indian Tribe*

Cocopah Indian Reservation is located in the western portion of Yuma County, Arizona, as depicted in Figure 2. The Reservation is comprised of three non-contiguous bodies of land known as the North, West and East Reservations. The Reservation is situated at an elevation of 103 feet, and is geographically positioned at longitude 114.72 degrees west and latitude 32.6 degrees north. Cocopah Indian Reservation is located adjacent to the Colorado River; 13 miles south of Yuma; 15 miles north of San Luis, a national border city with Mexico; 197 miles west of Phoenix; and Tucson is approximately 250 miles to the southeast. U.S. Highway 95 and I-8 are nearby roadways for travel to the Reservation. The major transportation routes and land features around the Reservation are shown on Figure 2. Established by Executive Order in 1917, the Reservation currently encompasses approximately 6,500 acres.

Cocopah Indian Reservation location is primarily surrounded by Bureau of Land Management and State Trust lands as represented in Figure 3.

The total 2010 Census population for Cocopah Indian Tribe and Yuma County is 817 and 195,751. Table 1 summarizes population estimates for Cocopah Indian Tribe and Yuma County from 1990 to 2040, however population data is not available for Cocopah Indian Tribe prior to 2000.[8]

Agriculture has always been an important part of the economy, as well as today. Continually adjusting to the river's seasonal changes, they relied on the lush riparian habitats to obtain food. Tribal members grew grains, corn, beans and melons in the floodplains of the Colorado River. In traveling the waterways on log rafts, they collected wild wheat and shellfish. They netted fish and collected shellfish in the delta and hunted deer and small game in the mesquite forests. As time progressed and farms and towns populated the West, the flow of water eventually stopped due to the construction of dams along the Colorado River. This altered the Cocopah's way of life along the river.[9]

The Cocopah Indian Tribe is one of seven descendant Tribes stemming from the Yuman language-speaking people who occupied the lands along the Colorado River. The Cocopah people had no written language, but the records were passed on orally or interpreted in documents and written by outsiders.

During the westward expansion in the 1840s and discovery of gold in California in 1849, this brought many migrants through the area. The U.S. government recognized the importance of the river crossing and therefore established Camp Independence in 1850 to protect the entry route through the Tribe's territories. Soon after the camp was moved to an old Spanish Mission later call Fort Yuma, which still exists today. The Cocopahs effectively resisted assimilation to an established reservation and continued its social, religious, and cultural identities. During the last half of the nineteenth century, the Cocopah men, known for their skillful river navigability abilities, were valuable as pilots for the steamboat business.

As recent as the 1960s, a number of Tribal families continued to live in traditional arrow weed-thatched homes. In the late 1970s and 80s, the Tribe began acquiring lands for building homes, installing utilities, developing an infrastructure system and initiating economic development.

The agricultural industry provides annual income through leasing land to non-Indians. In 1985, the Tribe started new business ventures including a Bingo hall and Casino, in order for the Tribe to become more self-sufficient. The civilian labor force estimate in 2016 was 292 with an unemployment rate of 22.4%.

[8] U.S. Census Bureau and Arizona Office of Economic Opportunity, https://population.az.gov/population-projections

[9] http://www.cocopah.com/about.html

### *3.3.2 San Luis*

The City of San Luis lies in Yuma County at the southwest corner of the State of Arizona. San Luis is a growing U.S. Port of Entry city and shares a border with Mexico on the south and the Colorado River and State of Baja California del Norte, Mexico on the west, as depicted in Figure 2. Many visitors come to San Luis as a stopover for shopping in Mexico or for a fishing trip in the Gulf of Mexico.

The total 2010 population for San Luis is 27,909. Table 1 summarizes population estimates from 1990 to 2040.[10]

San Luis was established in 1930 as a U.S. Port of Entry into Mexico. In 1979, the city was incorporated. Since then, it has experience a rapid growth, both in population and commercial sectors, and is one of the fasted growing communities in Yuma County. San Luis Rio Colorado, Sonora, Mexico is the sister city across the border with an estimated population of 178,380 in 2010.

The City of San Luis is geographically positioned at longitude 114.70 degrees west and latitude 32.49 degrees north, and currently encompasses nearly 30 square miles. San Luis is located 206 miles west of Phoenix and 259 miles west of Tucson. The Gulf of Mexico is located 75 miles to the south.

The population center of the City is located on both sides of U.S. Highway 95. Major airports in the vicinity include the Marine Corps Air Station Yuma/Yuma International Airport in Yuma, and the new MCAS auxiliary field located east of the city. San Luis is also served by Rolle Airfield which currently operates as a day-use airfield located in the north central portion of the city. Figure 2 depicts the general geographic features and transportation routes within the region surrounding the City of San Luis.

All of the City of San Luis is geographically situated within the Sonoran Desert ecoregion and is characterized by an arid environment typical to much of southwestern Arizona. Across Yuma County, the elevations vary with mountain peaks that are less than 3,000 feet in elevation to a low elevation of 140 feet near San Luis. Typical Sonoran Desert vegetation is comprised mainly of a mixture of palo verde, cacti, creosotebush, and bursage communities;[11] however, most of the City is surrounded by agriculture with little of the original desert flora remaining. Figure 6 depicts the various Sonoran Desert biotic regions for the City and County.

Development within San Luis has been primarily tied to agriculture and border activities and economies. Established in 1930 with the U.S. Port of Entry, the city grew slowly over the first 50 years. Since its incorporation in 1978, the city population has grown over 700% and is expected to outpace the rest of Yuma County. Past challenges to growth have included water supply, wastewater treatment, and other infrastructure needs.

The city has identified a future growth area for planning purposes. Figure 8 is an excerpt from the City of San Luis General Plan depicting this future growth area and the planned land uses. Much of the future growth is centered around the construction of a new commercial Port of Entry (POE) east of the current location, and the corresponding Robert A. Vaughan Expressway (formerly Area Service Highway) and upon completion known as State Highway 195.

The civilian labor force estimate in 2016 was 12,904 with an unemployment rate of 17.2%. The San Luis economy is driven by retail trade, agriculture and manufacturing. Several light industries are located on both sides of the international border.

[10] U.S. Census Bureau and Arizona Office of Economic Opportunity, https://population.az.gov/population-projections

[11] Brown, D.E., University of Utah, 1999, *Biotic Communities; Southwestern United States and Northwest Mexico.*

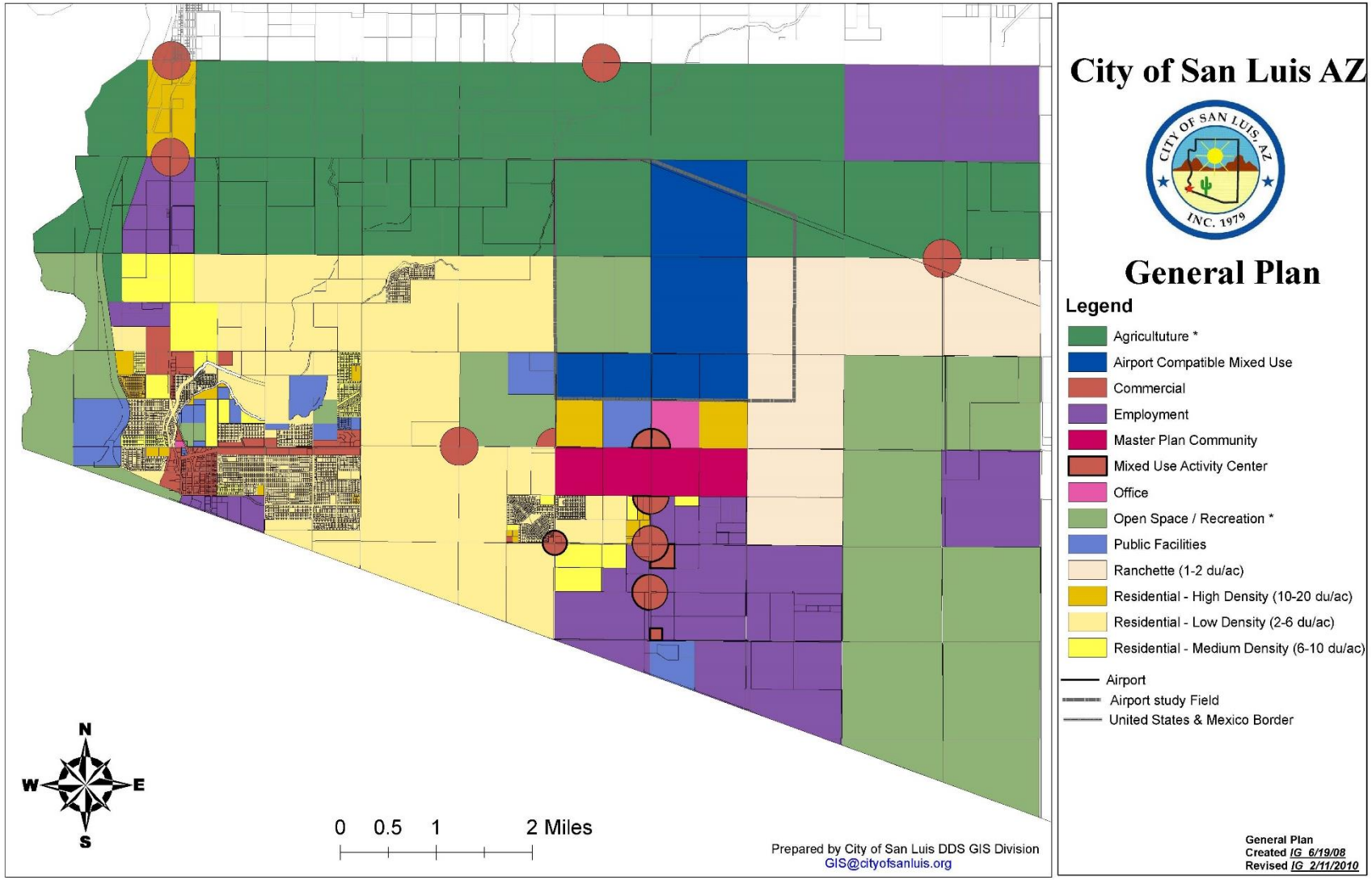



**Figure 8. Land Use Map from the City of San Luis General Plan**

### *3.3.3 Somerton*

According to the Somerton General Plan, the City lies in South Yuma County approximately 10 miles southwest of the City of Yuma and 12 miles from the U.S./Mexican border, as depicted in Figure 2. [12] The area is bounded by the Cocopah Indian Reservation at locations that limit the City's ability to expand east onto the mesa or west to the Colorado River.

The total 2010 population for Somerton is 14,287. Table 1 summarizes population estimates from 1990 to 2040.[13]

Also, the mild winter weather brings about 90,000 additional, part-time residents to the Yuma Valley that are not reflected by these numbers.

Somerton was established in 1898 and incorporated in 1918. The city is located on land once claimed for the fraudulent Rancho El Paso de los Algodones (land) Grant. Land along the Colorado River was attractive to speculators. One of them, a citizen of the Mexican city of Hermosillo, petitioned authorities in Sonora, Mexico, for 21,692 acres between the Gila River on the north and Algodones Pass on the south and was granted the land in 1838. Arizona historian Jay J. Wagoner said rights to the alleged grant passed to the Colorado Commercial and Land Company in 1873, and the U.S. government withdrew the land from public entry in 1875. An investigation revealed that the grant's original title papers had been forged. Despite this, the U.S. Court of Private Land Claims confirmed the Algodones grant in 1893. Immediately, Wagoner said, "the alleged owners...began selling deeds...for tracts of 40 acres or less." The government appealed, and the U.S. Supreme Court reversed the land court in 1898. After the reversal, the U.S. Congress passed a law allowing settlers who were on the land before May 25, 1898, to buy up to 40 acres for $1.25 per acre.[14]

The City of Somerton is geographically positioned at longitude 114.71 degrees west and latitude 32.60 degrees north, and currently encompasses nearly 900 acres. Somerton is located 192 miles west of Phoenix and 248 miles west of Tucson.

The City is located on both sides of U.S. Highway 95 (Main Street) and Somerton Avenue runs north and south. Major airports in the vicinity include the Marine Corps Air Station Yuma/Yuma International Airport in Yuma, and the new MCAS auxiliary field located southeast of the city. Somerton is also served by a small day-use airfield located northwest of the city on the mesa. Figure 2 depicts the general geographic features and transportation routes within the region surrounding the City of Somerton.

According to the Somerton General Plan, the city has a long history of overcoming physical and economic adversity. Early settlers had to prevail over annual flooding of the Colorado River in order to benefit from the tremendous potential offered in the rich floodplain soils. In 1902, the Somerton school district was formed and in 1917, Main Street was paved. The downtown business district survived a huge fire in 1926 and was able to continue to be a major economic influence in Yuma County until the early 1960's. The reduced need for manual labor caused by technological improvements in agriculture mirrored the decline of the local economy even as the surrounding communities of Yuma and San Luis began to grow. Census counts for Somerton never tallied the hundreds of temporary farm workers who lived outside the community during the Bracero Program from 1942 to 1964.

Over the last 10 years, growth has been small but steady in Somerton. Somerton is expected to continue growing, especially with the Cities of Yuma and San Luis growing at such rapid paces. In order to address this growth potential, the city has identified a future growth area for planning purposes. Figure

[12] City of Somerton, 2005, *Somerton General Plan*, prepared by Partners for Strategic Action, Inc.

[13] U.S. Census Bureau and Arizona Office of Economic Opportunity, https://population.az.gov/population-projections

[14] Description obtained from the following web site: http://arizonan.com/Somerton/

9 is an excerpt from the Somerton General Plan depicts this future growth area and the planned land uses. [15]

The City of Somerton labor force estimate in 2016 was 6,773 with an unemployment rate of 12.7%. Economic activity within the city is predominantly agricultural but also includes light industrial and commercial service. Major employers include Del Sol Market, King Market, Sunset Community Health, Housing America Corporation, Puentes De Amistad, Arizona Department of Economic Security, Somerton School District and the City of Somerton.

[15] Figure 5.1 of the Somerton General Plan found at the end of Section 5.0 after page 37

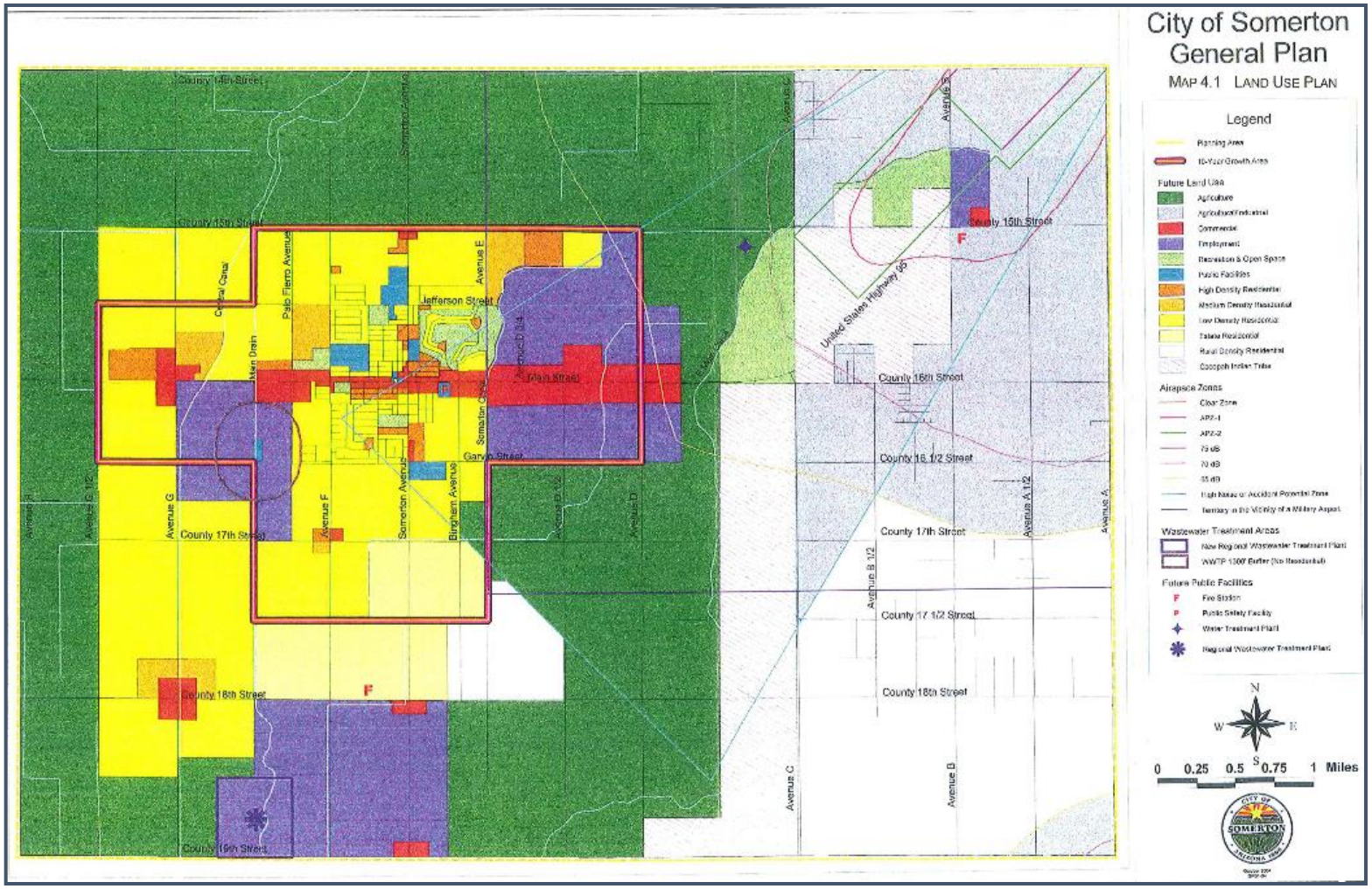



**Figure 9. City of Somerton Land Use Map[16]**

[16] City of Somerton, General Plan 2005, Part 4a, p.49

### *3.3.4 Wellton*

According to the Town of Wellton General Plan[17], Wellton was officially founded in 1878 and was named for a time when water wells were drilled to service the new Southern Pacific Railroad. The town was incorporated in 1970. Wellton is situated approximately 30 miles east of the City of Yuma and the California border in the extreme southwestern corner of Arizona, as depicted in Figure 2.

The total 2010 population for Wellton is 2,882. Table 1 summarizes population estimates from 1990 to 2040.[18]

The Town of Wellton is geographically positioned at longitude 114.15 degrees west and latitude 32.66 degrees north, and currently encompasses nearly 4.5 square miles. Wellton is located 155 miles west of Phoenix and 208 miles west of Tucson. The Gila River is the primary watercourse in the area and is located approximately 1.5 miles north of the town. A smaller, ephemeral watercourse named Coyote Wash runs south to north through the eastern portion of the town. Interstate 8 and the Southern Pacific Railroad pass through the central portion of the town limits along an east-west alignment. The portion of Wellton north of Interstate 8 comprises the original townsite and downtown area. Areas south of Interstate 8 are primarily residential and agricultural areas. Figure 2 depicts the general geographic features and transportation routes within the region surrounding the Town of Wellton.

All of the Town of Wellton is situated within the Sonoran Desert and is characterized by an arid environment typical to much of southwestern Arizona. Across Yuma County, the elevations vary with mountain peaks that are less than 3,000 feet in elevation to a low elevation of 175 feet. Sonoran Desert vegetation is comprised mainly of a mixture of palo verde, cacti, creosotebush, and bursage communities.[19] The river bottoms are primarily comprised of saltbrush and arroweed scrub, with a few sparse stands of mesquite and riparian deciduous woodland.

Figure 10 is an excerpt from the Town of Wellton General Plan depicts this future growth area and the planned land uses.

[17] HDR Engineering, Inc., 2003, *Town of Wellton General Plan 2003-2013*

[18] U.S. Census Bureau and Arizona Office of Economic Opportunity, https://population.az.gov/population-projections

[19] Brown, D.E., University of Utah, 1999, *Biotic Communities; Southwestern United States and Northwest Mexico.*

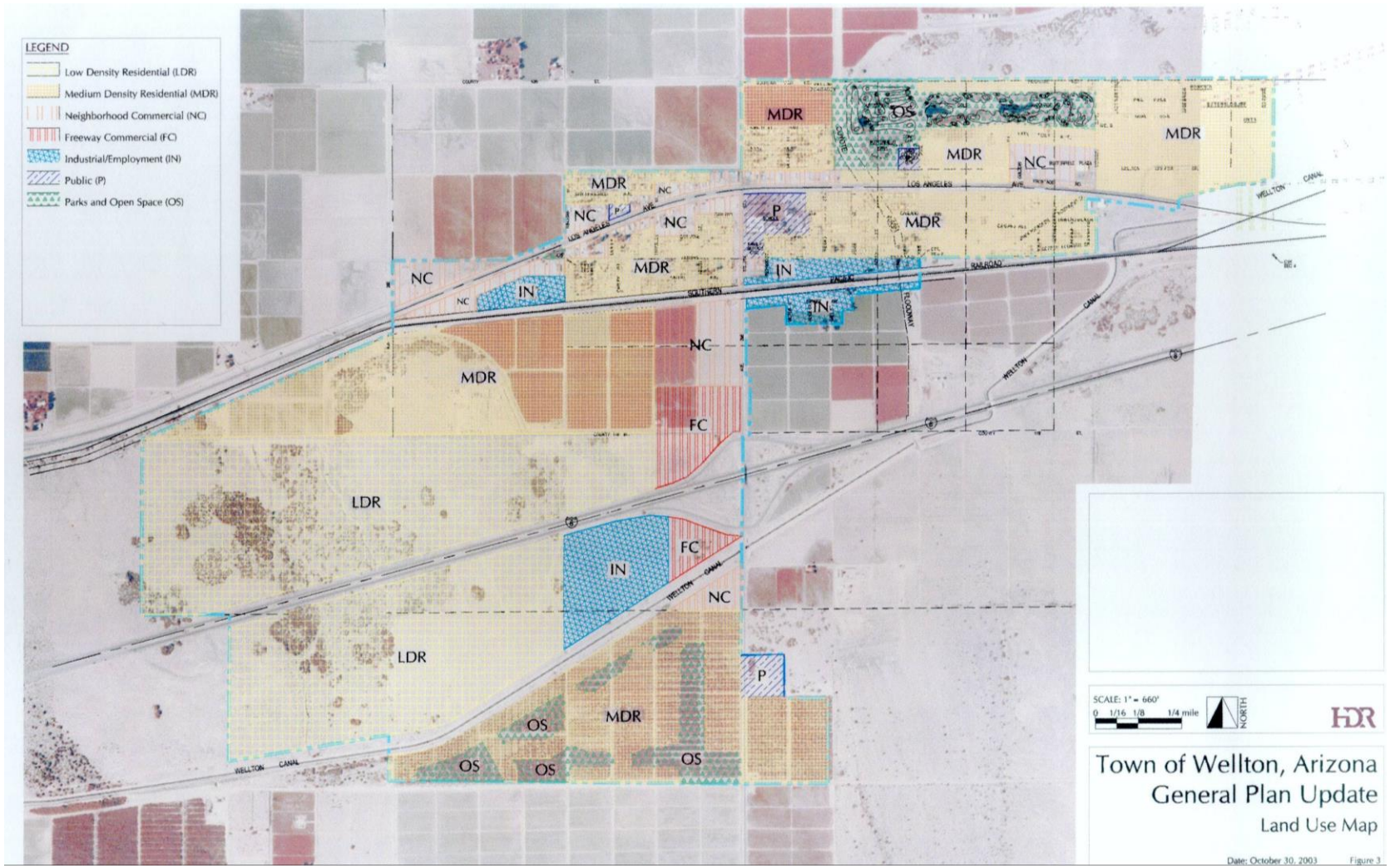



**Figure 10. Land Use Plan from the Wellton General Plan**

### *3.3.5 Yuma*

The City of Yuma is the county seat for Yuma County and is situated at the extreme southwestern corner of Arizona, as depicted in Figure 2. The City of Yuma is geographically positioned at longitude 114.53 degrees west and latitude 32.59 degrees north, and currently encompasses nearly 110 square miles. Yuma is located 185 miles west of Phoenix and 237 miles west of Tucson. The Colorado and Gila River confluence is located along the northern limit of the city and several large irrigation canals cross through the city to provide irrigation water to farm fields located to the south and west of Yuma.

The total 2010 population for City of Yuma is 90,660. Table 1 summarizes population estimates from 1990 to 2040.[20]

For many years, Yuma served as the gateway to the new western territory of California, which brought thousands of people from around the world in search of gold, or provide services to those who had it. In 1870, the Southern Pacific Railroad bridged the Colorado River and Yuma became a hub for the railroad. The Ocean-to-Ocean Bridge (or Old Highway 80 Bridge) was the first vehicle bridge across the Colorado River. Prior to the construction of the bridge, cars were ferried across. Present day major highways through the City include Interstate 8, U.S. Highways 95 and 80, and State Highway 95. The Marine Corps Air Station (MCAS) shares one of the longest runways in the country with the Yuma International Airport, and a new MCAS auxiliary field is located in the extreme southern portion of the city boundaries. Figure 2 depicts the general geographic features and transportation routes within the region surrounding the City of Yuma.

The largest landholder in the city is the federal government with approximately 65% in military and Bureau of Land Management holdings. Private landholdings are next at about 30%, with the rest being the State of Arizona. Figure 3 provides a visual depiction of the land ownership within and around the City of Yuma.

The history of Yuma is quite colorful and continues to live on today in a fast-growing and vibrant community. In 1540, just 48 years after Columbus discovered the New World, 18 years after the conquest of Mexico by Cortez, and 67 years before the settlement of Jamestown, Hernando de Alarcon visited the site of what is now the current City of Yuma. He was the first European to visit the area and to recognize the best natural crossing of the Colorado River. Much of Yuma County's later development occurred because of this strategic location. From the 1850's through the 1870's, steamboats on the Colorado River transported passengers and goods to various mines, military outposts in the area, and served the ports of Yuma, Laguna, Castle Dome, Norton's Landing, Ehrenberg, Aubry, Fort Mohave and Hardyville. During this time stagecoaches also carried the mail and passengers on bone-jarring rides through the area. In its early years, Yuma was identified by several names. From 1854 until 1858, Yuma was known as Colorado City, from 1858 until 1873, it was named Arizona City. Yuma received its present name by the Territorial Legislature in 1873 and was incorporated in 1914.

The City limits of Yuma include approximately 108 square miles of developed and undeveloped land. Yuma’s location is primarily surrounded by agriculture lands as represented in Figure 11 and Figure 12.

[20] U.S. Census Bureau and Arizona Office of Economic Opportunity, https://population.az.gov/population-projections

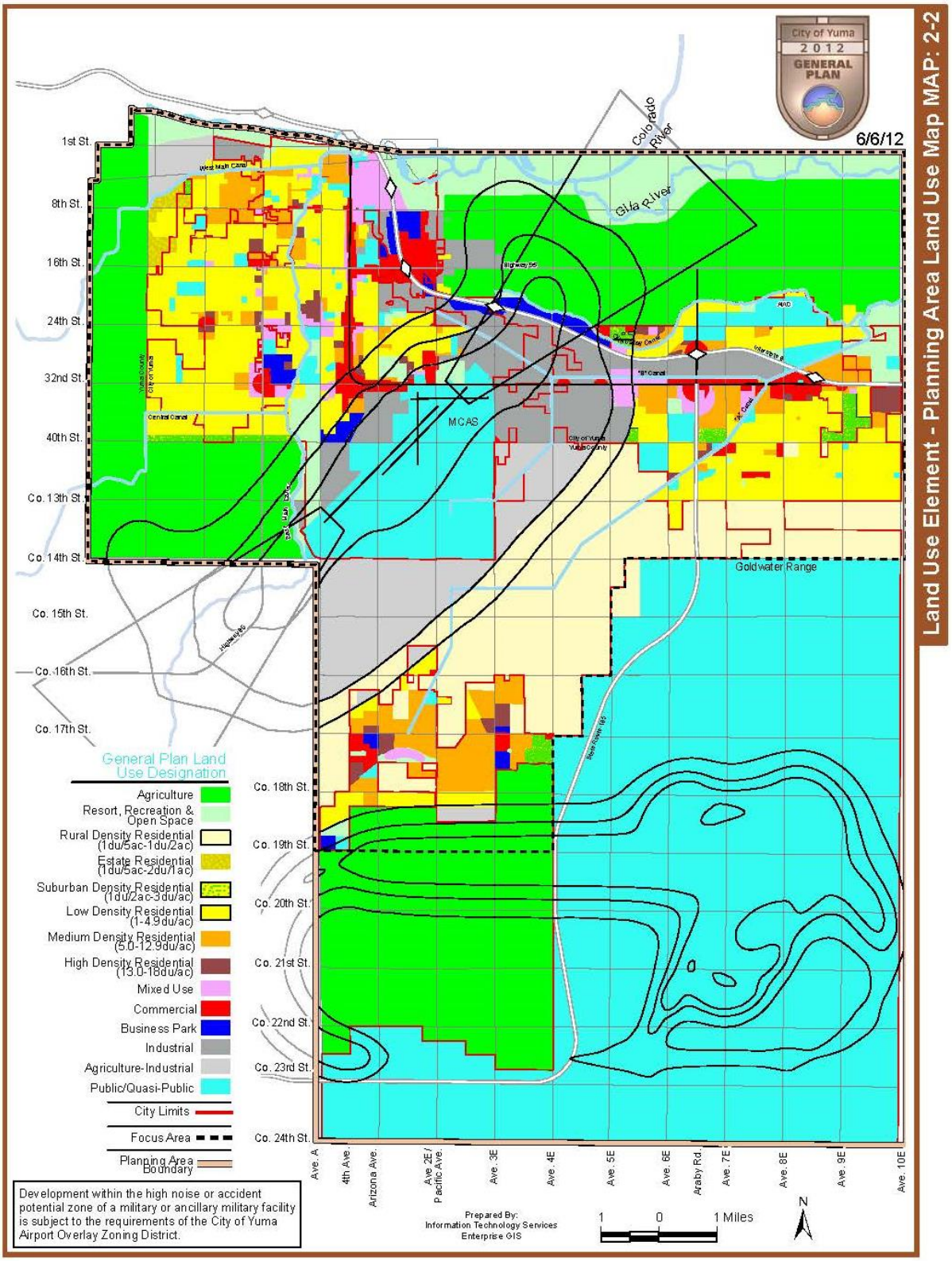



**Figure 11. City of Yuma Land Use Map**

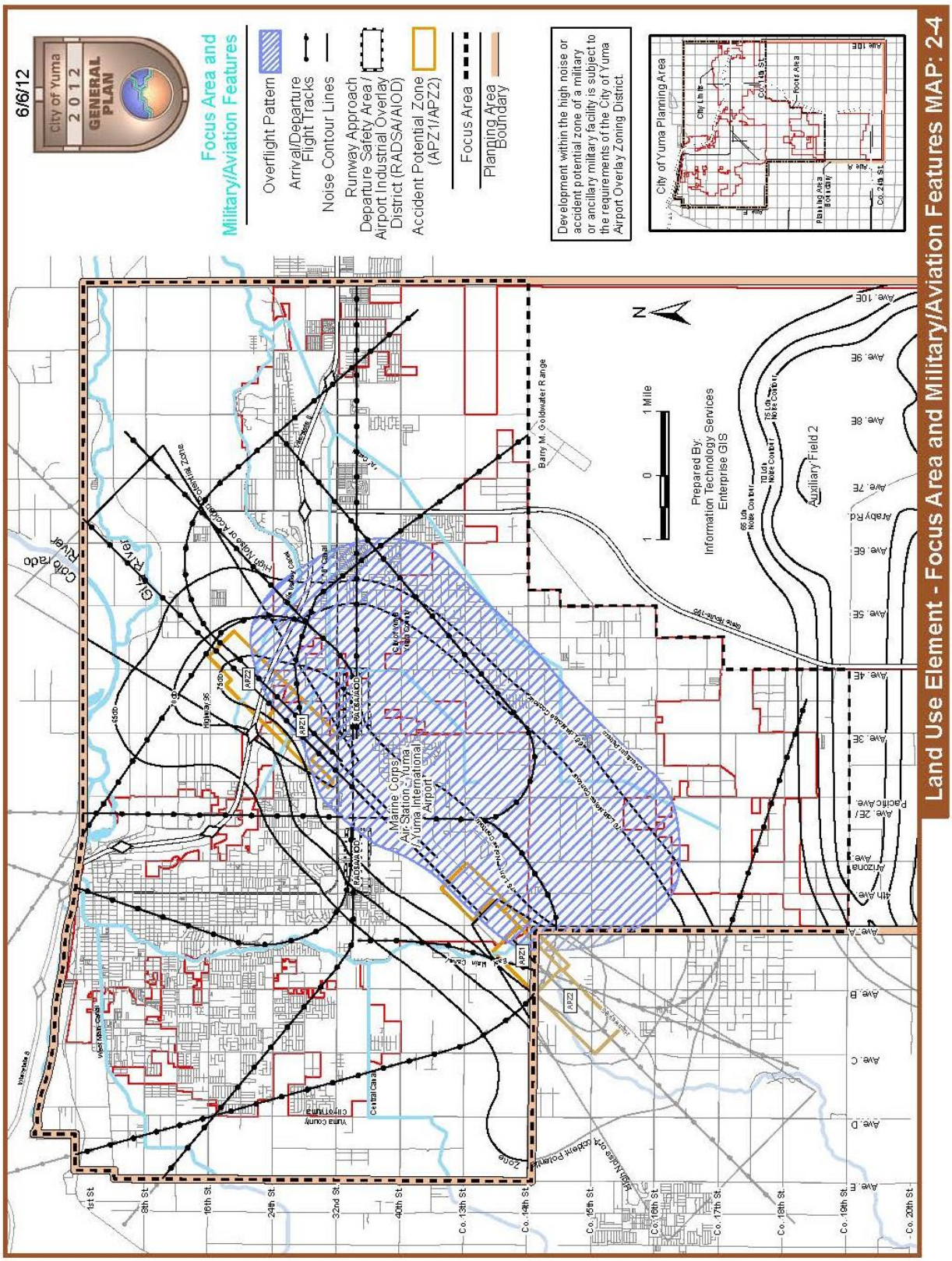



**Figure 12. City of Yuma Focus Areas Map**

# SECTION 4: PLANNING PROCESS

This section includes the delineation of various DMA 2000 regulatory requirements, as well as the identification of key stakeholders and Planning Team members within Yuma County. In addition, the necessary public involvement actions that were applied to this process are also detailed.

## 4.1 Planning Process Description

Yuma County applied for and received a PDM planning grant to fund a multi-jurisdictional effort to review and update the 2010 Plan. Once the grant was received, the county then selected Michael Baker International (Michael Baker) to work with the participating jurisdictions, including the Cocopah Tribe, and guide the Plan update process. An initial project kickoff call, and follow-up call between Michael Baker and Yuma County Emergency Management occurred in February and March of 2017. Discussions included the new plan format, the Planning Team and process, and other administrative tasks. Initial data collection efforts and contacts were also established. A total of three Planning Team meetings/webinars were conducted over the period of April 2017 through April 2018, beginning with the first Planning Team workshop on April 3, 2017. Throughout that period and for several months afterward, all the work required to collect, process, and document updated data, make changes to the Plan, and prepare the draft of the Plan was performed. The culmination of the project included individual mitigation strategy workshops, specific to each jurisdiction and the Tribe. Details regarding key contact information and promulgation authorities, the planning team selection, participation, and activities, and public involvement are discussed in the following sections.

## 4.2 Previous Planning Process Assessment

The first task of preparation for this Plan, was to evaluate the process used to develop the 2010 Plan. This was initially discussed by the county and Michael Baker prior to the Planning Team kickoff meeting. The previous planning approach included a mix of in person Planning Team meetings and webinars. This was mostly planned this way so that all participating jurisdictions could participate without having to travel long distances. The previous process of creating one multi-jurisdictional plan for all participating communities, was carried into this new plan update process. Having one combined plan for all participants helps to streamline the process, yet allows the communities to collaboratively work together to come up with solutions to hazards they face together. Additionally, the previous planning approach utilized in 2010 formed a single Planning Team comprised of representatives from all participants, including other agencies and organizations.

## 4.3 Primary Point of Contact

Table 4-1 summarizes the primary points of contact identified for each participating jurisdiction.

**Table 4-1: List of adopting participants points of contact**

| Jurisdiction | Name | Department / Position |
|---|---|---|
| City of San Luis | Eulogio Vera | Public Works Director |
| City of Somerton | Paul Deanda | Fire Chief |
| City of Yuma | Michael Erfert<br>Don Willits | YFD / PIO<br>Police Lieutenant |
| Cocopah Indian Tribe | Michael Fila | Emergency Manager |
| Town of Wellton | Donald Jones | Police Chief |
| Unincorporated Yuma County | Tony C. Badilla | Emergency Management Director |

## 4.4 Planning Team

The Planning Team was comprised of one or more representatives from each participating jurisdiction. The role of the Planning Team was to work with the county and planning consultant to perform the coordination, research, and planning element activities required to update the 2010 Plan. Attendance/participation by each jurisdiction was strongly encouraged for every Planning Team workshop and webinar as the meetings were structured to progress through the planning process. Steps and procedures for updating the 2010 Plan was presented and discussed at each Planning Team meeting, and assignments were normally given. Each meeting built on information discussed and assignments given at the previous meeting.

It was stressed during the planning process that these primary jurisdictional points of contact needed to help serve the role as a liaison between the Planning Team and the local jurisdictional leadership/staff. The Planning Team understood this role would include:

- Conveying information and assignments received at the Planning Team meetings to their jurisdictions.
- Engaging local leadership and staff to ensure a collective community voice as assignments/information were requested.
- Soliciting jurisdictional-wide input as decisions were made and draft documents were prepared for review.
- Ensuring that all requested assignments were completed fully and returned on a timely basis.
- Arranging for review and official adoption of the Plan.

### *4.4.1 Planning Team Assembly*

At the beginning of the update planning process, Yuma County Emergency Management (YCEM) organized and identified members for the Planning Team by initiating contact with all participants in the 2010 Plan planning effort. The participating members of the Planning Team are summarized in Table 3-2.

**Table 3-2: Summary of Planning Team participants**

| Name | Jurisdiction / Organization |
|---|---|
| Alfonso Zavala | Yuma County Sheriff's Office, PIO |
| Chris Flores | Yuma County, Emergency Management Planner |
| Jason Phipps | Yuma County Public Works, Deputy Director |
| Robert Oberosler | Yuma County Sheriff's Office, Lieutenant |
| Pat Headington | Yuma County, Chief Building / Fire Code Official |
| Paul Melcher | Yuma County, Chief Deputy Administrator |
| Shannon Gunderman | Yuman County, Administrative Services Director |
| Tony Badilla | Yuma County, Director of Emergency Management |
| Ujwal Pandey | Yuma County, Department of Development Services Engineer |
| Kevin Tunell | Yuma County, Communications Director |
| Carlos Flores | Yuma County, Information Technology Services GIS Analyst |
| Daniel Cruz | Yuma County, Information Technology Services GIS Manager |
| Joseph Waterford | Yuma County, Public Health Emergency Preparedness Planner |
| Bill Olvera | Yuma County, Public Works Highway Construction Supervisor |
| Jeremy McCall | City of Yuma, Water Utilities Manager |
| Don Willits | City of Yuma, Police Lieutenant |
| Michael Erfert | City of Yuma, Fire Administrative Officer |
| Jennifer Albers | City of Yuma, Community Development Principal Planner |
| Donald Jones | Town of Wellton, Police Chief |
| Paul De Anda | City of Somerton, Fire Chief |
| Louie Carlos | City of Somerton, Fire Inspector |
| Eulogio Vera | City of San Luis, Public Works Director |
| Angel Ramirez | City of San Luis, Fire Chief |
| Jose Guzman | City of San Luis, Planning and Zoning |
| Michael Fila | Cocopah Indian Tribe, Emergency Manager |
| Joseph Jenkins | Cocopah Indian Tribe, Police Chief |
| Don Black | U.S. Bureau of Reclamation, Environmental Compliance |
| Frank Macaluso | U.S. Bureau of Reclamation |
| Sue Wood | State of Arizona |
| Michael Garner | Michael Baker International |

### *4.4.2 Planning Team Activities*

The Planning Team activities are documented below. Agendas and sign-in sheets for these meetings are included in Appendix B. Following each Planning Team meeting, the Points of Contact for each jurisdiction were encouraged to convene meetings with their local government leadership and staff, as needed, to work through the assignments.

**Planning Team Kick-Off Workshop: 4/3/2017:** The first workshop focused on ensuring the Planning Team understood the goals of this project and that there was adequate future Planning Team representation for all jurisdictions and the Tribe. A five year plan review was held and an initial risk ranking exercise was conducted. The hazards to be profiled were also agreed upon. Post-meeting actions were then reviewed and included discussions relating to Planning Team input necessary, which related to: critical infrastructure and key resources, capability assessments, mitigation strategy, data requests, and public outreach.

**Risk Assessment Workshop & Webinar: 12/7/2017:** The second workshop focused on presenting the results of the risk and vulnerability assessment. Discussions also continued relating to: the goals of this project, Planning Team representation, capability assessments, mitigation strategy and actions, and public outreach. There were two meetings held back to back, one from the Planning Team and the other which overlapped with the LEPC meeting. A post-meeting on-line survey and additional requests were action items following this meeting.

**Planning Team Meeting & Webinar: 4/3/2018:** The third Planning Team meeting was developed to allow participants to understand what was expected of them and their jurisdictions and governments at the upcoming Mitigation Strategy Workshops. Discussions also continued relating to: public outreach survey results, plan maintenance and implementation, community profiles, and final hazard rankings. A post-meeting on-line survey and additional requests were action items following this meeting.

**Mitigation Workshops & Webinars: May 2018:** A final round of individual Mitigation Workshops were held with each participant formally adopting the Plan. These workshops were all-inclusive and the Planning Team representatives from each jurisdiction and the Tribe were integral in including a diverse cross-section of each community. The first half of each workshop focused on updating mitigation action status from the 2010 Plan. The second half of the workshops focusing on identifying new or continued mitigation actions for this Plan update.

### *4.4.3 Agency/Organizational Participation*

The planning process used to develop the 2018 Plan included participation from several agencies and organizations, including the adopting entities, that operate within or have jurisdiction over small and large areas of Yuma County. At the start of the Plan update, a list of the agencies and organizations that participated in the development of the 2010 Plan was compiled to provide continuity and institutional knowledge to the planning team and the overall update process. Invitations were sent via an email that was addressed to the original participant or their successor. The invitation list included the following entities:

- Arizona Division of Emergency Management
- City of San Luis (multiple departments)
- City of Somerton (multiple departments)
- City of Yuma (multiple departments)
- Cocopah Indian Tribe
- Town of Wellton Police
- U.S. Bureau of Reclamation
- Yuma County Development Services
- Yuma County Emergency Management
- Yuma County Flood Control District
- Yuma County Public Works
- Yuma County Sheriff's Office
- Michael Baker International

An integral part of the planning process included coordination with agencies and organizations outside of the participating jurisdiction's governance to obtain information and data for inclusion into the Plan or to provide more public exposure to the planning process. Much of the information and data that is used in the risk assessment is developed by agencies or organizations other than the participating jurisdictions. In some cases, the jurisdictions may be members of a larger organization that has jointly conducted a study or planning effort like the development of a community wildfire protection plan or participation in an area association of governments. Examples of those data sets include the FEMA floodplain mapping, the county-wide community wildfire protection plan, severe weather statistics and incidents, and the Yuma Area Agricultural Council. A summary of the resources obtained, reviewed

and compiled into the risk assessment are summarized at the end of each subsection of Section 5.3. Jurisdictions needing these data sets obtained them by either requesting them directly from the host agency or organization, downloading information posted to website locations, or engaging consultants.

## 4.5 Public Involvement

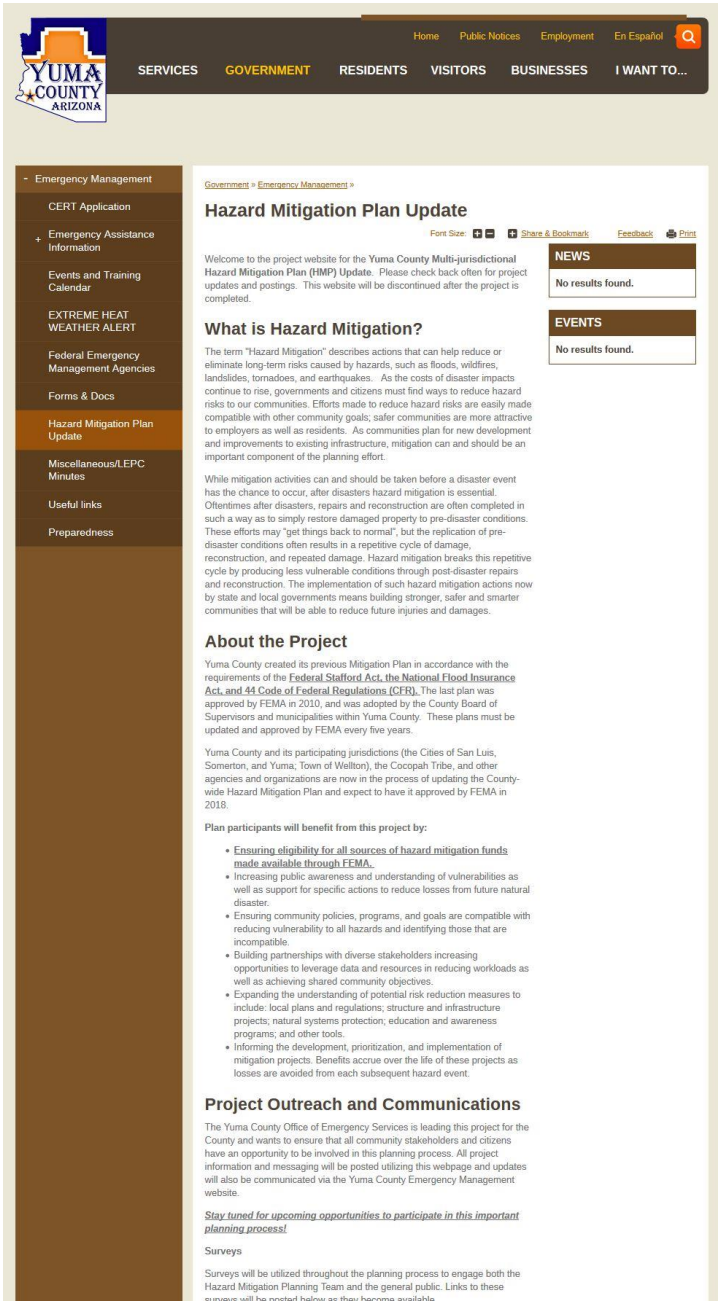
An important component to the success of the mitigation planning process involved ongoing public, jurisdiction, and stakeholder participation. Public outreach provided the planning team with a clearer perspective of local concerns and ensured a higher degree of mitigation success by developing community feedback from those directly affected by policy decisions.

A broad range of public and private stakeholders were invited to participate in the development of the 2018 Yuma County Multi-Jurisdictional Hazard Mitigation Plan Update. The public was primarily directed to planning and reference materials that were available on the project website.

The most valuable information obtained from the public came from three surveys. These surveys solicited feedback about a number of topics relating to hazard risk perception & disaster preparedness, mitigation strategies, and comments on the final draft version of the Plan document itself.

Creating and analyzing surveys plays an integral role in better understanding a community's asset, needs and goals moving forward with hazard resiliency. The first public survey received over 500 responses and was broadcast via the county's and other jurisdiction's social media accounts.

This Public Risk Perceptions survey was aimed at soliciting information from communities about a range of topics, including: what hazards they feel present the most risk to them, have they implemented hazard mitigation, what is the best communication medium to utilize to engage the public, and ideas for mitigation actions.



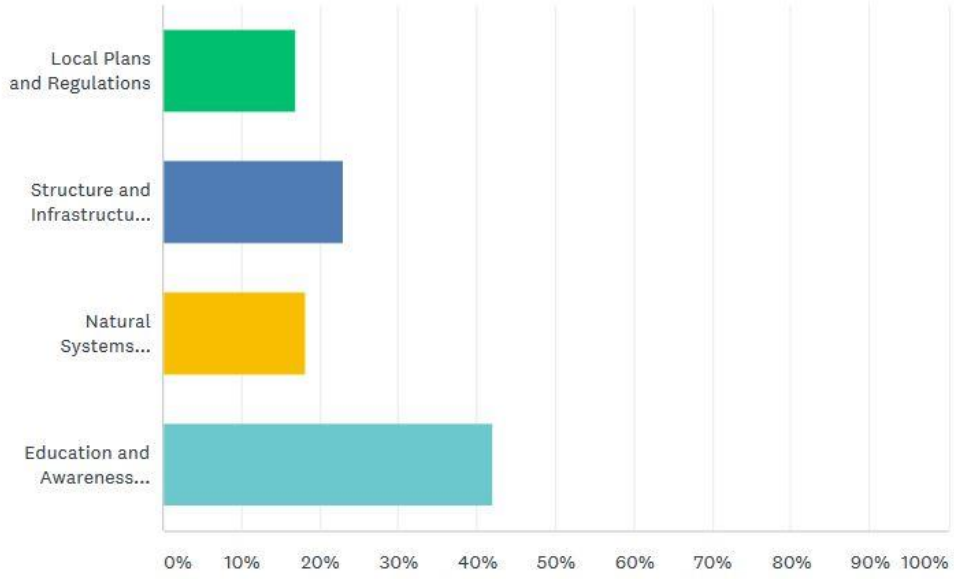
Q7 Do you have any ideas for projects or actions that you would like to see the county or its jurisdictions implement to reduce your community's risk from natural disaster events?




The second public survey focused on identifying the community's preferences relating to the types of mitigation project implemented and again soliciting suggestions for mitigation actions to consider. Close to 450 responses were received which included over 100 mitigation action ideas. These ideas were reviewed and evaluated by the Planning Team as each community developed their mitigation strategies.

Which of the above four categories are you most supportive of?

Answered: 431 Skipped: 6




The final survey was utilized to solicit public comments on the draft HMP document. This survey and the draft HMP document were posted to the project website for a period of 30 days. Information pertaining to this was shared with the public via the project website, public email distribution lists, and multiple jurisdictional social media accounts. A total of xx comments were received and reviewed by the Planning Team for incorporation into the final draft HMP. Interested citizens were also encouraged to participate in the local community adoption process which, depending upon the jurisdiction, may have included a public meeting and a formal public hearing.

The Cocopah Indian Tribal government, as part of this and other planning processes, defines "public" as all public citizens living on Tribal land.

## 4.6 Reference Documents and Technical Resources

Over the course of the update planning process, all relevant plans, studies, reports, and technical information were obtained and reviewed for incorporation or reference purposes. All current community comprehensive/master plans were consulted, in addition to current capital improvement plans and other emergency management planning documents. For this Plan update, this information was most applicable to the development of each community's mitigation strategy and capabilities.

# SECTION 5: RISK ASSESSMENT

One of the key elements to the hazard mitigation planning process is the risk assessment. In performing a risk assessment, a community determines "what" can occur, "when" (how often) it is likely to occur, and "how bad" the effects could be[21]. According to DMA 2000, the primary components of a risk assessment that answer these questions are generally categorized into the following measures:

**Hazard Identification and Screening**

**Hazard Profiling**

**Assessing Vulnerability to Hazards**

The risk assessment for Yuma County, the Cocopah Tribe, and participating jurisdictions was performed using a county-wide, multi-jurisdictional perspective, with much of the information gathering and development being accomplished by the Planning Team. This integrated approach was employed because many hazard events are likely to affect several jurisdictions within Yuma County, and are rarely relegated to a single jurisdictional boundary. The vulnerability analysis was performed in a way such that the results reflect vulnerability at an individual jurisdictional level, and at a countywide level.

## 5.1 Hazard Identification and Screening

Hazard identification is the process of answering the question; *"What hazards can and do occur in my community or jurisdiction?"* For this Plan, the list of hazards identified in the 2010 Plan were reviewed by the Planning Team with the goal of refining the list to reflect the natural hazards that pose the greatest risk to the jurisdictions and Cocopah Tribe represented by this Plan. The Planning Team decided to focus on natural hazards for this plan update. The Planning Team also compared and contrasted the 2010 Plan list to the comprehensive hazard list summarized in the 2013 State Plan[22] to ensure compatibility with the State Plan. Table 2 summarizes the hazards profiled in the 2010 Plan, the 2013 State Plan, and this updated 2018 Plan.

[21] National Fire Protection Association, 2000, *Standard on Disaster/Emergency Management and Business Continuity Programs*, NFPA 1600.

[22] ADEM, 2013, *State of Arizona Multi-Hazard Mitigation Plan*

**Table 2. Summary of Initial Hazard Identification Lists**

| 2010 Yuma County Plan Hazard List | 2013 State Plan Hazard List | 2018 Yuma County Plan Hazard List |
|---|---|---|
| • Flooding<br>• Severe Wind<br>• Transportation Accident<br>• Wildfire | • Dam Failure<br>• Disease<br>• Drought<br>• Earthquake<br>• Extreme Heat<br>• Fissures<br>• Flooding/Flash Flooding<br>• Hazardous Materials Incidents<br>• Landslides/Mudslides<br>• Levee Failure<br>• Severe Winds<br>• Subsidence<br>• Terrorism<br>• Wildfires<br>• Winter Storms | • Drought<br>• Earthquake<br>• Extreme Heat (Power Outage)<br>• Flooding<br>• Severe Wind/Dust Storms<br>• Wildfire |

The review included an initial screening process to evaluate each of the listed hazards based on the following considerations:

- Experiential knowledge on behalf of the Planning Team with regard to the relative risk associated with the hazard
- Documented historic context for damages and losses associated with past events (especially events that have occurred during the last plan cycle)
- The ability/desire of Planning Team to develop effective mitigation for the hazard under current DMA 2000 criteria
- Compatibility with the state hazard mitigation plan hazards
- Duplication of effects attributed to each hazard

The culmination of the review and screening process by the Planning Team resulted in a revised list of hazards that will be carried forward with this updated mitigation plan.

Table 3 summarizes the federal and state disaster declarations that included Yuma County.

**Table 3. State and Federally Declared Natural Hazard Events That Included Yuma County – April 1973 to August 2017**

| Hazard | No. of Declarations | Recorded Losses | | |
|---|---|---|---|---|
| | | Fatalities | Injuries | Property Damage($) |
| Drought | 9 | 0 | 0 | $303,000,000 |
| Earthquake | 1 | 0 | 0 | $0 |
| Flooding | 8 | 22 | 112 | $505,750,000 |
| Wildfire | 19 | 0 | 0 | $0 |

Notes: Damage Costs include property and crop/livestock losses and are reported as is with no attempt to adjust costs to current dollar values. Furthermore, wildfire damage costs do not include the cost of suppression which can be quite substantial (approximately $2.3 million for eleven wildfire events).
Sources: ADEM, FEMA, USDA

## 5.2 Vulnerability Analysis Methodology

### *5.2.1 General*

The following sections summarize the methodologies used to perform the vulnerability analysis portion of the risk assessment. For this Plan, the entire vulnerability analysis was either revised or updated to reflect the new hazard categories, the availability of new data, or differing loss estimation methodology. Specific changes are noted below and/or in Section 5.3.

For the purposes of this vulnerability analysis, hazard profile maps were developed for Earthquake, Flood, Severe Wind, and Wildfire, to map the geographic variability of the probability and magnitude risk of the hazards as estimated by the Planning Team. Hazard profile categories of HIGH, MEDIUM, and LOW were used and were subjectively assigned based on the factors discussed in Probability and Magnitude sections below. For Earthquake, peak acceleration scale of %g was used to reflect hazard level. Within the context of the county limits, the other hazards do not exhibit significant geographic variability and were not categorized as such.

Unless otherwise specified in this Plan, the general cutoff date for new, historic or hazard profile data is the end of September 2017.

### *5.2.2 Calculated Priority Risk Index (CPRI) Evaluation*

The first step in the vulnerability analysis (VA) is to assess the perceived overall risk for each of the plan hazards using a tool developed by the State of Arizona called the Calculated Priority Risk Index[23] (CPRI). The CPRI value is obtained by assigning varying degrees of risk to four (4) categories for each hazard, and then calculating an index value based on a weighting scheme. Table 4 summarizes the CPRI risk categories and provides guidance regarding the assignment of values and weighting factors for each category.

[23] ADEM, 2003, *Arizona Model Local Hazard Mitigation Plan*, prepared by JE Fuller/ Hydrology & Geomorphology, Inc.

**Table 4. Summary of Calculated Priority Risk Index (CPRI) categories and risk levels**

| CPRI Category | Degree of Risk | | | Assigned Weighting Factor |
|---|---|---|---|---|
| | Level ID | Description | Index Value | |
| Probability | Unlikely | ▪ Extremely rare with no documented history of occurrences or events.<br>▪ Annual probability of less than 0.001. | 1 | 45% |
| | Possibly | ▪ Rare occurrences with at least one documented or anecdotal historic event.<br>▪ Annual probability that is between 0.01 and 0.001. | 2 | |
| | Likely | ▪ Occasional occurrences with at least two or more documented historic events.<br>▪ Annual probability that is between 0.1 and 0.01. | 3 | |
| | Highly Likely | ▪ Frequent events with a well documented history of occurrence.<br>▪ Annual probability that is greater than 0.1. | 4 | |
| Magnitude/ Severity | Negligible | ▪ Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure).<br>▪ Injuries or illnesses are treatable with first aid and there are no deaths.<br>▪ Negligible quality of life lost.<br>▪ Shut down of critical facilities for less than 24 hours. | 1 | 30% |
| | Limited | ▪ Slight property damages (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure).<br>▪ Injuries or illnesses do not result in permanent disability and there are no deaths.<br>▪ Moderate quality of life lost.<br>▪ Shut down of critical facilities for more than 1 day and less than 1 week. | 2 | |
| | Critical | ▪ Moderate property damages (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure).<br>▪ Injuries or illnesses result in permanent disability and at least one death.<br>▪ Shut down of critical facilities for more than 1 week and less than 1 month. | 3 | |
| | Catastrophic | ▪ Severe property damages (greater than 50% of critical and non-critical facilities and infrastructure).<br>▪ Injuries or illnesses result in permanent disability and multiple deaths.<br>▪ Shut down of critical facilities for more than 1 month. | 4 | |
| Warning Time | Less than 6 hours | Self explanatory. | 4 | 15% |
| | 6 to 12 hours | Self explanatory. | 3 | |
| | 12 to 24 hours | Self explanatory. | 2 | |
| | More than 24 hours | Self explanatory. | 1 | |
| Duration | Less than 6 hours | Self explanatory. | 1 | 10% |
| | Less than 24 hours | Self explanatory. | 2 | |
| | Less than one week | Self explanatory. | 3 | |
| | More than one week | Self explanatory. | 4 | |

As an example, assume that survey participants are assessing the hazard of flooding, and have decided that the following assignments best describe the flooding hazard for their community:

- Probability = Likely
- Magnitude/Severity = Critical
- Warning Time = 12 to 24 hours
- Duration = Less than 6 hours

That individual's CPRI for the flooding hazard would then be:

CPRI = [ (3*0.45) + (3*0.30) + (2*0.15) + (1*0.10)]
CPRI = 2.65 (with 4.0 being the highest possible rating)

For the 2018 Plan Update, the CPRI assessment was conducted utilizing an online survey, which was distributed to community representatives in order to solicit feedback. This resulted in 13 completed responses from across all participating jurisdictions and Tribe. CPRI Tables are included in each hazards' section with scores averaged based on the responses from all participating community representatives. It should be noted that these Index Values are presented as an average of the collective responses received from each jurisdiction or Tribe and should provide a more holistic opinion from each jurisdiction or Tribe, as compared to past Plan updates.

It is noted that this process differed from that following during past plan updates. Previously, the CPRI values were agreed upon by one or two jurisdictional or Tribal representatives. For this plan update, both jurisdictional or Tribal representatives and community members were asked to complete this evaluation. The results of which were then averaged. This average risk perception value varies (in some instances greatly) for many hazards as compared to the 2010 values. In some cases, it may seemingly contradict what the historical, vulnerability, and/or loss estimation information presents. The Planning Team found value in this exercise as it helps to identify misconceptions regarding some of the hazard risks facing these communities, which can help identify opportunities for public outreach and education.

### *5.2.3 Asset Inventory*

A detailed critical asset inventory was performed for the 2010 Plan to establish a fairly accurate baseline data-set for assessing the vulnerability of each jurisdiction's assets to the hazards previously identified. The asset inventory from the 2010 Plan was reviewed and updated by all participating jurisdictions as part of the 2018 Plan update process.

Critical facilities and infrastructure are systems, structures, and infrastructure within a community whose incapacity or destruction would:

- Have a debilitating impact on the defense or economic security of that community.
- Significantly hinder a community's ability to recover following a disaster.

Following the criteria set forth by the Critical Infrastructure Assurance Office (CIAO), the State of Arizona has adopted eight general categories[24] that define critical facilities and infrastructure:

1. Communications Infrastructure: Telephone, cell phone, data services, radio towers, and internet communications, which have become essential to continuity of business, industry, government, and military operations. Electrical Power Systems: Generation stations and transmission and distribution networks that create and supply electricity to end-users.
2. Gas and Oil Facilities: Production and holding facilities for natural gas, crude and refined petroleum, and petroleum-derived fuels, as well as the refining and processing facilities for these fuels.
3. Banking and Finance Institutions: Banks, financial service companies, payment systems, investment companies, and securities/commodities exchanges.
4. Transportation Networks: Highways, railroads, ports and inland waterways, pipelines, and airports and airways that facilitate the efficient movement of goods and people.
5. Water Supply Systems: Sources of water; reservoirs and holding facilities; aqueducts and other transport systems; filtration, cleaning, and treatment systems; pipelines; cooling systems; and other delivery mechanisms that provide for domestic and industrial applications, including systems for dealing with water runoff, wastewater, and firefighting.
6. Government Services: Capabilities at the federal, state, and local levels of government required to meet the needs for essential services to the public.
7. Emergency Services: Medical, police, fire, and rescue systems.

Other assets such as public libraries, schools, businesses, museums, parks, recreational facilities, historic buildings or sites, churches, residential and/or commercial subdivisions, apartment complexes, businesses, and so forth, are typically not classified as critical facilities and infrastructure unless they serve a secondary function to the community during a disaster emergency (e.g. - emergency housing or evacuation centers). As a part of the update process, each community was tasked with identifying other assets that should be considered as being critical. Each community was also tasked with making any needed changes to the geographic position, revision of asset names, updating replacement costs, etc. to bring the dataset into a current condition. The updated asset inventory is attributed with a descriptive name, physical address, geospatial position, and an estimated building/structure and contents replacement cost for each entry to the greatest extent possible and is stored in a GIS geodatabase.

The following Table 5 summarizes the facility counts provided by each of the participating jurisdictions in this Plan.

[24] Instituted via Executive Order 13010, which was signed by President Clinton in 1996.

**Table 5. Summary of Critical and Non-Critical Facility counts by category and jurisdiction as of September 2017**

| | Critical Facilities and Infrastructure | | | | | Non-Critical Facilities and Infrastructure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Participating Jurisdiction** | **Electrical Power Systems** | **Transportation Networks** | **Water Supply Systems** | **Government Services** | **Emergency Services** | **Education** | **Cultural** | **Business** | **Residential** | **Recreational** | **Total** |
| Cocopah Indian Tribe | | | 5 | 14 | 1 | 3 | 2 | 4 | 1 | 4 | 34 |
| San Luis | 1 | | 2 | 13 | 7 | 11 | 1 | 2 | | 4 | 41 |
| Somerton | | | 1 | 5 | 4 | 6 | 1 | 1 | | 1 | 19 |
| Wellton | | | 2 | 1 | 1 | 2 | | | | | 6 |
| Yuma | 1 | 1 | 5 | 20 | 16 | 49 | 1 | | | 7 | 100 |
| Yuma County | | | 8 | 22 | 6 | 12 | | | 1 | | 49 |
| Total | 2 | 1 | 23 | 75 | 35 | 83 | 5 | 7 | 2 | 16 | 249 |

### *5.2.4 Loss Estimations*

Loss estimates for this Plan reflect best available data utilizing: current hazard map layers, an updated asset database, Hazus 3.2, and/or the use of Census 2010 block level data for estimating exposures and losses when possible.

Several of the hazards profiled in this Plan will not include quantitative exposure and loss estimates. The vulnerability of people and assets associated with some hazards are nearly impossible to evaluate given the uncertainty associated with where these hazards will occur as well as the relatively limited focus and extent of damage. Instead, a qualitative review of vulnerability will be discussed to provide insight to the nature of losses that are associated with the hazard. For subsequent updates of this Plan, the data needed to evaluate these unpredictable hazards may become refined such that comprehensive vulnerability statements and thorough loss estimates can be made.

### *5.2.5 Development Trend Analysis*

The 2018 Plan development trend analysis will require updating to reflect growth and changes in Yuma County over the last planning cycle. The updated analysis will focus on the potential risk associated with projected growth patterns and their intersection with the Plan identified hazards.

## 5.3 Hazard Risk Profiles

The following sections summarize the risk profiles for each of the Plan hazards identified in Section 5.1. For each hazard, the following elements are addressed to present the overall risk profile:

- **Description**
- **History**
- **Probability and Magnitude**
- **Vulnerability**
- **Sources**

- **Profile Maps (if applicable)**

Much of the 2010 Plan data has been updated, incorporated and/or revised to reflect current data and Planning Team changes. County-wide and regional/community profile maps are provided at the end of the section (if applicable).

### *5.3.1 Drought*

**Description**

Drought is a normal part of virtually every climate on the planet, including areas of high and low rainfall. It is different from normal aridity, which is a permanent characteristic of the climate in areas of low rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period of time, typically one or more seasons in length. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity (FEMA, 1997).

Drought is a complex natural hazard which is reflected in the following four definitions commonly used to describe it:

- Meteorological – drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- Hydrological – drought is related to the effects of precipitation shortfalls on streamflows and reservoir, lake, and groundwater levels.
- Agricultural – drought is defined principally in terms of naturally occurring soil moisture deficiencies relative to water demands of plant life, usually arid crops.
- Socioeconomic – drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. It may also be called a water management drought.

A drought's severity depends on numerous factors, including duration, intensity, and geographic extent as well as regional water supply demands by humans and vegetation. Due to its multi-dimensional nature, drought is difficult to define in exact terms and also poses difficulties in terms of comprehensive risk assessments.

Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.

Droughts may cause a shortage of water for human and industrial consumption, hydroelectric power, recreation, and navigation. Water quality may also decline and the number and severity of wildfires may increase. Severe droughts may result in the loss of agricultural crops and forest products, undernourished wildlife and livestock, lower land values, and higher unemployment.

**History**

Arizona has experienced 17 droughts declared as drought disasters/emergencies from 1987 to 2013, and 93 drought events (droughts affecting multiple years are recorded as a distinct event for each year affected)[25]. Figure 13 depicts the most recent precipitation data from the National Centers for Environmental Information (NCEI) regarding average statewide annual precipitation variances from a 30-year mean.[26] Between 1849 and 1905, the most prolonged period of drought conditions in 300 years occurred in Arizona (NOAA, 2003). Another prolonged drought occurred during the period of 1941 to

[25] Source: 2013 State of Arizona Hazard Mitigation Plan

[26] Source: NOAA, NCEI, https://www.ncdc.noaa.gov/cag/statewide/time-series/2/pcp/all/12/1998-2018?base_prd=true&firstbaseyear=1987&lastbaseyear=2018, accessed March 2018.

1965. The period from 1979-1983 appears to have been anomalously wet, while the rest of the historical records shows that dry conditions are most likely the normal condition for Arizona. Between 1998 and 2018, there have been many more months with below normal precipitation than above normal precipitation.

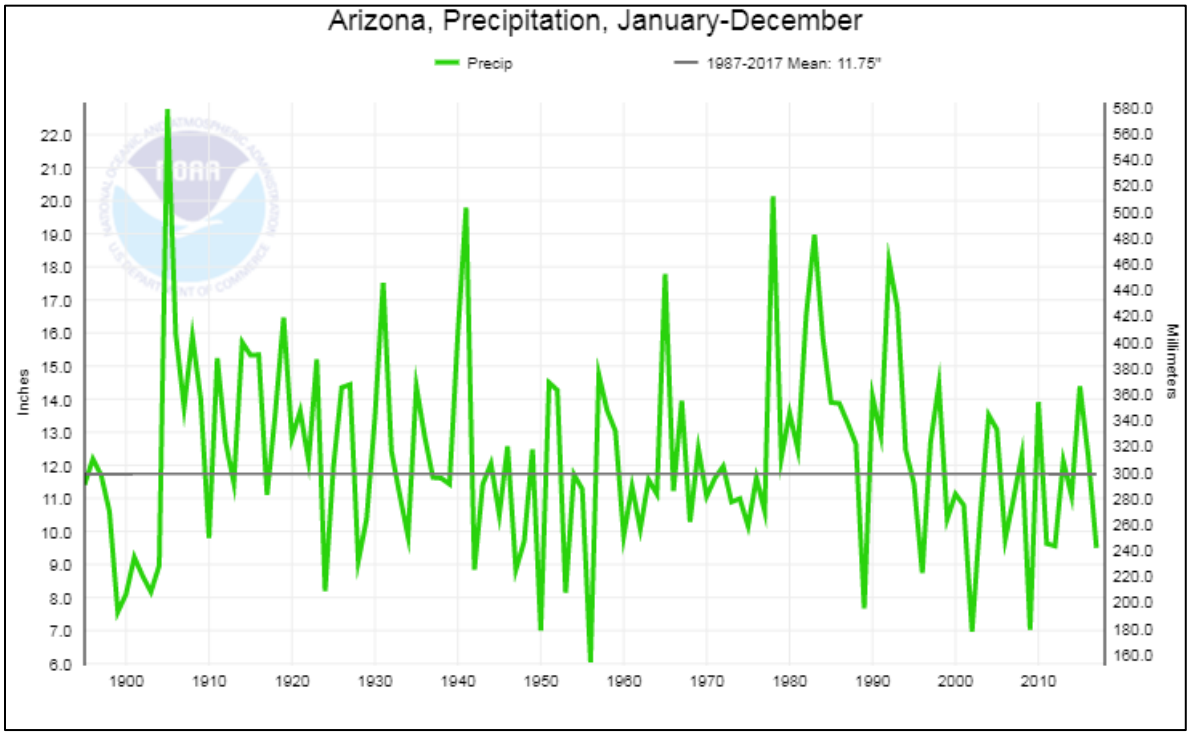



**Figure 13. Average statewide annual precipitation variances from a 1897 to 2017 mean from 1895 to 2018.**

The following figures demonstrate the current statewide drought levels and the annual precipitation for the nation. It can be seen that Yuma County is currently experiencing moderate to severe conditions, with higher levels being seen in the central and southeast part of the county. Precipitation for the State of Arizona, and especially Yuma County, is much lower than the majority of the nation.

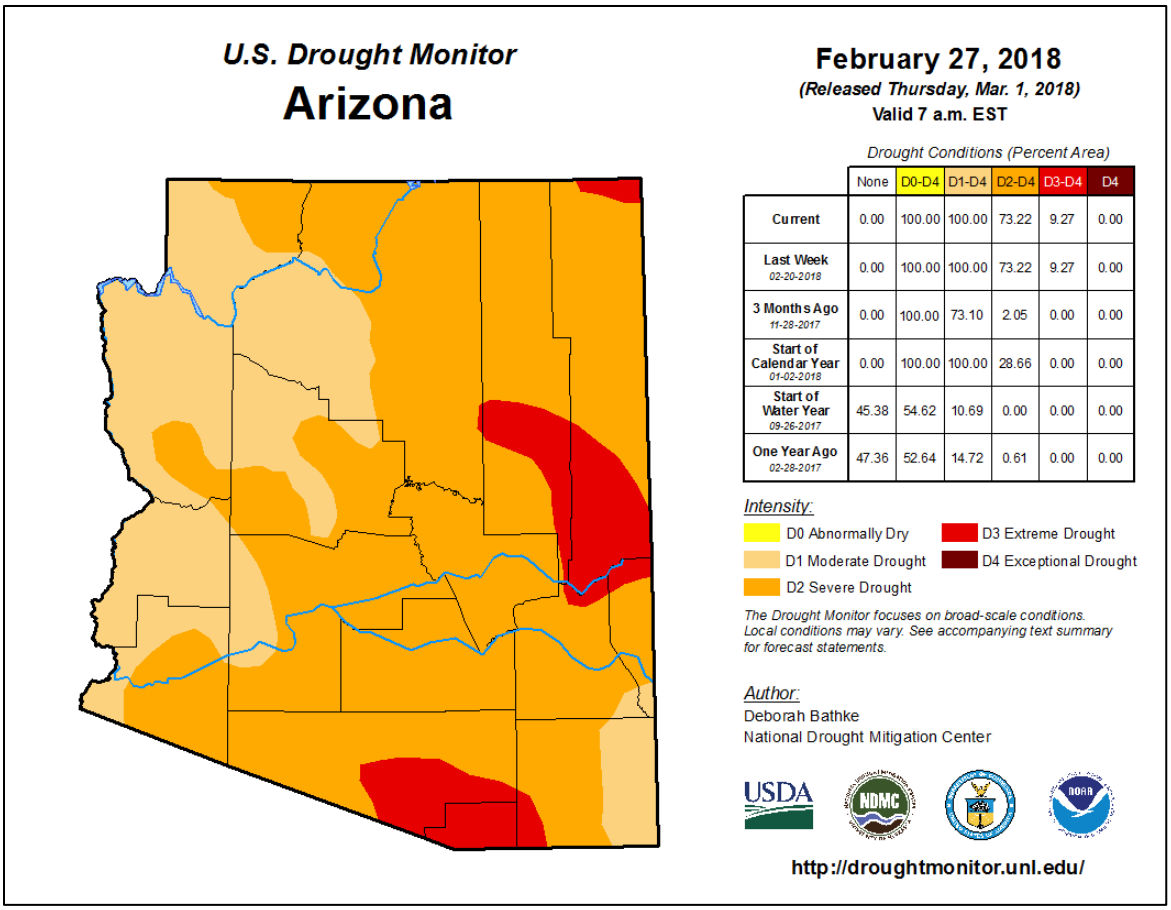



**Figure 14. Arizona Drought 2017 Monitor**

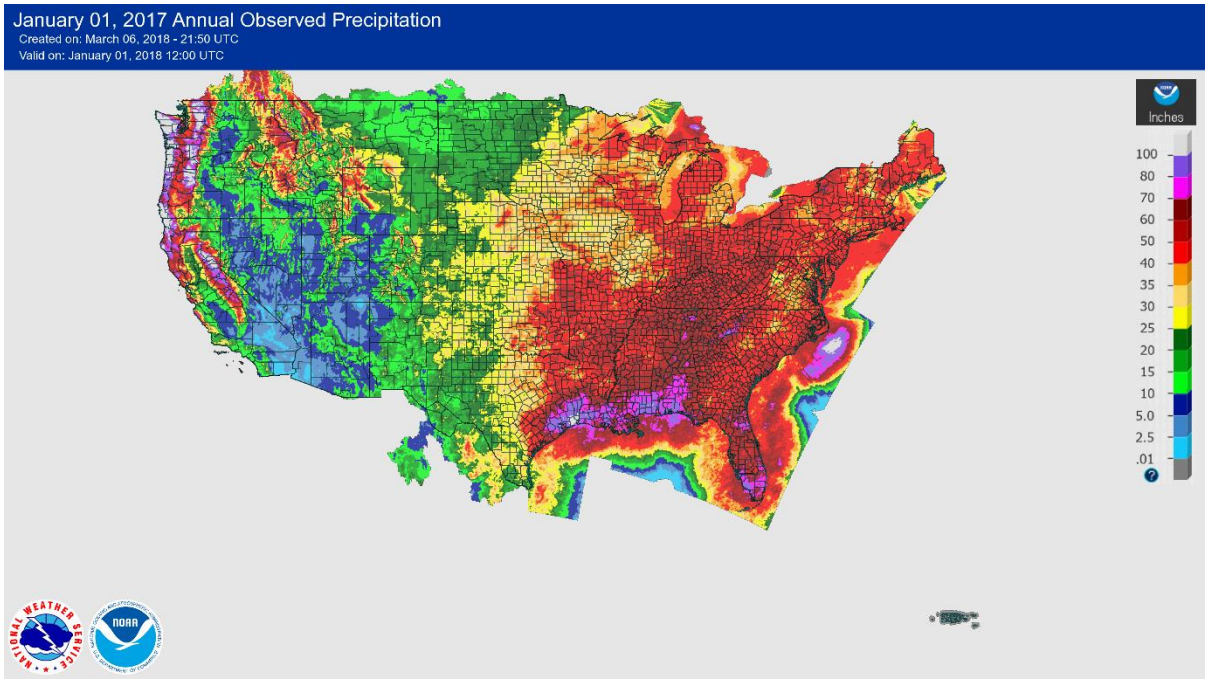



**Figure 15. Nationwide Precipitation, 2017**

The State of Arizona consistently experiences drought conditions and has often been declared eligible for drought emergency assistance through the U.S. Department of Agriculture. Drought declarations for the entire State have occurred consecutively since 1996, with numerous prior declarations dating back to the time of statehood.

The impacts of a sustained drought affect many aspects of the industry, economy, and natural resources of Yuma County. The most direct impacts are to the agricultural community, the development of domestic water supplies, and hydroelectric generation.

The primary source of irrigation water for the agricultural community within Yuma County is the Colorado River. Secondary water supplies are provided by groundwater pumping. The Colorado River is also a significant source of hydroelectric power generation with distribution administered and operated by the Western Area Power Authority (WAPA) through two local electric utility companies, Arizona Public Service and Wellton Mohawk Irrigation and Drainage District. During extended periods of drought, impoundment levels behind the various dams along the Colorado River can decline to levels such that both agricultural and electric utility resources are affected. In extreme cases of storage reduction, electricity generating turbines could cease to function and the energy needed to pump the Colorado River water into the agricultural distribution systems would not be available. This event would have devastating impacts on not only Yuma County, but also much of Arizona and California.

With regard to agriculture, when drought conditions persist such as what is currently being experienced statewide, more demand is placed on groundwater supplies. Other agricultural areas impacted include cattle ranching and rangeland grazing. With ongoing drought, rangeland grasses and other fodder, along with stock tank water supplies, are significantly reduced. This reduction forces ranchers to feed more hay and to truck in water, both of which significantly increase expenses.

From 1995 to 2016, Yuma County farmers and ranchers have received approximately $10.4 million[27] in disaster related assistance funds. According to the USDA, 35 to 55% of the disaster assistance money[28] from 2000-2010 can be attributed to drought related losses. Accordingly, it is realistic to estimate that $3.6 million to $5.7 million of the assistance money is related to drought conditions in the county. These impacts are translated into the general economy in the form of higher food and agricultural goods prices.

**Probability and Magnitude**

There are no commonly accepted return period or non-exceedance probability for defining the risk from drought (such as the 100-year or 1% annual chance of flood). The magnitude of drought is usually measured in time and the severity of the hydrologic deficit. There are several resources available to evaluate drought status and even project very near future expected conditions.

The National Integrated Drought Information System (NIDIS) Act of 2006 (Public Law 109-430) prescribes an interagency approach for drought monitoring, forecasting, and early warning (NIDIS, 2007). The NIDIS maintains Drought.gov[29] which is a centralized, web-based access point to several drought related resources including the U.S. Drought Monitor (USDM) and the U.S. Seasonal Drought Outlook (USSDO). The USDM, shown in Figure 16, is a weekly map depicting the current status of drought and is developed and maintained by the National Drought Mitigation Center. The USSDO, shown in Figure 17, is a six month projection of potential drought conditions developed by the National Weather Service's Climate Prediction Center. The primary indicators for these maps for the Western U.S. are the Palmer Hydrologic Drought Index and the 60-month Palmer Z-index. The Palmer Drought Severity Index (PSDI) is a commonly used index that measures the severity of drought for agriculture and water resource management. It is calculated from observed temperature and precipitation values and estimates soil moisture. However, the Palmer Index is not considered to be consistent enough to characterize the risk of drought on a nationwide basis (FEMA, 1997) and neither of the Palmer indices are well suited to the dry, mountainous western United States.

[27] Environmental Working Group, Farm Subsidy Database, https://farm.ewg.org/region.php?fips=04027

[28] U.S. Department of Agriculture, 2004, *News Release No. fs0199.04*, web link at: http://www.usda.gov/Newsroom/fs0199.04.html

[29] NIDIS U.S. Drought Portal website is located at: https://www.drought.gov/drought/

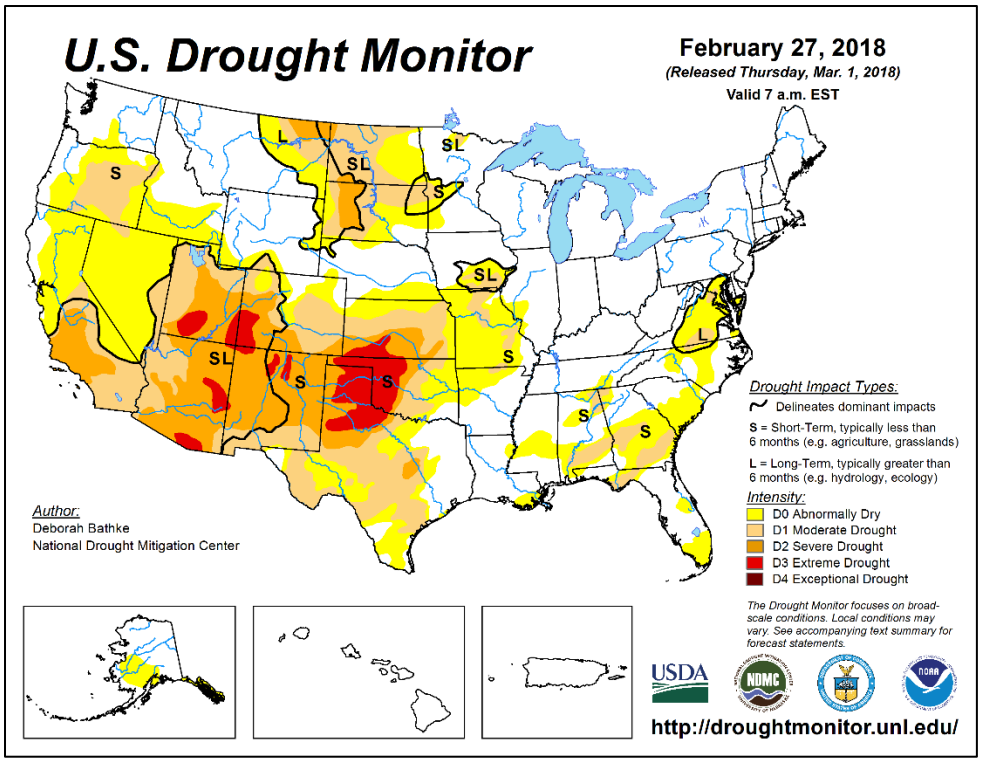



**Figure 16. U.S. Drought Monitor Map for February 27, 2018**

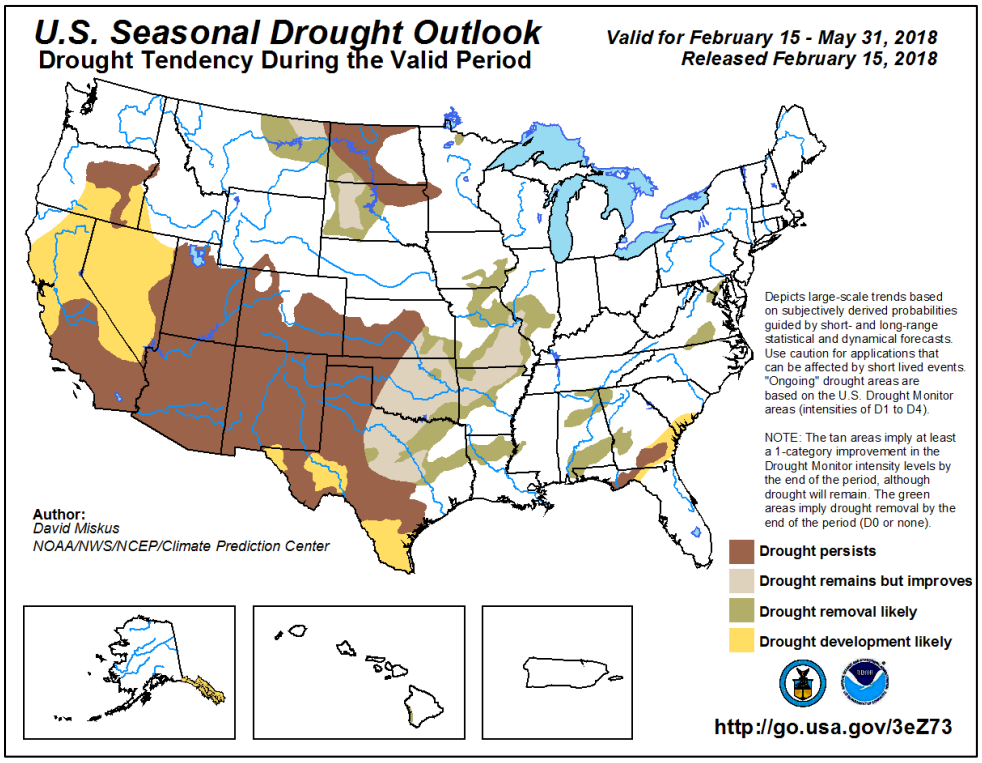



**Figure 17. U.S. Seasonal Drought Outlook, February to May 2018**

In 2003, Governor Janet Napolitano created the Arizona Drought Task Force (ADTF), led by ADWR, which developed a statewide drought plan. The plan includes criteria for determining both short and long-term drought status for each of the 15 major watersheds in the state using assessments that are based on precipitation and stream flow. The plan also provides the framework for an interagency group which reports to the governor on drought status, in addition to local drought impact groups in each county and the State Drought Monitoring Technical Committee. This interagency group reports to the governor on an annual basis about the existing drought status and the potential need for drought declarations. The counties use the monthly drought status reports to implement drought actions within their drought plans. The State Drought Monitoring Technical Committee uses the Standardized Precipitation Index (SPI) for the short-term drought status and a combination of the SPI and streamflow for the long-term drought status. Figure 18 present the most current long-term map available as of the writing of this plan. The State Drought Monitoring Technical Committee recognizes moderate and severe drought conditions in the short-term; and severe to exceptional conditions in the long-term. The quarterly drought status update report for October through December 2017 states that a dry winter and meager snowpack caused expansion of drought conditions across the State, and water equivalent ranks with Arizona's driest years, including 2000 and 2006.[30]

[30] Arizona State Drought Monitoring Technical Committee, https://new.azwater.gov/drought/drought-status, accessed March 2018

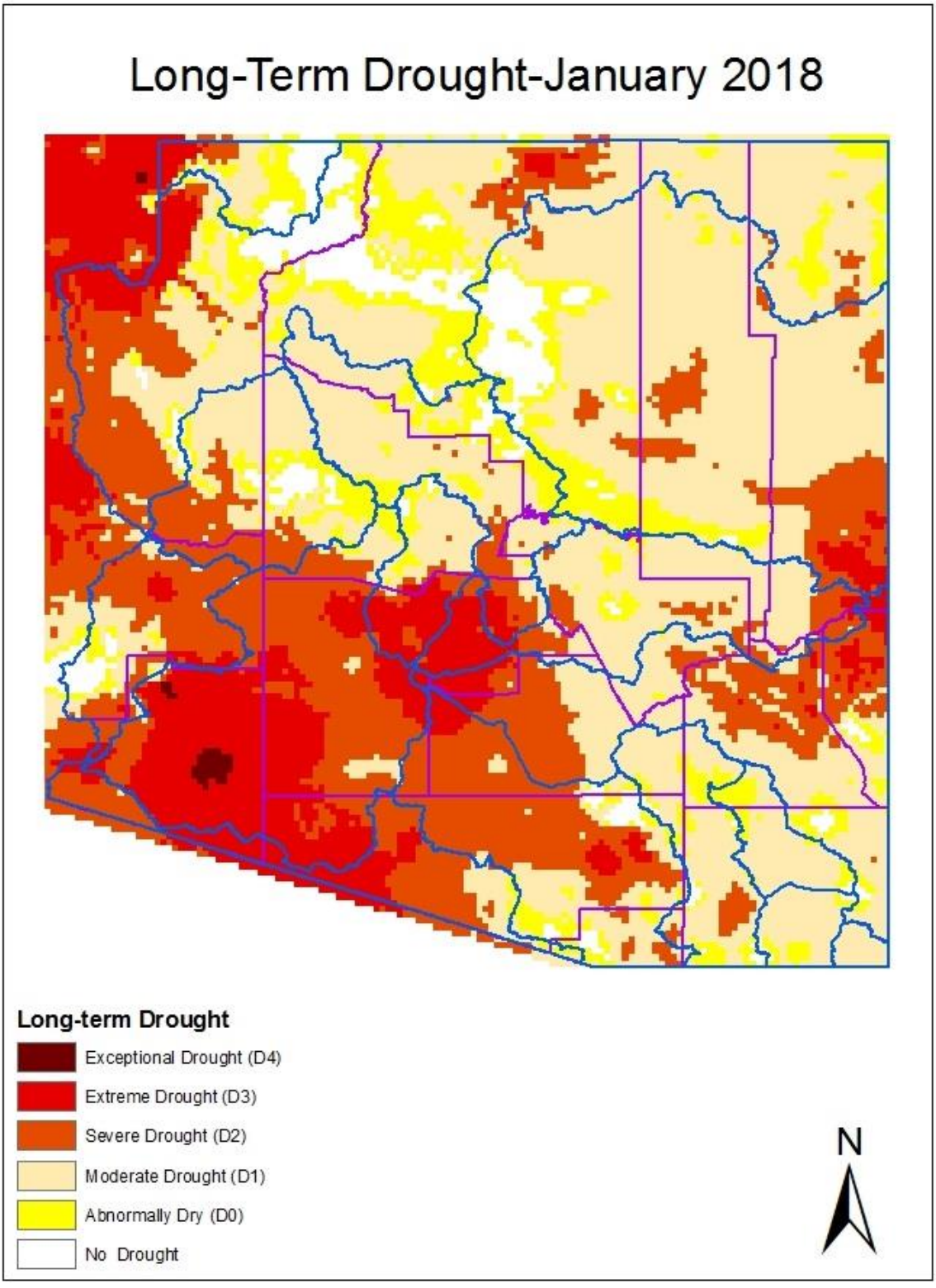



**Figure 18. Arizona Long Term Drought Status map for January 2017**

The 2017 Annual Drought Preparedness Report stated that the past year has seen improvements in terms of seasonal precipitation and streamflows, although many parts of the state are still experiencing abnormally dry conditions. The following Figure 19 displays winter precipitation levels from 2016-2017.[31]

[31] Source: 2017 Arizona Drought Preparedness Annual Report, https://new.azwater.gov/sites/default/files/media/2017%20Arizona%20Drought%20Preparedness%20Annual%20Report.pdf

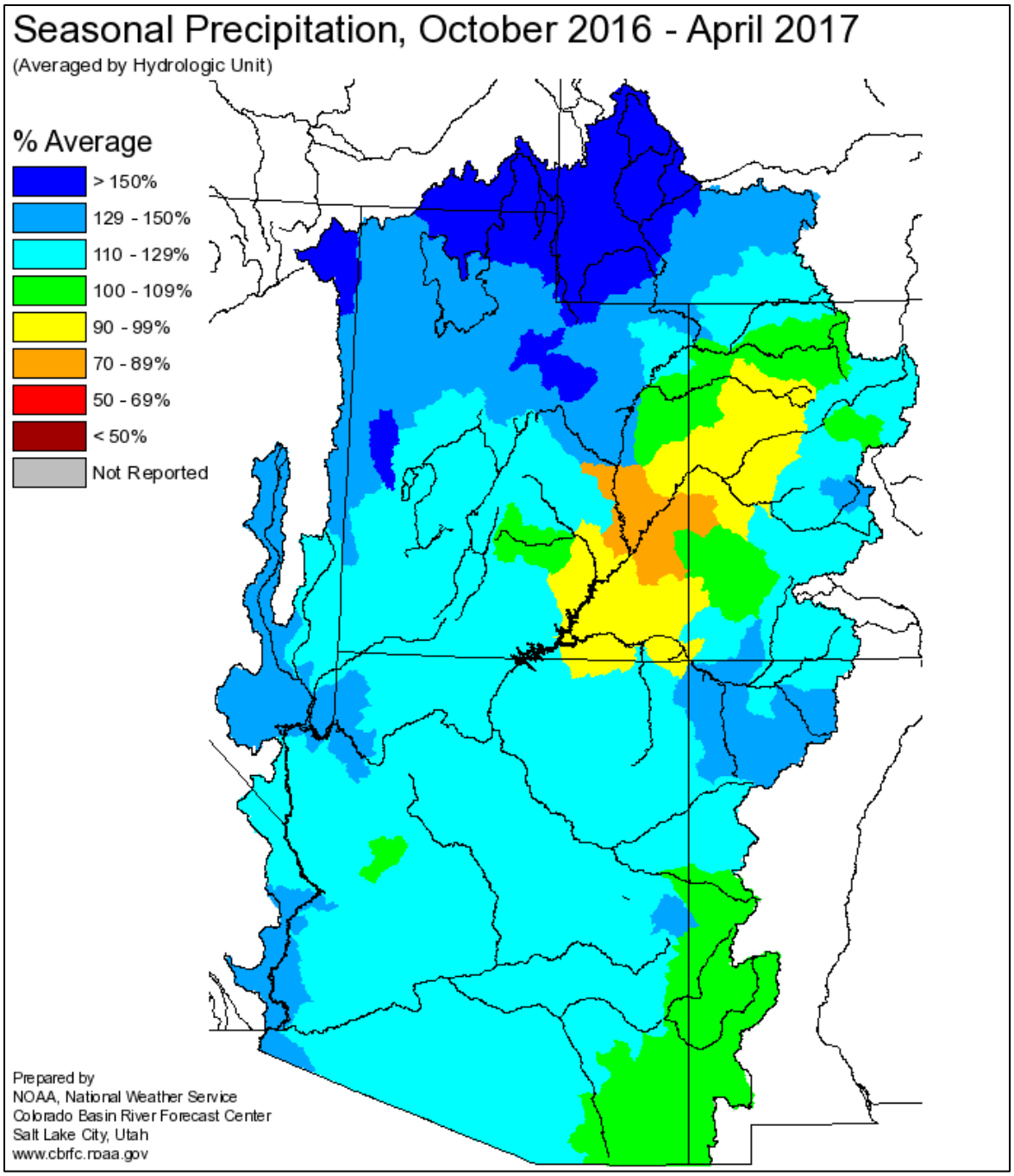



**Figure 19. Winter Precipitation, October 2016 to April 2017**

**Vulnerability – CPRI Results**

Drought CPRI results for each community are summarized in Table 6 below.

**Table 6. Summary of CPRI results by jurisdiction for drought**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Likely | Negligible | >24 hours | >1 week | 2.2 |
| San Luis | Possibly | Critical | >24 hours | >1 week | 2.4 |
| Somerton | Highly Likely | Critical | >24 hours | >1 week | 3.3 |
| Unincorporated Yuma County | Possibly to Likely | Limited | >24 hours | >1 week | 2.2 |
| Wellton | Highly Likely | Limited | >24 hours | >1 week | 3.0 |
| Yuma | Possibly | Limited to Critical | >24 hours | >1 week | 2.2 |
| | | | | **County-wide average CPRI =** | **2.6** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

**Vulnerability – Loss Estimations**

No standardized methodology exists for estimating losses due to drought and drought does not generally have a direct impact on critical and non-critical facilities and building stock. A direct correlation to loss of human life due to drought is improbable for Yuma County. Instead, drought vulnerability is primarily measured by its potential impact to certain sectors of the County economy and natural resources include the following:

- Crop and livestock agriculture
- Municipal and industrial water supply
- Recreation/tourism
- Wildlife and wildlife habitat

The impacts of drought to critical and non-critical facilities and building stock is generally indirect, in that drought is often a contributing factor to other hazards such as flooding and wildfire. Extended drought may weaken and dry the grasses, shrubs, and trees of wildfire areas, making them more susceptible to ignition. Drought also tends to reduce the vegetative cover in watersheds, and hence decreases the interception of rainfall and increases the flooding hazard. The sectors most directly impacted by drought are agriculture, ranching, potable water supplies, and recreation/tourism. The vulnerability and potential impact for this risk assessment will focus primarily on the potential economic impacts to agriculture and ranching. According to the Arizona Agricultural Statistics, which is a branch of the National Agricultural Statistic Service (NASS) and the U.S. Department of Agriculture (USDA), the 2012 market value of agricultural products in Yuma County was $985 million.[32] It is plausible to assume that all of the Yuma County agriculture is vulnerable to drought. Yuma County farmers and ranchers received approximately $10.4 million in USDA disaster assistance over the past 20 years, with an average of approximately $615,000 paid out annually during those years. Other economic losses associated with drought could include increased domestic water supply costs, increased wildfire risk and firefight costs, and impacts to tourism. There are no readily available references, however, for estimating these costs in relation to drought.

**Vulnerability – Development Trends**

[32] USDA Census of Agriculture, 2012 Census Volume 1, Chapter 2: County Level Data; https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Arizona/st04_2_001_001.pdf

Population growth in Yuma County will also require additional surface and ground water to meet the demands of potable, landscape, and industrial uses. With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. It is unlikely that significant growth will occur in the ranching and farming sectors given the current constraints on water rights, grazing rights, and available range land. Drought planning should be a critical component of any domestic water system expansions or land development planning. The ADTF is also working cooperatively with water providers within the State to develop System Water Plans that are comprised of three components:

- *Water Supply Plan* – describes the service area, transmission facilities, monthly system production data, historic demand for the past five years, and projected demands for the next five, 10 and 20 years.
- *Drought Preparedness Plan* – includes drought and emergency response strategies, a plan of action to respond to water shortage conditions, and provisions to educate and inform the public.
- *Water Conservation Plan* – addresses measures to control lost and unaccounted for water, considers water rate structures that encourage efficient use of water, and plans for public information and education programs on water conservation.

The combination of these requirements will work to ensure that future development in Yuma County will recognize drought as a potential constraint.

**Sources**

Arizona Department of Water Resources, 2017, *Arizona Drought Preparedness Annual Report*, https://new.azwater.gov/sites/default/files/media/2017%20Arizona%20Drought%20Preparedness%20Annual%20Report.pdf

Arizona Division of Emergency Management, 2013, *State of Arizona Multi-Hazard Mitigation Plan*

Arizona State Drought Monitoring Technical Committee, *Drought Management*, https://new.azwater.gov/drought/drought-status, accessed March 2018

Environmental Working Group, 2016, Farm Subsidy Database, https://farm.ewg.org/region.php?fips=04000&statename=Arizona. Accessed March 2018

National Oceanic and Atmospheric Administration, National Centers for Environmental Information, Climate at a Glance, https://www.ncdc.noaa.gov/cag/statewide/time-series/2/pcp/all/12/1998-2018?base_prd=true&firstbaseyear=1987&lastbaseyear=2018. Accessed March 2018.

**Profile Maps**

No profile maps are provided.

*5.3.2 Earthquake*

**Description**

An earthquake is a sudden, rapid shaking of the earth caused by the movement of tectonic plates. This shaking can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; and sometimes trigger landslides, flash floods and fires. Buildings with foundations resting on unconsolidated landfill, old waterways, sandy soils with high water tables, or other unstable soil types are most at risk. Buildings or trailers and manufactured homes not tied to a reinforced foundation anchored to the ground are also at risk since they can be shaken off their mountings during an earthquake. Earthquakes can occur at any time of the year and usually result in either a ground surface rupture, strong ground motion, slope failure, and/or liquefaction.

Liquefaction caused by seismic activity is a significant hazard for the Yuma area. Liquefaction is the process wherein soils transform into a liquid state due to ground shaking from an earthquake. Structural failures due to liquefaction are due to lateral spread, flow failure, ground oscillation, and/or loss of bearing strength. The three primary criteria that must be satisfied for liquefaction to occur are; ground shaking during an earthquake, the presence of sandy soils, and shallow ground water. The Yuma and Gila valley regions of Yuma County meet these criteria and have been identified as potential liquefaction zones. Figure 20 is a map [33] of Yuma County depicting liquefaction hazard areas that were determined using these critical factors.

The Yuma area is located in relatively close proximity to several major geologic fault zones with historic seismic activity. All of the faults are related to tectonic movement between the North American Plate and the Pacific Plate. The seismic hazard for the Yuma region is considered the highest in Arizona because of its proximity to these faults. The major faults having the most potential for generating ground motion in the Yuma area are the San Jacinto, San Andreas, Elsinore, Cerro Prieto, Imperial, Sand Hills, and Algondones Faults and the Brawley Seismic Zone.

**History**

These faults have produced several damaging earthquakes during the last 150 years and there is reasonable probability that damaging levels of seismic shaking will occur in the next 50 years. The relative locations of these regional faults with respect to Yuma County are indicated on Figure 21.

Earthquakes have been documented for the Yuma Region since 1776 when the explorers on the Anza expedition landed at Fort Yuma. Figure 22 indicates the locations of several historic earthquakes and their approximate magnitudes. Figure 26 through Figure 30 at the end of this hazard profile show the location of historic earthquake epicenters, along with their recorded magnitude, at both a countywide and community scale. Figure 23 is an excerpt from the Ninyo & Moore (N&M) report summarizing various additional historic earthquake events that have impacted the Yuma area in the last 150 years. The following are some of the more recent or notable events:

- In April 2010, the Easter Sunday 7.2 earthquake swayed high-rises in downtown Los Angeles and San Diego and was felt across Southern California and Arizona. According to the U.S Geological Survey, the earthquake struck at 3:40 p.m. in Baja California, Mexico, about 19 miles southeast of Mexicali. The quake was felt as far north as Santa Barbara. A police dispatcher in Yuma, Arizona, said the quake was very strong here, but no damage was reported (U.S & World News). Additionally, severe loss of property occurred in San Luis Rio Colorado and neighboring Imperial County, causing millions and possibly billions of dollars in damage - less than 50 miles away. (Yuma County)

[33] Bausch, D.B., Brumbaugh, D.S., 1996, *Yuma Community Earthquake Hazard Evaluation*, Arizona Earthquake Information Center, Northern Arizona University.

- On July 29, 2008, Chino Hills, California Earthquake, a M5.4 earthquake shook Southern California. The earthquake was the strongest in the region since the Northridge earthquake in 1994. Shaking was felt as far as Las Vegas, Nevada and Yuma, Arizona. Buildings swayed in downtown Los Angeles and area amusement parks were evacuated. A minor landslide near Route 91 in the Anaheim Hills caused some traffic congestion, but no injuries or structural damage was reported.
- In May 1940, a 7.0 $M_I$ earthquake ruptured the Imperial Fault and caused significant liquefaction in the Yuma area.
- In 1872, a 5.8 $M_I$ quake was felt, causing minor damage to a store and saloon located on Main Street in the City of Yuma.
- In 1852, a 7.0 $M_I$ earthquake shifted the course of the Colorado River away from the Fort, diminishing its domination of the ferry crossing.

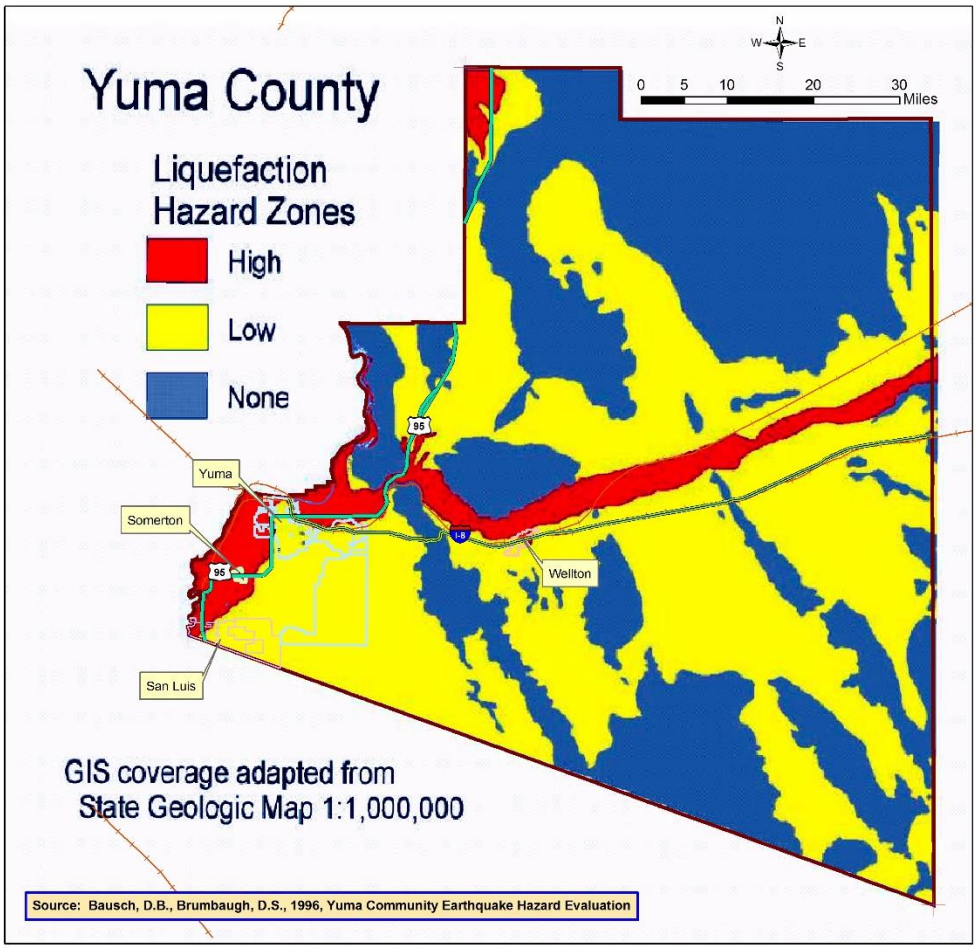



**Figure 20. Liquefaction hazard map for Yuma County**

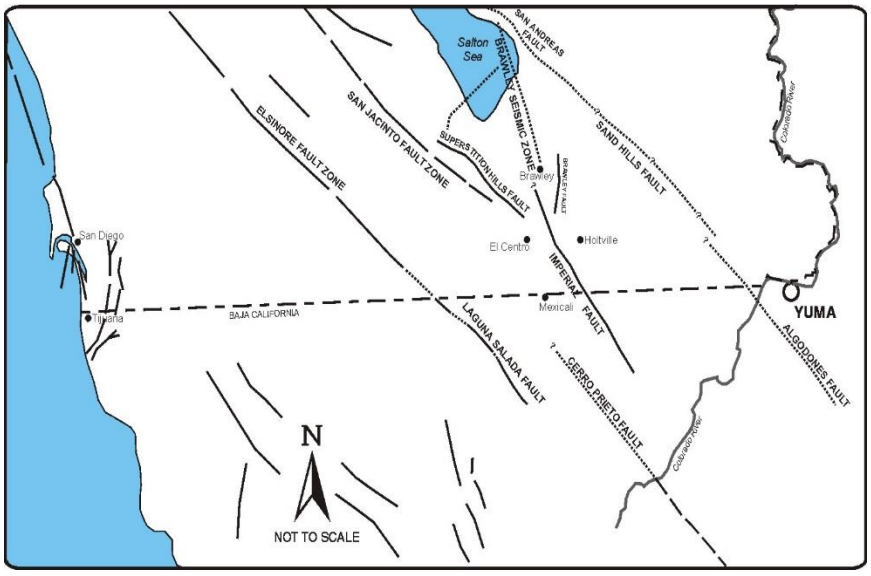



**Figure 21. Approximate fault locations within the vicinity of Yuma, Arizona**




**Figure 22. Approximate locations of historic earthquakes in or near Arizona**

**Table 1 – Historic Earthquakes in the Yuma Region, M>5.5**

| Event Name | Day | Year | Epicenter Latitude (Degrees) | Epicenter Longitude (Degrees) | Distance from Yuma (miles) | Reported Magnitudes $M_W$ | $M_S$ | $M_L$ | $M_I$ |
|---|---|---|---|---|---|---|---|---|---|
| | 11/29 | 1852 | 32.5? | 115.0? | 25 to 50 | (7+) | | | 7.0 |
| Fort Yuma | 05/03 | 1872 | 33.0? | 115.0? | ?? | | | | 5.8 |
| | 11/15 | 1875 | 32.5 | 115.5 | 51 | | | | 6.2 |
| | 07/30 | 1891 | 32.0 | 115.0 | 52 | | | | 6.0 |
| Laguna Salada | 02/24 | 1892 | 32.6 | 115.6 | 58 | (7) | | | 7.0 |
| | 04/19 | 1906 | 32.9 | 115.5 | 51 | | 6.2 | | 5.8 |
| Imperial Valley | 06/23 | 1915 | 32.8 | 115.5 | 50 | | 6.0 | | 5.6 |
| Imperial Valley | 06/23 | 1915 | 32.8 | 115.5 | 50 | | 5.9 | | 5.6 |
| | 11/21 | 1915 | 32.0 | 115.0 | 52 | (7) | | | 7.1 |
| Volcano Lake | 11/07 | 1923 | 32.5 | 115.5 | 51 | | | 5.5 | |
| | 01/01 | 1927 | 32.5 | 115.5 | 51 | | | 5.8 | |
| | 01/01 | 1927 | 32.5 | 115.5 | 51 | | | 5.5 | |
| Laguna Salada | 12/30 | 1934 | 32.25 | 115.50 | 58 | 6.4 | | 6.5 | |
| Cerro Prieto | 12/31 | 1934 | 32.00 | 114.75 | 49 | 7.1 | | 7.1 | |
| | 02/24 | 1935 | 31.98 | 115.20 | 59 | | | 6.0 | 5.3 |
| El Centro | 05/19 | 1940 | 32.73 | 115.50 | 33* | 7.0 | 7.2 | 6.2 | 7.0 |
| Fish Creek Mountain | 10/21 | 1942 | 32.97 | 116.00 | 81 | 6.6 | | 6.5 | 6.3 |
| | 10/22 | 1942 | 33.23 | 115.72 | 72 | | | 5.5 | |
| | 07/29 | 1950 | 33.12 | 115.57 | 60 | | | 5.5 | |
| | 01/24 | 1951 | 32.98 | 115.73 | 66 | | | 5.6 | |
| | 06/14 | 1953 | 32.95 | 115.72 | 64 | | | 5.5 | |
| Brawley Seismic Zone | 02101 | 1954 | 32.30 | 115.30 | 47 | | | 5.6 | |
| | 12/01 | 1958 | 32.25 | 115.75 | 71 | | | 5.8 | |
| | 08/07 | 1966 | 31.80 | 114.50 | 63 | | | 6.3 | |
| Imperial Valley | 10/15 | 1979 | 32.61 | 115.32 | 39 | 6.5 | 6.9 | 6.6 | |
| Brawley Aftershock | 10/15 | 1979 | 32.98 | 115.55 | 56 | | | 5.8 | |
| Victoria | 06/09 | 1980 | 32.20 | 115.08 | 43 | 6.4 | 6.4 | 6.1 | |
| Westmorland | 04/26 | 1981 | 33.10 | 115.63 | 63 | 5.9 | 6.0 | 5.6 | |
| | 02/06 | 1987 | 32.37 | 115.30 | 44 | | | 5.4 | |
| Elmore Ranch | 11/23 | 1987 | 33.08 | 115.78 | 70 | 5.9 | 6.2 | 5.8 | |
| Superstition Hills | 11/24 | 1987 | 33.01 | 115.84 | 72 | 6.5 | 6.6 | 6.0 | |

Notes:
1.) Earthquake information primarily from Ellsworth (1990) and USBR (1976)
2.) Magnitude Scales: $M_W$ - moment magnitude, $M_L$ - Local (Richter) magnitude, $M_S$ – surface-wave magnitude
$M_I$ - estimated from felt area intensity. Moment magnitudes are considered a better measure of the seismic energy released during an earthquake.
4.) Before 1930, Epicenters of earthquakes are approximate, indicated to nearest 0.5 to 0.1 degree.
* Closest rupture distance



**Figure 23. Summary of historic earthquake events impacting the Yuma area over the past 150 years**

**Probability/Magnitude**

The impact an earthquake event has on an area is typically measured in terms of earthquake intensity. Intensity is most commonly measured using the Modified Mercalli Intensity (MMI) Scale based on direct and indirect measurements of seismic effects.

Another way to express an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. Peak ground acceleration (PGA) measures the strength of ground movements in this manner. PGA represents the rate in change of motion of the earth's surface during an earthquake as a percent of the established rate of acceleration due to gravity. PGA can be partly determined by what soils and bedrock characteristics exist in the region. Unlike the Richter scale, PGA is not a measure of the total energy released by an earthquake, but rather of how hard the earth shakes at a given geographic area (the intensity). PGA is measured by using instruments including accelerographs and correlates well with the Mercalli scale.

When the peak ground acceleration nears 0.04 – 0.092g, an earthquake can be felt by people walking outside. As PGA nears 0.19 – 0.34g the intensity is considered to be very strong. At this level, plaster can break off and fall away from structures and cracks in walls often occur. PGA magnitudes of 1.24g are considered to be very disastrous. This magnitude of ground acceleration represents an earthquake of roughly 6.9 to 8.1 on the Richter Scale.

The Richter Scale is the most commonly used scale for measuring earthquake magnitudes and potential impacts. Because the public and policy makers are most familiar with the Richter Scale, this plan will use the Richter Scale coupled with PGA for the hazard risk assessment.

A detailed description of the Modified Mercalli Intensity Scale as it relates to PGA, the Richter Scale, and damage effects is shown in Table 7.

**Table 7. Modified Mercalli Intensity Scale**

| SCALE | INTENSITY | DESCRIPTION OF EFFECTS | PGA (g) | RICHTER SCALE MAGNITUDE |
|---|---|---|---|---|
| I | Instrumental | Detected only on seismographs | < 0.0017 | < 4.2 |
| II | Feeble | Some people feel it | 0.0018 – 0.014 | |
| III | Slight | Felt by people resting; like a truck rumbling by | | |
| IV | Moderate | Felt by people walking | 0.015 – 0.039 | |
| V | Slightly Strong | Sleepers awake; church bells ring | 0.040 – 0.092 | < 4.8 |
| VI | Strong | Trees sway; suspended objects swing; objects fall off shelves | 0.093 – 0.18 | < 5.4 |
| VII | Very Strong | Mild alarm, walls crack, plaster falls | 0.19 – 0.34 | < 6.1 |

| SCALE | INTENSITY | DESCRIPTION OF EFFECTS | PGA (g) | RICHTER SCALE MAGNITUDE |
|---|---|---|---|---|
| VIII | Destructive | Moving cars uncontrollable, masonry fractures, poorly constructed buildings damaged | 0.34 – 0.65 | < 6.9 |
| IX | Ruinous | Some houses collapse, ground cracks, pipes break open | 0.65 – 1.24 | |
| X | Disastrous | Ground cracks profusely, many buildings destroyed, liquefaction and landslides widespread | > 1.24 | < 7.3 |
| XI | Very Disastrous | Most buildings and bridges collapse, roads, railways, pipes and cables destroyed, general triggering of other hazards | > 1.24 | < 8.1 |
| XII | Catastrophic | Total destruction, trees fall, ground rises and falls in waves | > 1.24 | > 8.1 |

Earthquakes are extremely difficult to predict and their occurrence rate is determined in one of two ways. If geologists can find evidence of distinct, datable earthquakes in the past, the number of these ruptures is used to define an occurrence rate. If evidence of ruptures is not available, geologists estimate fault slip rates from accumulated scarp heights and estimated date for the oldest movement on the scarp. Because a certain magnitude earthquake is likely to produce a displacement (slip) of a certain size, we can estimate the rate of occurrence of earthquakes of that magnitude.

Recurrence rates are different for different assumed magnitudes thought to be "characteristic" of that fault type. Generally, a smaller magnitude quake will produce a faster recurrence rate, and for moderate levels of ground motion, a higher hazard risk. Future earthquakes are assumed to be likely to occur where earthquakes have produced faults in the geologically recent past. Quaternary faults are faults that have slipped in the last 1.8 million years and it is widely accepted that they are the most likely source of future large earthquakes. For this reason, quaternary faults are used to make fault sources for future earthquake models.

**Related Hazards**

While the public may not be very concerned about flooding in the desert, if there was a strong earthquake serious flooding could result from damages to water canals. The following figure indicates an immediate potential in the "Ocotillo" Neighborhood that is west of Araby Road (Hwy 195), south of 32nd street. This canal carries a lot of water and if it failed due to strong ground shaking we could see flooding amongst the home closest to the canal.

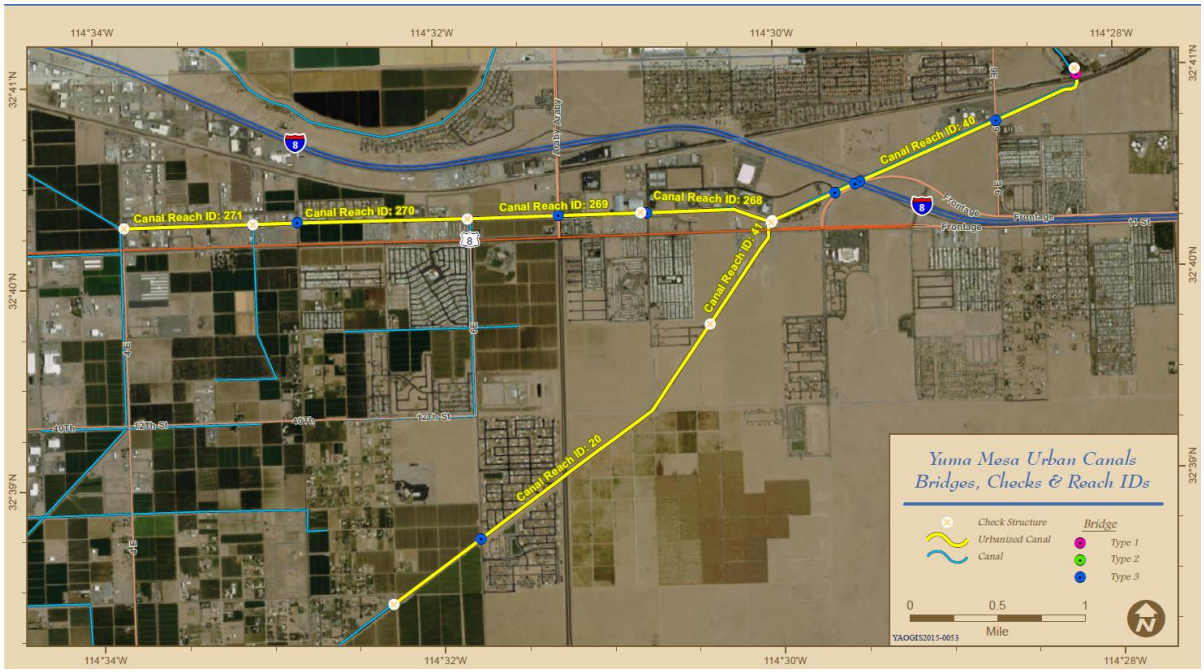



**Figure 24. Yuma Mesa Canals**

The next figure indicates flooding potential south of 1st street and in the homes along the Mesa's edge. The flooding potential depends on how high the canal is above the adjacent backyards. The canal in the middle is a smaller canal and the potential is not as great.

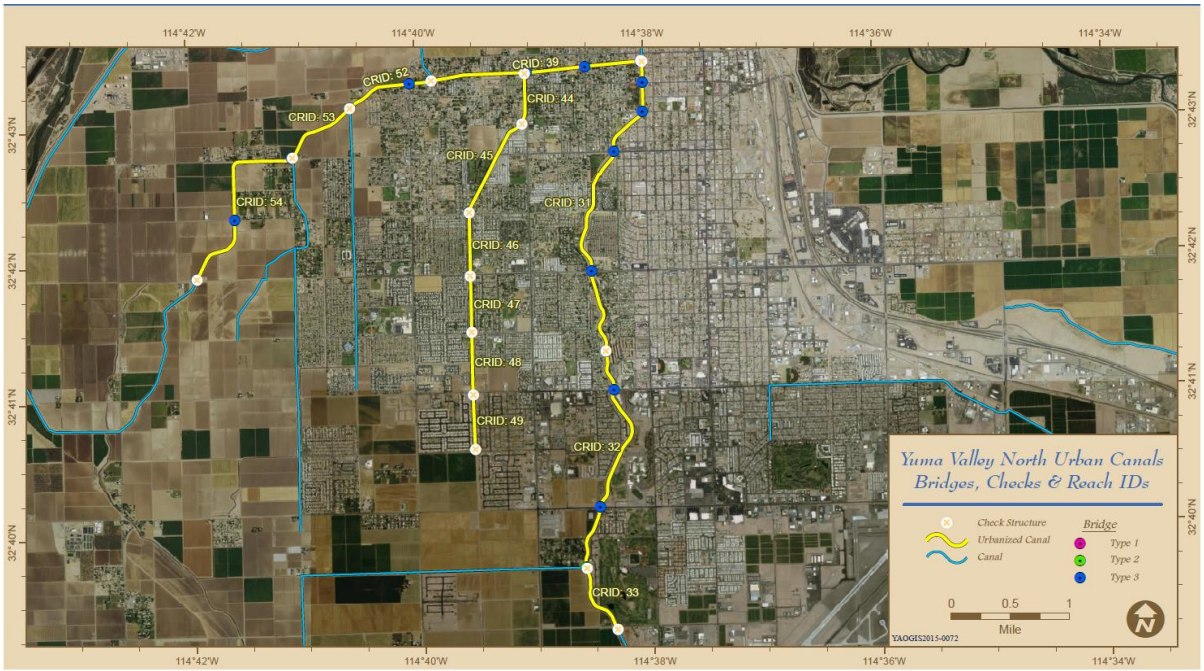



**Figure 25. Yuma Valley Canals**

**Vulnerability – CPRI Results**

Earthquake CPRI results for each community are summarized in Table 8 below.

**Table 8. Summary of CPRI results by jurisdiction for earthquake hazard**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Highly Likely | Limited | <6 hours | >1 week | 3.4 |
| San Luis | Likely | Limited | <6 hours | >1week | 3.0 |
| Somerton | Highly Likely | Catastrophic | <6 hours | <24 hours | 3.8 |
| Unincorporated Yuma County | Likely to Highly Likely | Critical | <6 hours to 12 hours | <24 hours | 3.3 |
| Wellton | Possibly | Critical | <6 hours | <6 hours | 2.5 |
| Yuma | Possibly to Likely | Negligible | <6 hours | <6 hours | 2.1 |
| | | | | **County-wide average CPRI =** | **3.0** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

**Vulnerability – Loss Estimations**

The most appropriate risk assessment methodology for seismic hazards involves scenario modeling using FEMA's Hazus loss estimation software. Hazus is a very useful planning tool because it provides an acceptable means of forecasting earthquake damage, loss of function of infrastructure, and casualties, among many other factors. A new Hazus analysis was conducted by FEMA at a national level for the United States in April 2017. The 'Hazus Estimated Annualized Earthquake Losses for the United States (FEMA Publication 366)' was developed by FEMA's Hazus Team, the National Earthquake Hazards Reduction Program (NEHRP), and the United States Geological Survey (USGS) using Hazus data from Version 3.0, 2010 U.S. Census Data, and updated USGS Probabilistic Earthquake Hazard Maps. This update serves as a more accurate estimate of losses than older versions of Hazus.

Figure 31 through Figure 34 include the total exposure each community faces due to a potential earthquake. Exposure demonstrates a worst case scenario, taking into account all exposed structures. These exposure maps show that the City of Yuma has the highest amount of exposure risk if an earthquake should occur. Figure 35 through Figure 38 include the total estimated losses for each community. Again, the City of Yuma is shown as having the highest number of estimated losses should an earthquake occur. Figure 39 through Figure 42 include an estimated number of displaced households for each community. This data shows that the City of Somerton will experience the highest number of displaced households in the county.

**Vulnerability – Development Trends**

It is reasonable to expect that future earthquakes as large as 7.2 will occur in or nearby Yuma County. Earthquakes strike with little to no warning and they are capable of having multiple impacts on an area. After-effects from an earthquake can include impacted roadways, downed power and communication lines, fires, and damages to structures (especially poorly built, or those already in disrepair). Earthquakes are not a seasonal hazard, and thus can be experienced year round. This fact presents its own set of planning and preparedness concerns.

With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. Increased population and associated developments is assumed to increase Yuma County's risk to earthquakes. The City of Yuma is estimated to experience a 46% increase in population from 2010 to 2040, as well as experience the most in losses and have the highest exposure in the event of a major earthquake. Additionally, the City of Somerton is estimated to experience an 88% increase in population from 2010 to 2040, as well as experience the highest number of displaced households in the event of a major earthquake. In order to reduce the risk of new developments to earthquakes, structures located in areas prone to liquefaction should adhere to the most current seismic building codes. It is also recommended that if development should occur on

any of these properties, a geotechnical investigation should be required in order to address the liquefaction potential and provide recommendations for mitigation.

**Sources**

Arizona Division of Emergency Management, 2013, State of Arizona Multi-Hazard Mitigation Plan

FEMA, April 2017, Hazus Estimated Annualized Earthquake Losses for the United States

Ninyo & Moore, Earthquake and Flooding Hazard Review Project Impact, City of Yuma, Arizona

**Profile Maps**

Figure 26 – Earthquake Hazard Countywide

Figure 27 – Earthquake Hazard Yuma

Figure 28 – Earthquake Hazard Somerton

Figure 29 – Earthquake Hazard San Luis

Figure 0-18 – Earthquake Hazard Wellton

Figure 31 – Earthquake Total Exposure Yuma

Figure 32 – Earthquake Total Exposure Somerton

Figure 33 – Earthquake Total Exposure San Luis

Figure 34 – Earthquake Total Exposure Wellton

Figure 35 – Earthquake Total Losses Yuma

Figure 36 – Earthquake Total Losses Somerton

Figure 37 – Earthquake Total Losses San Luis

Figure 38 – Earthquake Total Losses Wellton

Figure 39 – Earthquake Displaced Households Yuma

Figure 40 – Earthquake Displaced Households Somerton

Figure 41 – Earthquake Displaced Households San Luis

Figure 42 – Earthquake Displaced Households Wellton

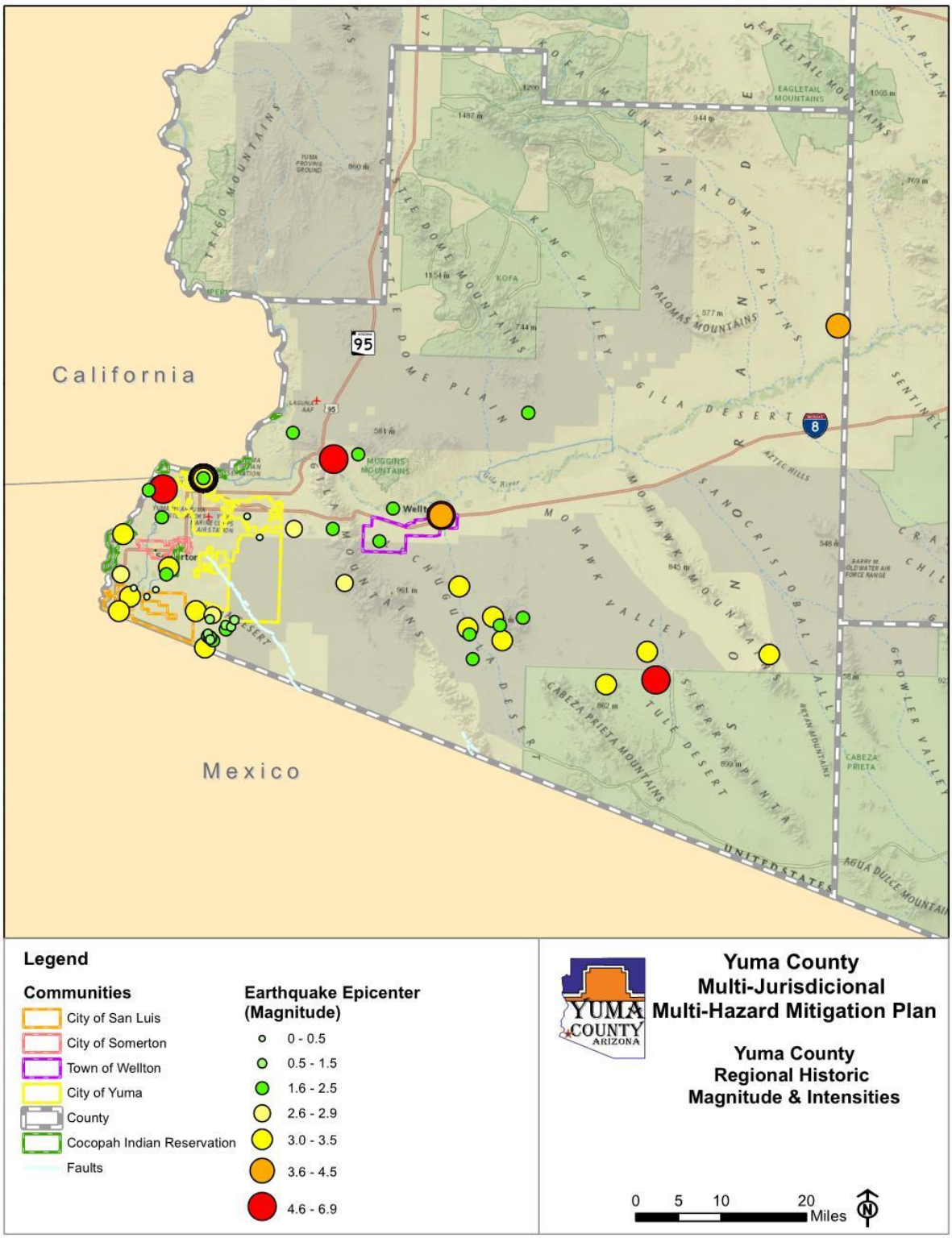



**Figure 26. Yuma County Regional Historic Earthquakes Magnitude and Intensities**

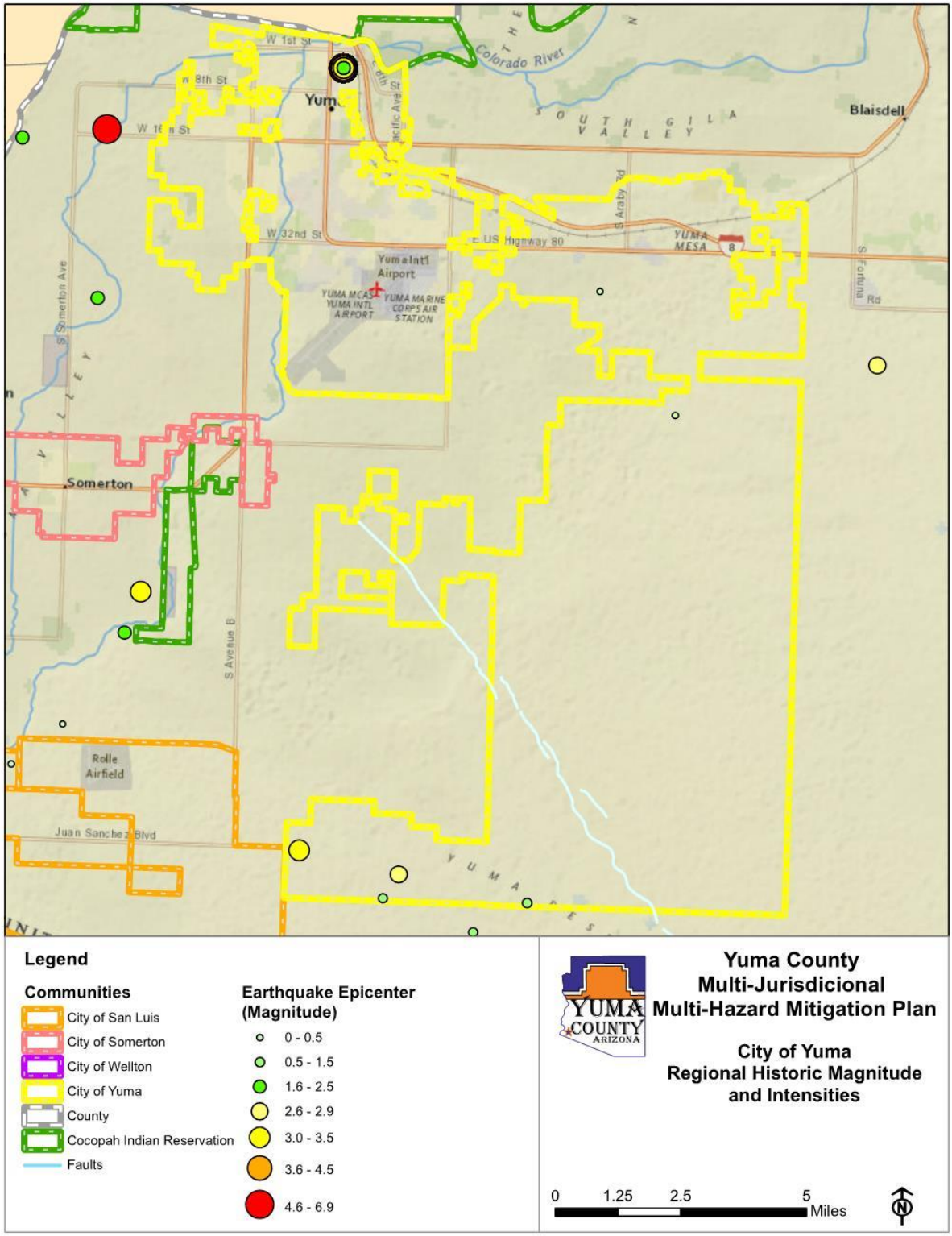



**Figure 27. City of Yuma Regional Historic Earthquakes Magnitude and Intensities**

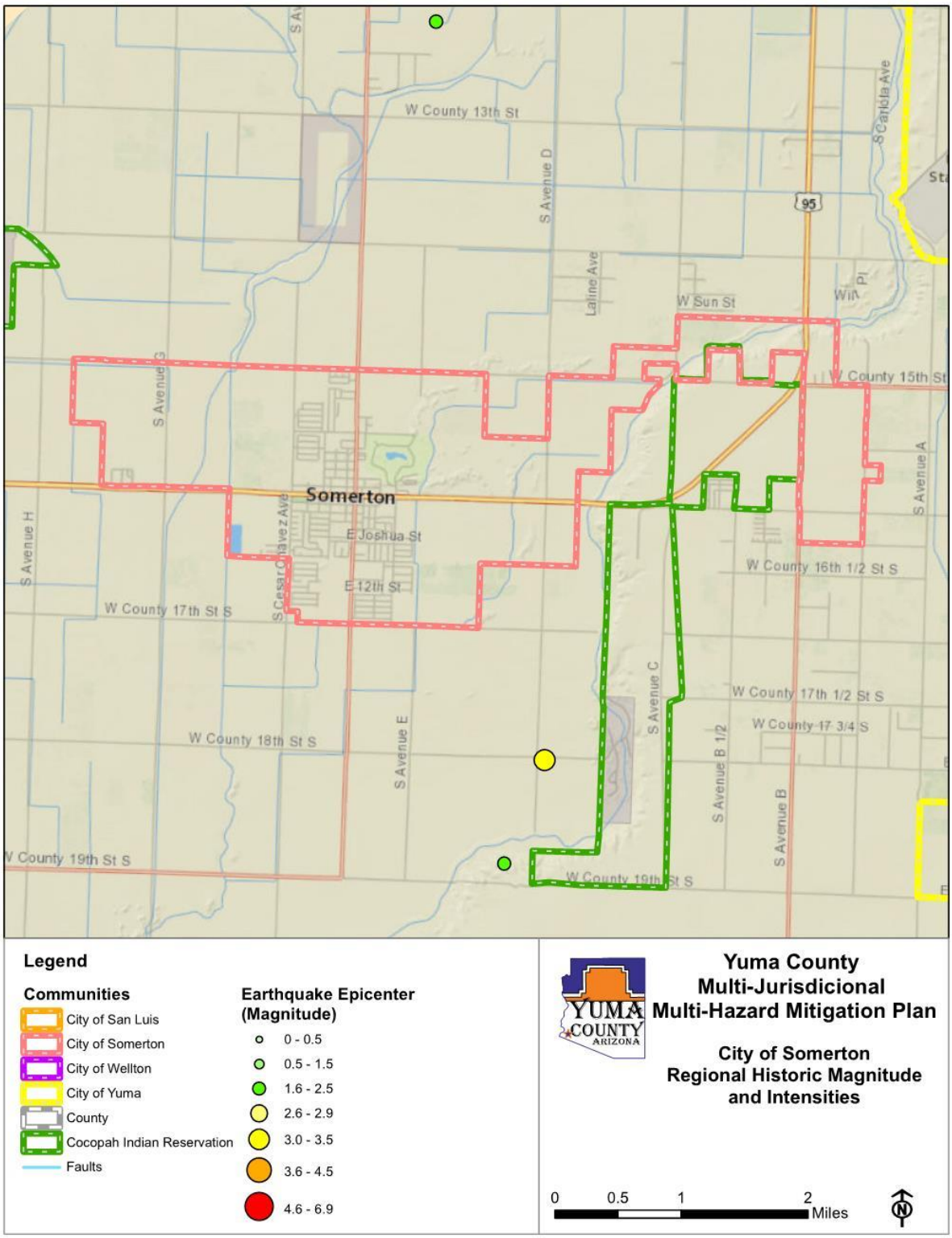



**Figure 28. City of Somerton Regional Historic Earthquakes Magnitude and Intensities**

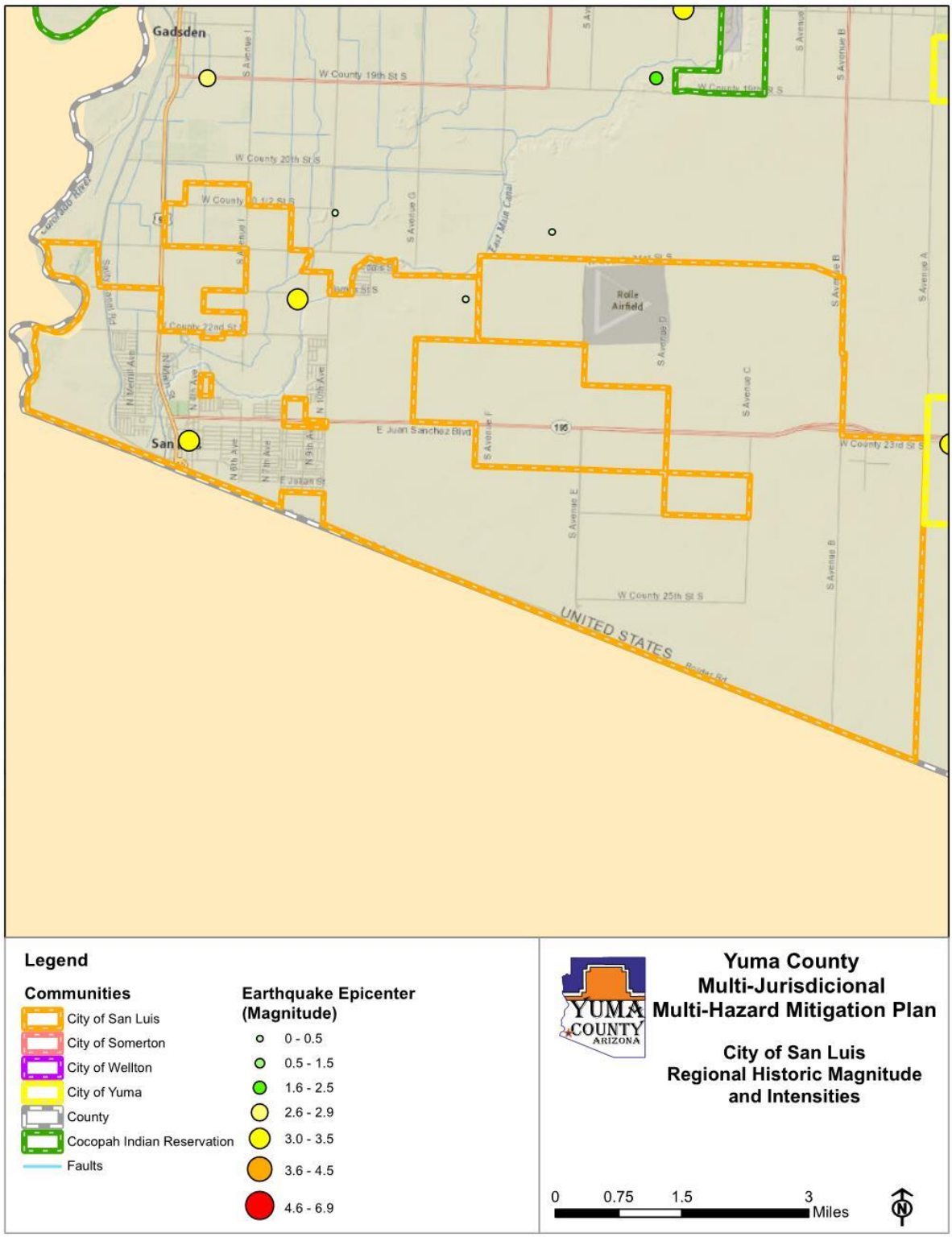



**Figure 29. City of San Luis Regional Historic Earthquakes Magnitude and Intensities**

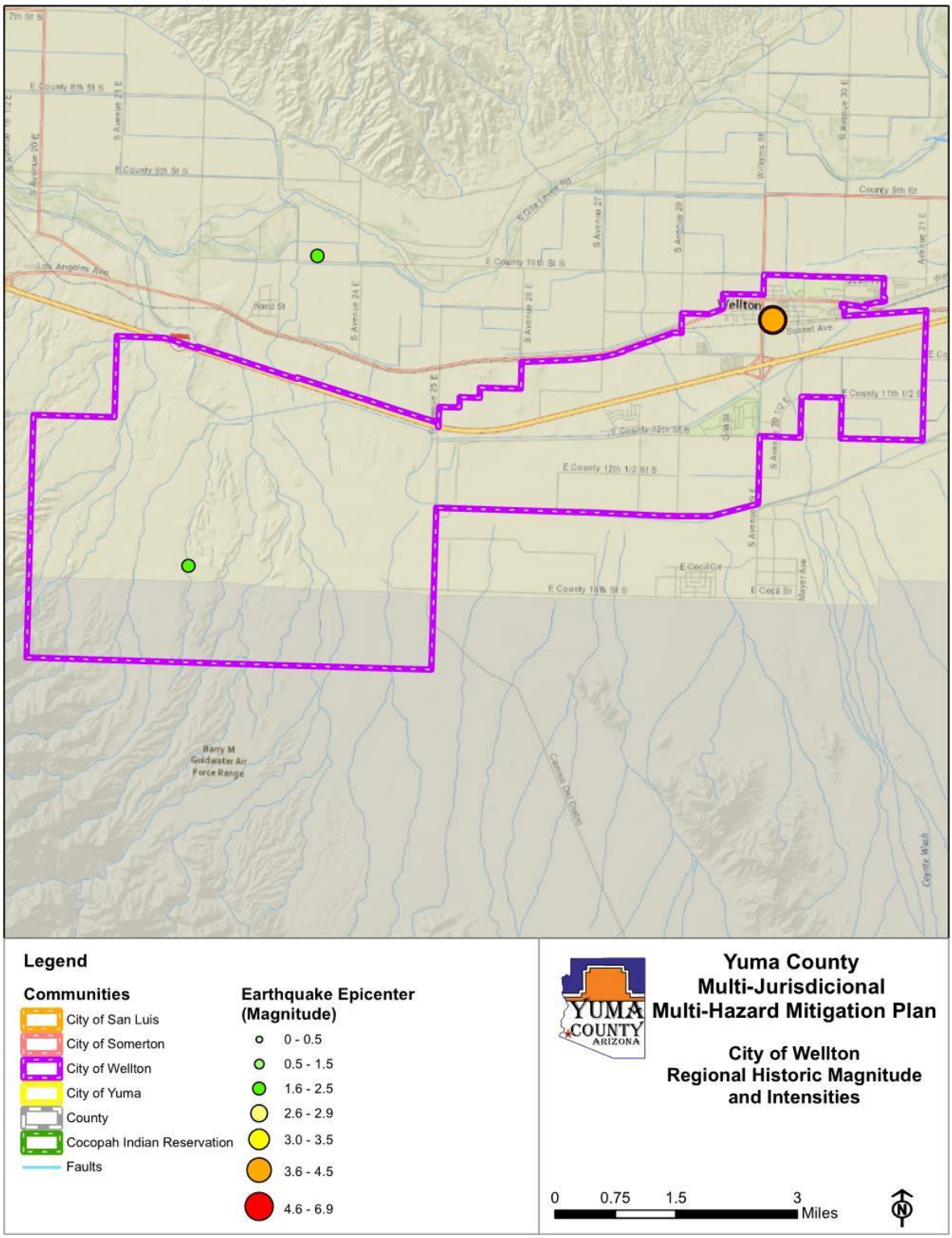



**Figure 30. City of Wellton Regional Historic Earthquakes Magnitude and Intensities**

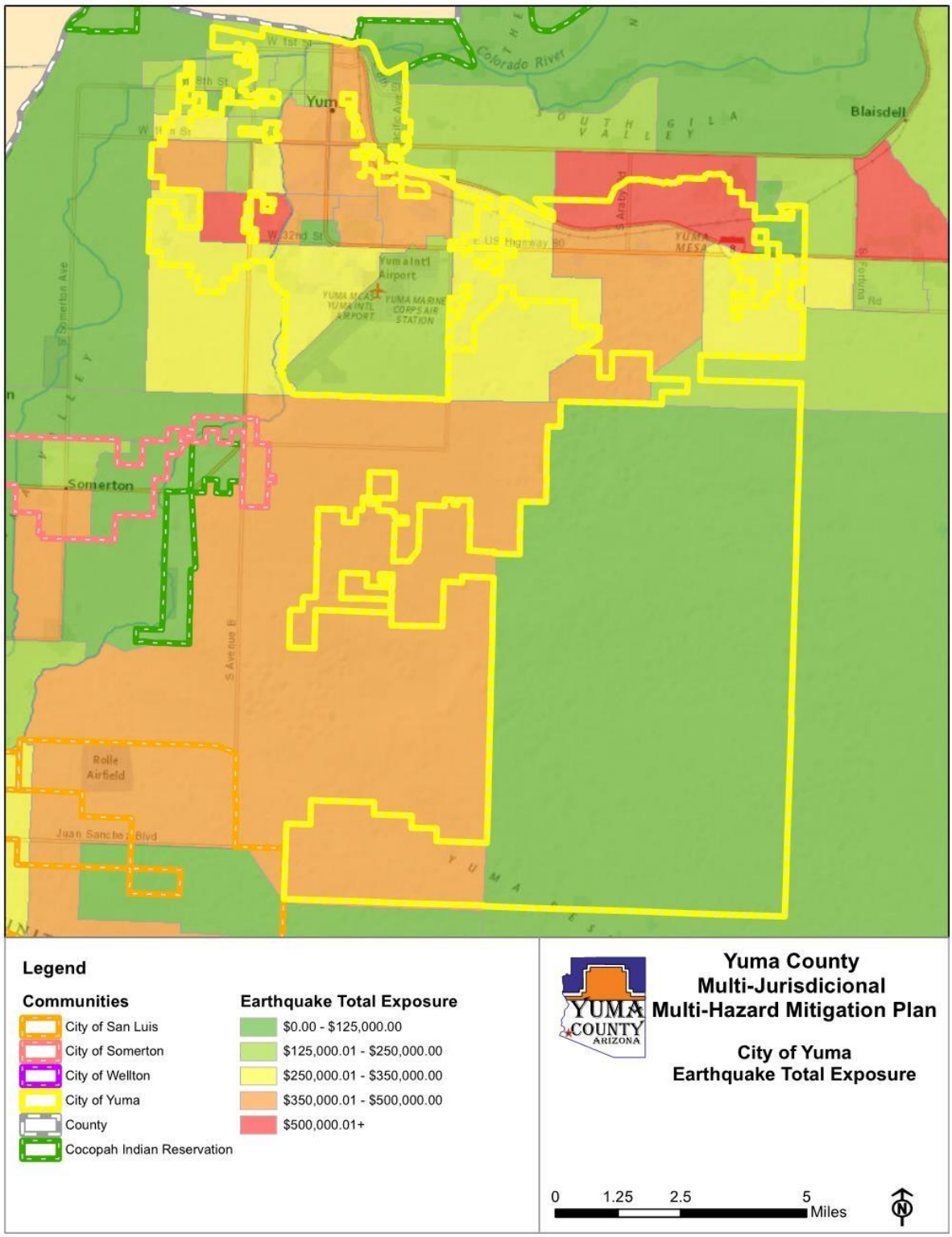



**Figure 31. City of Yuma Earthquake Total Exposure**

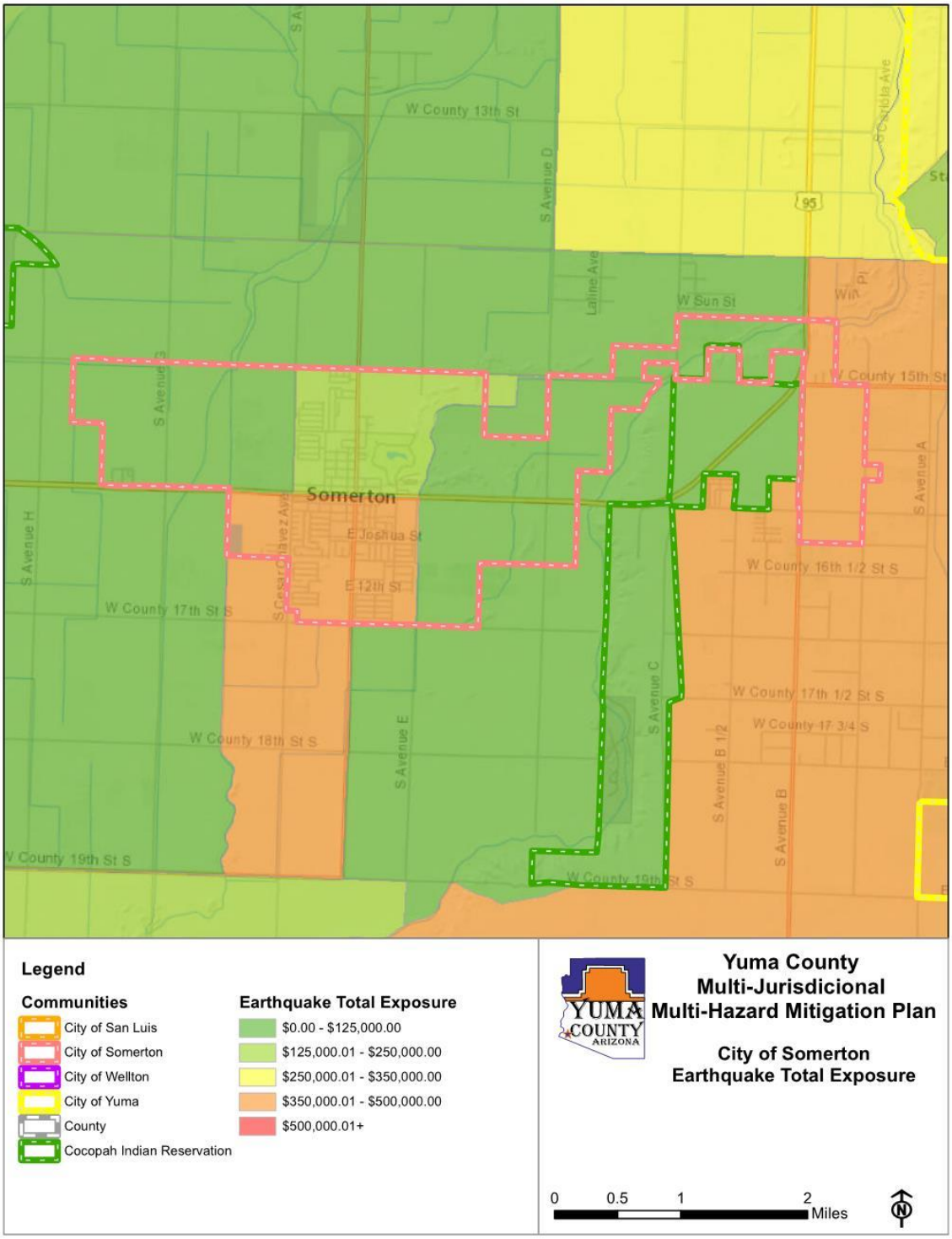



**Figure 32. City of Somerton Earthquake Total Exposure**

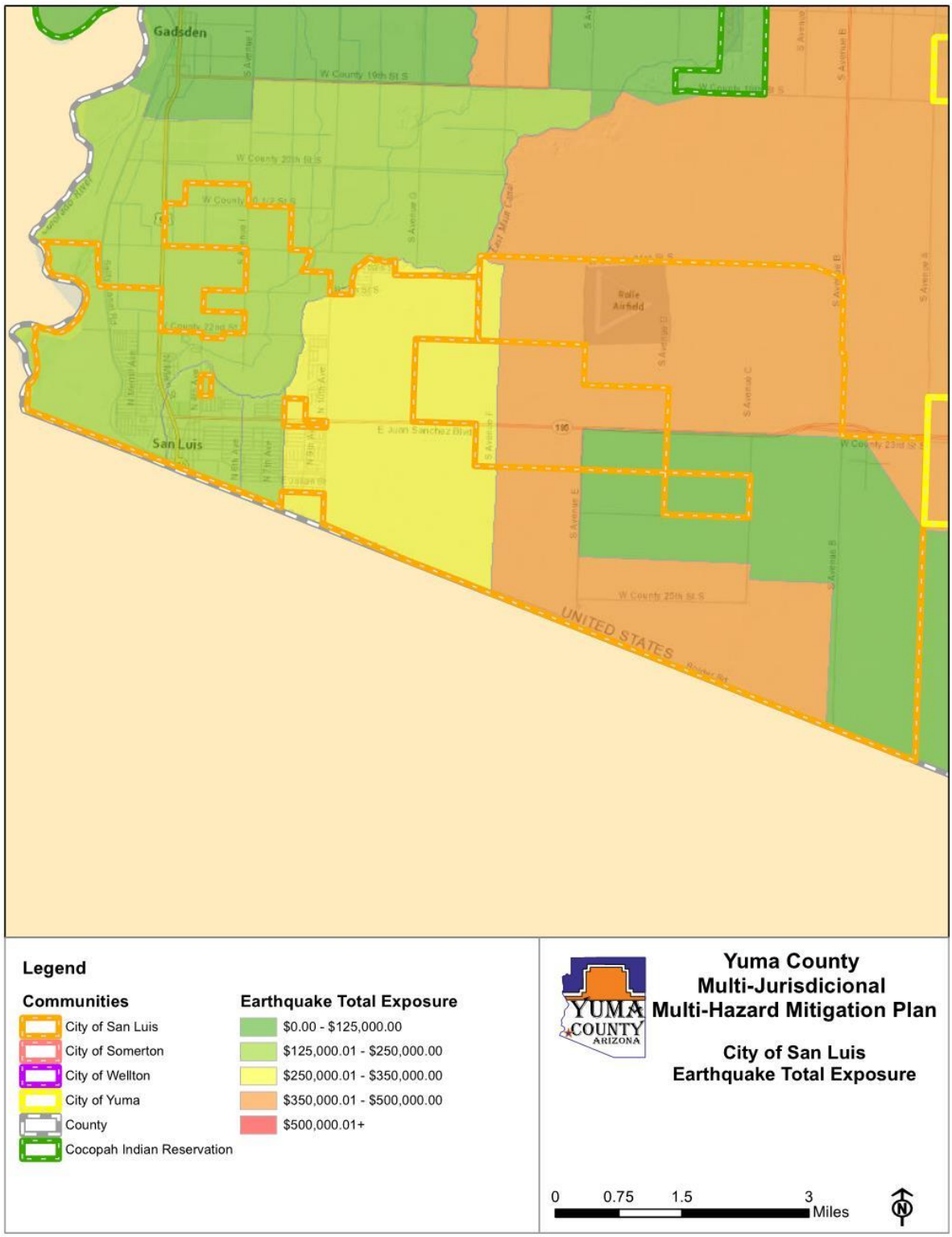



**Figure 33. City of San Luis Earthquake Total Exposure**

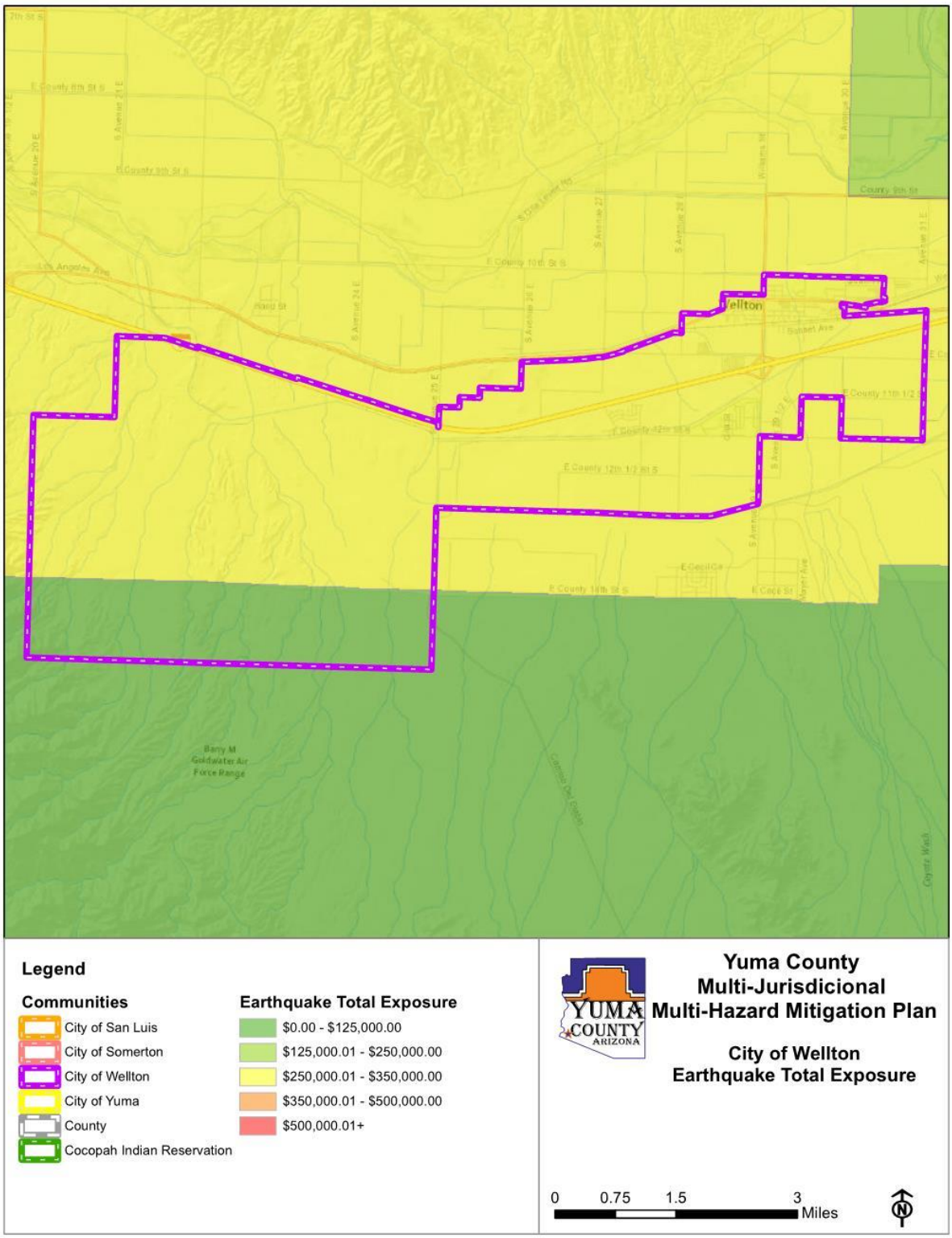



**Figure 34. City of Wellton Earthquake Total Exposure**

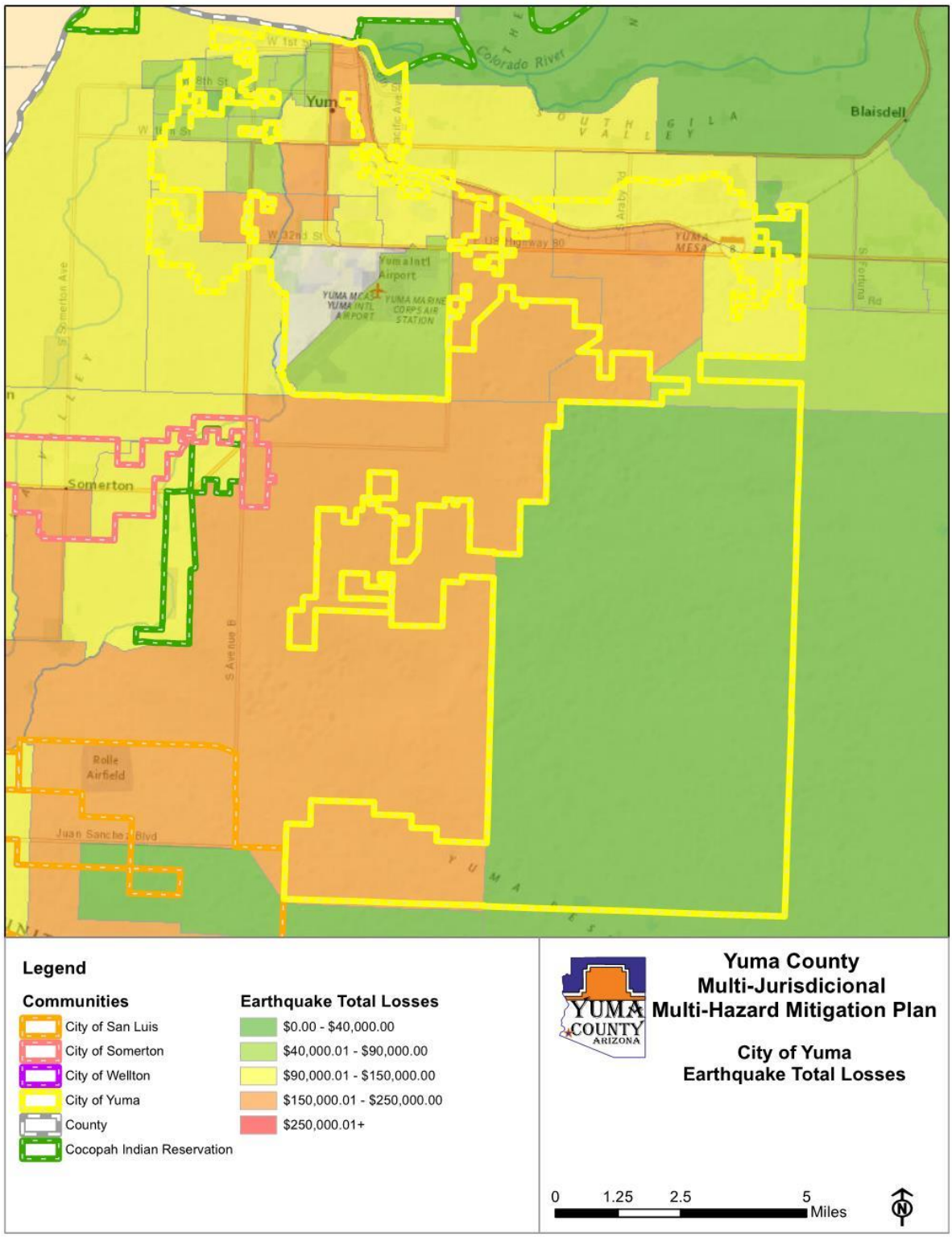



**Figure 35. City of Yuma Earthquake Total Losses**

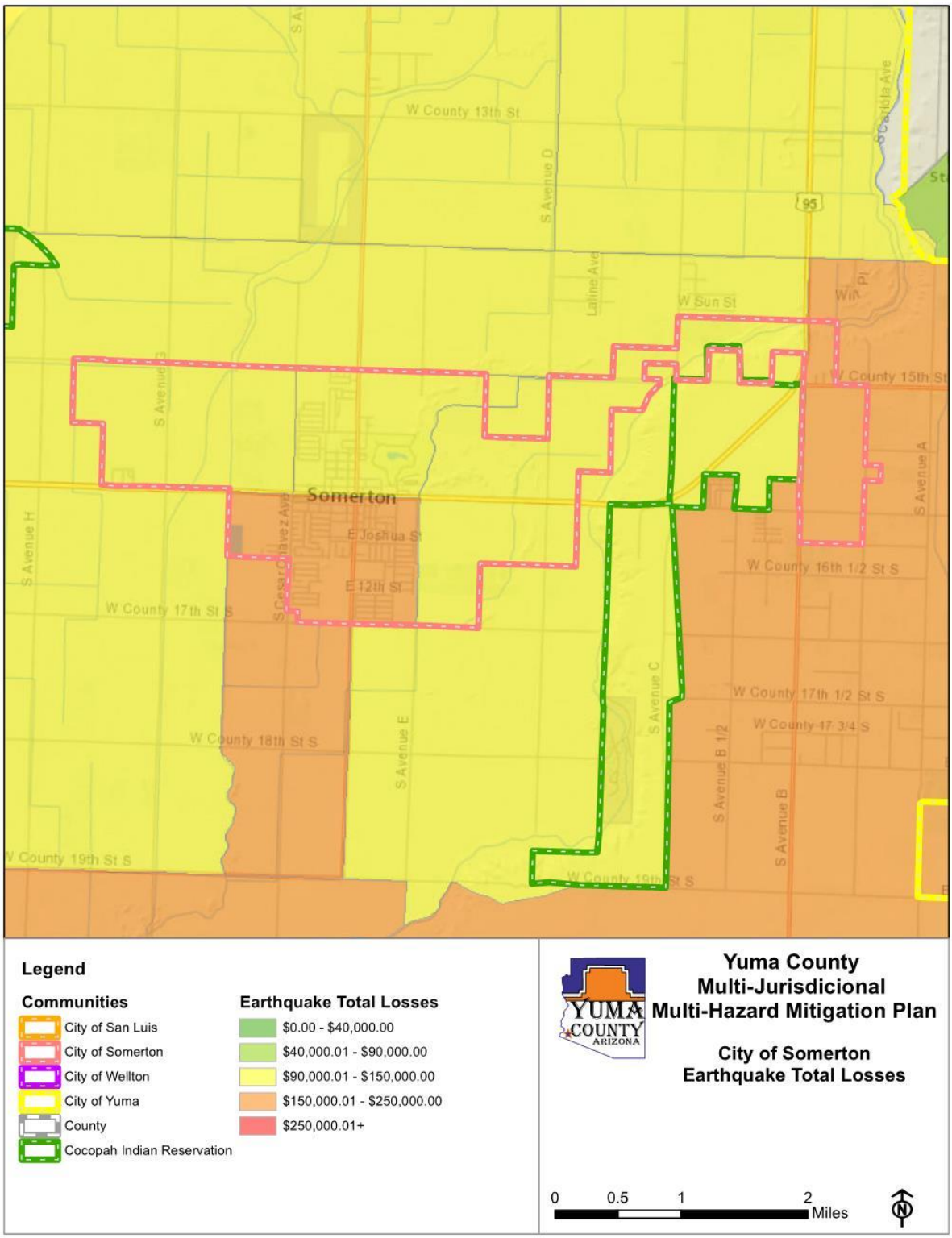



**Figure 36. City of Somerton Earthquake Total Losses**

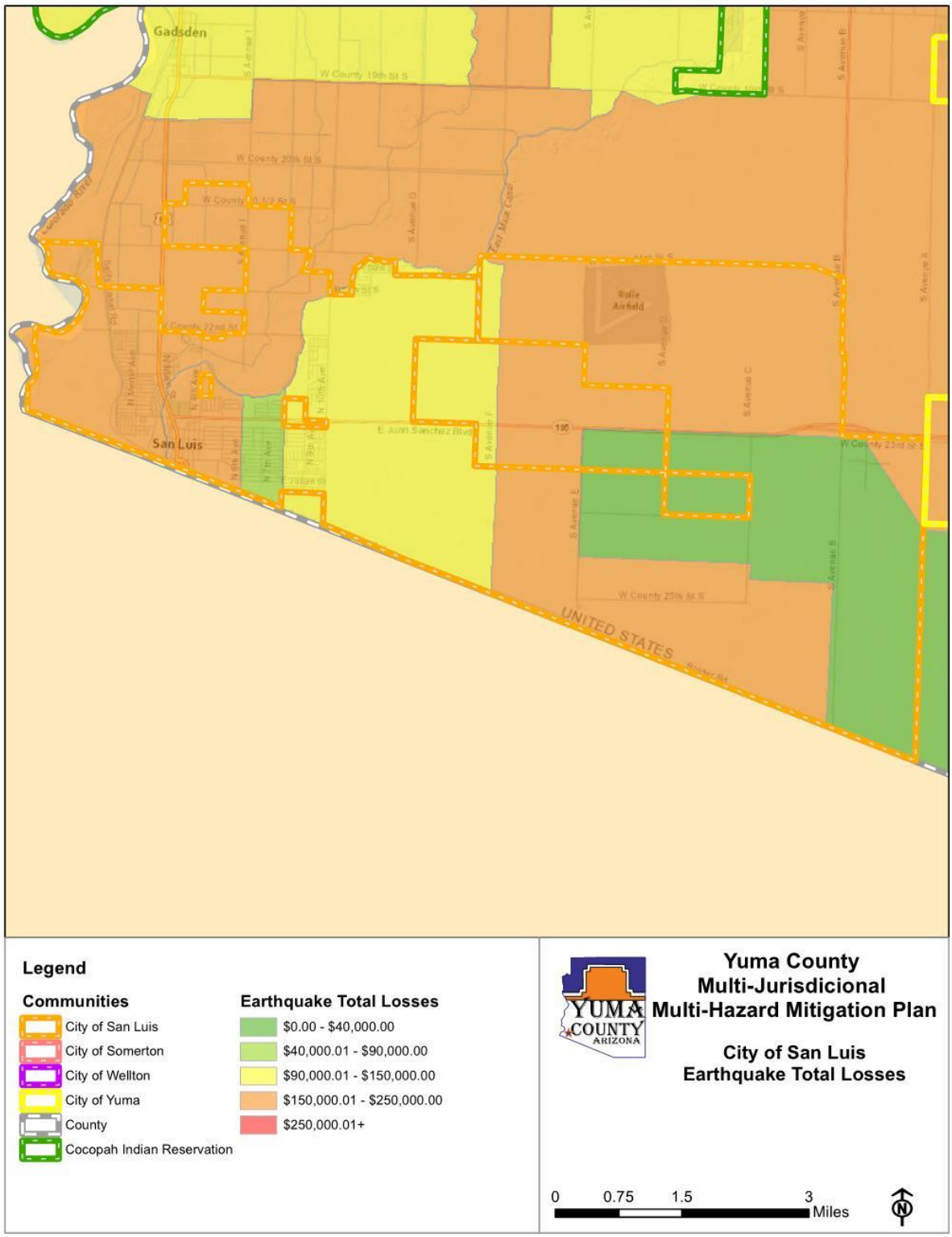



**Figure 37. City of San Luis Earthquake Total Losses**

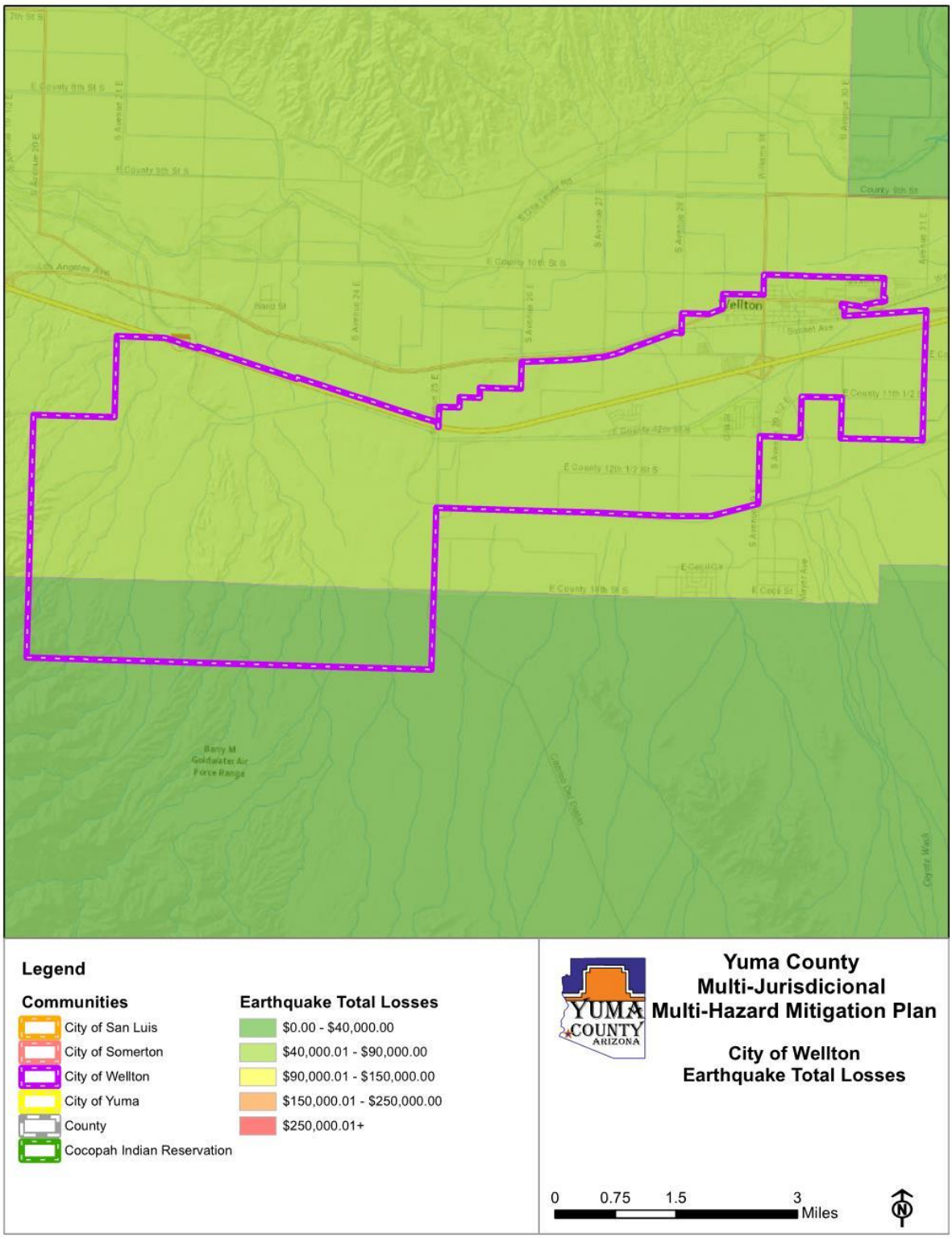



**Figure 38. City of Wellton Earthquake Total Losses**

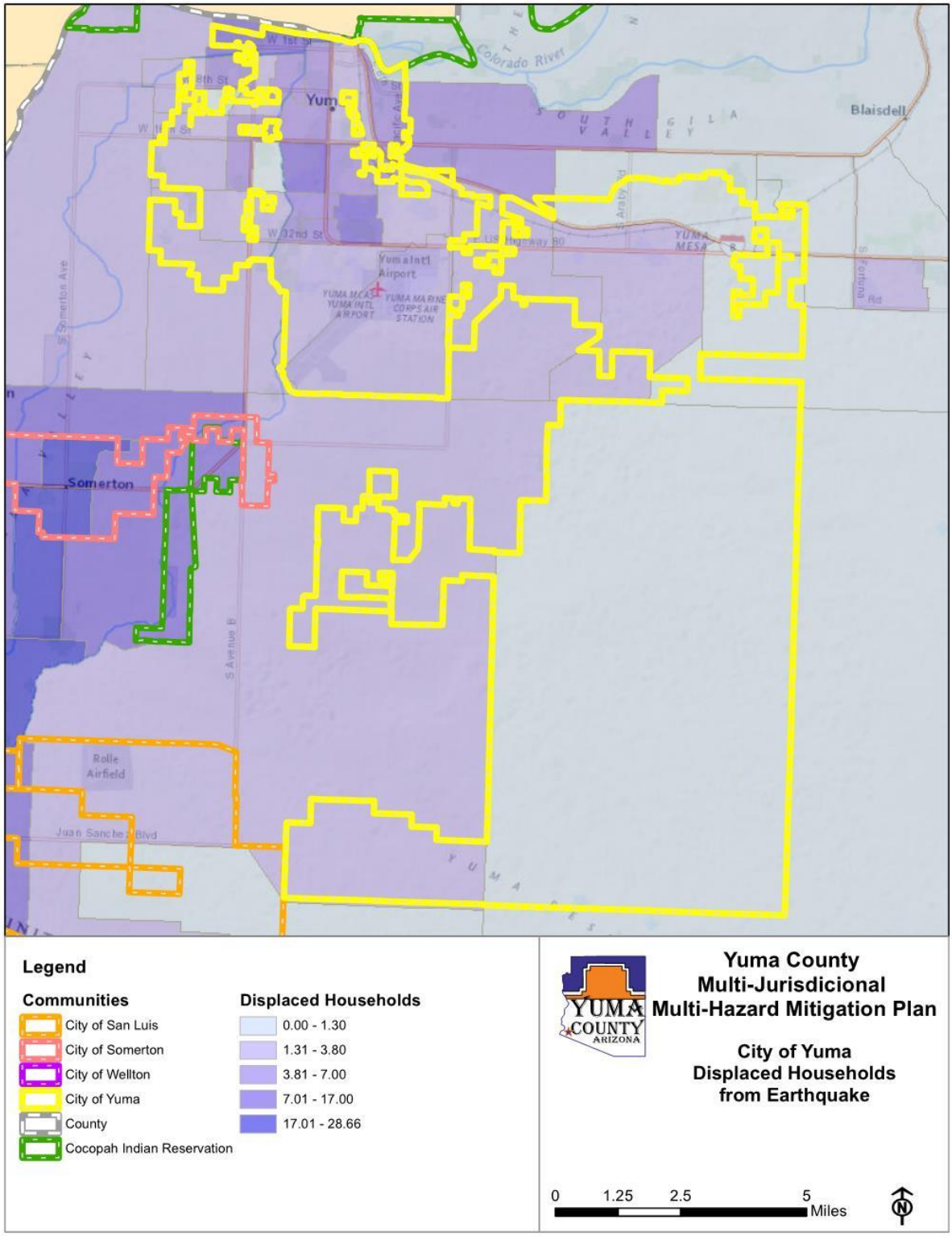



**Figure 39. City of Yuma Displaced Households from Earthquake**

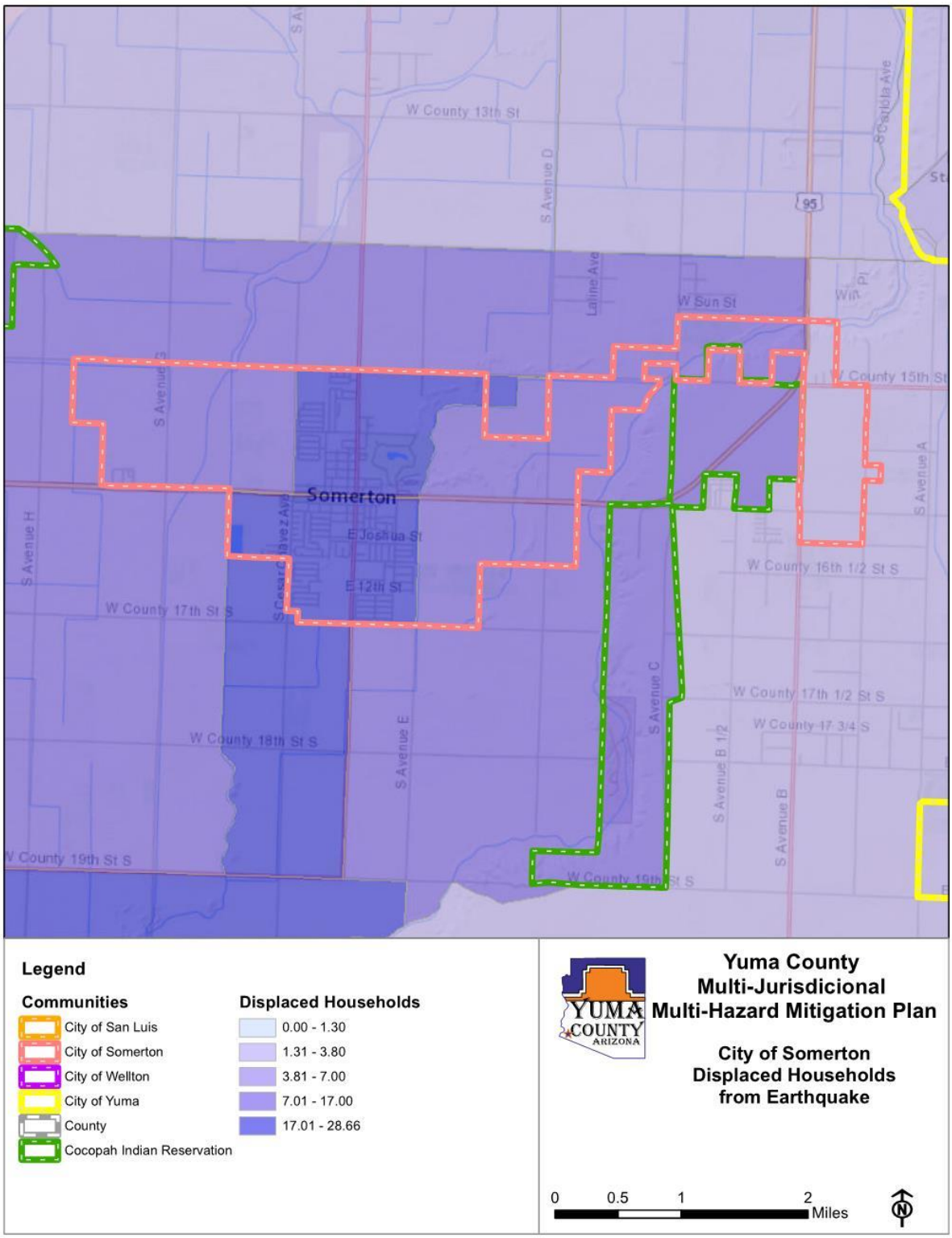



**Figure 40. City of Somerton Displaced Households from Earthquake**

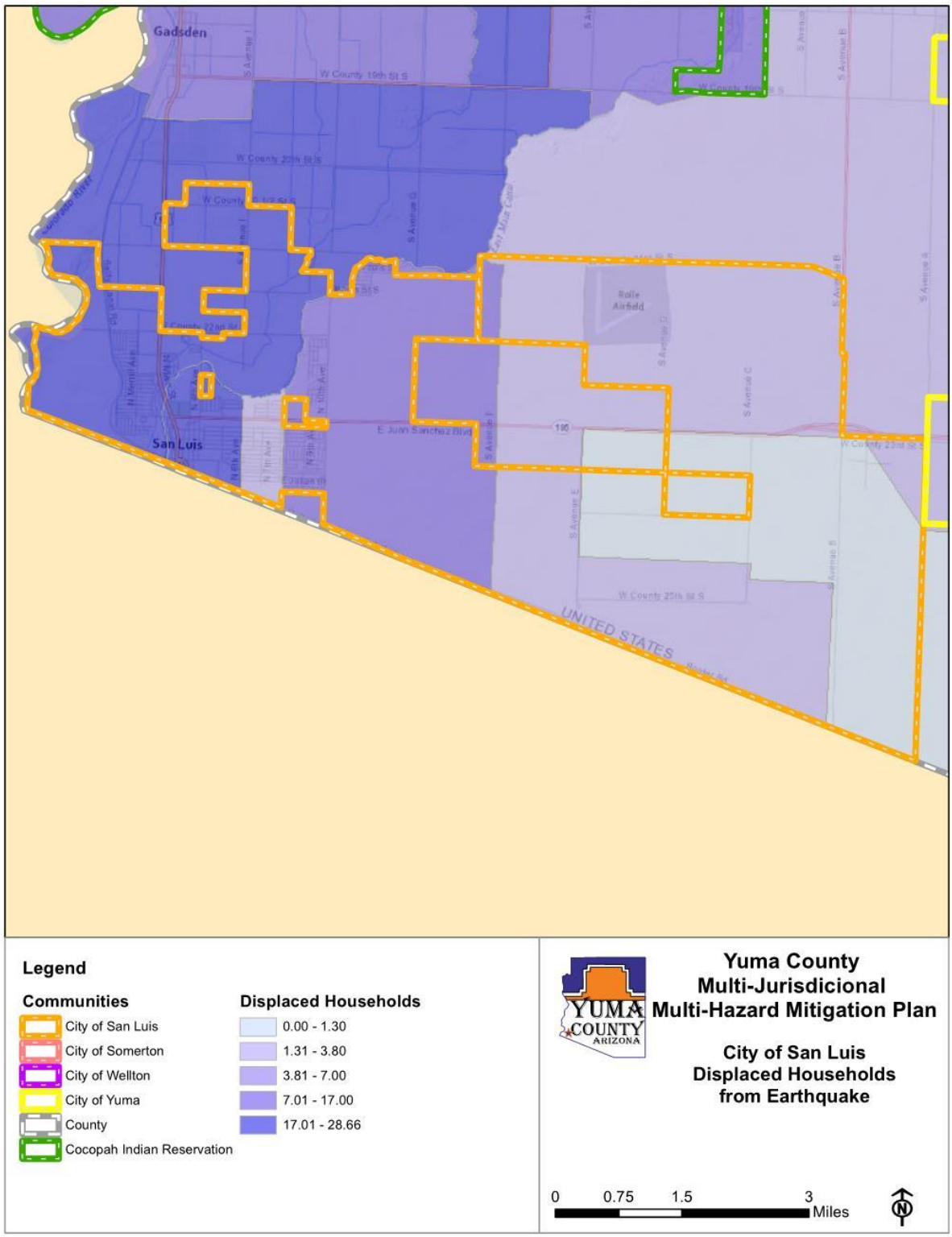



**Figure 41. City of San Luis Displaced Households from Earthquake**

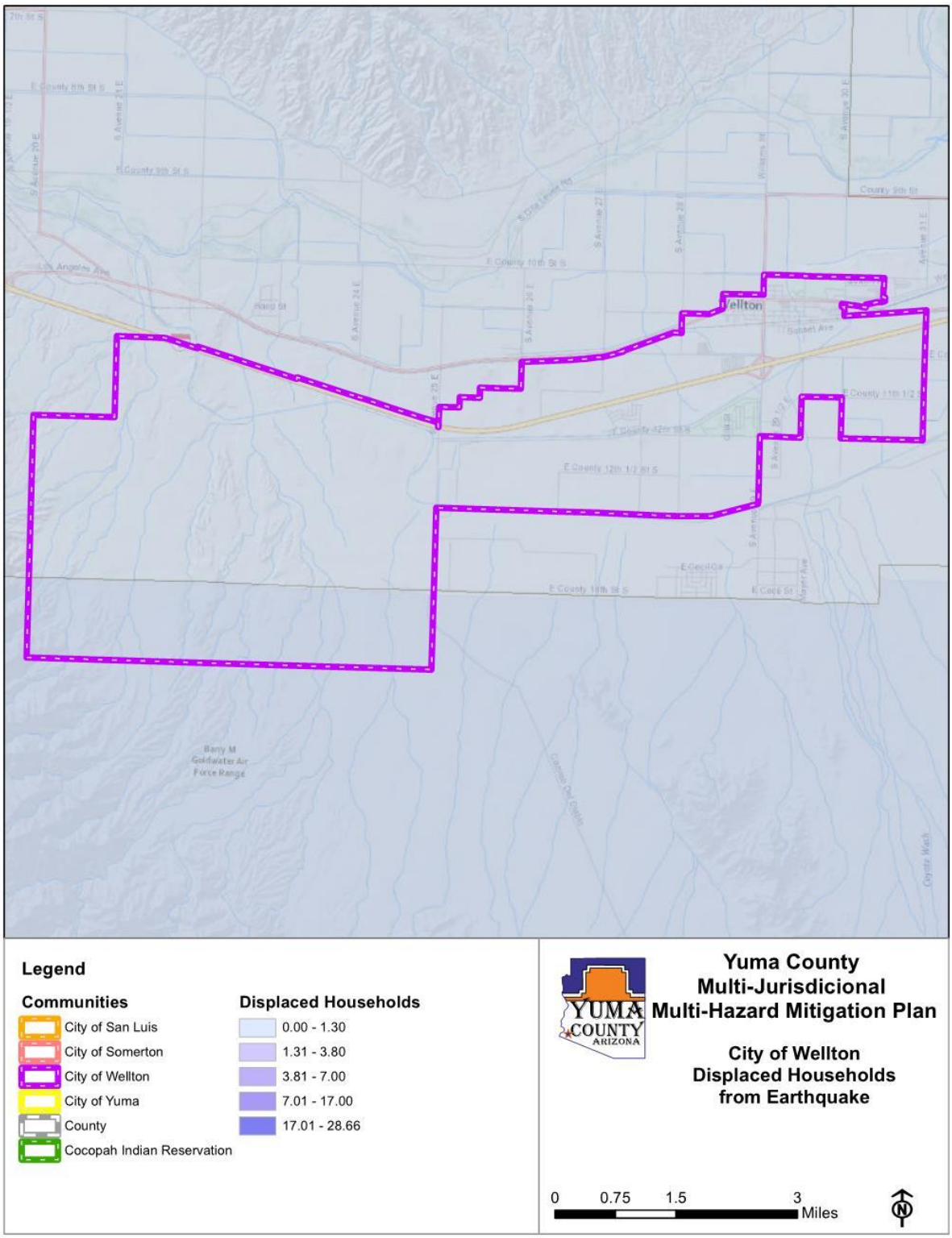



**Figure 42. City of Wellton Displaced Households from Earthquake**

### *5.3.3 Extreme Heat (Power Outage)*

**Description**

Extreme heat can be described as temperatures that hover 10°F or more above the average high temperature for a region at least for several weeks, most often occurring during the summer season. A heat wave is a period of excessive heat, which can lead to illness and other stress to vulnerable people and those who experience prolonged exposure to the heat. High humidity, which rarely accompanies heat waves in Yuma County, can make the effects of heat even more harmful. While heat-related illness and death can occur from exposure to intense heat in just one afternoon, heat stress on the body has a cumulative effect. Consequently, the persistence of a heat wave increases the threat to public health.

Extreme heat events are a considerable public health concern and are one of the leading weather-related killers in the United States. Although extreme heat events can occur in May or September, they are most common between June and August when above average temperatures are sustained for a prolonged period. During extended periods of very high temperatures, or high temperatures coupled with high humidity, individuals can suffer a variety of health problems, including heatstroke, heat exhaustion, and heat cramps. Rising temperatures and increased sunlight can also cause more occurrences of freshwater algae blooms. Algae blooms occurs when there is a rapid increase in algae, and can be harmful when humans or animals make contact with the affected water.

NOAA's National Centers for Environmental Information (NCEI – formerly known as National Climatic Data Center [NCDC]) documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce. NCEI receives this information from The National Weather service, who obtains their information from a variety of sources, which include but are not limited to: county, state and federal emergency management officials, local law enforcement officials, skywarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry and the general public, among others. This database represents the best available data source for a number of hazards profiled in this plan including tornados, hail, lightning, severe storms, and extreme temperature events.

NOAA's Heat Index measures the severity of hot weather by estimating how hot it feels to humans. By combining air temperature and relative humidity, the Heat Index is directly related to skin temperature. The ambient temperature is quantified by examining the relation between relative humidity versus skin temperature. If the relative humidity is higher (or lower) than the base value, the apparent temperature is higher (or lower) than the ambient temperature. Table 9 outlines the common heat disorders associated with apparent temperature values during extreme heat events.

**Table 9. Heat Disorders at Apparent Temperature Ranges[34]**

| Danger Category | Heat Disorders | Apparent Temperature (°F) |
|---|---|---|
| **I Caution** | Fatigue possible with prolonged exposure and physical activity | 80-90 |
| **II Extreme Caution** | Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity | 90-105 |
| **III Danger** | Sunstroke, heat cramps, and heat exhaustion likely; heatstroke possible with prolonged exposure and physical activity | 105-130 |
| **IV Extreme Danger** | Heatstroke or sunstroke imminent | >130 |

Like extreme cold events, young children, the elderly, outdoor laborers, low-income families, the homeless, and the infirm are the most likely to suffer the negative effects of extreme heat. The National Weather Service initiates alerts based on the Heat Index as shown in Table 10 below.

**Table 10. National Weather Service Heat Alerts[35]**

| Intensity | Detailed Description |
|---|---|
| **Heat Advisory** | Typically between 105°F to 110°F (41°C to 43°C) for 3 hours or more during the day and at or above 75°F (24°C) at night. |
| **Excessive Heat Warning** | Typically above 105°F (41°C) for 3 hours or more during the day and at or above 80°F (27°C) at night. |

Extreme heatwaves often cause power outages which can affect entire regions within a state. Arizona is no stranger to these types of events. A severe outage can bring a community to a standstill; impacting businesses, residential home utilities, and traffic light infrastructure. In the case that backup generators are not present or working, community members may be left without cooling systems and are more likely to suffer from heat-related illnesses. A power outage can also impact critical infrastructure such as hospitals and schools.

**History**

According to the Arizona Department of Health Services (ADHS), 1,272 people have died from heat exposure in the State due to excessive temperatures from 2005 to 2015.[36] Most of these deaths occurred during the hot summer months of June, July, and August and 38% of deaths were from people who were aged 65 or older.

As previously mentioned, Yuma County experiences high temperatures and sometimes excessive heat wave events more than most areas within the United States. The NCEI historic events database records

[34] Source: NOAA

[35] Source: National Weather Service

[36] Arizona Department of Health Services, 2017, *Mortality and Morbidity from Exposure to Excessive Natural Heat in Arizona, 2005-2015*, http://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/heat/mortality-morbidity-exposure-excessive-heat-az-2005-2015.pdf

only three excessive heat events in the County. These events occurred on July 29, 2012 and June 28, 2013. Descriptions of these events state that temperatures exceeded 110 degrees.

**Probability and Magnitude**

There are no commonly accepted return period or non-exceedance probability for defining the risk from extreme heat (such as the 100-year or 1% annual chance of flood). Temperature, taken together with other key climate factors such as humidity and precipitation, is typically described statistically in aggregate over 30 years or more to determine probabilities. Since temperatures vary significantly by day, season, and year, aggregate data is necessary to understand current and future probability of extreme heat events.

Yuma County is one of the hottest cities in the United States. The average temperature over the 30-year period from 1981-2010 was 75.9 degrees.[37] Average summer temperatures range from 89 degrees to just over 94 degrees, with average summer high temperatures ranging from 103 to over 106 degrees. Record high temperatures in Yuma County have reached over 120 degrees.[38] Figure 43 shows the annual average maximum temperatures in the City of Yuma from 1955 to 2018 relative to the 1981 to 2010 30-year average. Figure 44 shows the annual average minimum temperatures in the City of Yuma from 1955 to 2018 relative to the 1981 to 2010 30-year average. Although there are gaps in the data, it is evident that both the average maximum and minimum temperatures have trended upwards in Yuma. Additionally, the 30-year average minimum temperature has increased by approximately one degree from 1971-2000 to 1981-2010, and the maximum temperature has increased by approximately 0.5 degrees.

[37] NOAA, NCEI, Yuma MCAS weather station, https://www.ncdc.noaa.gov/cdo-web/datatools/normals. Accessed March 2018

[38] Prism Climate Group, http://prism.oregonstate.edu/explorer/. Accessed March 2018.

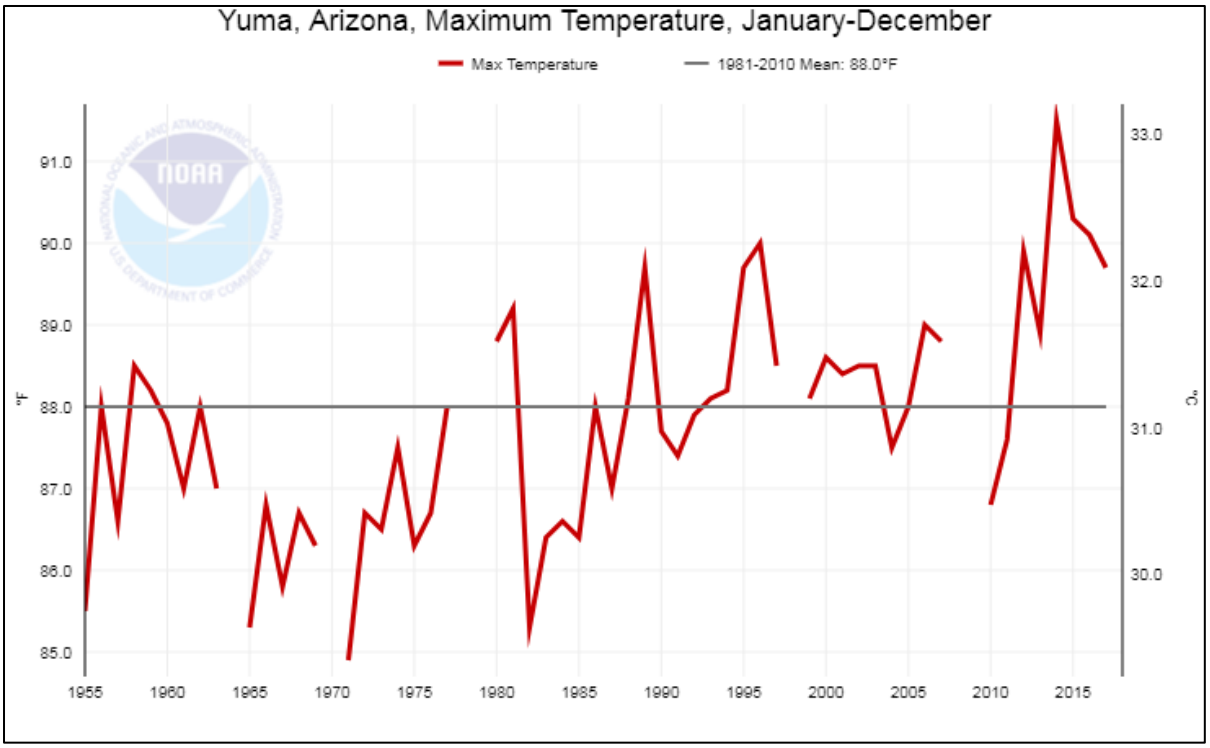



**Figure 43. City of Yuma Annual Maximum Temperatures from 1955 to 2010**

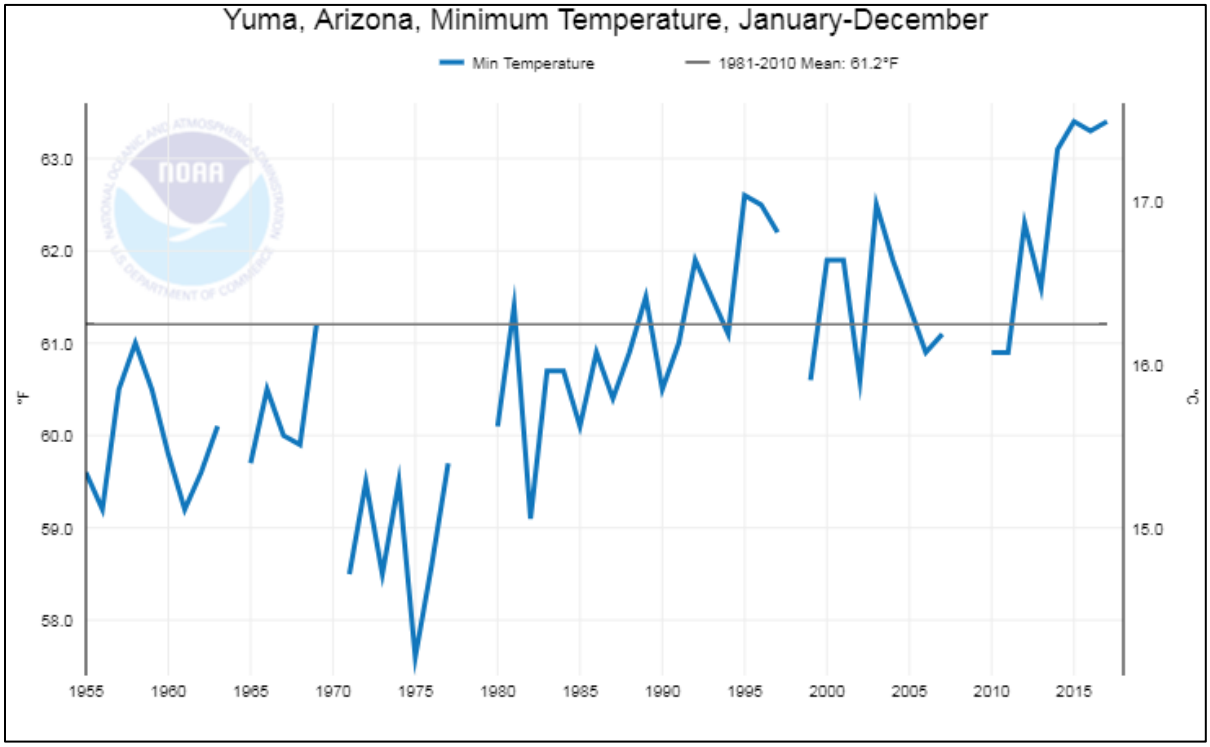



**Figure 44. City of Yuma Average Annual Minimum Temperatures, 1955 to 2018**

Additionally, maximum temperatures are expected to continue to rise in Arizona and Yuma County. Table 11 shows projections of July average daily maximum temperatures for 2010, 2030, 2060 and 2090 under four climate scenarios of low to high emissions (RCP 2.6 through RCP 8.5). Even under a low emissions scenario, Yuma County July daily maximum temperatures are predicted to rise to 108 degrees by 2030.[39]

**Table 11. Arizona July Daily Maximum Temperature Projections**

| | RCP 2.6 | | | | RCP 4.5 | | | | RCP 6.0 | | | | RCP 8.5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2030 | 2060 | 2090 | 2010 | 2030 | 2060 | 2090 | 2010 | 2030 | 2060 | 2090 | 2010 | 2030 | 2060 | 2090 |
| Apache | 88.5 | 91.6 | 90.1 | 89.8 | 89.1 | 91.0 | 89.2 | 91.8 | 87.3 | 91.0 | 90.9 | 97.2 | 90.5 | 92.8 | 93.2 | 95.4 |
| Cochise | 93.2 | 96.4 | 94.5 | 94.5 | 93.2 | 95.2 | 93.9 | 96.8 | 93.0 | 94.8 | 94.8 | 101.8 | 95.0 | 96.8 | 97.2 | 99.7 |
| Coconino | 90.0 | 94.1 | 93.4 | 92.8 | 91.4 | 92.8 | 91.9 | 94.8 | 89.6 | 92.8 | 93.0 | 98.2 | 92.3 | 94.1 | 95.4 | 97.7 |
| Gila | 94.3 | 97.9 | 96.3 | 96.3 | 94.8 | 96.8 | 95.2 | 98.6 | 93.9 | 96.6 | 96.6 | 102.60 | 96.4 | 97.9 | 98.6 | 101.1 |
| Graham | 94.5 | 97.9 | 95.9 | 95.9 | 95.0 | 96.8 | 95.2 | 98.2 | 94.3 | 96.6 | 96.3 | 103.3 | 96.4.0 | 98.2 | 98.8 | 101.3 |
| Greenlee | 90.7 | 94.1 | 91.9 | 91.8 | 91.0 | 93.0 | 91.6 | 94.1 | 90.5 | 93.0 | 92.5 | 99.9 | 92.7 | 94.6 | 95.2 | 97.3 |
| La Paz | 105.3 | 109.2 | 108.7 | 109.4 | 106.3 | 108.3 | 108.0 | 110.7 | 107.2 | 108.7 | 108.9 | 113.5 | 107.8 | 108.5 | 110.3 | 113.9 |
| Maricopa | 104.4 | 108.5 | 107.4 | 108.0 | 105.4 | 107.2 | 106.5 | 109.8 | 105.8 | 107.6 | 107.4 | 112.6 | 106.9 | 107.4 | 109.0 | 112.6 |
| Mohave | 97.9 | 102.6 | 101.8 | 101.7 | 99.7 | 100.9 | 100.8 | 103.5 | 98.4 | 101.3 | 101.7 | 106.3 | 100.6 | 101.8 | 103.6 | 106.5 |
| Navajo | 90.7 | 94.3 | 93.0 | 92.5 | 91.6 | 93.4 | 91.6 | 94.6 | 89.6 | 93.2 | 93.4 | 99.1 | 92.8 | 94.8 | 95.5 | 97.7 |
| Pima | 99.5 | 103.5 | 101.8 | 102.6 | 100.2 | 102.2 | 100.9 | 104.7 | 100.4 | 102.0 | 101.8 | 107.8 | 101.7 | 102.4 | 103.8 | 107.4 |
| Pinal | 102.2 | 106.0 | 104.4 | 104.7 | 102.9 | 104.7 | 103.5 | 106.9 | 102.7 | 104.7 | 104.5 | 110.5 | 104.5 | 105.4 | 106.5 | 109.8 |
| Santa Cruz | 92.1 | 95.4 | 93.4 | 93.9 | 92.3 | 94.1 | 93.4 | 96.3 | 91.9 | 93.4 | 93.7 | 100.0 | 93.9 | 95.0 | 95.9 | 99.0 |
| Yavapai | 94.3 | 98.4 | 97.5 | 97.5 | 95.5 | 97.2 | 96.4 | 99.7 | 95.0 | 97.5 | 97.2 | 102.6 | 96.8 | 97.9 | 99.1 | 102.2 |
| Yuma | 104.7 | 108.7 | 108.0 | 108.9 | 105.4 | 108.0 | 107.4 | 110.1 | 106.9 | 108.3 | 108.3 | 112.5 | 106.7 | 107.4 | 109.4 | 113.4 |

## Vulnerability – CPRI Results

Extreme Heat CPRI results for each community are summarized in Table 12 below.

**Table 12. Summary of CPRI results by jurisdiction for extreme heat hazard**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Highly Likely | Limited | <6 hours | <1 week | 3.3 |
| San Luis | Unlikely | Critical | <6 hours | <1 week | 2.3 |
| Somerton | Highly Likely | Catastrophic | >24 hours | >1 week | 3.6 |
| Unincorporated Yuma County | Possibly to Likely | Limited to Critical | 12 to 24 hours | <1 week | 2.6 |
| Wellton | Likely | Critical | <6 hours | >1 week | 3.3 |
| Yuma | Likely | Limited | 6 to 24 hours | <24 hours | 2.5 |
| | | | | **County-wide average CPRI =** | **2.9** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

## Vulnerability – Loss Estimations

Although estimated property losses associated with extreme temperature hazards are anticipated to be minimal across the county, extreme heat events do present a significant life and safety threat to the community. Heat casualties are usually caused by lack of adequate air conditioning and/or heat exhaustion. Extreme heat tends to affect the elderly, infirm, homeless, or low-income families the most, as these

[39] Arizona State University and Arizona Department of Health Services, 2015, *Arizona Extreme Weather, Climate and Health Synthesis Report*, http://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/pubs/climate-and-health-profile-synthesis-report-2015.pdf

populations frequently live on low fixed incomes and cannot afford to run air conditioning on a regular basis. These socially vulnerable populations are often isolated, with no immediate family and/or limited mobility, which makes it more difficult for them to remove themselves from danger. As stated before, NCEI recorded a total of three excessive heat events in Yuma County.

According to the U.S. Census, 20.7% if the County's population is below the poverty level and 16.2% are aged 65 or older. The excessive heat event recorded on July 9, 2012, caused one elderly person to die in his home, but no injuries, property or crop damage were reported.

Because there is no defined geographic boundary for extreme temperature hazards, all of the people and infrastructure within Yuma County are exposed to extreme temperatures. Those with elevated risk and potential loss are the homeless, infirm, elderly, and low income families. Given the lack of historical data and limited likelihood of structural losses in the county resulting from extreme heat, and that placing a dollar amount on the cost of a human life are beyond the scope of the Plan, annualized economic losses for the planning area due to extreme heat is currently considered unquantifiable.

However, due to the regional nature of extreme heat, jurisdictions and Tribes with higher numbers of socially vulnerable residents are expected to experience magnified impacts of extreme temperatures. This includes places with high numbers of elderly residents, low income families, and homeless individuals/outdoor laborers. Additionally, as temperatures continue to rise, the increased stress on the power supply may cause blackouts causing loss of air conditioning when it is needed most. This may increase exposure to extreme heat to populations without back-up generators.

**Vulnerability – Development Trends**

Extreme heat events are likely to continue to occur in Yuma County. With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. Increased population will expose more people to extreme heat, increasing Yuma County's risk. Use of air conditioning can help mitigate some exposure to extreme heat. However, increased use of air conditioning due to a growing population may lead to more stress on the energy supply, contributing to power outages. Additionally, the conversion of rural and agricultural land to urban developments may lead to the urban-heat island effect of a once rural area. As urban areas develop, buildings, roads, and other infrastructure replace open land and vegetation. These changes cause urban regions to become warmer than their rural surroundings, forming an "island" of higher temperatures in the landscape. According to the U.S. Environmental Protection Agency (EPA), "Heat islands occur on the surface and in the atmosphere. On a hot, sunny summer day, the sun can heat dry, exposed urban surfaces, such as roofs and pavement, to temperatures 50–90°F (27–50°C) hotter than the air, while shaded or moist surfaces - often in more rural surroundings - remain close to air temperatures."[40]

**Sources**

Arizona Department of Health Services, 2017, *Mortality and Morbidity from Exposure to Excessive Natural Heat in Arizona, 2005-2015*, http://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/heat/mortality-morbidity-exposure-excessive-heat-az-2005-2015.pdf

Arizona Division of Emergency Management, 2013, *State of Arizona Multi-Hazard Mitigation Plan*

Arizona State University and Arizona Department of Health Services, 2015, *Arizona Extreme Weather, Climate and Health Synthesis Report*, http://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/pubs/climate-and-health-profile-synthesis-report-2015.pdf

U.S. Census, 2010, Website: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

[40] EPA, *Learn About Heat Islands*, https://www.epa.gov/heat-islands/learn-about-heat-islands. Accessed March 2018

NCEI, 2017, Storm Events Database, accessed via the following URL: https://www.ncdc.noaa.gov/stormevents/

NCEI, Yuma MCAS weather station, https://www.ncdc.noaa.gov/cdo-web/datatools/normals. Accessed March 2018

Prism Climate Group, http://prism.oregonstate.edu/explorer/. Accessed March 2018.

**Profile Maps**

No profile maps are provided.

### *5.3.4 Flooding*

**Description**

For the purpose of this Plan, the hazard of flooding addressed in this section will pertain to floods that result from precipitation/runoff, dam failure, and levee failure related events. The two seasonal atmospheric events that tend to trigger floods in Yuma County are:

- *Tropical Storm Remnants*: Some of the worst flooding tends to occur when the remnants of a hurricane that has been downgraded to a tropical storm or tropical depression enter the State. These events occur infrequently and mostly in the early autumn, and usually bring heavy and intense precipitation over large regions causing severe flooding.
- *Summer Monsoons*: The second atmospheric condition that brings flooding to Arizona is the annual summer monsoon. In mid to late summer the monsoon winds bring humid subtropical air into the State. Solar heating triggers afternoon and evening thunderstorms that can produce extremely intense, short duration bursts of rainfall. The thunderstorm rains are mostly translated into runoff and in some instances, the accumulation of runoff occurs very quickly resulting in a rapidly moving flood wave referred to as a flash flood. Flash floods tend to be very localized and cause significant flooding of local watercourses.

Damaging floods in the County can be primarily categorized as either riverine, sheet flow, or local area flows. Riverine flooding occurs along established watercourses when the bankfull capacity of a wash is exceeded by storm runoff and the overbank areas become inundated. The major riverine watercourses are the Colorado River and the Gila River, which converges with the Colorado River in Yuma. The Colorado River drains watersheds from Wyoming, Utah, Colorado, Nevada, New Mexico and Arizona. The Gila River has a large drainage with the source beginning in western New Mexico on the western slopes of the Continental Divide. There are also areas within the County where the watercourse is broad and generally shallow with ill-defined low flow paths and broad sheet flooding. Local area flooding is often the result of poorly designed or planned development wherein natural flowpaths are altered, blocked or obliterated, and localized ponding and conveyance problems result. Erosion is also often associated with damages due to flooding.

Another source or potential cause of flooding in Yuma County is through dam and levee failure events. Due to the unlikely occurrence of this type of flooding in Yuma County, the Team wanted to recognize these event types and are designated under flooding and not addressed separately. The following is a description and situation of dam and levee failure potential:

- *Dam Failure*: FEMA Dam Safety defines dam failure as a catastrophic type of failure characterized by the sudden, rapid, and uncontrolled release of impounded water or the likelihood of such an uncontrolled release. It is recognized that there are lesser degrees of failure and that any malfunction or abnormality outside the design assumptions and parameters that adversely affect a dam's primary function of impounding water is properly considered a failure. These lesser degrees of failure can progressively lead to, or heighten, the risk of catastrophic failure. There are 6 major dams on the Colorado River that can impact the Colorado River Flood Conditions at Yuma County. All 6 are owned by the Bureau of Reclamation. They are; Glenn Canyon Dam, Hoover Dam, Davis Dam, Parker Dam, Senator Wash Dam, and Imperial Dam. In some cases the dams are operated and maintained by a contracted entity. One such case is the Imperial Dam, which is contracted to Imperial Irrigation District to operate and maintain for the Bureau of Reclamation. In all cases the personnel at each dam follow the Dam Safety Guidelines and Policy set forth by the Bureau of Reclamation. Each of these dams has a written Emergency Action Plan for handling such emergencies as dam failures and/or Colorado River Floods.
- Other River systems affecting the Yuma County area include the Verde, Salt, and Gila Rivers. Flood waters released through these river systems converge on the Gila River and are captured by Painted Rock Dam, southwest of Phoenix. Painted Rock Dam is owned

and operated by the Army Corps of Engineers, Los Angeles District. The Army Corps of Engineers maintain a separate flood operating plan for the Painted Rock Dam on the Gila River.

- *Levee Failure:* FEMA defines levees as man-made structures, usually earthen embankments that are designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding (FEMA, 2009). National flood policy now recognizes the term "levee" to mean only those structures which were designed and constructed according to sound engineering practices, have up to date inspection records and current maintenance plans, and have been certified as to their technical soundness by a professional engineer. FEMA has classified all other structures that impound, divert, and/or otherwise impede the flow of runoff as "non-levee embankments". In Yuma County, these might be comprised of features such as roadway and railway embankments, canals, irrigation ditches and drains, and agricultural dikes.

FEMA urges communities to recognize that all areas downstream of levees and embankments are at some risk of flooding. There are no guarantees that a levee or embankment will not fail or breach if a large quantity of water collects upstream.

Mechanisms for levee failure are similar to those for dam failure. Failure by overtopping could occur due to an inadequate design capacity, sediment deposition and vegetation growth in the channel, subsidence, and/or a runoff that exceeds the design recurrence interval of the levee. Failure by piping could be due to embankment cracking, fissures, animal boroughs, embankment settling, or vegetal root penetrations.

**History**

Flooding is clearly a major hazard in Yuma County as shown in Table 3. Yuma County has been part of 8 presidential disaster declarations due to flooding. The following incidents represent examples of major flooding that has impacted the County:

- In September 2015, scattered thunderstorms affected community of Yuma as well as surrounding communities such as Somerton during the late afternoon and evening hours on September 8th. Due to elevated moisture values, partially a result of tropical moisture from Hurricane Linda starting to move into southern Arizona, the stronger storms produced very heavy rainfall with peak rain rates in excess of 2 inches per hour. A trained spotter 3 miles northeast of Somerton measured 4.6 inches of rain within 2 hours ending at 1900MST. The heavy rain led to flash flooding in the Yuma area and resulted in the issuance of a Flash Flood Warning at 1802MST. At 2000MST, local broadcast media reported that people were leaving flooded houses south of highway 95 between Joshua Street and Bingham Avenue. The flash flooding took place about 1 mile southeast of the town of Somerton. Fortunately, there were no injuries reported due to the flooding. Property damages are listed at $100,000.
- In August 2013, copious amounts of moisture spread north and into southwest Arizona on August 24th, ahead of dissipating former tropical storm Ivo. This led to a very moist and unstable airmass and scattered thunderstorms developed in the Yuma area during the evening hours. Locally heavy rain occurred, and radar indicated rain rates in excess of one inch per hour at times. The rain led to flooding and flash flooding of streets and washes in communities such as Yuma and the Fortuna Foothills. According to a trained weather spotter 2 miles east of the Fortuna Foothills, there was evidence of major flash flooding across county road 15E about 2 miles south of Interstate 8 during the evening hours. The report from the spotter was actually received around 1100MST on August 25th. Although a Flash Flood Warning was not in effect for the Yuma area during this event, an Urban and Small Stream Flood Advisory had been issued at 1900MST and it continued until 2130MST. No reports of accidents or injuries were received due to the flooding. Property damages are listed at $25,000.

- In March 2010, the City of Yuma had winter storm runoff which caused damage to roads, retention basins, parks, and other public facilities. Damages are listed at $300,000.
- In September 1997, Yuma County prepared for the arrival of Hurricane Nora, which was expected to be the worst rainstorm to ever hit the State of Arizona. By the time Hurricane Nora made its way into Yuma County it had weakened and was downgraded to a tropical storm. The remnants of the hurricane delivered over three inches of rain in a 48-hour period and caused significant problems including downed trees, loss of electrical power, restricted access for emergency crews, and severe flooding problems and wind damage. It is estimated that over $200 million in damages were sustained, with most of the damages occurring to agricultural crops.
- In September 1994, a series of thunderstorms moved through the Yuma area during the early morning hours. Rainfall amounts up to 2.5 inches led to the flooding of four homes about eight miles south of Yuma. Several roads in Somerton and U.S. 95 about eight miles northeast of Yuma were closed due to flooding. Two cars were pushed off U.S. 95 at Fortuna Wash, but the motorists were rescued unharmed. Also, localized strong winds knocked over at least five power poles on County Road 14 in Somerton. The Yuma County Extension Agent estimated crop damages from the flood approaching $1 million, mainly cotton.
- In 1993, heavy rain fell over most of north, central and southeastern Arizona resulting in significant flooding along most major watercourses. In Yuma County, raging flood waters, sediment deposition and extensive bank erosion caused severe damage to public infrastructure and structural damage to private property, agricultural crops and land, economic loss and environmental damage. Water released from dams along the Salt and Verde Rivers converged at Painted Rock Dam, which is a flood control reservoir located in Maricopa County just north of Yuma County. To alleviate upstream flooding, the US Army Corps of Engineers (USACE) began gradually increasing discharges at Painted Rock, with a peak release rate of 27,500-cfs on February 28, 1993. The Gila River system below Painted Rock Dam was unable to handle these discharge amounts and went over its banks in some areas in spite of concentrated flood fighting efforts by several agencies. According to the USACE Flood Damages Report [41], Yuma County had in excess of $130 million in public infrastructure, agricultural, private property, economic and environmental damages. The flooding prompted a federal disaster declaration for almost the entire state
- In 1983, exceedingly large amounts of runoff caused by rapidly melting snow from record snowfalls and late rains resulted in unusually high volumes of water entering the Colorado River basin. These extraordinary amounts of water required the upper reservoirs to release unprecedented volumes of water into the lower Colorado River system. The releases caused the Colorado River to flood low-lying areas, erode riverbanks, and raise adjacent ground water levels. Flood damage to urban and agricultural lands extended 250 miles beginning at Davis Dam to the Mexican border. Groundwater seepage caused surface ponding. Damage to recreational facilities was widespread, affecting beaches, campsites, boat docks, launch sites, and businesses servicing these activities. Septic tank systems and water treatment systems were also damaged. This Presidential declared disaster resulted in $13 million to the city and county of Yuma.
- In 1976, Hurricane Kathleen, which had just been downgraded to a tropical storm status, lashed Yuma with up to 76 mph wind gusts and dropped half of the annual rainfall in one hour. This tropical storm inflicted over $2 million in damages in Yuma.

**Probability and Magnitude**

Flooding events are typically measured in terms of magnitude and the statistical probability that they will occur. The 1% annual chance flood event is the standard national measurement for flood mitigation and insurance. A 1% annual chance flood, also known as the '100-year flood', has a 1 in 100 chance of

[41] US Army Corps of Engineers, Los Angeles District, 1994, *Flood Damage Report – State of Arizona – Floods of 1993*

being equaled or exceeded in any one year and has an average recurrence interval of 100 years. It is important to note that this recurrence interval is an average; it does not necessarily mean that a flood of such a magnitude will happen exactly every 100 years. Sometimes, only a few years may pass between one 1% annual chance flood and another while two other 1% annual chance floods may be separated by 150 years. The 0.2% annual chance flood event, or the '500-year flood', is another measurement which represents a 0.2% chance (or 1 in 500 chance) of occurring in a given year.

Figure 46 through Figure 50 show the 100-yr and 500-yr flood hazards in relation to the county and the participating communities. This shows that the community most impacted by the 100-yr flood hazard is the City of Wellton. It should be noted that there are also areas in the City of Yuma and the City of San Luis that could be impacted by the 100-yr flood event.

**Vulnerability – CPRI Results**

Flooding CPRI results for each community are summarized in Table 13 below.

**Table 13. Summary of CPRI results by jurisdiction for flooding hazard**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Highly Likely | Limited | 12 to 24 hours | <1 week | 3.0 |
| San Luis | Possibly | Limited | 6 to 12 hours | <1 week | 2.3 |
| Somerton | Likely | Critical | <6 hours | <24 hours | 3.1 |
| Unincorporated Yuma County | Likely to Highly Likely | Critical to Catastrophic | 6 to 24 hours | <1 week | 3.5 |
| Wellton | Possibly | Limited | <6 hours | <1 week | 2.4 |
| Yuma | Possibly to Likely | Limited to Critical | 6 to 24 hours | <1 week | 2.6 |
| | | | | **County-wide average CPRI =** | **2.8** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

**Vulnerability – Loss Estimations**

The most appropriate risk assessment methodology for seismic hazards involves scenario modeling using FEMA's Hazus MH loss estimation software. Hazus is a very useful planning tool because it provides an acceptable means of forecasting flood damage, loss of function of infrastructure, and casualties, among many other factors. There are two types of Hazus analyses, standard and enhanced. A standard Hazus analysis requires no specialized knowledge on the part of the user and leverages the default inventory, hazard, and engineering (damage function) data present in the program. This is also known as an "out of the box" or Level 1 analysis. An enhanced analysis requires the user to have localized knowledge and data in order to provide updated inventory, hazard and/or engineering (damage function) data that overwrites the default data present in the program. Historically, this has been known as a Level 2 (inventory or hazard updates) or Level 3 (engineering updates) Hazus analysis.

The Level 1 Hazus analysis at the county level was utilized for this plan, using Hazus MH Software version 4.0. This analysis includes 2010 census block information along with the 100-year flood depth grid. There are an estimated 79,915 buildings in the county with a total building replacement value (excluding contents) of almost $14 million (2010 dollars). Approximately 95% of the buildings are associated with residential housing. The following Figure 45 shows the flood extent study area.

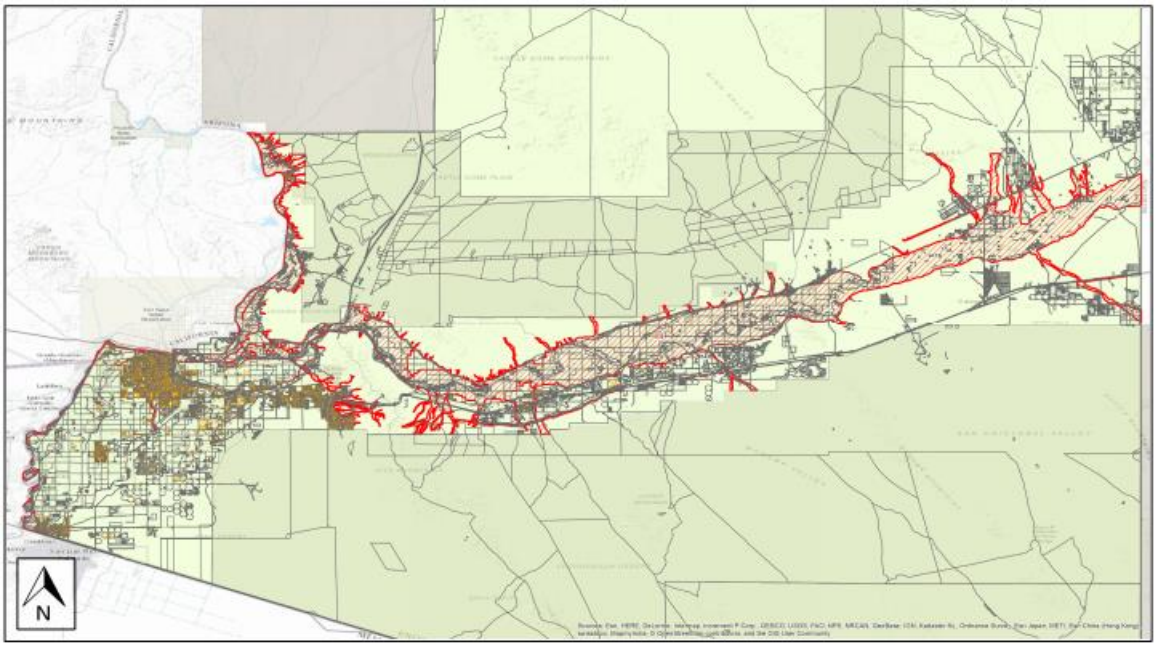



**Figure 45. 100-yr Flood Study Region Overview Map**

The Hazus analysis estimates that 756 buildings will be at least moderately damaged, and 213 buildings will be completely destroyed. Total building losses are estimated to be over $144 million with just over 72% of the losses being made up of residential occupancies. Figure 46 through Figure 50 include the flood hazard Yuma County and each community faces due to a potential 100-year flood (1% annual chance flood) and a potential 500-year flood (0.2% annual chance flood). All communities are at risk to a 100-year or 500-year flood event, and the City of Wellton is at the highest risk for a 100-year flood event. Figure 51 through Figure 54 include the total estimated losses for each community. Loss estimates demonstrate further analysis of structural losses using the depth of flooding and the types of structures estimates to be impacted by losses. The City of Yuma is shown as having the highest number of estimated losses should a 100-year flood occur.

There are six critical facilities that may be impacted by a 100-yr flood event, as shown in Table 14. Three are located in the City of Yuma, two in Roll (Yuma County), and one in the City of San Luis.

**Table 14. Critical Facilities in the 100-yr Floodplain**

| Facility | City |
|---|---|
| San Luis West Wastewater Treatment Plant | San Luis |
| G.W. Carver Elementary School | Yuma |
| John Morris Recreation Cottage | Yuma |
| Cocopah Water Tower North | Yuma |
| Library | Roll |
| Mohawk Valley Elementary School | Roll |

**Vulnerability – Repetitive Loss Properties**

Repetitive Loss (RL) properties are those NFIP-insured properties that since 1978, have experienced multiple flood losses. FEMA tracks RL properties and in particular to identify Severe RL (SRL) properties. RL properties demonstrate a track record of flooding repeated flooding for a certain location

and are one element of the vulnerability analysis. RL properties are also important to the NFIP, since structures that flood frequently put a strain on the National Flood Insurance Fund. There are no RL or SRL properties in Yuma County.[42]

**Vulnerability – Development Trends**

With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. Increased population and development will increase Yuma County's risk to flooding. Countywide, the population is projected to increase by 57% from 2010 to 2040, which raises the chance of development in the floodplain. The City of Yuma is estimated to experience the highest estimated losses from a 100-year flood event, and has a projected population increase of 46% from 2010 to 2040. However, for most Yuma County jurisdictions, adequate planning and regulatory tools are in place to regulate future development. The YCFCD is very proactive in delineating floodplains ahead of development in the less populated areas of the County, and works cooperatively with all incorporated jurisdictions to update and refine existing floodplain mapping as needed.

**Sources**

Arizona Division of Emergency Management, 2013, State of Arizona Multi-Hazard Mitigation Plan.

FEMA, April 2017, Hazus Estimated Annualized Earthquake Losses for the United States

**Profile Maps**

Figure 46 – Floodplain Hazard Countywide

Figure 47 – Floodplain Hazard City of Yuma

Figure 48 – Floodplain Hazard City of San Luis

Figure 49 – Floodplain Hazard City of Somerton

Figure 50 – Floodplain Hazard City of Wellton

Figure 51 – Flood Total Losses Yuma

Figure 52 – Flood Total Losses Somerton

Figure 53 – Flood Total Losses Wellton

Figure 54 – Flood Total Losses San Luis

[42] Arizona Department of Emergency and Military Affairs, March 2018




**Figure 46. Yuma County Floodplain Hazard Map, 2014**

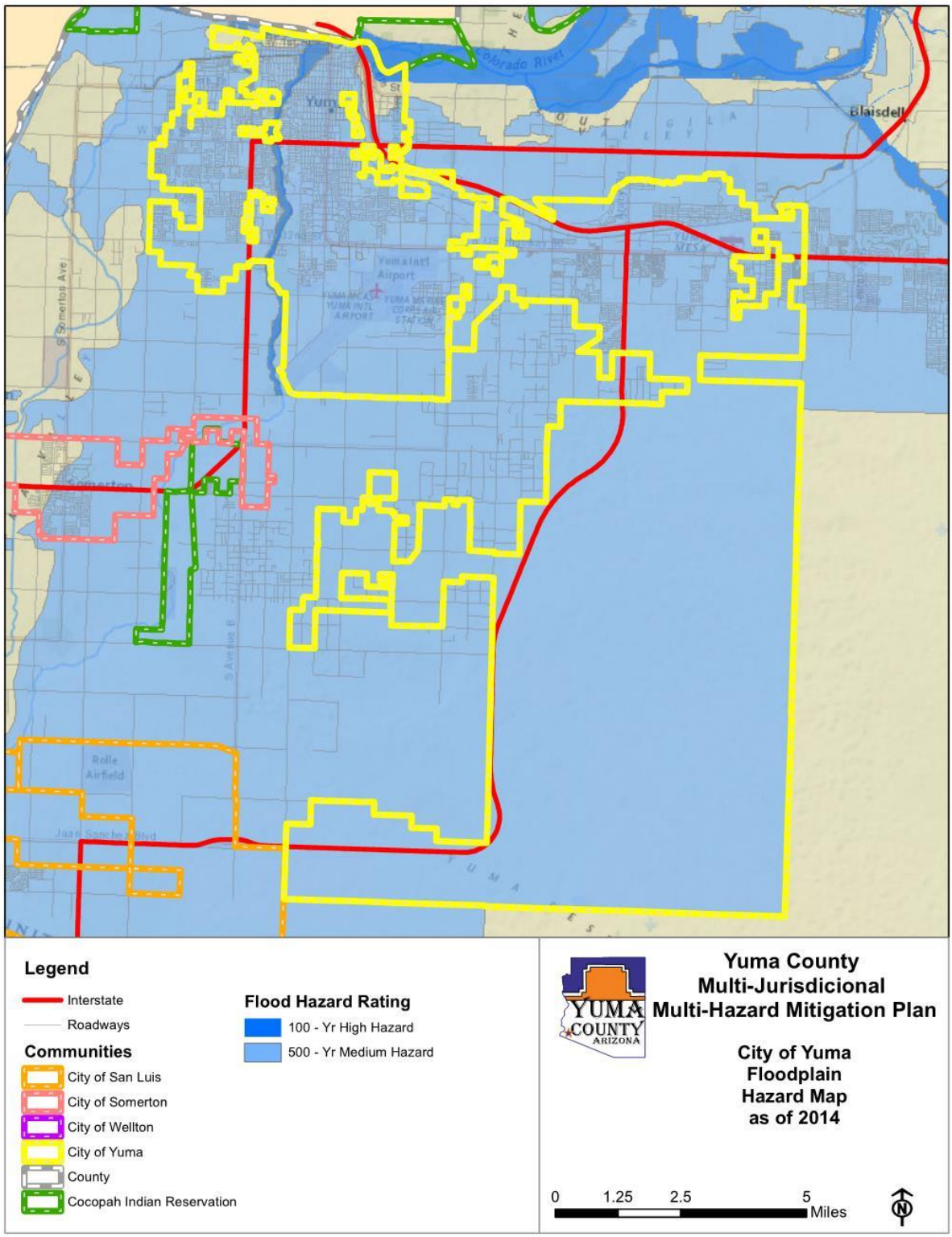



**Figure 47. City of Yuma Floodplain Hazard Map, 2014**

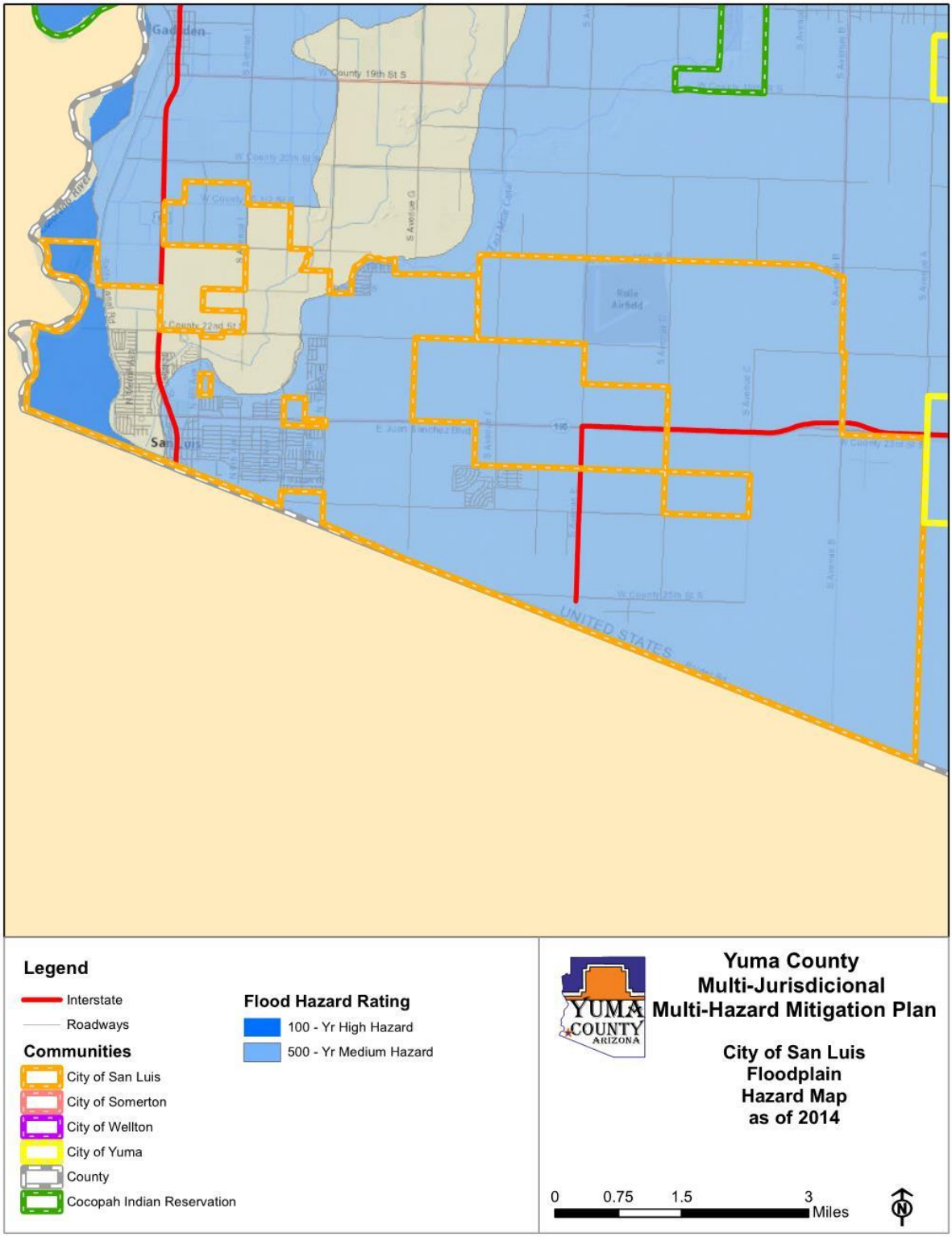



**Figure 48. City of San Luis Floodplain Hazard Map, 2014**

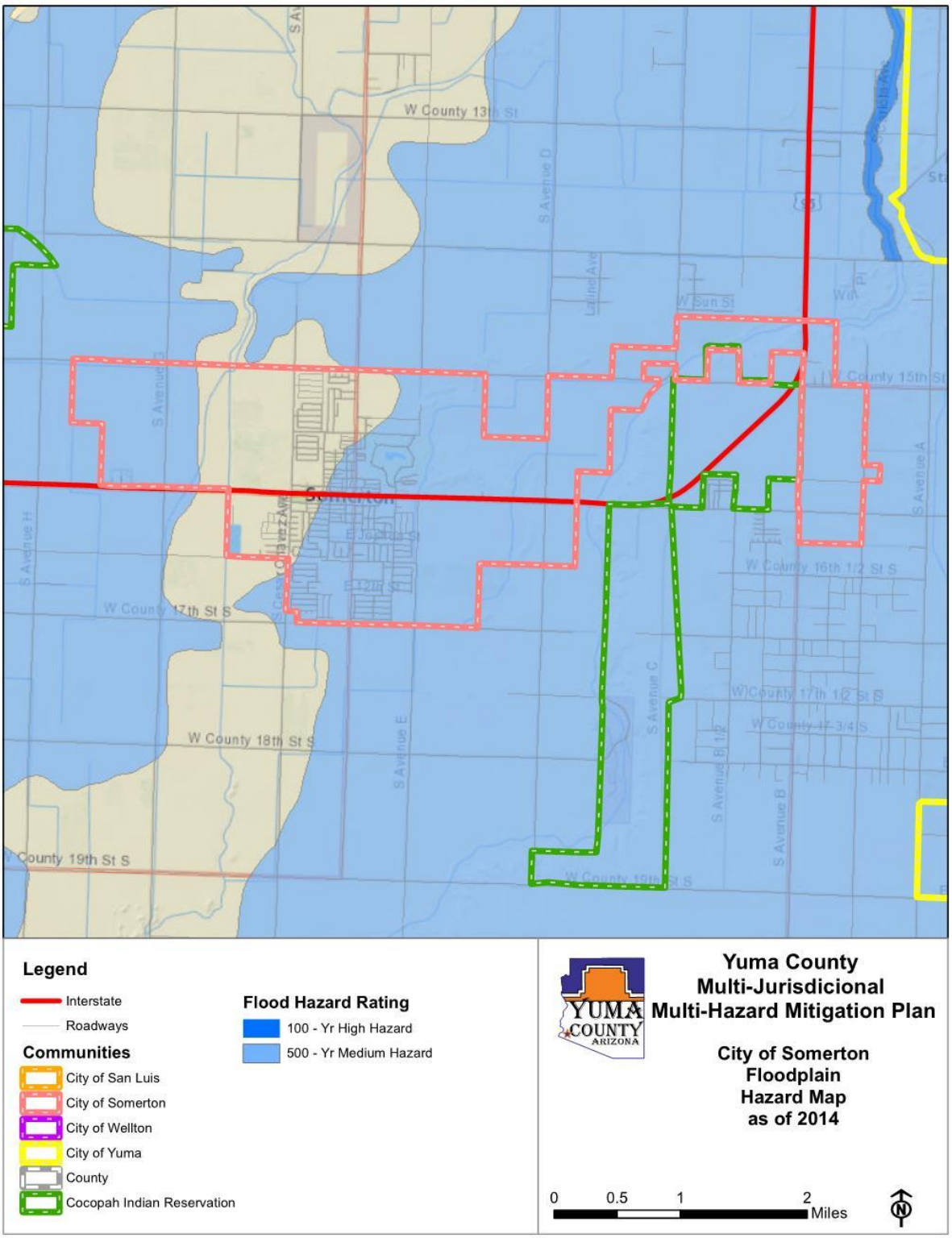



**Figure 49. City of Somerton Floodplain Hazard Map, 2014**

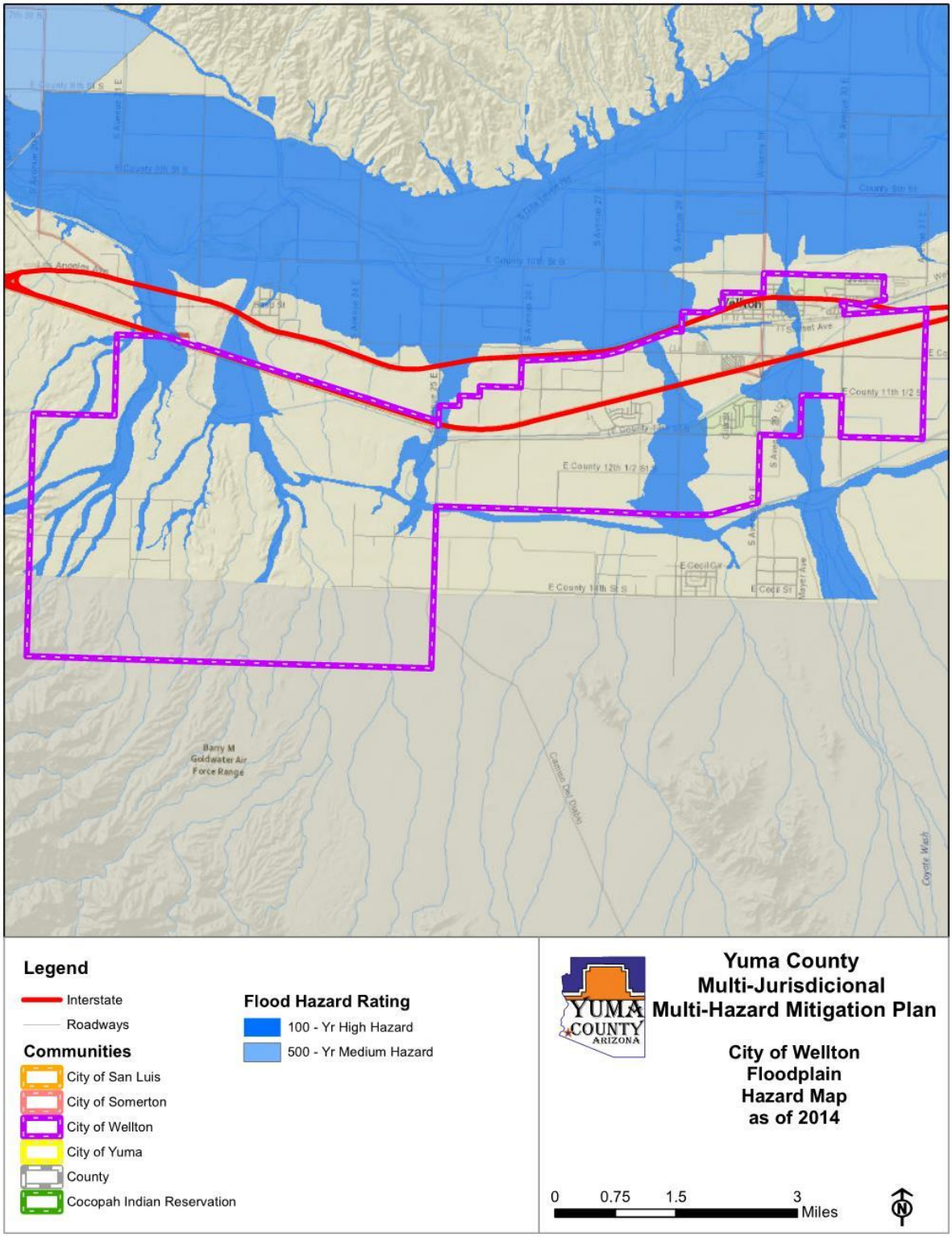



**Figure 50. City of Wellton Floodplain Hazard Map, 2014**

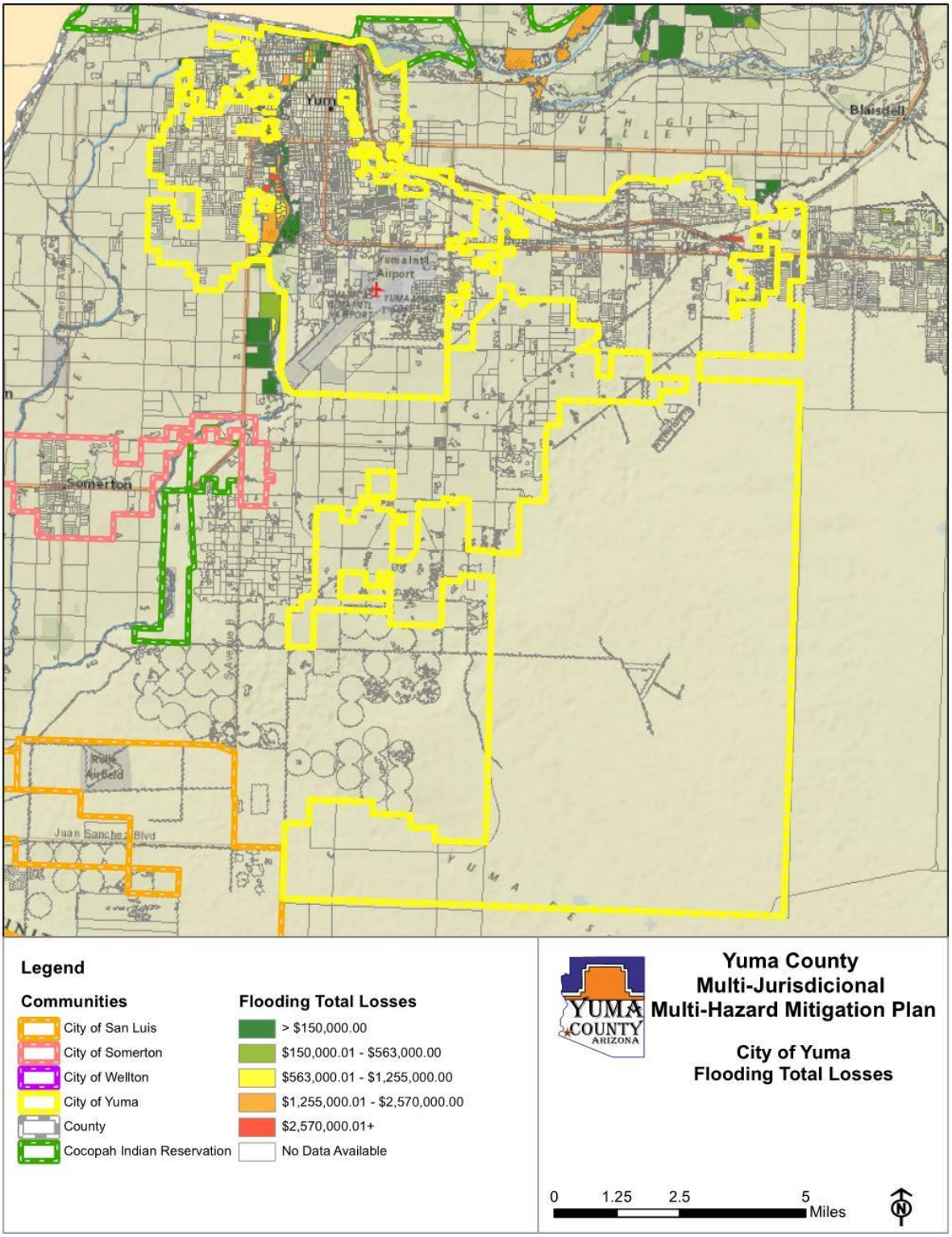



**Figure 51. City of Yuma Flooding Total Losses**

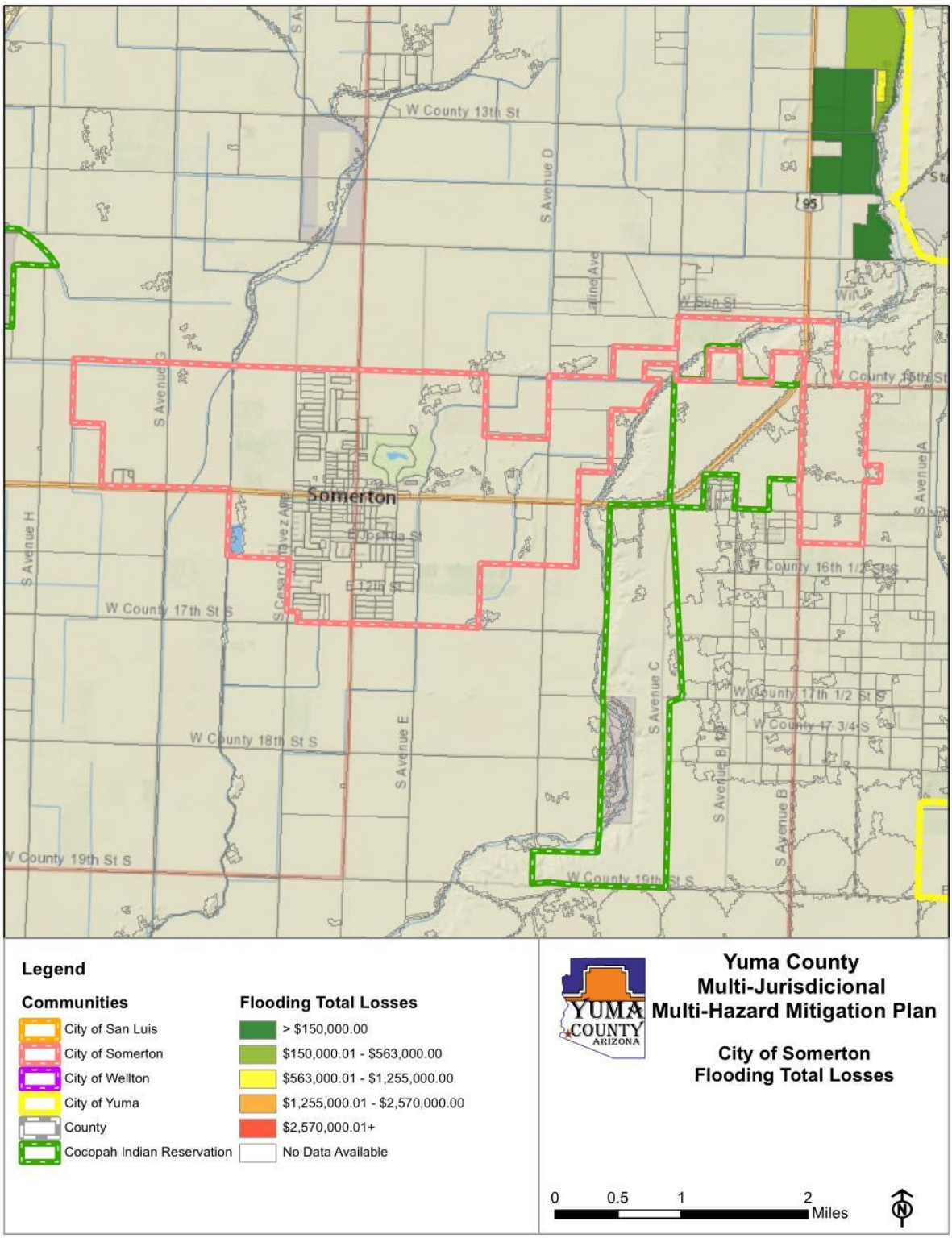



**Figure 52. City of Somerton Flooding Total Losses**

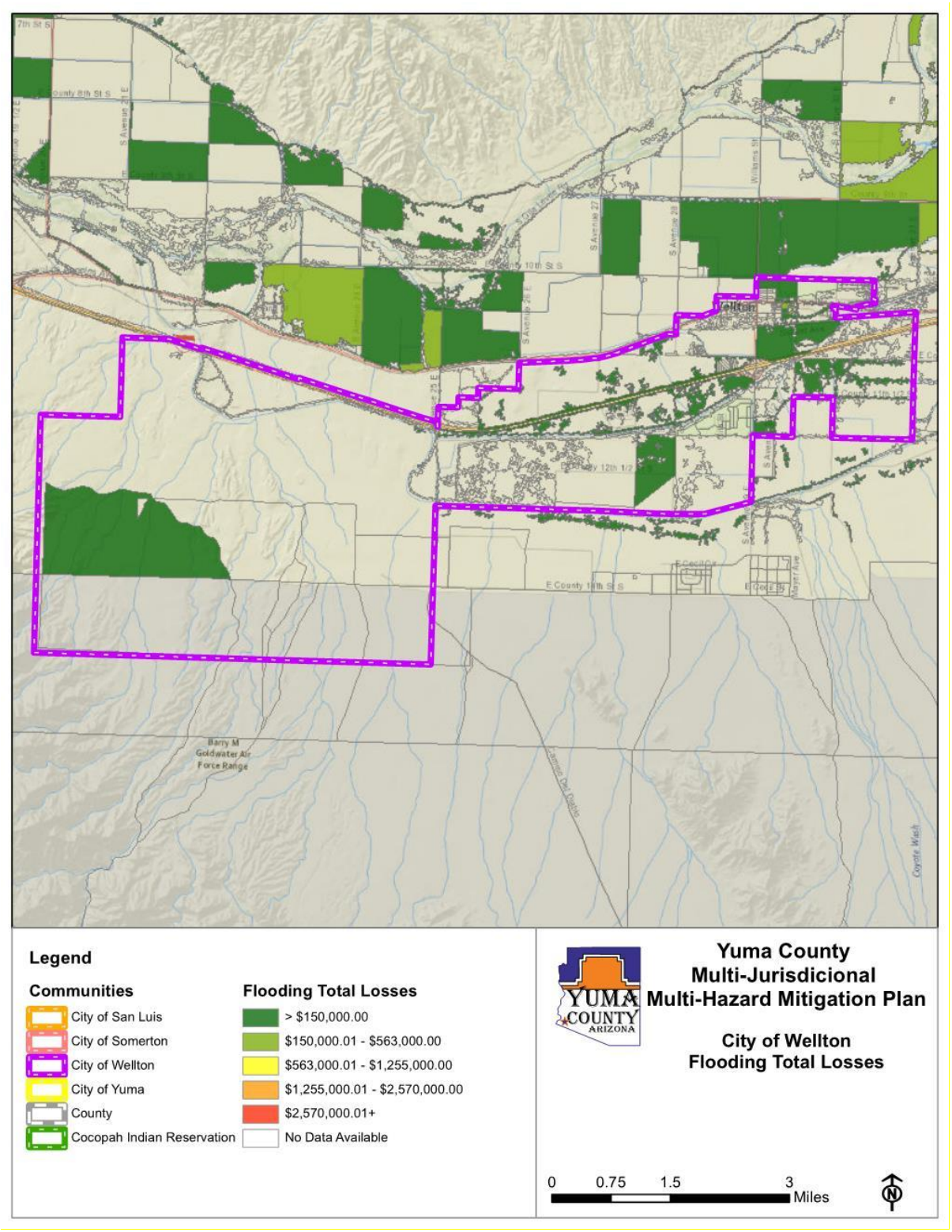



**Figure 53. City of Wellton Flooding Total Losses**

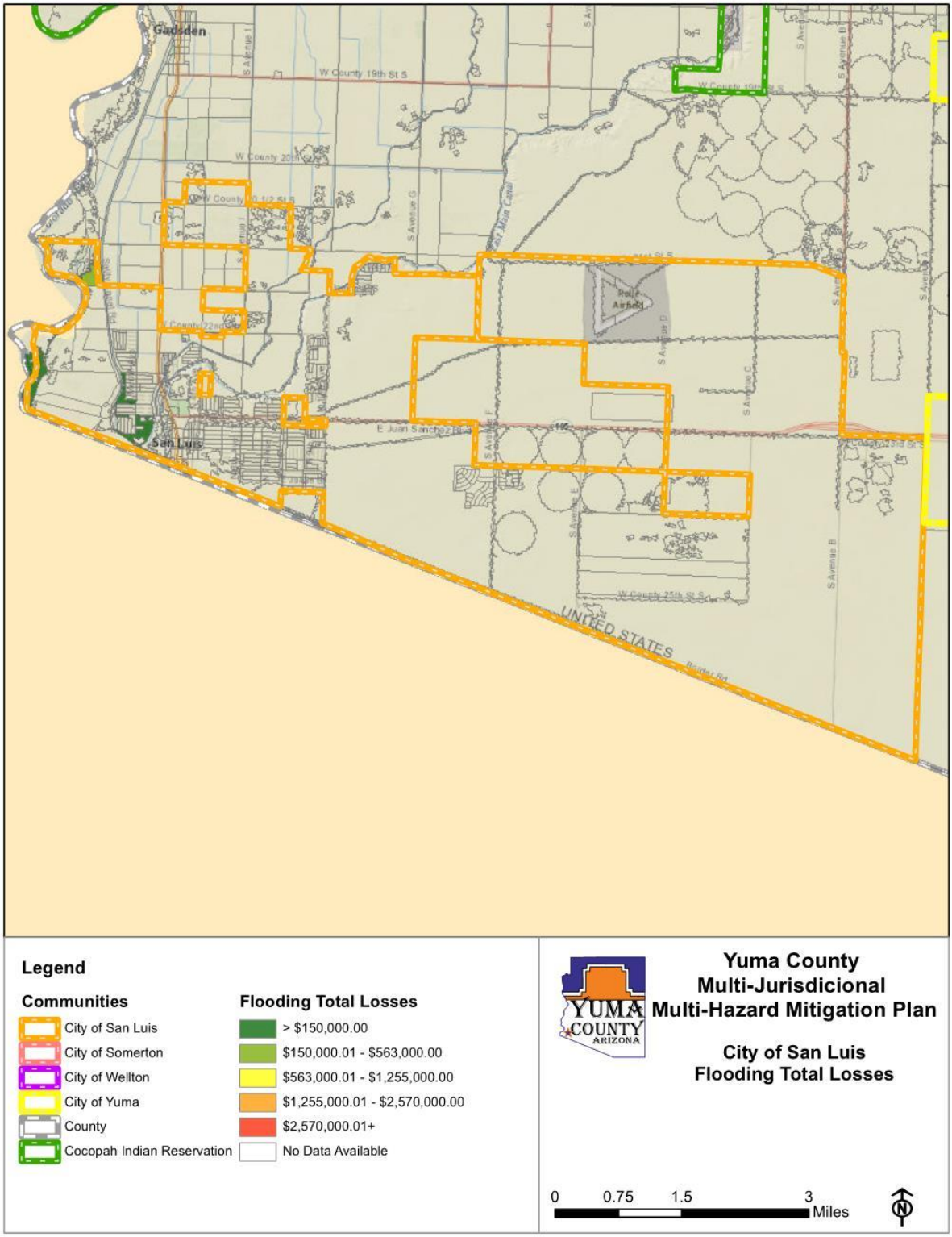



**Figure 54. City of San Luis Flooding Total Losses**

### *5.3.5 Severe Wind*

**Description**

The hazard of Severe Wind encompasses all climatic events that produce damaging winds. For Yuma County, Severe Winds usually result from either extreme pressure gradients that usually occur in the spring and early summer months, or from thunderstorms. Thunderstorms can occur year-round and are usually associated with cold fronts in the winter, monsoon activity in the summer, and tropical storms in the late summer or early fall.

Three types of damaging wind related features typically accompany a thunderstorm; 1) downbursts, 2) straight line winds, and infrequently, 3) tornadoes.

Downbursts are columns of air moving rapidly downward through a thunderstorm. When the air reaches the ground, it spreads out in all directions, creating horizontal wind gusts of 80 mph or higher. Downburst winds have been measured as high as 140 mph. Some of the air curls back upward with the potential to generate a new thunderstorm cell. Downbursts are called macrobursts when the diameter is greater than 2.5 miles, and microbursts when the diameter is 2.5 miles or less. They can be either dry or wet downbursts, where the wet downburst contains precipitation that continues all the way down to the ground, while the precipitation in a dry downburst evaporates on the way to the ground, decreasing the air temperature and increasing the air speed. In a microburst the wind speeds are highest near the location where the downdraft reached the surface, and are reduced as they move outward due to the friction of objects at the surface. Typical damage from downbursts includes uprooted trees, downed power lines, mobile homes knocked off their foundations, block walls and fences blown down, and porches and awnings blown off homes.

Straight line winds are developed similar to downbursts, but are usually sustained for greater periods as a thunderstorm reaches the mature stage, traveling parallel to the ground surface at speeds of 75 mph or higher. These winds are frequently responsible for generating dust storms and sand storms, reducing visibility and creating hazardous driving conditions.

A tornado is a rapidly rotating funnel (or vortex) of air that extends toward the ground from a cumulonimbus cloud. Most funnel clouds do not touch the ground, but when the lower tip of the funnel cloud touches the earth, it becomes a tornado and can cause extensive damage. For Yuma County, tornadoes are the least common severe wind to accompany a thunderstorm.

**History**

According to Table 3, Yuma County has not been included in state and/or federal disaster declaration specifically involving severe wind or dust storm events, but have been connected with flooding events. NCEI records show that there has been a total of 184 events related to High Wind, Thunderstorm Wind, Strong Wind, and Dust Storms. Of these events, 0 death occurred, 12 were injured, property damage was just over $20 million and crop damage was $55,000. The following are examples of documented past events:

- In September 2017, scattered thunderstorms developed in the city of Yuma during the afternoon hours on September 8th, and one of the stronger storms produced gusty and damaging microburst winds estimated to be as high as 70 mph. Gusty microburst winds downed 9 power poles at the Yuma Palms Mall. Some of the downed poles trapped people in their cars; fortunately, no injuries were reported. Total estimated property damage was $87,000 (NCEI, 2018).
- In August 2017, thunderstorms developed to the east of Yuma, and close to the town of Wellton, during the afternoon hours on August 3rd. Some of the stronger storms produced gusty and damaging microburst winds. Five power poles were blown down about 5 miles to the west of Wellton and just north of Interstate 8. At the same time, a trained spotter reported several power poles down slightly further to the west, about 4 miles to the east of the town of Ligurta. The poles were located along Avenue 24. The microburst wind gusts that downed the poles were estimated to be as high as 70 mph. Total estimated property damage was $70,000 (NCEI, 2018).

- In September 2015, scattered thunderstorms developed across southwestern Yuma county during the afternoon hours on September 8th, and some of them affected the downtown Yuma area. Due to elevated moisture and instability values, the stronger storms produced damaging microburst winds with gusts estimated as high as 70 mph. According to a report from a local utility company, damaging microburst winds downed 43 power poles just north of the Yuma International Airport, between Avenues 1E and 3E. A Severe Thunderstorm Warning was not yet in effect, but a Significant Weather Advisory had been issued for the Yuma area when the power poles were blown down. Total estimated property damage was $225,000 (NCEI, 2018).
- In July 2015, strong thunderstorms developed during the afternoon hours along the Interstate 8 corridor and they affected the communities of Roll and Tacna. The storms produced gusty microburst outflow winds that were estimated to be as high as 70 mph. According to a trained weather spotter, the damaging winds led to significant damage to trees, power poles, roofs and buildings in the Roll area. The downed power poles caused a power outage that lasted for several days, according to the Wellton-Mohawk Irrigation District. At a local airfield, at least one small plane suffered substantial damage. Total estimated property damage was $250,000 (NCEI, 2018).
- In August 2014, strong thunderstorms developed across portions of southwest Arizona during the evening hours on August 11th, and some of them affected the community of Fortuna Foothills to the east of Yuma. The stronger storms generated gusty damaging microburst winds in excess of 60 mph. According to trained weather spotter about 2 miles northwest of the Fortuna Foothills, thunderstorm wind gusts measured at 65 mph caused patio roof damage to his home. Additionally, a local broadcast media report indicated that thunderstorms winds caused extensive damage to mobile homes in Fortuna Foothills. Total estimated property damage was $50,000 (NCEI, 2018).
- In May 2012, a low-pressure system moved south into southwestern Arizona during the evening hours on May 7th, and triggered some high-based convection in the Yuma area. Fourteen power poles were downed at County 14th Street and Avenue 2E in the Tierra Mesa subdivision. In addition, fence and barn roof damage was reported near County 16th Street and Avenue A. There was no indication of thunderstorms in the Yuma area overnight, and no lightning was observed. However, the atmospheric conditions allowed the gusty winds to take on the characteristics of a damaging microburst. Total estimated property damage was $120,000 (NCEI, 2018).
- In August 2011, scattered high based thunderstorms developed across southwestern Arizona, including the Yuma area, during the evening hours on August 27th. The storms generated gusty wind in excess of 58 mph which produced some damage across portions of Yuma. Numerous large trees and power poles were blown down across the city. Total estimated property damage was $75,000 (NCEI, 2018).
- In August 2010, severe thunderstorms moved across parts of the city of Yuma, with damaging winds, large hail, and low visibilities due to heavy rain. As reported in the Yuma Sun, the Garden Landscaping Company at 830 South Orange Avenue was mostly destroyed by thunderstorm microburst winds, estimated to be near 75 knots. Damage was also reported at the O.G. RV Resort. Several schools in the Yuma area sustained considerable wind and water damage. Additionally, zero visibility reported in rain along with gusty winds estimated at up to 80 mph. Damage was reported to homes and businesses with numerous trees uprooted. A huge pine tree fell on a house at the corner of 8th Avenue and 10th Street. Entire carports were torn from their foundations. A roof on a home in the 1100 block of Appaloose Lane was completely torn off of its rafters. The ceramic tiles on the top of the entrance to El Charro Cafe, 601 West 8th Street, were severely damaged. The roof of a self-serve car wash collapsed. There were several reports of car windshields broken due to flying debris. At the old Foxworth Galbraith hardward store, entire structures collapsed and lay mangled on the ground where the outdoor lumber section had been. APS reported up to 16,660 customers were without power at the height of the storm. Total property damage was estimated at $11 million (NCEI, 2018).

- In January 2010, Strong winds associated with a line of thunderstorms caused considerable damage to property and some minor injuries. There were Numerous reports of large trees blown down in Yuma. Total property damage was estimated at $400,000 (NCEI, 2018).

- In October 2009, winds increased during the late afternoon hours and caused a power outage to the area of San Luis and Somerton. The outage initially affected 16,000 customers in southern Yuma County. Winds associated with the passage of a sharp cold front gusted to over 30 mph and resulted in a power outage in the Yuma area. The property damage was estimated at $10,000 (NCDC, 2009).

- In August 2009, several downed power poles. Eight people sustained minor injuries after the strong winds damaged numerous mobile homes in Dateland. Sun Country Acres mobile home park, located two miles north of Interstate 8 on Avenue64E, reported that every mobile home in the park was damaged in some way, many having broken windows. Most of the injuries were to the head and back and cuts from broken glass (NCDC, 2008).

- In July 2009, thunderstorm winds created a huge dust storm that affected much of the Yuma area with near zero visibility. Wind speeds were estimated to be over 60 mph, with considerable damage to property. At least one home was damaged, with trees and power lines downed by strong winds. During the peak of the storm, 5,200 customers were without power. The Yuma airport recorded a peak gust of 48 mph just before 5 p.m. A large complex or area of storms moved to the west and into Yuma late on Saturday afternoon. The property damage was estimated at $100,000 (NCDC, 2008).

- In September 2008, Somerton police reported power lines down due to very strong winds from thunderstorms. At the peak of the storm, between 2,500 and 3,000 APS customers were without power. A large tree in the 3300 block of 15th Avenue in The Dunes subdivision was knocked down. Power outages were also reported on the Cocopah Reservation at County 18th Street and Avenue D and in the north end of the city of Yuma. Showers and thunderstorms developed across much of southwest and south-central Arizona. A few storms became severe, with strong winds, hail and very heavy downpours. This event caused $150,000 in property damages (NCDC, 2008).

- In August 2008, trees were uprooted and a semi-trailer was turned over. A peak gust of 57 mph was measured at the Yuma airport. About 1,000 APS customers were left without power due to these thunderstorm winds. Power poles were blown down in the Mohawk area. Strong winds associated with severe thunderstorms affected parts of Yuma late Thursday night and early Friday morning. These storms were part of a huge system that moved through the Phoenix area earlier that night. Damage estimates were at $150,000. (NCDC, 2008)

- In September 2007, numerous trees and as many as 11 power poles reported down due to strong winds. Peak gusts to 84 mph were recorded at the Yuma airport. Arizona Public Service reported about 9,600 people were left without power Sunday morning. Yuma Police responded to more than 120 emergency calls for service, most of which were storm related. Numerous eyewitnesses described the area around the 100 block of West 27th Place as the worst-hit section of town. Condos in that area had considerable roof damage with ceilings collapsing onto living rooms and dining rooms. Large hail and localized flooding was also reported in Yuma. Thunderstorms resulted in considerable damage in portions of Yuma after winds gusted to 84 mph at the Yuma Airport. This event caused $1,500,000 in property damage (NCDC, 2008)

- On August 13, 2001 at approximately 2:25 p.m., the Yuma County Sheriff's Office received a 9-1-1 call stating there had been an accident involving a Sheriff's Office patrol vehicle at milepost 54 on U.S. Highway 95, north of Yuma. Emergency units responded to the scene where they discovered that a single vehicle had traveled off the roadway and rolled over. At that time, the preliminary investigation indicated the vehicle left the roadway and turned over one and one-quarter times. The

driver and sole occupant, Senior Deputy Michael Meyer was still seat-belted in his patrol vehicle when found by motorists who immediately called for assistance. Senior Deputy Meyer was pronounced dead at the accident scene.

Senior Deputy Meyer had been employed by the Sheriff's Office for 4 years and was in charge of the Water Safety Division. Northern Yuma County was a regular patrol assignment for Deputy Meyer who was ever aware of the changing desert conditions. A heavy storm was blowing through the area and it was Senior Deputy Meyer's habit to check the washes and the roads for flooding and damage on such occasions. (http://www.yumacountysheriff.org/index.html)

- In September 1993, the second severe thunderstorm to hit the Yuma area over the Labor Day weekend affected the southeast and east sections. The strong microburst winds destroyed at least three metal warehouses and blew down power lines. As many as 10 recreational vehicles were damaged at an RV resort. Damage to the warehouses was estimated to be at least $1 million. Overall damage estimates are at $5 million (NCDC, 2008)

**Probability and Magnitude**

Most severe wind events are associated with thunderstorms as previously mentioned. The probability of a severe thunderstorm occurring with high velocity winds increases as the average duration and number of thunderstorm events increases. According to NCEI, 153 thunderstorm wind events have been recorded for Yuma County since 1950 yielding an average of about 2.25 damaging or potentially damaging thunderstorm events per year. Reported damages from wind events associated with thunderstorms since 1950 were over $19.6 million in property damage, or approximately $290,000 per year.

The NWS issues a severe thunderstorm watch when conditions are favorable for the development of severe thunderstorms. The local NWS office considers a thunderstorm severe if it produces hail at least 3/4-inch in diameter, wind of 58 mph or higher, or tornadoes. When a watch is issued for a region, residents are encouraged to continue normal activities but should remain alert for signs of approaching storms, and continue to listen for weather forecasts and statements from the local NWS office. When a severe thunderstorm has been detected by weather radar or one has been reported by trained storm spotters, the local NWS office will issue a severe thunderstorm warning. A severe thunderstorm warning is an urgent message to the affected counties that a severe thunderstorm is imminent. The warning time provided by a severe thunderstorm watch may be on the order of hours, while a severe thunderstorm warning typically provides an hour or less warning time. All of the 153 thunderstorms that have been recorded over the last 68 years would qualify as a severe thunderstorm.

The probability of tornadoes occurring is much less frequent than thunderstorms. For the same 68-year period, NCEI reports only 11 tornadoes, which averages to less than one tornado for every four years. Reported property damages associated with those tornadoes add up to over $280,000.

Tornado damage severity is measured by the Enhanced Fujita Scale. The EF-Scale measures tornado strength and associated damages and classifies tornadoes into six intensity categories, as shown in the following Table 15. The EF scale was revised in 2007 to reflect better examinations of tornado damage surveys, so as to align wind speeds more closely with associated storm damage. This new scale takes into account how most structures are designed, and is thought to be a much more accurate representation of the surface wind speeds in the most violent tornadoes. Most tornadoes last less than 30 minutes, but some last for over an hour. The path of a tornado can range from a few hundred feet to miles. The width of a tornado may range from tens of yards to more than a quarter of a mile.

**Table 15. Enhanced Fujita Tornado Scale**

| Enhanced Fujita Category | Wind Speed | Potential Damage |
|---|---|---|
| EF0 | 65-85 mph | Light damage:<br>Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. |
| EF1 | 86-110 mph | Moderate damage:<br>Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken. |
| EF2 | 111-135 | Considerable damage:<br>Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground. |
| EF3 | 136-165 mph | Severe damage:<br>Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance. |
| EF4 | 166-200 mph | Devastating damage:<br>Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated. |
| EF5 | >200 mph | Incredible damage:<br>Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yds.); high-rise buildings have significant structural deformation; incredible phenomena will occur. |

**Table 16. Fujita Tornado Scale[43]**

| Category | Wind Speed | Description of Damage |
|---|---|---|
| F0 | 40-72 mph | Light damage. Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage to sign boards. |
| F1 | 73-112 mph | Moderate damage. The lower limit is the beginning of hurricane speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads. |
| F2 | 113-157 mph | Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated. |
| F3 | 158-206 mph | Severe damage. Roofs and some walls torn off well constructed houses; trains overturned; most trees in forest uprooted; cars lifted off ground and thrown. |
| F4 | 207-260 mph | Devastating damage. Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated. |
| F5 | 261-318 mph | Incredible damage. Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100-yards; trees debarked. |

All of the recorded tornadoes in Yuma County occurred prior to 2006 and are recorded based on the Fujita Scale (Table 16) rather than the Enhanced Fujita Scale. Of the 11 recorded tornadoes, 4 were category F0, 3 were category F1, and 1 was categorized as F2. The only F2 tornado recorded in the history of Yuma County, occurred on August 17, 1959 and caused $250,000 in property damage.

[43] FEMA, 1997

Figure 55 through Figure 59 depict where historical severe wind events and tornado events have occurred as of 2016. The maps show severe wind speed at the time of the event as well as and the Fujita scale when a historical tornado event has occurred. It's clear from looking at this map, that the City of Yuma experiences the highest number of recorded high wind events, along with several areas along Interstate 8. Each community's risk from tornadoes is hard to determine, because historically tornadoes have occurred in random parts of the county.

**Vulnerability – CPRI Results**

Severe Wind CPRI results for each community are summarized in Table 17 below.

**Table 17. Summary of CPRI results by jurisdiction for severe wind**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Highly Likely | Limited | 12 to 24 hours | <24 hours | 2.9 |
| San Luis | Likely | Limited | 12 to 24 hours | <1 week | 2.6 |
| Somerton | Likely | Limited | <6 hours | <6 hours | 2.7 |
| Unincorporated Yuma County | Likely to Highly Likely | Critical | 6 to 24 hours | <24 hours | 3.2 |
| Wellton | Likely | Limited | <6 hours | <6 hours | 2.7 |
| Yuma | Likely to Highly Likely | Limited to Critical | <6 hours | <6 hours | 3.0 |
| | | | | **County-wide average CPRI =** | **2.9** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

**Vulnerability – Loss Estimations**

Exposure to severe wind events and dust storms is generally the same across the County. Based on the historic record over the last 68 years, it is feasible to expect average annual losses of almost $300,000 (county-wide). It is difficult to estimate losses for individual jurisdictions within the County due to the lack of discrete data.

**Vulnerability – Development Trend Analysis**

With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. Countywide, the population is projected to increase by 57% from 2010 to 2040. Future development will expand the exposure of life and property to the damaging effects of severe wind events. Enforcement and/or implementation of modern building codes to regulate new developments can help to mitigate against losses.

**Sources**

Arizona Division of Emergency Management, 2013, State of Arizona Multi-Hazard Mitigation Plan

NCEI, 2018, Storm Events Database, accessed via the following URL:
https://www.ncdc.noaa.gov/stormevents/

**Profile Maps**

Figure 55 – Historical Severe Wind & Tornado Countywide

Figure 56 - Historical Severe Wind & Tornado Yuma

Figure 57 - Historical Severe Wind & Tornado San Luis

Figure 58 - Historical Severe Wind & Tornado Somerton

Figure 59 - Historical Severe Wind & Tornado Wellton




**Figure 55. Yuma County Severe Wind Map, 2016**

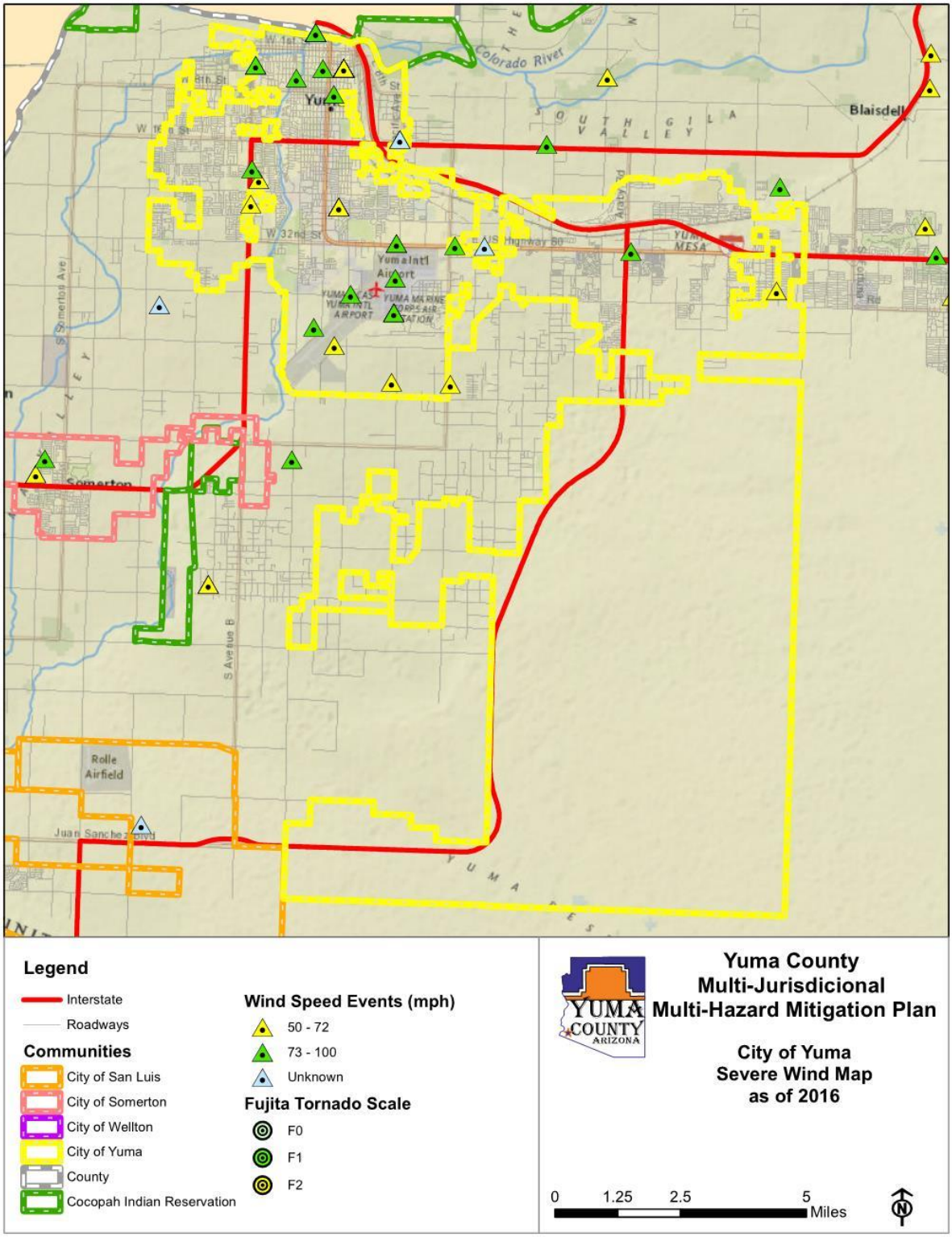



**Figure 56. City of Yuma Severe Wind Map, 2016**

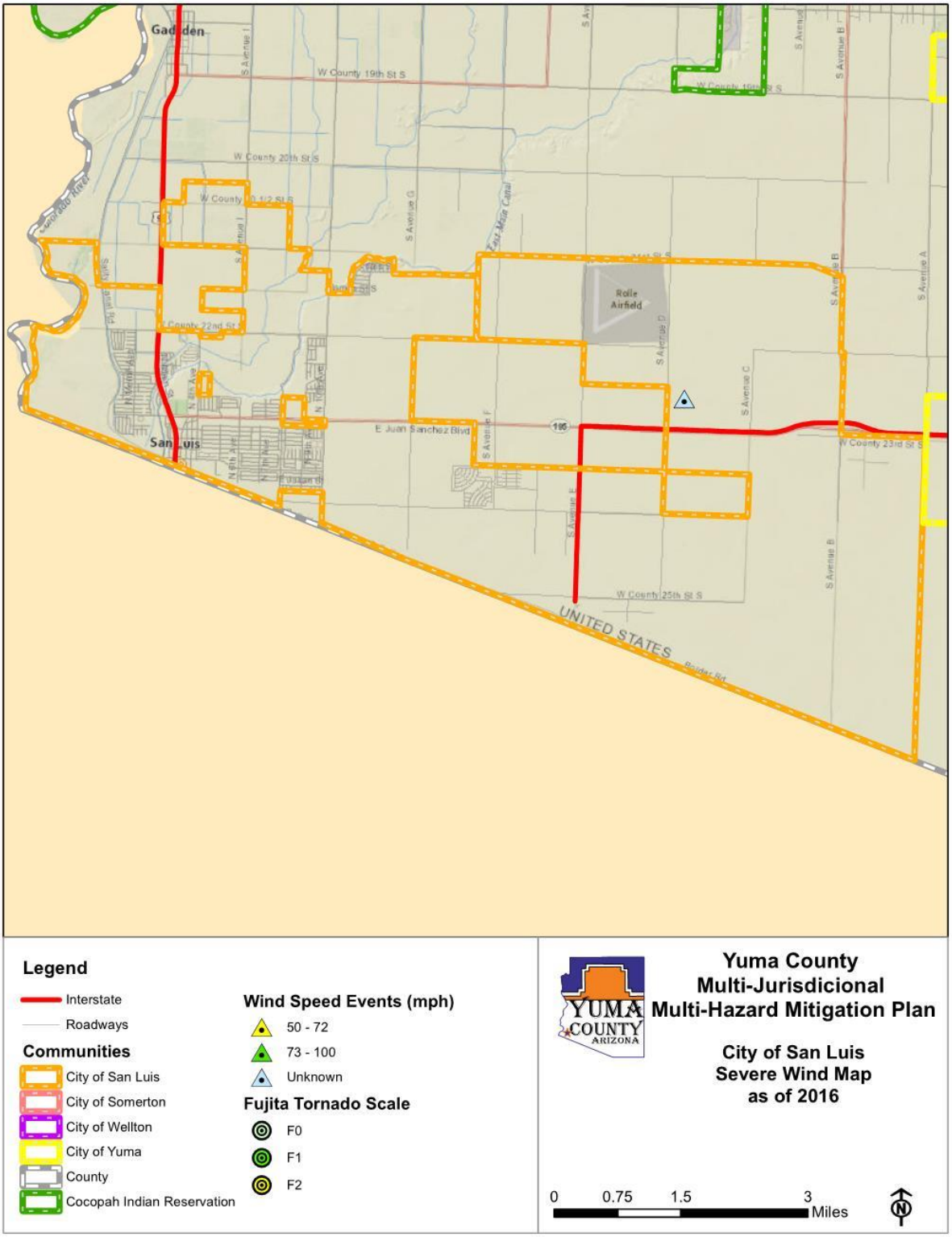



**Figure 57. City of San Luis Severe Wind Map, 2016**

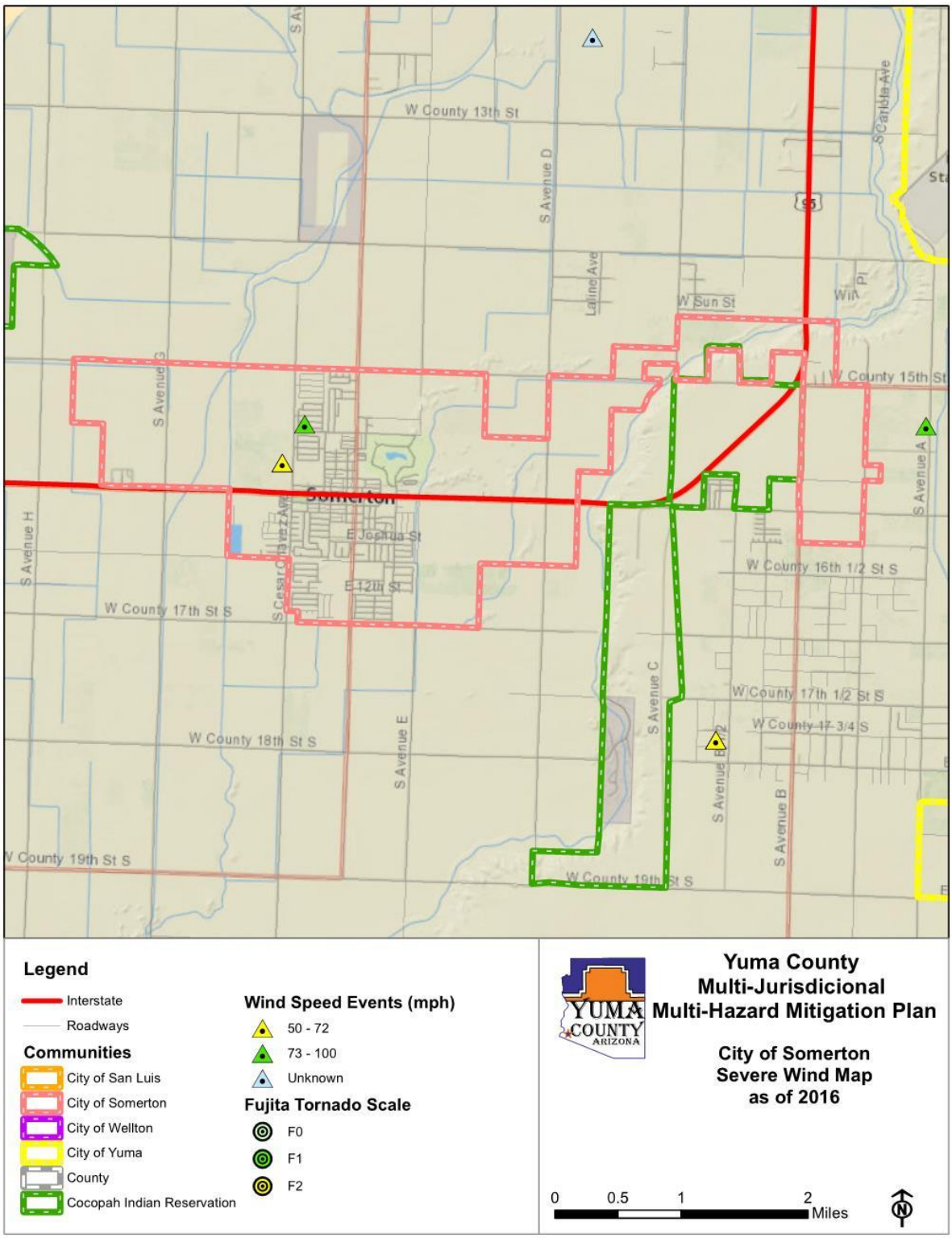



**Figure 58. City of Somerton Severe Wind Map, 2016**

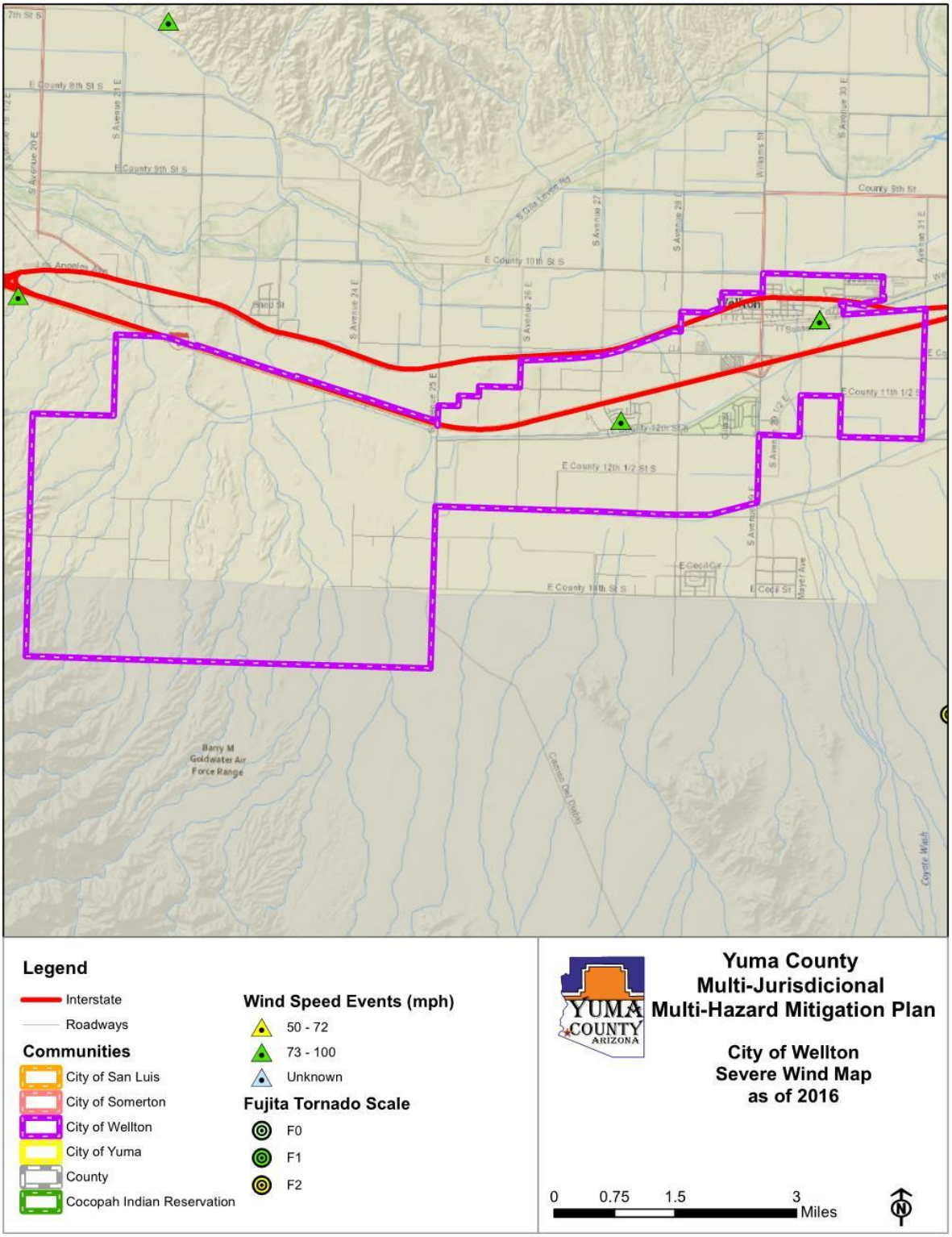



**Figure 59. City of Wellton Severe Wind Map, 2016**

### *5.3.6 Wildfire*

**Description**

A wildfire is an uncontrolled fire spreading through wildland vegetative fuels and/or urban interface areas where fuels may include structures. They often begin unnoticed, spread quickly, and are often generating smoke that may fill the area for miles around. Wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. If not promptly controlled, wildfires may develop into an emergency. Even small fires can threaten lives, resources, and destroy improved properties.

The indirect effects of wildfires can also be catastrophic. In addition to stripping the land of vegetation and destroying forest resources and personal property, large, intense fires can harm the soil and waterways. Soil exposed to intense heat may temporarily lose its capability to absorb moisture and support life. Exposed soils in denuded watersheds erode quickly and are easily transported to rivers and streams thereby enhancing flood potential, harming aquatic life and degrading water quality. Lands stripped of vegetation are also subject to increased landslide hazards.

Wildfire hazards within Yuma County are typically limited to the Colorado and Gila River floodplains and the more densely vegetated areas adjacent to some of the larger ephemeral watercourses. Fires burning through the heavily vegetated floodplain areas can be very difficult to fight, especially in areas where water is not readily available. Increases in development pressure along popular Colorado River locations like Martinez Lake, are expanding the wildland-urban fire interface areas in those locations.

**History**

The Sonoran Desert vegetation typically found in Yuma County is less dense than other areas of the state. That fact, combined with relative density of urban area, makes wildfire risk within the County relatively low when compared to the more densely forested areas of the state. According to the County's 2010 Community Wildfire Protection Plan (CWPP), 11 wildfire events have occurred causing $2,315,000 in losses. The majority of these wildfires were less than 10 acres. Below is a list and description of historic wildfire events that have occurred in Yuma County:

- In July 2009, a fire in the Martinez Lake area threatened multiple structures on Swede Hill. Because of the high number of people present during the July 4th festivities, no structures were lost. (Draft CWPP, 2010)
- In September 2009, lightning struck a home near highway 95 and 5E, resulting in a structure fire.
- In May 2007, a 426 acre fire burned along the Gila River. It was started by natural causes (BLM, 641403).
- In October 2005, a human-caused fire called the King Valley Fire burned 26,000 acres (FWS, 52471).
- In July 2001, a 61 acre fire occurred in vicinity of canal at the end of 12th Street to 4th Ave Bridge on the east and 22nd Ave on the west. It also spread to Yuma West Wetlands along Colorado River (URS, 2003).
- In April 1992, The Whiterock fire burned 2,400 acres and was human-caused (FWS, 27270).

Interesting to note, $5.8 million have been expended through the Recovery Section of Arizona Division of Emergency Management for response activities of (19) declared wildfire events that included Yuma County as identified in Table 3, however, no damage costs were associated with these events.

**Probability and Magnitude**

The probability and magnitude of wildfire incidents for Yuma County are influenced by numerous factors including vegetation densities, previous burn history, hydrologic conditions, climatic conditions

such as temperature, humidity, and wind, ignition source (human or natural), topographic aspect and slope, and remoteness of area.

Wildfire hazard areas have been identified by the State of Arizona as a part of the 2003/04 Arizona Wildland Urban Interface Assessment (AWUIA) project (Fisher, 2004). The increasing growth of Arizona's rural populations, urban sprawl, and increasing wildland fuel loads ads to create a mix of situations that is known as the wildland urban interface (WUI). The purpose of the AWUIA was to attempt to conduct an analysis on a statewide basis using a common spatial model, for validation of those communities listed in the federal register as WUI and further identify possible other communities at risk. For Yuma County the results determined that all of the County was in a low hazard area. The Team did not think this accurately portrayed the wildfire conditions in Yuma County.

The wildfire hazards map, included in this profile, depict where historical wildfires have occurred from 1992-2015. The map also shows the magnitude of these historical events. It's clear from looking at this map, that areas on the western side of the county, north of the City of Yuma, have experienced a relatively large number of wildfire events compared to the rest of the county.

The County's CWPP was developed in cooperation with jurisdictions and Tribes throughout the County in order to establish the community's magnitude of risk and a baseline for effective mitigation against wildfire damages in the WUI. Through extensive GIS analysis and research, the CWPP concluded that the City of Yuma and the City of San Luis are at moderate risk for wildfire hazards, and the remaining communities are low. The CWPP rated several areas within the county that are thought have be subject to wildfire hazard. Martinez Lake and Fisher's Landing were rated high, while Hidden Shores Village and the Riverfront RV Park were rated moderate.

**Vulnerability – CPRI Results**

Wildfire CPRI results for each community are summarized in Table 5-42 below.

**Table 18. Summary of CPRI results by jurisdiction for wildfire**

| Participating Jurisdiction | Probability | Magnitude/ Severity | Warning Time | Duration | CPRI Score |
|---|---|---|---|---|---|
| Cocopah Tribe | Likely | Limited | 12 to 24 hours | <1 week | 2.6 |
| San Luis | Possibly | Negligible | <6 hours | <1 week | 2.1 |
| Somerton | Likely | Negligible | <6 hours | <24 hours | 2.5 |
| Unincorporated Yuma County | Possibly to Likely | Limited | <6 hours to 12 hours | <24 hours to 1 week | 2.6 |
| Wellton | Possibly | Limited | <6 hours | <1 week | 2.4 |
| Yuma | Possibly to Likely | Negligible to Limited | <6 hours | <24 hours | 2.4 |
| | | | | **County-wide average CPRI =** | **2.4** |
| | | | | **CPRI Min/Max Score = 1.00/4.00** | |

**Vulnerability – Loss Estimations**

Estimating each community's exposure was conducted using the Arizona Wildfire Risk Assessment Portal (AZWRAP). The AZWRAP database has been used as the primary mechanism for the Arizona State Forestry to deploy wildfire risk information and create awareness of wildfire hazards across the state. AZWRAP is comprised of a suite of applications that provide the user access to wildland fire risk assessment data, which was finalized in 2013. By utilizing the wildfire risk index portion of this data, wildfire risk can be seen at the local level for communities within Yuma. Figure 61 through Figure 64 show areas within each of the communities that have been determined to be of low to high risk for wildfire. It can be seen that all participating jurisdictions have areas that are determined to be of very high or even extreme risk from wildfires. The largest portion of extreme risk is seen in the northwestern portion of the City of San Luis.

Additionally, 11 critical facilities were identified to be at risk for wildfire. Seven of these are located in the City of Yuma, one in the City of San Luis, one in the City of Somerton, and two in Yuma

County. The City of Yuma General Services building is located in an extreme wildfire risk area. These results are portrayed in Table 19 below.

**Table 19. Critical Facilities at Risk to Wildfire**

| Facility | Jurisdiction | Wildfire Risk |
|---|---|---|
| General Services | Yuma | Extreme |
| South County Complex | San Luis | Very High |
| Aztec High School | Yuma | Very High |
| PrimeCare Urgent Care Facility | Yuma | Very High |
| DaVita Edge River Dialysis | Yuma | Very High |
| Adult Probation | Yuma | Very High |
| North End Community Center | Yuma | Very High |
| Gadsden Elementary School | Yuma County | High |
| Cocopah Social Services | Somerton | High |
| Public Works - Roll Yard | Yuma County | High |
| Figueroa Treatment Plant | Yuma | High |

**Vulnerability – Development Trend Analysis**

With the exception of the Cocopah Tribe, all jurisdictions have experienced significant population growth over the past decade, and are projected to continue to grow. By its very definition, the WUI represents the fringe of urban development at it intersects with the natural environment. Future development is expected to convert traditionally rural or agricultural areas to urban developments, which may increase the amount of people living in the WUI and increase Yuma County's risk to wildfire. According to the CWPP, the City of Yuma and the City of San Luis are both overall at moderate risk to wildfire, and the City of San Luis has the largest portion of extreme risk compared to other communities. The City of Yuma is projected to experience a 46% increase in population from 2010 to 2040, and the City of San Luis is projected to experience a 160% increase in population from 2010 to 2040.

**Sources**

Arizona Division of Emergency Management, 2013, State of Arizona Multi-Hazard Mitigation Plan

Yuma County Community Wildfire Protection Plan, 2010, http://www.yumacountyaz.gov/home/showdocument?id=7728

Arizona Department of Forestry and Fire Management, 2013, Arizona Wildfire Risk Assessment Portal, https://arizonawildfirerisk.com/

**Profile Maps**

Figure 60 – Wildfire Countywide Historical Fires

Figure 61 – Wildfire Risk City of Yuma

Figure 62 – Wildfire Risk City of San Luis

Figure 63 – Wildfire Risk City of Somerton

Figure 64 – Wildfire Risk City of Wellton

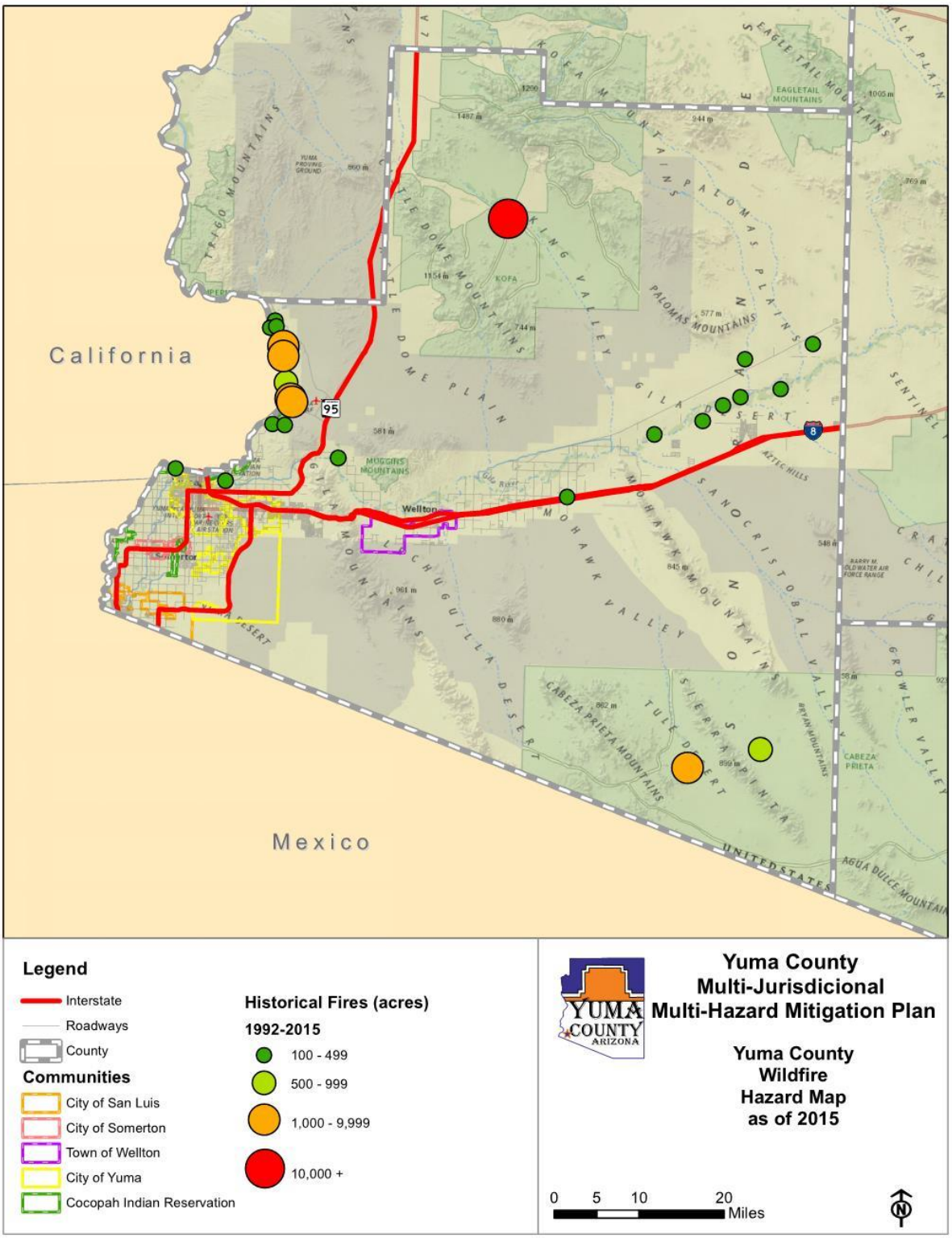



**Figure 60. Yuma County Historic Wildfire Map, 2015**

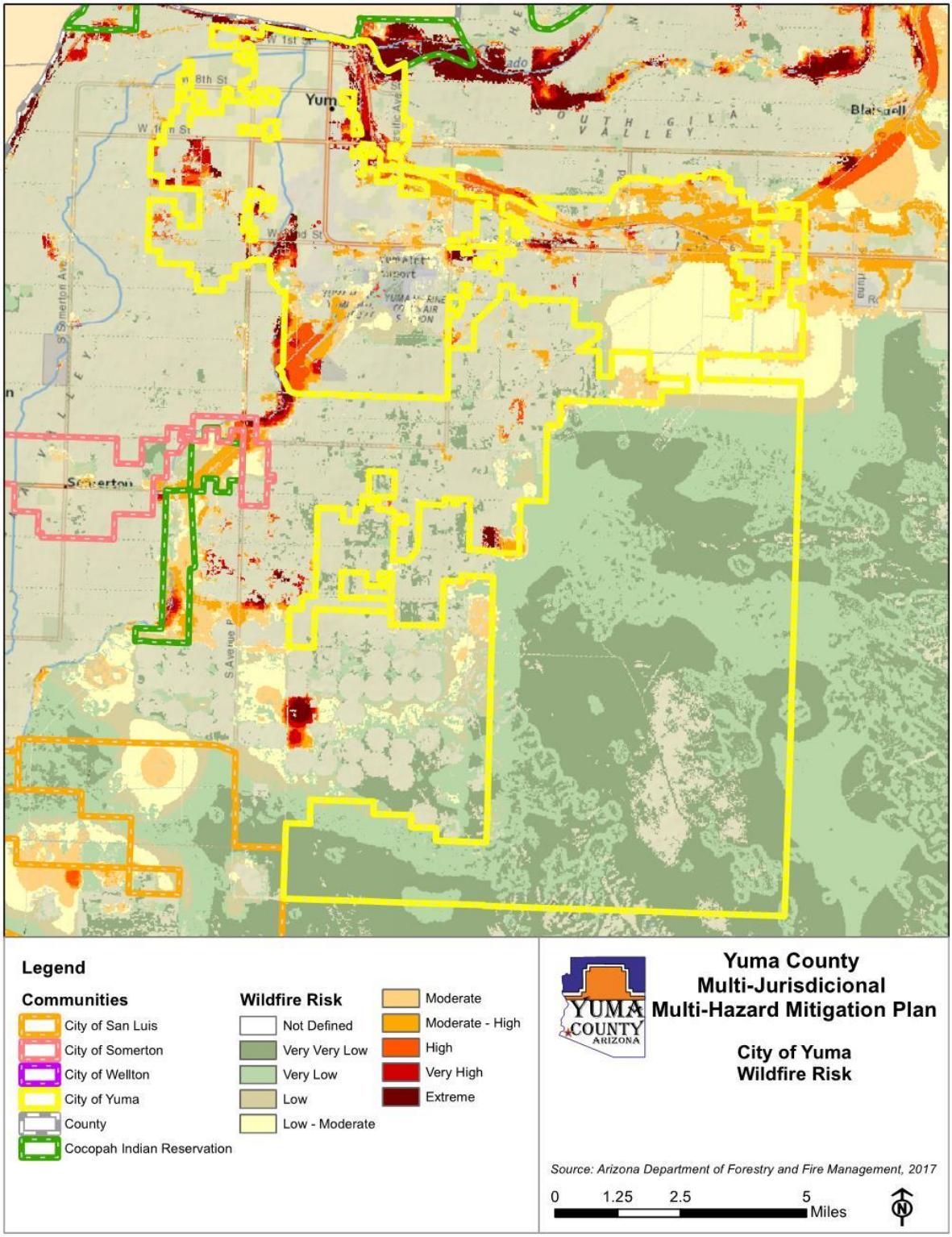



**Figure 61. City of Yuma Wildfire Risk**

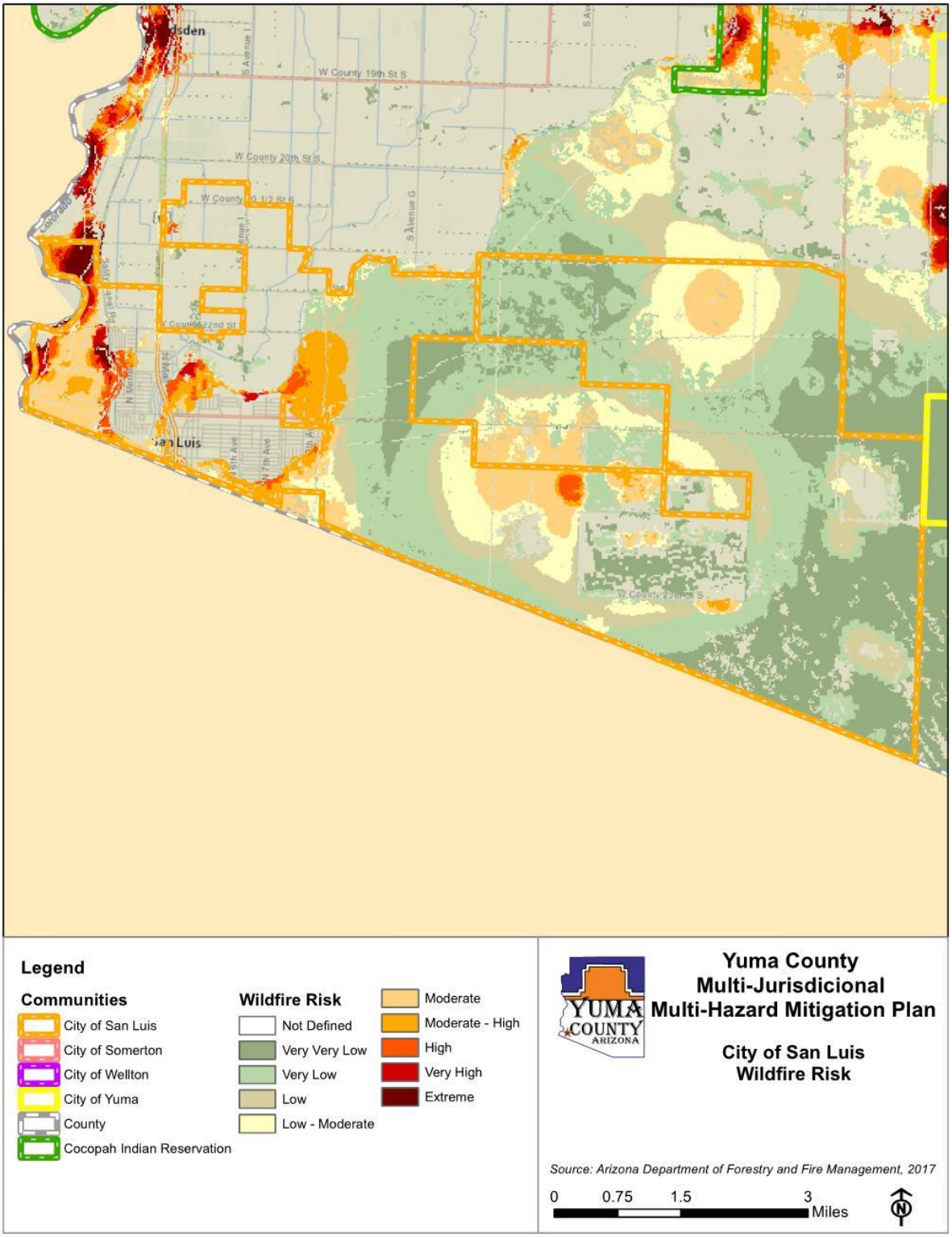



**Figure 62. City of San Luis Wildfire Risk**

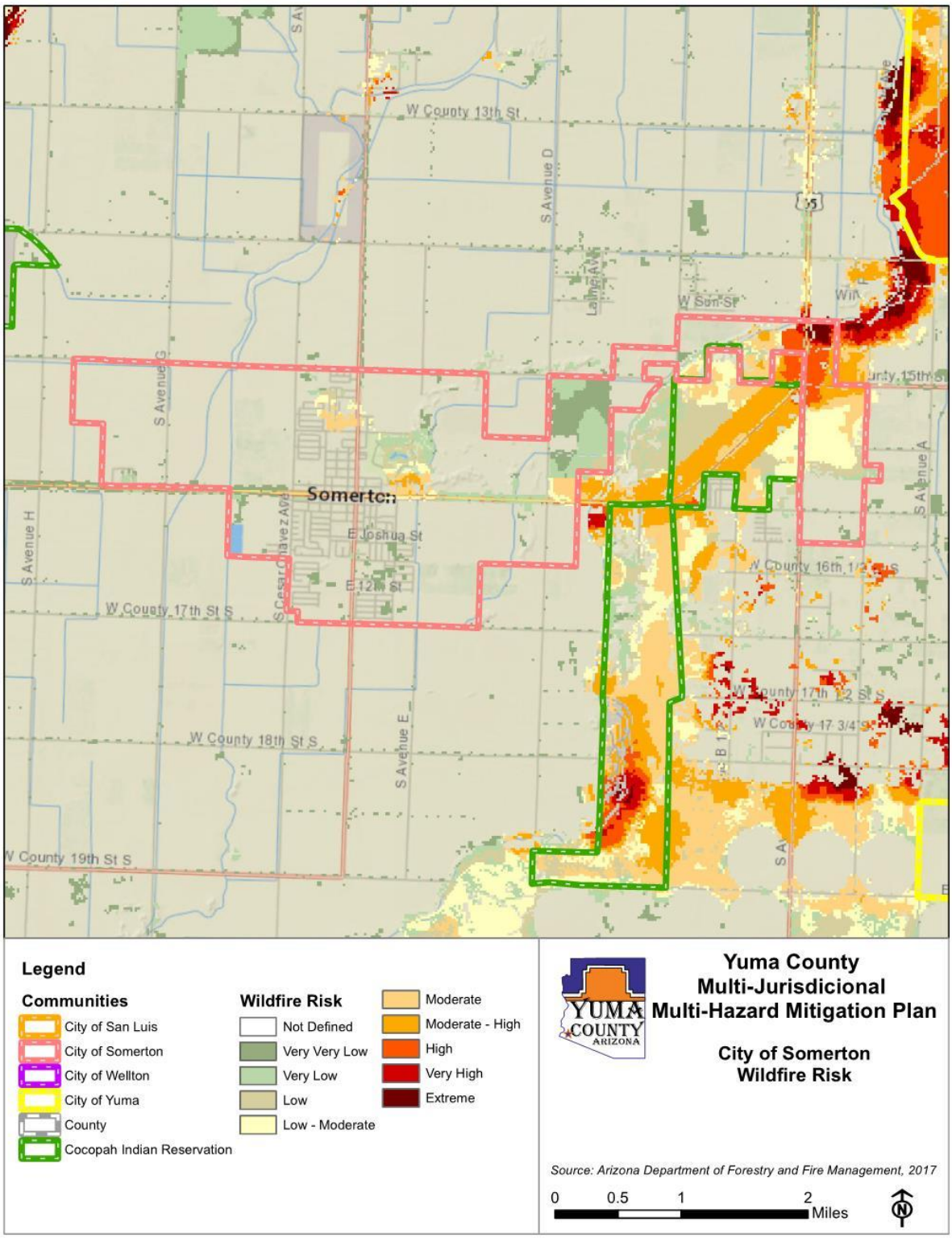



**Figure 63. City of Somerton Wildfire Risk**

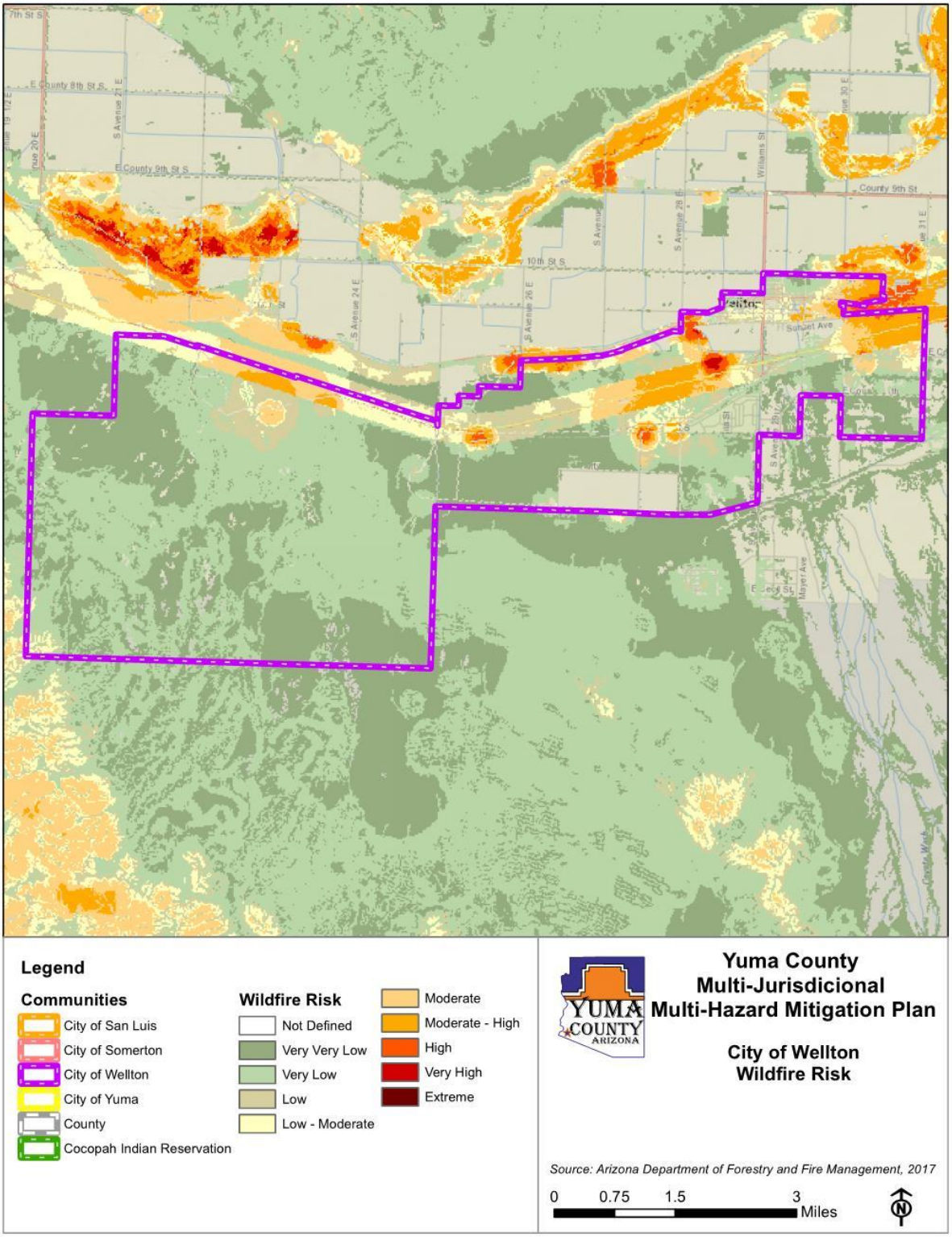



**Figure 64. City of Wellton Wildfire Risk**

## 5.4 Risk Assessment Summary

The jurisdictional variability of risk associated with each hazard assessed in Section 5.3 is demonstrated by the various CPRI and loss estimation results. Accordingly, each jurisdiction has varying levels of need regarding the hazards to be mitigated, and may not consider all of the hazards as posing a great risk to their individual communities. Table 20 summarizes each community's overall risk ranking per hazard.

**Table 20. Summary of hazards to be mitigated by each participating jurisdiction**

| Jurisdiction | Drought | Earthquake | Extreme Heat (Power Outage) | Flooding | Severe Wind / Dust Storms | Wildfire |
|---|---|---|---|---|---|---|
| Cocopah | M | H | H | H | H | H |
| San Luis | M | H | H | M | H | L |
| Somerton | M | H | H | M | H | L |
| Unincorporated Yuma County | M | M | H | M | H | L |
| Wellton | M | M | M | L | H | L |
| Yuma | L | H | H | M | M | L |

# SECTION 6: MITIGATION STRATEGY

The mitigation strategy provides a collection of mitigation actions and projects that will reduce or possibly remove the community's exposure to hazard risks. According to DMA 2000, the primary components of the mitigation strategy are generally categorized into the following:

**Goals and Objectives**
**Capability Assessment**
**Mitigation Actions/Projects and Implementation Strategy**

The entire 2010 Plan mitigation strategy was reviewed and updated by the Planning Team. Specifics of the changes and updates are discussed in the subsections below.

## 6.1 Hazard Mitigation Goals and Objectives

An assessment of the 2010 goals and objectives was made by the Planning Team with consideration of the following[44]:

- Do the goals and objectives identified in the 2010 Plan reflect the updated risk assessment?
- Did the goals and objectives identified in the 2010 Plan lead to mitigation projects and/or changes and policy that helped the jurisdiction(s) to reduce vulnerability?
- Do the goals and objectives identified in the 2010 Plan support any changes in mitigation priorities?
- Are the goals and objectives identified in the 2010 Plan reflective of current State goals?

As a conclusion to the discussions, the Planning Team chose to continue utilizing the 2010 Mitigation Strategy to help focus the identification and development of new Mitigation Actions / Projects for this 2018 Plan.

Elements of this Mitigation Strategy are:

- **GOAL:** Reduce or eliminate the risk to people and property from natural and human caused hazards.
  - **Objective 1:** Reduce or minimize risks that threaten life and property in the incorporated, unincorporated, and Tribal jurisdictions within Yuma County.
  - **Objective 2:** Reduce risk to critical facilities and infrastructure from natural hazards.
  - **Objective 3:** Promote hazard mitigation throughout the incorporated, unincorporated, and Tribal jurisdictions within Yuma County.
  - **Objective 4:** Increase public awareness of hazards and risks that threaten the incorporated, unincorporated, and Tribal jurisdictions within Yuma County.

## 6.2 Capability Assessment

An important component of the Mitigation Strategy is a review of each participating jurisdiction's resources in order to identify, evaluate, and enhance the capacity of local resources to mitigate the effects of hazards. The capability assessment is comprised of several components:

[44] FEMA, 2013, *Local Mitigation Planning Handbook*

- ✓ Legal and Regulatory Review – a review of the legal and regulatory capabilities, including ordinances, codes, plans, manuals, guidelines, and technical reports that address hazard mitigation activities.
- ✓ Technical Staff and Personnel – this assessment evaluated and describes the administrative and technical capacity of the jurisdiction's staff and personnel resources.
- ✓ Fiscal Capability – this element summarizes each jurisdiction's fiscal capability to provide the financial resources to implement the mitigation strategy.
- ✓ National Flood Insurance Program (NFIP) Participation – the NFIP contains specific regulatory measures that enable government officials to determine where and how growth occurs relative to flood hazards. Participation in the NFIP is voluntary for local governments, but the program is promoted by FEMA as a basic first step for implementing and sustaining an effective flood hazard mitigation program, and is a key indicator for measuring local capability as part of this assessment.
- ✓ Prior Mitigation Actions – the final part of the capability assessment is a summary review of prior mitigation actions and/or projects that have been completed over the last five or so years.

The Planning Team reviewed the information provided in the 2010 Plan and decided to simply review and update the content, with only minor edits to the table structures. This assessment will serve as an updated baseline for each communities' mitigation capabilities and helps to identify opportunities for future improvements, should resources become available.

*6.2.1 Jurisdictional Capabilities*

The following Tables summarize the legal and regulatory mitigation capability for each participating jurisdiction. Three separate tables have been developed for each jurisdiction. The first Table includes a brief listing of current codes, mitigation relevant ordinances, plans, and studies/reports. The second respective Table for each jurisdiction summarize the staff and personnel resources employed by each jurisdiction that serve as a resource for hazard mitigation. Each jurisdiction's third and final Table summarizes the fiscal capability and budgetary tools available to each participating jurisdiction. Each of these three tables are listed below by jurisdiction.

**Table 21. Summary of legal and regulatory capabilities for San Luis**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| CODES | • Uniform Fire Code - NFPA 1: 2003<br>• National Electrical Code: 2008<br>• International Property Maintenance Code: 2003<br>• International Plumbing Code: 2006<br>• International Mechanical Code: 2006<br>• International Existing Building Code: 2003<br>• International Building Code: 2003<br>• International Residential Code for One and Two-Family Dwellings: 2003 | City of San Luis,<br>Planning and Zoning Department<br>Fire Department |
| ORDINANCES | • Zoning Ordinance<br>• Subdivision Ordinance<br>• Site Plan Review Requirements | City of San Luis,<br>Planning and Zoning Department<br>Public Works Department |
| PLANS, MANUALS, and/or GUIDELINES | 1. City of San Luis General Plan<br>2. Water System Master Plan<br>3. Waste Water Master Plan<br>4. Wellhead Protection Plan<br>5. YMPO 2003-2026 Regional Transportation Plan | 1. City of San Luis P&Z, revisit in 2020<br>2. City of San Luis Public Works<br>3. City of San Luis Public Works<br>4. City of San Luis Public Works<br>5. YMPO |
| STUDIES | [Please refer to Yuma County Capability Assessment Table 6-1-5 for available studies that affect this community.] | |

**Table 22. Summary of technical staff and personnel capabilities for San Luis**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | • Planning & Zoning Department personnel<br>• Public Works Department personnel |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | • Planning & Zoning Department personnel<br>• Public Works Department personnel |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | • Planning & Zoning Department personnel<br>• Public Works Department personnel<br>• Fire Department personnel<br>• Police Department personnel |
| Floodplain Manager | ☑ | • Yuma County Flood Control District – YCFCD Manager |
| Surveyors | | • James Davey and Associates, Inc. – City Engineer |
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | • Planning & Zoning Department personnel<br>• Public Works Department personnel<br>• Fire Department personnel<br>• Police Department personnel |
| Personnel skilled in GIS and/or HAZUS | ☑ | • James Davey and Associates, Inc. – City Engineer<br>• Planning and Zoning Department – GIS Specialist |
| Scientists familiar with the hazards of the community | | |
| Emergency manager | ☑ | |
| Grant writer(s) | ☑ | • Economic Development and Grants Coordinator |
| Others | | |

**Table 23. Summary of fiscal capabilities for San Luis**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | |
| Capital Improvements Project funding | Yes | |
| Authority to levy taxes for specific purposes | Yes | |
| Fees for water, sewer, gas, or electric service | Yes | |
| Impact fees for homebuyers or new developments/homes | Yes | |
| Incur debt through general obligation bonds | Yes | |
| Incur debt through special tax bonds | Yes | |
| Incur debt through private activity bonds | Yes | |

**Table 24. Summary of legal and regulatory capabilities for Somerton**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| CODES | • 2003 International Building Code (IBC Commercial)<br>• 2003 International Residential Code (IRC Residential)<br>• 2003 International Property Maintenance Code (IPMC, Code Enforcement)<br>• 1: Fire Code, 2012 Edition, NFPA 101: Life Safety Code, 2012 Edition<br>• National Electric Code (NEC)<br>• 1994 Uniform Plumbing Code (UPC) | • Fire Department<br>• Community Development Department |
| ORDINANCES | • Zoning Ordinance Adopted 2015<br>• Subdivision Ordinance Adopted 2015 | • Community Development Department |
| PLANS, MANUALS, and/or GUIDELINES | • Emergency Response Plan 2006<br>• City of Somerton General Plan 2010<br>• Sewer Line Collection System Cleaning and Inspection 2009/2010 | • Fire Department<br>• Community Development Department<br>• Public Works Department |
| STUDIES | [Please refer to Yuma County Capability Assessment Table 6-1-5 for available studies that affect this community.] | Yuma County |

**Table 25. Summary of technical staff and personnel capabilities for Somerton**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | • Community Development Department – Carmen Juarez, Director<br>• Public Works Department – Sam Palacios, Public Works Director |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | • Public Works Department – Sam Palacios, Public Works Director<br>• Engineering Consultant Firm, City Engineer |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | • Public Works Department – Public Works Director<br>• Engineering Consultant Firm |
| Floodplain Manager | ☑ | • Sam Palacios, Public Works Director<br>• Engineering Consultant Firm |
| Surveyors | | • Engineering Consultant Firm |
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | • Public Works Department<br>• Fire Department<br>• Police Department |
| Personnel skilled in GIS and/or HAZUS | ☑ | • Community Development Department/Public Works Department |
| Scientists familiar with the hazards of the community | | |
| Emergency manager | ☑ | • Paul De Anda, Fire Chief |
| Grant writer(s) | ☑ | • Community Development Department – Carmen Juarez, Director<br>• Planning and Zoning Department – Vacant no funding at this time, City Planner |
| Others | | |

**Table 26. Summary of fiscal capabilities for Somerton**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | |
| Capital Improvements Project funding | Yes (When grants are available) | |
| Authority to levy taxes for specific purposes | Yes | |
| Fees for water, sewer, gas, or electric service | Yes | |
| Impact fees for homebuyers or new developments/homes | Yes | |
| Incur debt through general obligation bonds | No | |
| Incur debt through special tax bonds | No | |
| Incur debt through private activity bonds | No | |

**Table 27. Summary of legal and regulatory capabilities for City of Yuma**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| CODES | 1. Adopted IBC 2012 in April 2013<br>2. Adopted NFPA 1 Fire Code, NFPA 1, in October, 2003 | 1. Community Development/Building Safety<br>2. Yuma Fire Department /Community Risk Reduction |
| ORDINANCES | 1. Floodplain, Stormwater,<br>2. Industrial Waste,<br>3. Water Emergencies,<br>4. Zoning Ordinance,<br>5. Subdivision and Site Plan Review Requirements,<br>6. Disaster Declaration Ordinance | 1. Engineering Department<br>2. Public Works/Streets<br>3. Utilities<br>4. Community Development<br>5. Community Development<br>6. City Administration |
| PLANS, MANUALS, and/or GUIDELINES | • City of Yuma 2012 General Plan<br>• YMPO 2014-2037 Regional Transportation Plan<br>• Construction Standard Detail Drawings<br>• Floodplain Management<br>• Stormwater Management Program | 1. Community Development<br>2. Yuma Metropolitan Planning Organization<br>3. Engineering Department<br>4. Engineering Department<br>5. Engineering Department |
| STUDIES | [Please refer to Yuma County Capability Assessment Table 6-1-5 for available studies that affect this community.] | |

**Table 28. Summary of technical staff and personnel capabilities for City of Yuma**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | Community Development Department – Laurie Lineberry<br>Engineering Department – Andrew McGarvie |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | Community Development Department – Laurie Lineberry<br>Building Official – Randy Crist |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | Community Development Department – Jennifer Albers<br>Engineering Department – Andrew McGarvie |
| Floodplain Manager | ☑ | Engineering Department – Andrew McGarvie |
| Surveyors | | Engineering Department – Andrew McGarvie |
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | City and County Emergency Management<br>Engineering Department<br>Community Development Department |
| Personnel skilled in GIS and/or HAZUS | ☑ | Community Development Department<br>Information Technology Services Department |
| Scientists familiar with the hazards of the community | | Lab WPCF Figueroa |
| Emergency manager | ☑ | City and County Emergency Management personnel |
| Grant writer(s) | ☑ | Administration<br>Parks and Recreation Department<br>Public Works Department<br>Fire Department |
| Others | | |

**Table 29. Summary of fiscal capabilities for City of Yuma**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | |
| Capital Improvements Project funding | Yes | |
| Authority to levy taxes for specific purposes | Yes | |
| Fees for water, sewer, gas, or electric service | Yes | Water and Sewer only |
| Impact fees for homebuyers or new developments/homes | Yes | Fees for new development only |
| Incur debt through general obligation bonds | Yes | |
| Incur debt through special tax bonds | Yes | |
| Other | | |

**Table 30. Summary of legal and regulatory capabilities for Wellton**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| CODES | • 2009 International Building Code and Related Codes adopted 4/1/14, Ordinance #114 (supersedes previous codes.) | • Town Manager |
| ORDINANCES | • Town of Wellton Zoning Ordinance adopted 11/20/84, Ordinance #39 (with subsequent amendments).<br>• Uses Yuma County Standards for Subdivisions | • Town Manager |
| PLANS, MANUALS, and/or GUIDELINES | 1. Town of Wellton General Plan 2013-2023<br>2. Emergency Operations Plans<br>3. Storm Response Plan<br>4. Water Emergency Operations Plan 2016<br>5. Adopted the Arizona Emergency Response Plan on March 19, 1985 and the Water Department Emergency Standard Operating Procedures in July 2014. | 1. Town Manager<br>2. Town Manager/Police Chief<br>3. Town Manager<br>4. Town Manager<br>5. Town Manager |
| STUDIES | [Please refer to Yuma County Capability Assessment Table 6-1-5 for available studies that affect this community.] | |

**Table 31. Summary of technical staff and personnel capabilities for Wellton**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | • Contract with Consultants as needed. |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | • Town Engineer is appointed by the Town Council on 7/22/70, Ordinance #2 and ARS 9-238. |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | • As directed/appointed by Town of Wellton<br>• Police Chief - received training as a Terrorism Laison Office which includes training on vulnerability assessments for natural and human-caused hazards. |
| Floodplain Manager | ☑ | • The Town of Wellton is under the jurisdiction of the Yuma County Flood Plain District. |
| Surveyors | | • Town Manager |
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | • Town Manager<br>• Police Chief |
| Personnel skilled in GIS and/or HAZUS | ☑ | • Mutual Aid |
| Scientists familiar with the hazards of the community | | • As needed by contract. |
| Emergency manager | ☑ | • Town of Wellton Chief of Police |
| Grant writer(s) | ☑ | • As directed by Town Manager/Council |
| Others | | |

**Table 32. Summary of fiscal capabilities for Wellton**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | We are eligible for CDBG funds every other year as outlined in our Method of Distribution developed by WACOG and approved by the Arizona Department of Housing. |
| Capital Improvements Project funding | Yes | Subject to voter approval. |
| Authority to levy taxes for specific purposes | Yes | Subject to voter approval. |
| Fees for water, sewer, gas, or electric service | Yes | |
| Impact fees for homebuyers or new developments/homes | Yes | |
| Incur debt through general obligation bonds | Yes | Subject to voter approval |
| Incur debt through special tax bonds | Yes | |
| Incur debt through private activity bonds | No | |

**Table 33. Summary of legal and regulatory capabilities for Unincorporated Yuma County**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| CODES | • 2012 International Building Code adopted 6/17/2013<br>• 2012 International Existing Building Code adopted 6/17/2013<br>• 2003 International Fire Code adopted 5/16/05<br>• 2012 International Residential Code adopted 6/17/2013<br>• 2009 International Energy Conservation Code adopted 6/17/2013<br>• 2012 International Mechanical Code adopted 10/5/2015<br>• 2012 International Fuel Gas Code adopted 10/5/2015<br>• 2012 International Plumbing Code adopted 10/5/2015<br>• 2006 International Code Council Electric Code Administrative Provisions adopted 7-20-09<br>• 2014 National Electric Code adopted 10/5/2015 | • Yuma County Department of Development Services, Building Safety Division |
| ORDINANCES | • *Yuma County Zoning Ordinance* adopted August 20, 2006 amendments through April 20, 2017<br>• *Yuma County Subdivision Zoning Ordinance* approved September 15, 2008 with amendments through January 20, 2015 | • Yuma County Planning and Zoning |
| | • *Yuma County Arizona Floodplain Regulations*, Yuma County Flood Control District adopted February 1984, revised March 3, 1997; revised August 2005, August 2006, November 5, 2012<br>• *Public Works Standards for Yuma County Volume III Guide for Preparation of Drainage Reports and Grading Plan, revised August 2005, August 21,2006* | • Yuma County Flood Control District |

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| PLANS, MANUALS and/or GUIDELINES | • *Yuma County 2020 Comprehensive Plan* adopted March 26, 2012 Amendments through January 17, 2017<br>• *Master Plan for Yuma County Roads* adopted August 1, 1998<br>• *Public Works Standards for Yuma County Volume I, Construction Standards* adopted July 18, 1988<br>• *Public Works Standards Volume II, Specifications* adopted September 7, 1993<br>• *Public Works Standards Volume III Guide for Preparation of Drainage Reports and Grading Plan* adopted April 1, 1996, updated 2005, August 21, 2006 | • Yuma County Planning and Zoning |

**Table 34. Summary of technical staff and personnel capabilities for Unincorporated Yuma County**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | Yuma County Department of Development Services, Engineering Division (County Engineer) and Yuma County Planning and Zoning Division (Planning Director), 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | Yuma County Department of Development Services, Engineering Division (County Engineer) and Building Safety (Chief Building Official) and Yuma County Planning and Zoning Division (Planning Director), 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | Yuma County Department of Development Services, Engineering Division, Building Safety and Flood Control (County Engineer and Chief Building Official) and Yuma County Planning and Zoning Division (Planning Director), 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Floodplain Manager | ☑ | Yuma County Department of Development Services, Engineering Division, Flood Control Manager, 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Surveyors | | |
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | Yuma County Department of Development Services, Engineering Division (County Engineer) and Yuma County Planning and Zoning Division (Planning Director), 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Personnel skilled in GIS and/or HAZUS | ☑ | Yuma County Department of Development Services, GIS Division, GIS Supervisor, 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Scientists familiar with the hazards of the community | | US Department of Agriculture, Yuma County Natural Resources Conservation District, 2450 S. Fourth Avenue, Yuma, AZ 85364 520-726-4707. |
| Emergency manager | ☑ | Yuma County Office of Emergency Management 198 So. Main Street, Yuma AZ 85364 928-373-1093 |
| Grant writer(s) | ☑ | Yuma County Department of Development Services, Grants Section, Community Planning Coordinator and Grants Administrator, 2351 W. 26th Street, Yuma AZ 85364, 928-817-5000 |
| Others | | |

**Table 35. Summary of fiscal capabilities for Unincorporated Yuma County**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | Only in qualified low income to medium income communities and emergency declaration designated areas. |
| Capital Improvements Project funding | Yes | |
| Authority to levy taxes for specific purposes | Yes | For declared emergencies. |
| Fees for water, sewer, gas, or electric service | No | |
| Impact fees for homebuyers or new developments/homes | No | |
| Incur debt through general obligation bonds | Yes | Only through a bond election. |
| Incur debt through special tax bonds | Yes | |
| Incur debt through private activity bonds | No | |
| Withhold spending in hazard-prone areas | Yes | |
| Other | Yes | Creation of improvement districts and special districts. |

**Table 36. Summary of legal and regulatory capabilities for Cocopah Indian Tribe**

| Regulatory Tools for Hazard Mitigation | Description | Responsible Department/Agency |
|---|---|---|
| TRIBAL CODES | 1. Subject to federal oversight through HUD when using HUD monies<br>2. Privately owned buildings are largely unregulated.<br>3. State Historic Preservation Office under Cultural Resource. | • Housing Department<br>• Housing Department<br>• Cultural Resources Manager |
| TRIBAL ORDINANCES | 1. Review and administration through Cocopah Planning Department and Tribal Council<br>2. Federal EPA enforcement of pesticides<br>3. BIA Fire Ordinance<br>4. Site Plan Review – Cocopah Indian Housing & Development Corp | 1. Planning<br>2. Environmental Protection Office<br>3. Office of Emergency Management/Planning<br>4. Housing Department |
| TRIBAL REGULATIONS | NONE | |
| PLANS, MANUALS and/or GUIDELINES | (SEE TRIBAL ANNEX)<br>• 2012 Long Range Transportation Plan<br>• Cocopah Development Code<br>• Emergency Operations Plan | |

**Table 37. Summary of technical staff and personnel capabilities for Cocopah Indian Tribe**

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Planner(s) or engineer(s) with knowledge of land development and land management practices | ☑ | • Cocopah Planning Department – Director and Assistant Planner<br>• Cocopah Planning and Business Development – Manager |
| Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure | ☑ | • Outside consultants |
| Planner(s) or engineer(s) with and understanding of natural and/or human-caused hazards | ☑ | • Cocopah Environmental Protection Office – Director<br>• Cocopah Office of Emergency Management – Emergency Manager<br>• Cocopah Police Department - Chief |
| Floodplain Manager | ☑ | • Cocopah Environmental Protection Office – Director |
| Surveyors | ☑ | • Outside consultant |

| Staff/Personnel Resources | ☑ | Department/Agency - Position |
|---|---|---|
| Staff with education or expertise to assess the community's vulnerability to hazards | ☑ | • Cocopah Environmental Protection Office – Director<br>• Cocopah Public Works Department – Director<br>• Cocopah Police Department – Chief<br>• Cocopah/Somerton Fire Department – Chief<br>• Cocopah Office of Emergency Management – Emergency Manager |
| Personnel skilled in GIS and/or HAZUS | ☑ | • Cocopah Planning Department – Assistant Planner<br>• Cocopah Cultural Resources Office - Manager |
| Scientists familiar with the hazards of the community | ☑ | • Cocopah Environmental Protection Office – Director<br>• Cocopah Cultural Resources Office - Manager |
| Emergency manager | ☑ | • Cocopah Office of Emergency Management – Emergency Manager |
| Grant writer(s) | ☑ | • Each department has responsibilities for grants and reliance on outside consultants. |
| Others | ☑ | • Casino Security – Chief of Cocopah Casino Security |

**Table 38. Summary of fiscal capabilities for Cocopah Indian Tribe**

| Financial Resources | Accessible or Eligible to Use (Yes, No, Don't Know) | Comments |
|---|---|---|
| Community Development Block Grants | Yes | Via Cocopah Indian Housing and Development Corporation |
| Capital Improvements Project funding | Yes | Tribal Council |
| Authority to levy taxes for specific purposes | Yes | None Currently levied |
| Fees for water, sewer, gas, or electric service | Yes | Can charge water and sewer. No gas. APS provides electric power. |
| Impact fees for homebuyers or new developments/homes | No | |
| Incur debt through general obligation bonds | No | |
| Incur debt through special tax bonds | No | |
| Other | No | |
| Community Development Block Grants | Yes | Via Cocopah Indian Housing and Development Corporation |
| Capital Improvements Project funding | Yes | Tribal Council |

### *6.2.2 Historical Mitigation Activities*

The Table in Appendix D provides an updated summary, by jurisdiction, of historical mitigation activities completed over previous planning cycles. This section will continue to serve as a record of mitigation successes for the county and its jurisdictions. As part of each Plan update, completed mitigation activities from the previous Plan's (in this case the 2010 A/Ps), will be migrated into this Appendix.

### *6.2.3 National Flood Insurance Program Participation*

Participation in the NFIP is a key element of any community's local floodplain management and flood mitigation strategy. Yuma County and 3 of the 4 incorporated jurisdictions participate in the NFIP at varying levels. The Cocopah Indian Tribe does not currently participate in the NFIP. Joining the NFIP requires the adoption of a floodplain management ordinance that requires jurisdictions to follow established minimum standards set forth by FEMA and the State of Arizona, when developing in the

floodplain. These standards require that all new buildings and substantial improvements to existing buildings will be protected from damage by the 100-year flood, and that new floodplain development will not aggravate existing flood problems or increase damage to other properties. Yuma County and some other communities, have adopted standards that are more stringent than the federal minimum to ensure better flood mitigation practices. As a participant in the NFIP, communities also benefit from having Flood Insurance Rate Maps (FIRM) that map identified flood hazard areas and can be used to assess flood hazard risk, regulate construction practices and set flood insurance rates. FIRMs are also an important source of information to educate residents, government officials and the private sector about the likelihood of flooding in their community. Table 39 summarizes the NFIP status and statistics for each of the jurisdictions and the Cocopah Tribe participating in this Plan.[45]

**Table 39. Summary of NFIP status and statistics for Yuma County and participating jurisdictions and Tribe**

| Jurisdiction | Community ID | NFIP Entry Date | Current Effective Map Date |
|---|---|---|---|
| Yuma County | 040099 | 12/15/1983 | 1/16/2014 |
| City of Yuma | 040102 | 7/5/1983 | 1/16/2014 |
| City of Somerton | 040114 | 8/28/2008 | NSFHA |
| Town of Wellton | 040112 | 7/1/2008 | 1/16/2014 |
| City of San Luis | Not a NFIP participant | | |
| Cocopah Indian Tribe | Not a NFIP participant | | |

[45] FEMA, Community Status Book Report, Arizona, https://www.fema.gov/cis/AZ.pdf. Accessed March 2018

## 6.3 Mitigation Actions/Projects and Implementation Strategy

Mitigation actions/projects (A/P) are those activities identified by a jurisdiction, that when implemented, will have the effect of reducing the community's exposure and risk to the particular hazard or hazards being mitigated. The implementation strategy addresses the "*how, when, and by whom?*" questions related to implementing an identified A/P.

The update process for defining the new list of mitigation A/Ps for the Plan was accomplished in three steps. First, an assessment of the actions and projects specified in Section 6 of the 2010 Plan was performed, wherein each jurisdiction and the Cocopah Tribe reviewed and evaluated their jurisdiction or Tribe specific list. Second, a new list of A/Ps for the Plan was developed by combining the carry forward results from the assessment with new identified A/Ps. Third, an implementation strategy for the combined list of A/Ps was formulated. Details of each step and the results of the process are summarized in the following sections.

### *6.3.1 Previous Mitigation Actions/Projects Assessment*

Each jurisdiction and Tribe reviewed and assessed the actions and projects identified in the 2010 Plan. The assessment included evaluating and classifying each of the previously identified A/Ps based on the following criteria:

- Complete
- Ongoing
- In process
- Deferred
- Cancelled / No Longer Applicable

The following table lists these 2010 A/Ps.

Table 40. Past Action Reporting

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Cocopah Tribe | C-1 | Develop Water Management Plan and create Drought Ordinances. | In progress | EPO has been engaging this project and is still ongoing at this time. |
| Cocopah Tribe | C-2 | Provide Emergency back-up power to critical facilities(Police Station and Cocopah Community Center): Emergency generators, secondary feeds, portable generators with standard camlock connections so power can be maintained in emergency shelters and public safety offices. | Complete (police) | The police department has emergency backup power and we are in the process of installing a generator at the community center for emergency sheltering. |
| Cocopah Tribe | C-3 | Provide Fire Breaks in riparian area of West Reservation/Maintain Fire Breaks on North Reservation to minimize damage from wildfires. | Complete Ongoing | This is a ongoing process that once completed, will grow back to have cleared again. |
| San Luis | SL-1 | Complete current updating and continue to up-date family of construction codes (NFPA1, UBC, UMC, UPC,UEC, etc) within appropriate cycles to ensure adequate design of new or remodeled facilities | Continuous and on-going | The City of San Luis Fire Department and the Development Services Division continue to review the 2012 NFPA 1 Uniform Fire Code and other building Codes to insure our codes stay abreast of the current standards and to insure compatibility. |
| San Luis | SL-2 | Evaluate, review, design and construct infrastructure to minimize effects of run-off damage to right-of-ways, roadways, streets, curb and gutters, sidewalks, retention basins and structures. | Complete | phase 2 downtown drainage plan / updated curb/gutter requirements |
| San Luis | SL-3 | Continue to review effects of participation in the National Flood Insurance Program (NFIP), specifically; the costs of insurance and the ability to market/sell property real property within identified area. The anticipated area is among the oldest developed area of the city and may result in the inability of homeowners to sell, refinance or simply occupy residences, based on the costs and availability of flood insurance. | On-going | |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| San Luis | SL-4 | Continue involvement with AZ Department of Transportation and US Customs to maintain awareness of product and goods transported through both ports of entry (POE 1 and 2). Continue training and education of personnel and the purchase of appropriate equipment to support emergency response to any incidents or events within the US POEs or the AZ-DOT Inspection Station. | Continuous and on-going | Continue to review commodities and transportation corridors which are within the City of San Luis Fire Department response areas. Continue to maintain equipment and training of personnel who will respond to transportation emergencies which may contain hazardous materials. |
| San Luis | SL-5 | Water Conservation and Public Education: Develop and distribute brochures outlining the advantages of water conservation to City water-users | On Going | Distributed through billing statements. |
| San Luis | SL-6 | Water Rights Acquisition: Assurance of water supply through acquisition of senior Colorado River Water Rights with retirement of agricultural lands | On Going | |
| San Luis | SL-7 | Transportation Planning Agency Coordination: Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and Arizona Department of Transportation | Continuous and on-going | Coordinated direct access to commercial port of entry, w/ ADOT developed ASH Highway (U.S. Route 195), implementation of an Area Transit bussing system (transportation district)<br>Continued participation in public meetings and pre-construction meetings of major roadway construction projects which enhance population movement, increase traffic counts or may affect emergency response. |
| San Luis | SL-8 | Seismic Building Code Enforcement: Continue to enforce seismic requirements in current building codes | Continuous and on-going | Continue to support strong earthquake construction standards which protect lives and minimize damages of minimal to moderate earthquake events to buildings and property. |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| San Luis | SL-9 | Enforcement of Zoning and Building Code Ordinance: Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | Continuous and on-going | Currently adopting 2018 building code. The Fire Department will continue to participate in building plans review, apply currently adopted Fire Codes to insure best standard of life and building safety. Continue to do regular building inspections of existing buildings and structures and initial inspections for to provide Certificate of Occupancy of new buildings upon construction. |
| San Luis | SL-10 | Wildfire Mitigation Cooperation: Coordinate/cooperate with BLM/BOR wildfire mitigation activities along the Colorado River | Continuous and on-going | The Fire Department has recently completed transition and modifications to existing vehicle to provide a more appropriate brush fire and off-road response. Vehicle has Compressed Air Foam System (CAFS) capabilities and will eventually achieve Type 6 Engine classification. |
| Somerton | SO-2 | Seismic Building Code enforcement to enforce current seismic codes to reduce the effects of earthquake hazards on new and remodeled buildings | In progress | With all the seismic activity in our area , there will be new studies and data that when it comes available we will revise our codes to meet new changes. Updated to 2003 and will be updating to 2018. |
| Somerton | SO-4 | Enforcement of low water use fixture requirements for new residential/commercial buildings in current plumbing codes to reduce the demand on acquiring additional water resources. | In progress | All new construction has low water use fixtures installed verified by building code inspectors. New 2018 code will address. |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Wellton | W-1 | Design and construct overpass over the Union Pacific railroad tracks allowing vehicles, emergency vehicles, and 1st responders to cross at all times. The plan has identified a location and cost estimate. Would assist in evacuation from any type of disaster or hazard. | Cost prohivitive - still on 10 year plan | Appears unlikely that this will ever be possible. Alternative sub-station south of the tracks being explored. |
| Wellton | W-2 | Continual enforcement of zone and building codes through current site plans, subdivision, and building permit review process to reduce the effects of disasters (natural or manmade) as well as other hazards on new buildings and infrastructure. | In-progress | Awaiting the Adoption of 2018 Building codes (2009 currently). 3rd review of adopting. Are doing enforcement. |
| Wellton | W-3 | Post signage in community on roadways within Town limits once designated as truck routes, hazard material routes, or weight limited roadways. | No longer a priority | To potentially be included in new town traffic ordinance. |
| Wellton | W-4 | Adopt Seismic Building Code Enforcement for new and existing residential and commercial developments to minimize structural damages. | In-progess | Awaiting the Adoption 2012 Building codes |
| Wellton | W-5 | Local Area Drainage Study- perform a local area drainage study to determine vulnerability of identified streets to understand and implement drainage needs and improvements. | Ongoing | Requested Grant of CBG Drainage Funds. In design study through County FCD. |
| Wellton | W-6 | Enforcement of Nuisance Abatement Ordinance-continual enforcement of current nuisance abatement ordinance for control of weeds, debris and flammable materials within Town limits. | Pending | On-going enforcement |
| Wellton | W-7 | Traffic Law Enforcement-continue to enforce traffic laws and minimize accidents within Town limits. | Ongoing | Enforcement equip. obtained through GOHS grant |
| Wellton | W-8 | Continued enforcement of low water use fixtures in zoning regulations to minimize loss of water resource. | Ongoing | Recently completed another Water Loss Study. |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Wellton | W-9 | Continued interaction between local, state, county, and federal agencies to ensure cooperation and planning for transportation networks. | Ongoing | Wellton active in YCIPTA and works closely with ADOT. Participating with YMPO |
| Wellton | W-11 | Continued development, design, and compliance of a water conservation plan to reduce the ensure availability of water supply. | Ongoing | Completed water plant renovation. Current program. |
| Yuma | Y-1 | Design and construct stormwater basins, USBR East Main Canal siphon and overshoot and stormwater lift station with discharge forcemain(s) to detain and evacuate 116.8 acre-feet of storm water. Needed to improve storm water drainage collection and disposal in the area from Avenue A to Barbara Avenue and 26th Place | Being lead by County | |
| Yuma | Y-2 | 28th Street Storm Drainage – Phase I, II, and III: Storm sewer installation in 28th Street from 8th Avenue to Smucker Park retention Basin. Construction will consist of 72" diameter pipe to 96" diameter pipe and construction of a storm water collection basin. This project will improve storm water drainage collection and disposal in area from Avenue A to Barbara Avenue and 26th Place. | Ongoing | Terminal basin at Smucker Park needs to be constructed first. |
| Yuma | Y-3 | Stormwater NPDES Permit Activities: Two phase project …Phase I completed…Phase II implement action plan and provide documentation to Arizona Department of Environmental Quality | Complete | Revised drainage ordinance in FY14 and identifying Priority Areas with direct connection to river. |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma | Y-4 | Del Oro Estates: Construct underground drainage collection system with surface inlets for Del Oro Estates. Construct outfall drain from Del Oro to Victoria Meadows Detention Basin. Del Oro Estates has no provisions for storm water removal and is virtually flat having been designed for on-site storm water disposal. This project will afford flooding protection for residents and remove storm water from City streets. | Ongoing | Engineering study complete. |
| Yuma | Y-6 | Extend Storm Sewer/Arena Drive, 9th Street, 10th Street. And 10th Street from Arena Drive to 13th Avenue. Include inlet structures. Storm water from 13th Avenue is supposed to be channeled in 10th Street, 9th Place, and Arena Drive then conveyed by surface to the existing inlets at 9th Street and Arena Drive. Such is not the case. Even moderately small storms create overland flow that quickly jumps curbs and creates erosion problems across private property. | Ongoing | Engineering and planning complete. Funding needed. |
| Yuma | Y-7 | Stormwater Pumping Structure Conversions to Automated Lift Station: Tierra Kino & Suncrest Estates subdivisions. Telemetry for all storm water pump station locations. There is a need to monitor and control the condition of storm water pump stations. | Ongoing | Work may include replacing pumps, controls, and SCADA systems. |
| Yuma | Y-8 | Enforce low water use fixture requirements for new residential/commercial buildings. The city has adopted the IRC and the IPC both of which have provisions for low flow fixtures in both commercial and residential structures. The codes limit the amount of the water that can flow from fixtures such as toilets, sinks, and shower heads. | Ongoing | Applicable to new construction |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma | Y-9 | Continue to enforce current Zone D1 seismic requirements in residential and commercial building codes. Continue to inspect all requirements for seismic to include liquefaction mitigation, seismic construction requirements, and seismic bracing for all equipment and piping in buildings. | Ongoing | 2012 Building Code adopted per the International Code Council. |
| Yuma | Y-10 | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, and other hazards on new buildings and infrastructure | Ongoing | 2012 Building Code adopted per the International Code Council |
| Yuma | Y-11 | Clear and remove dense stands of salt-cedar and re-establish native riparian vegetation along the Colorado River to produce a natural park area and mitigate the effects of wildland fires. Costs reflect vegetation removal and replacement only. | Ongoing | Ongoing maintenance at both East and West Wetlands. Reduction of riverfront fires down 80 percent since mitigation efforts began in 2002. The majority of the West Wetlands has been eradicated of salt cedar and non-native vegetation and all work at West Wetlands requiring an ACOE 404 permit has been completed. We are currently working on eradicating the last remaining large stand of non-native vegetation from a 28-acre parcel of West Wetlands located between the boat ramp and the 4th Avenue Bridge and anticipate this work being completed in 2019. Ongoing maintenance to prevent re-growth of non-native vegetation is ongoing at East Wetlands |
| Yuma | Y-12 | Continue to provide earthquake safety awareness to the community on an annual basis through booths at fairs, | Ongoing | Yuma Fire continues to do public Education |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| | | brochures, Channel 73 public service announcements, and utility bill inserts. | | |
| Yuma | Y-13 | Encourage the use of xeriscape landscaping in new and existing developments through impact fee incentives and public education through the "Use Water Wisely" Program. | Ongoing | The City adopted an update to the Landscaping Ordinance in 2017 that encourages the right plant in the right place. The Landscaping code requires xeriscape design to minimize water use within the City of Yuma. |
| Yuma County | YC-1 | Design and construct a new storm water a basin, Smucker Park Detention Basin. New construction of this planned detention basin for the Yuma Mesa area will store the 100-year discharge. This basin is needed to mitigate the damage and reduce uncontrolled runoff that currently flows down the West Mesa Area to the Yuma Valley resulting in flooding of surrounding areas. Design is complete and is in state permitting process. | On-going | District and City of Yuma entered into an IGA to complete the project |
| Yuma County | YC-4 | This project is located in the La Jolla Subdivision. Project will provide drainage improvements, catch basin and storm water pipeline to drain this neighborhood. Storm water presently ponds in the street and requires removal by water trucks. | Complete | |
| Yuma County | YC-5 | Develop and implement a Flood/Waterway Education and Public Outreach campaign to encourage citizen awareness to mitigate the damages of floods via the use of internet, public meetings, brochures, etc. | Ongoing | Letters sent to property owners affected by 2014 Flood Insurance Rate Map Updates. |
| Yuma County | YC-6 | Attend related technical conferences and relay new information to stakeholders | Ongoing | Staff attended Emergency Management Training, Arid Region Conference, CRS & BW12 training |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma County | YC-7 | Fund annual State Floodplain regulations and develop technical and review standards for floodplain related topics | Ongoing | $5,000 annual contribution submitted to State Standards Work Group |
| Yuma County | YC-8 | Document Flood Damage after flood events to further mitigate ongoing efforts by identification of potential and actual hazard areas; will also be used in public outreach and education campaign as well as provide historical reference for future mitigation efforts | Ongoing | Localized flooding photographed in the Foothills and Yuma Area<br>Annual Assessment Report is prepared |
| Yuma County | YC-9 | Design and construct additional Groundwater Wells to mitigate and lower the groundwater levels during sustained flooding of the Colorado River and along the west Yuma Mesa. | Ongoing | Coordination with YCWUA and USBR for operation and maintenance of Yuma Valley facilities |
| Yuma County | YC-10 | Participate in Community Assistance Program and other state and federal programs when they benefit Yuma County. | Ongoing | District coordinates with ADWR regarding Flood Insurance Regulations and assists Wellton and Somerton with NFIP |
| Yuma County | YC-12 | Design and construct Business 8 Drainage Improvements are needed to drain ponding along roadway. | On hold | Limited community interest |
| Yuma County | YC-14 | Virginia Ave/24th Street Storm Drain Improvements is an extension of the 28th Street Storm drain System. | Remove | City does not have plans to extend Smucker Park system for several years (20+) |
| Yuma County | YC-15 | Design and re-construct Engler Avenue Basin Pump Station to drain this basin to the East Mesa Outfall System mitigating damage to surrounding area and thus reducing detention times below 5 days. | Remove | Project is not cost effective |
| Yuma County | YC-16 | Phoenix and Mesa St. within the Yuma East area. On site drainage has been filled in by the owners. Design will provide alternatives to address the storm water ponding. | On hold | Study completed. Not in 5 yr CIP. |
| Yuma County | YC-17 | Design and then renovate the Gadsden Area Drainage to provide storm water facilities, to mitigate the effects of existing storm water ponds occurring within roadway or adjacent properties | Ongoing | Completed system constructed. Land has been purchased for regional basin |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma County | YC-21 | Public education campaign to encourage citizens to conserve water | On-going | Yuma County Area Agriculture Council/YCOEM uses public events on a regular basis to pass out flyers and speak to community members about issues to include water preservation. |
| Yuma County | YC-22 | Continue to ensure that Yuma County residents are safe from flooding by meeting the NFIP requirements for development within a Special Flood Hazard Area through enforcement of the Floodplain Ordinance. | On-going | |
| Yuma County | YC-23 | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and Arizona Department of Transportation | On-going | MOU has been completed. |
| Yuma County | YC-24 | Develop and implement a public education and awareness campaign for county residents to mitigate damages caused by these specified incidents via the use of internet, brochures, website, community presentations and forums and other media | On-going | Participate in Great Arizona Shake-Out annually. YCOEM has monthly community tabletop exercises which include seismic events, and we also use public events on a regular basis to pass out flyers and speak to community members about issues to include earthquake preparedness. |
| Yuma County | YC-25 | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | On-going | Adopted 2012 Building Codes June 2013, include provisions for the mitigation of earthquake, flood and wind events. Currently moving towards 2018 IRC/IBC. |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma County | YC-26 | Continue to require county residents to acquire burn permits to mitigate against the potential for wildland fires. | On-going | Continue enforcing provisions of 2003 International Fire Code including permit requirements for open burning<br>The open burn permitting program via ADEQ to the Yuma County Health department and delegated to Yuma Rural/Metro fire department The open burn program has numerous preventions steps built into it and one of these steps is to prevention wild land fires as stated.<br>2010 adopted Community Wild Fire Protection Plan. |
| Yuma County | YC-27 | Continue to enforce building code low water use fixture requirements for new residential and commercial buildings. | On-going | 2018 code update will address. Adopted 2012 International Building Code June 2013 require low flow fixture installation |
| Yuma County | YC-28 | Continued enforcement of development restricted areas relative to the MCAS and the MCAS Auxiliary Field II as identified in the Joint Land Use Plan. | On-going | Yuma Regional development plan addresses this. No joint land-use plan anymore. Applications are reviewed for conformance with current Arizona Revised Statutes and Zoning Ordinance.<br>All actions involving land use permits are cleared to uphold proper airspace operations of the military |

| Jurisdiction | ID No. | Description | Status | Summary |
|---|---|---|---|---|
| Yuma County | YC-29 | Develop and implement a public education and awareness campaign for county residents to mitigate damages caused by these specified incidents via the use of internet, brochures, website, community presentations and forums and other media | On-going | Local Fire departments provide preventative and preparedness training. YCOEM has monthly community tabletop exercises which include wildfire, storm related issues, and seismic events, and we also use public events on a regular basis to pass out flyers and speak to community members about issues to include Drought<br>Earthquake<br>Wildfire<br>Transportation<br>Flooding<br>Severe Wind preparedness |

*6.3.2 New Mitigation Actions / Projects and Implementation Strategy*

Upon completion of the assessment summarized in Section 6.3.1, each jurisdiction developed new A/Ps in conjunction with the updated mitigation strategy, results of the vulnerability analysis and capability assessment, public survey results, and the Planning Team's institutional knowledge of hazard mitigation needs in the community.

For each A/P, the following elements were identified:

- **ID No.** – a unique alpha-numeric identification number for the A/P.
- **Mitigation Action / Project Description** – a brief description of the A/P including a supporting statement that tells the "what" and "why" reason for the A/P.
- **Hazard(s) Mitigated** – a list of the hazard or hazards mitigated by action.
- **Estimated Costs** – concept level cost estimates that may be a dollar amount or estimated as staff time.
- **Priority Ranking** – unless otherwise noted below, each A/P was assigned a priority ranking of either "High", "Medium", or "Low".
- **Primary Agency / Job Title Responsible for Implementation** –the agency, department, office, or other entity and corresponding job title that will have responsibility for the A/P and its implementation.
- **Anticipated Completion Date** – best available estimates for implementation
- **Status** – new, in-progress, or on-going

Once the full list of A/Ps was identified, jurisdictions were then asked to help to prioritize each A/P. During the final Mitigation Strategy Workshop, Planning Team members were presented with ideas and tools relating to A/P prioritization. FEMA's STAPLEE method was included in these discussions, as was the need to ensure A/P costs versus benefits were considered when prioritizing the new A/Ps.

After Planning Team discussions about the pros and cons on various methods, it was decided that a simple priority ranking of either "High", "Medium", or "Low" would be utilized. The assignments were subjectively made using a straightforward process that assessed how well the A/P satisfied the following considerations:

- A favorable benefit versus cost evaluation, wherein the perceived direct and indirect benefits outweighed the project cost.
- A direct beneficial impact on the ability to protect life and/or property from natural hazards.
- A mitigation solution with a long-term effectiveness

The following table lists all A/Ps identified by the Planning Team to be included in this 2018 Plan update.

Table 41. Past Action Reporting

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Cocopah Tribe | 2018.01 | Concrete lining of piping/bury canal system (East & West Reservation) | Flooding | $$$ | High | OEM | 2023 | New |
| Cocopah Tribe | 2018.02 | Fortify police department (secure entry system) - West Reservation | Multi-hazard | $$ | High | Police / OEM | 2023 | New |
| Cocopah Tribe | 2018.03 | Fortify emergency operations center (secure entry system) - Rio Colorado Golf Course | Multi-hazard | $$ | High | Police / OEM | 2023 | New |
| Cocopah Tribe | 2018.04 | Upgrade emergency operations command unit communication technology | Multi-hazard | $$$ | High | OEM | 2023 | New |
| Cocopah Tribe | 2018.05 | Conduct HazMat and fire training, equip personnel, & coordination exercises. | Multi-hazard | $ | Medium | SCFD / Police / OEM | 2023 | New |
| Cocopah Tribe | 2018.06 | Increasing radio capacity through YRCS communication system | Multi-hazard | $$ | Medium | OEM / Police | 2023 | New |
| Cocopah Tribe | 2018.07 | Enhance ability of Tribe to investigate structural / wildland fires | Wildfire | $ | Low | Police / Fire | 2023 | New |
| Cocopah Tribe | 2018.08 | Purchase AEDs for police vehicles | Multi-hazard | $ | High | Police | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Cocopah Tribe | 2018.09 | Purchase alternate vehicles such as UTV to aid in remote response | Multi-hazard | $$ | Medium | Police | 2023 | New |
| Cocopah Tribe | 2018.10 | Secure utility sites (water, sewer lift stations). | Multi-hazard | $$ | High | Public Works | 2023 | New |
| Cocopah Tribe | 2018.11 | Enhance ability to maintain overgrowth along roadways | Multi-hazard | $ | High | EPO / manpower | 2023 | New |
| Cocopah Tribe | C-2 | Provide Emergency back-up power to critical facility (Cocopah Community Center): Emergency generators, secondary feeds, portable generators with standard camlock connections so power can be maintained in emergency shelters and public safety offices. | Multi-hazard | $$ | High | OEM, SCFD | 2023 | On-going |
| Cocopah Tribe | C-3 | Maintain Fire Breaks on North Reservation and in riparian area of West Reservation to minimize damage from wildfires. Continue to identify other areas for treatment and maintenance. | Wildfire | $ | High | BIA / EPO / manpower | 2023 | On-going |
| Cocopah Tribe | 2018.12 | Evaluate feasibility to implement animal population control measures | Other | $ | Low | Police | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Cocopah Tribe | 2018.13 | Prewire critical facilities with transfer switches to ease installations of temporary backup generators | Multi-hazard | $$ | High | OEM | 2023 | New |
| Cocopah Tribe | 2018.14 | Backup power for Cocopah Hotel Resort to serve as community disaster shelter | Multi-hazard | $$ | High | OEM | 2023 | New |
| Cocopah Tribe | 2018.15 | Install lighting in the employee parking lot area | Multi-hazard | $$ | Medium | OEM | 2023 | New |
| San Luis | 2018.01 | Improve interoperability, technology use, and communications with U.S. and Mexico (radio, 911, video, etc). | Multi-hazard | $$ | High | Fire / Police / IT | 2023 | New |
| San Luis | 2018.02 | Coordinate with Federal agencies to mitigate delays of border crossings, improve EM access, enhance commerce, and streamline crossing by expanding facilities/infrastructure. | Multi-hazard | $ | Medium | Public Works / Fire / Police | 2023 | New |
| San Luis | 2018.03 | Conduct HazMat and police training & coordination exercises. | Multi-hazard | $ | High | Fire / Police | 2023 | New |
| San Luis | 2018.04 | Support border 2020 mission & goals. | Multi-hazard | $$ | Low | Fire / Police | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| San Luis | 2018.05 | Coordinate with local/state/Federal/Mexico on improving regional air quality. | Multi-hazard | $ | Medium | Development Services / Public Works | 2023 | New |
| San Luis | 2018.06 | Development of multiple-area cooling stations. | Extreme Heat | $ | Medium | Fire / Yuma County Public Health | 2023 | New |
| San Luis | 2018.07 | Water system reliability and redundancy improvements. | Extreme Heat | $$$ | High | Public Works | 2023 | New |
| San Luis | 2018.08 | Secure utility sites (water, sewer lift stations). | Multi-hazard | $$ | Medium | Public Works / IT / Police | 2023 | New |
| San Luis | 2018.09 | Conduct an egress / supply routes assessment. | Multi-hazard | $ | Medium | Public Works / Fire | 2023 | New |
| San Luis | 2018.10 | Develop community specific emergency plans. | Multi-hazard | $ | High | Fire / Police / Public Works / City Administration | 2023 | New |
| San Luis | 2018.11 | Increase public safety response by identifying alternate facilities to ensure continuity. | Multi-hazard | $ | Medium | Police / Fire / IT | 2023 | New |
| San Luis | 2018.12 | Increase public awareness and community outreach to include multi-hazard planning. | Multi-hazard | $ | Medium | Fire / Police | 2023 | New |
| San Luis | 2018.13 | Work on maximizing local emergency broadcast system participation. | Multi-hazard | $ | Medium | Yuma County EM / City Administration / PIO / Fire / Police | 2023 | New |
| San Luis | SL-1 | Complete current updating and continue to up-date family of construction codes (NFPA1, UBC, UMC, UPC,UEC, etc) within | - | - | - | Development Services / Fire | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | appropriate cycles to ensure adequate design of new or remodeled facilities | | | | | | |
| San Luis | SL-3 | Continue to review effects of participation in the National Flood Insurance Program (NFIP), specifically; the costs of insurance and the ability to market/sell property real property within identified area. The anticipated area is among the oldest developed area of the city and may result in the inability of homeowners to sell, refinance or simply occupy residences, based on the costs and availability of flood insurance. | - | - | - | Development Services / City Administration | - | On-going |
| San Luis | SL-4 | Continue involvement with AZ Department of Transportation and US Customs to maintain awareness of product and goods transported through both ports of entry (POE 1 and 2). Continue training and education of personnel and the purchase of | - | - | - | Fire | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | appropriate equipment to support emergency response to any incidents or events within the US POEs or the AZ-DOT Inspection Station. | | | | | | |
| San Luis | SL-5 | Water Conservation and Public Education: Develop and distribute brochures outlining the advantages of water conservation to City water-users | - | - | - | Public Works | - | On-going |
| San Luis | SL-6 | Water Rights Acquisition: Assurance of water supply through acquisition of senior Colorado River Water Rights with retirement of agricultural lands | - | - | - | Public Works | - | On-going |
| San Luis | SL-7 | Transportation Planning Agency Coordination: Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps | - | - | - | Development Services / Public Works / Fire Department | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | Air Station, and Arizona Department of Transportation | | | | | | |
| San Luis | SL-8 | Seismic Building Code Enforcement: Continue to enforce seismic requirements in current building codes | - | - | - | Development Services / Public Works / Fire Department | - | On-going |
| San Luis | SL-9 | Enforcement of Zoning and Building Code Ordinance: Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | - | - | - | Development Services / Public Works / Fire Department | - | On-going |
| San Luis | SL-10 | Wildfire Mitigation Cooperation: Coordinate/cooperate with BLM/BOR wildfire mitigation activities along the Colorado River | - | - | - | Development Services / Public Works / Fire Department | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Somerton | 2018.01 | South drainage tie-in design and implementation | Flooding | $$ | High | Public Works / Yuma County Flood District | 2023 | New |
| Somerton | 2018.02 | Installation of air conditioning in recreation center (cooling center & shelter) | Extreme Heat | $$ | High | Parks and Rec | 2023 | New |
| Somerton | 2018.03 | Installation of back-up power for recreation center (shelter) and City Hall (continuity of operations) | Multi-hazard | $$ | High | Public Works / Community Development | 2023 | New |
| Somerton | 2018.04 | Install lift station and water well generator | Drought | $$ | Medium | Public Works | 2023 | New |
| Somerton | 2018.05 | Extend water supply to residential and commercial areas (currently well water) | Multi-hazard | $$$ | Medium | Public Works | 2023 | New |
| Somerton | 2018.06 | Removal of remaining asbestos water lines | Multi-hazard | $$ | Low | Public Works | 2023 | New |
| Somerton | 2018.07 | Enhance code enforcement for outdated electrical systems | Multi-hazard | $$ | Low | Community Development | 2023 | New |
| Somerton | 2018.08 | Coordinate existing septic systems to hook into City sewer infrastructure | Multi-hazard | $$ | Low | Community Development / Public Works | 2023 | New |
| Somerton | 2018.09 | Upgrade emergency operations center (technology - phones, computers, network) | Multi-hazard | $$ | High | Police | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Somerton | 2018.10 | Conduct HazMat and fire training & coordination exercises. | Multi-hazard | $ | Low | Fire | 2023 | New |
| Somerton | 2018.11 | Develop additional fire station on eastern side (in coordination with San Luis) | Multi-hazard | $$$ | Medium | Fire | 2023 | New |
| Somerton | 2018.12 | Purchase mobile police command post. | Multi-hazard | $$$ | Medium | Police | 2023 | New |
| Somerton | 2018.13 | Water Rights Acquisition: Assurance of water supply through acquisition of senior Colorado River Water Rights with retirement of agricultural lands | Drought | $$$ | Low | Community Development | 2023 | New |
| Somerton | 2018.14 | Secure utility sites (water, sewer lift stations). | Multi-hazard | $$ | High | Public Works | 2023 | New |
| Somerton | 2018.15 | Expansion of existing radio tower from 80' to 100' | Multi-hazard | $$ | Medium | Public Works | 2023 | New |
| Somerton | 2018.16 | Prewire critical facilities with transfer switches to ease installations of temporary backup generators | Multi-hazard | $$ | Medium | Community Development | 2023 | New |
| Somerton | 2018.17 | Update Emergency Operations Plan | Multi-hazard | $ | Medium | Fire / Police | 2023 | New |
| Somerton | 2018.18 | Seismic Building Code enforcement to enforce current | - | - | On-going | Community Development | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | seismic codes to reduce the effects of earthquake hazards on new and remodeled buildings | | | | | | |
| Somerton | 2018.19 | Enforcement of low water use fixture requirements for new residential/commercial buildings in current plumbing codes to reduce the demand on acquiring additional water resources. | - | - | On-going | Community Development | - | On-going |
| Wellton | 2018.01 | Compete installation/linkage of back-up generator system to water system. | Multi-hazard | $$ | High | Town Administration | 2019 | New |
| Wellton | 2018.02 | Fire station expansion and improvements. | Multi-hazard | $$$ | High | Fire | 2020 | New |
| Wellton | 2018.03 | Conduct HazMat and fire training & coordination exercises. | Multi-hazard | $ | Medium | Fire | 2019 | New |
| Wellton | 2018.04 | Standardize ratio of officers to accommodate growing population. | Multi-hazard | $$ | Low | Police | 2023 | New |
| Wellton | 2018.05 | Maintain open communications with State to receive funding for future road improvements/paving/maintenance. | Multi-hazard | $ | Medium | Town Administration | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Wellton | 2018.06 | Install charcoal filters on oversized water lines to remain in compliance. | Multi-hazard | $$ | High | Water | 2019 | New |
| Wellton | 2018.07 | Develop combined Town municipal facility. | Multi-hazard | $$$ | Low | Town Administration / Police / Fire / Utility | 2023 | New |
| Wellton | 2018.08 | Develop sub-stations for police, fire, and other government services south of the railroad track. | Multi-hazard | $$$ | Low | Town Administration | 2023 | New |
| Wellton | W-2 | Continual enforcement of zone and building codes through current site plans, subdivision, and building permit review process to reduce the effects of disasters (natural or manmade) as well as other hazards on new buildings and infrastructure. | - | - | - | Town Code Enforcement Officer | - | On-going |
| Wellton | W-4 | Adopt Seismic Building Code Enforcement for new and existing residential and commercial developments to minimize structural damages. | - | - | - | Town Administration / Code Enforcement Officer /Planning & Zoning. | 2019 | In Process |
| Wellton | W-5 | Local Area Drainage Study- perform local area drainage studies to determine vulnerability of identified streets | - | - | - | Yuma County Flood District / Town Public Works / Highway Dept | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | to understand and implement drainage needs and improvements. | | | | | | |
| Wellton | W-6 | Enforcement of Nuisance Abatement Ordinance-continual enforcement of current nuisance abatement ordinance for control of weeds, debris and flammable materials within Town limits. | - | - | - | Police | - | On-going |
| Wellton | W-7 | Traffic Law Enforcement-continue to enforce traffic laws and minimize accidents within Town limits. | - | - | - | Police | - | On-going |
| Wellton | W-9 | Continued interaction between local, state, county, and federal agencies to ensure cooperation and planning for transportation networks. | - | - | - | Town Administration / County of Yuma | - | On-going |
| Wellton | W-11 | Continued development, design, and compliance of a water conservation plan to reduce the ensure availability of water supply. | - | - | - | AZ Dept of Water Resources / Public Works | - | On-going |
| Yuma | 2018.01 | Acquire mobile rehab (cooling) facility. | Extreme Heat | $$ | Medium | Police | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma | 2018.02 | Identify/inventory backup power sources for fixed City locations. | Multi-hazard | $ | High | Fire | 2023 | New |
| Yuma | 2018.03 | Continued implementation of emergency preparedness public outreach. | - | - | - | Fire | - | On-going |
| Yuma | Y-10 | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, and other hazards on new buildings and infrastructure | - | - | - | Community Development | - | On-going |
| Yuma | Y-11 | Clear and remove dense stands of salt-cedar and re-establish native riparian vegetation along the Colorado River to produce a natural park area and mitigate the effects of wildland fires. | - | - | - | Yuma Crossing National Heritage Area - Project Manager | - | On-going |
| Yuma | Y-8 | Enforce low water use fixture requirements for new residential/commercial buildings. The city has adopted the IRC and the IPC both of which have provisions for low | - | - | - | Community Development | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | flow fixtures in both commercial and residential structures. The codes limit the amount of the water that can flow from fixtures such as toilets, sinks, and shower heads. | | | | | | |
| Yuma | Y-9 | Continue to enforce current Zone D1 seismic requirements in residential and commercial building codes. Continue to inspect all requirements for seismic to include liquefaction mitigation, seismic construction requirements, and seismic bracing for all equipment and piping in buildings. | - | - | - | Community Development | - | On-going |
| Yuma | Y-13 | Encourage the use of xeriscape landscaping in new and existing developments through impact fee incentives and public education through the "The Right Plant in the Right Place" Program. | - | - | - | Community Development | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma | Y-7 | Stormwater Pumping Structure Conversions to Automated Lift Station: Tierra Kino & Suncrest Estates subdivisions. Telemetry for all storm water pump station locations. There is a need to monitor and control the condition of storm water pump stations. | - | - | - | Community Development | - | On-going |
| Yuma | 2018.04 | Virginia Drive Retention Basin: Construct retention basin at northeast corner of Virginia Drive and 28th Street. Install new curb inlets to intercept on street runoff into retention basin. This project will reduce on street flooding that occurs during periods of heavy rainfall. | Flooding | $$ | | Community Development | 2020 | New |
| Yuma | Y-2 | 28th Street Storm Drainage – Phase I, II, and III: Storm sewer installation in 28th Street from 8th Avenue to Smucker Park Retention Basin. Construction will consist of 72” diameter pipe to 96” diameter pipe and construction of a storm water | - | - | - | Community Development | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | collection basin. This project will improve storm water drainage collection and disposal in area from Avenue A to Barbara Avenue and 26th Place. | | | | | | |
| Yuma | Y-4 | Del Oro Estates: Construct underground drainage collection system with surface inlets for Del Oro Estates. Construct outfall drain from Del Oro to Victoria Meadows Detention Basin. Del Oro Estates has no provisions for storm water removal and is virtually flat having been designed for on-site storm water disposal. This project will afford flooding protection for residents and remove storm water from City streets. | - | - | - | Community Development | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma | Y-6 | Extend Storm Sewer/Arena Drive, 9th Street, 10th Street. And 10th Street from Arena Drive to 13th Avenue. Include inlet structures. Storm water from 13th Avenue is supposed to be channeled in 10th Street, 9th Place, and Arena Drive then conveyed by surface to the existing inlets at 9th Street and Arena Drive. Such is not the case. Even moderately small storms create overland flow that quickly jumps curbs and creates erosion problems across private property. | - | - | - | Community Development | - | On-going |
| Yuma | Y-12 | Continue to provide earthquake safety awareness to the community on an annual basis through booths at fairs, brochures, Channel 73 public service announcements, and utility bill inserts. | - | - | - | Community Development | - | On-going |
| Yuma County | 2018.01 | Inspect county critical facilities to evaluate vulnerabilities to | Multi-hazard | $ | Medium | Facility Management | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | hazards and necessary upgrades to key infrastructure | | | | | | |
| Yuma County | 2018.02 | Survey county facilities to evaluate back-up power availability and needs to install | Multi-hazard | $ | High | Facility Management | 2023 | New |
| Yuma County | 2018.03 | Install power transfer switches for critical infrastructure | Multi-hazard | $$ | High | Facility Management | 2023 | New |
| Yuma County | 2018.04 | Construction of new public works East County facility | Multi-hazard | $3.5 M | Medium | Public Works / Facility Management | 2023 | New |
| Yuma County | 2018.05 | East County low flow crossing construction / improvements (White Wing, Bearagon) | Multi-hazard | $150 K | Medium | Public Works / Flood District | 2023 | New |
| Yuma County | 2018.06 | Encouragement of community-driven risk reduction efforts to mitigate wildfire (combustible green waste) risk | Wildfire | $ | Medium | Development Services / Administration | 2023 | New |
| Yuma County | 2018.07 | Closed PODS expansion | Multi-hazard | $$ | High | Health | 2023 | New |
| Yuma County | 2018.08 | Development of an access and functional needs evacuation assistance program | Multi-hazard | $ | Medium | Health | 2023 | New |
| Yuma County | 2018.09 | Construction of new or expansion of existing facility to serve as a multi-purpose facility to house EOC | Multi-hazard | $$$ | Low | Facility Management / Emergency Management | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma County | 2018.10 | Update technology and equipment for existing EOC | Multi-hazard | $$ | High | ITS / Emergency Management | 2023 | New |
| Yuma County | 2018.11 | Complete COOP plan for Yuma County | Multi-hazard | $ | High | Emergency Management / Administration | 2023 | New |
| Yuma County | 2018.12 | Support and facilitate coordination with water districts to locate resources for necessary upgrades and maintenance to infrastructure | Drought | $ | Low | Public Works / ID | 2023 | New |
| Yuma County | 2018.13 | Water Rights Acquisition: Assurance of water supply through acquisition of senior Colorado River Water Rights with retirement of agricultural lands | Drought | $$$ | High | Administration / BOS | 2023 | New |
| Yuma County | 2018.14 | Public education campaign focused on informing the public about the risks posed by dam failure/release flooding | Flooding | $ | Low | Emergency Management / PIO | 2023 | New |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma County | YC-1 | Design and construct a new storm water a basin, Smucker Park Detention Basin. New construction of this planned detention basin for the Yuma Mesa area will store the 100-year discharge. This basin is needed to mitigate the damage and reduce uncontrolled runoff that currently flows down the West Mesa Area to the Yuma Valley resulting in flooding of surrounding areas. Design is complete and is in state permitting process. Future phases to extend the storm lines to the basin will be programmed upon completion. | - | $10M | - | Development Services | 2019 | On-going |
| Yuma County | YC-21 | Public education campaign to encourage citizens to conserve water | - | - | - | Emergency Management | - | On-going |
| Yuma County | YC-22 | Continue to ensure that Yuma County residents are safe from flooding by meeting the NFIP requirements for development within a Special Flood Hazard | - | - | - | Development Services | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | Area through enforcement of the Floodplain Ordinance. | | | | | | |
| Yuma County | YC-23 | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and Arizona Department of Transportation | - | - | - | Development Services | - | On-going |
| Yuma County | YC-24 | Develop and implement a public education and awareness campaign for county residents to mitigate damages caused by these specified incidents via the use of internet, brochures, website, community presentations and forums and other media | - | - | - | Emergency Management | - | On-going |
| Yuma County | YC-25 | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, | - | - | - | Development Services | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | | | | | | |
| Yuma County | YC-26 | Continue to require county residents to acquire burn permits to mitigate against the potential for wildland fires. | - | - | - | Development Services / Rural Metro | - | On-going |
| Yuma County | YC-27 | Continue to enforce building code low water use fixture requirements for new residential and commercial buildings. | - | - | - | Development Services | - | On-going |
| Yuma County | YC-28 | Continued enforcement of development restricted areas relative to the MCAS and the MCAS Auxiliary Field II as identified in the Joint Land Use Plan. | - | - | - | Development Services | - | On-going |
| Yuma County | YC-29 | Develop and implement a public education and awareness campaign for county residents to mitigate damages caused by these specified incidents via the use of internet, brochures, website, community | - | - | - | Development Services / Emergency Management | - | On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| | | presentations and forums and other media | | | | | | |
| Yuma County | 2018.15 | SW Somerton Area Drainage Improvements: Phase I will address the need to provide a discharge system to the existing basins. | Flooding | $3.6 M | Medium | Development Services | 2021 | New / On-going |
| Yuma County | 2018.16 | Wellton Area Drainage Improvements: Phase I is the near term priorities, Helen Street Retention Basin, Maybele Street Retention Basin, and Arizona Avenue/San Jose Avenue Storm Drain. Phase II is the Coyote Wash Channelization. | Flooding | $4.4 M | Medium | Development Services | 2022 | New / On-going |
| Yuma County | 2018.17 | Far West Drainage System: The Foothills Master Drainage Plan Update addresses the needs of the Foothills area. This phase will construct the storm drain system into the Far West Basin. | Flooding | $4M | Medium | Development Services | 2019 | New / On-going |

| Jurisdiction | ID No. | Description | Hazard(s) Mitigated | Estimated Cost | Priority Ranking | Primary Agency/Job Title Responsible for Implementation | Anticipated Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| Yuma County | 2018.18 | Pump Station installations at Retention basins: Existing detentions are located within the City of Yuma, Somerton and San Luis. This project proposes to install storm sewer pump stations to drain the basin to an outfall line (river or drain) | Flooding | $240 K | Medium | Development Services | 2019 | New / On-going |
| Yuma County | 2018.19 | San Luis Area Drainage Improvements: The storm drain trunk lines were construction concurrently with ADOT's Main Street reconstruction. Phase II extends the storm lines to the east. | Flooding | $315 K | Medium | Development Services | 2018 | New / On-going |
| Yuma County | 2018.20 | Gadsden - San Luis Outfall and Basin Discharges: An initial study would look at the cost effectiveness of the Rio Sonora basins and then consider an outfall system for growth between San Luis and Gadsden. | Flooding | $4M | Medium | Development Services | 2023 | New / On-going |

*6.3.3 Potential Funding Sources*

The following information relates to potential mitigation project funding sources to be evaluated by the plan's participating jurisdictions and Tribe:

Hazard Mitigation Grant Program
POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/hazard-mitigation-grant-program

Pre-Disaster Mitigation Grant Program
POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/pre-disaster-mitigation-grant-program

Flood Mitigation Assistance Grant Program
POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/flood-mitigation-assistance-grant-program

Emergency Management Performance Grant Program
POC: FEMA Region IX
Website: https://www.fema.gov/emergency-management-performance-grant-program

All adopting participants of this HMP were informed about potential funding sources for implementing mitigation actions and projects.

# SECTION 7: PLAN MAINTENANCE PROCEDURES

According to the DMA 2000 requirements, each plan must define and document processes or mechanisms for maintaining and updating the hazard mitigation plan within the established five-year planning cycle. Elements of this plan maintenance section include:

**Monitoring and Evaluating the Plan**

**Updating the Plan**

**Implementing the Plan by Incorporation into Other Planning Mechanisms**

**Continued Public Involvement**

Yuma County, the Cocopah Tribe, and the participating jurisdictions recognize that this hazard mitigation plan is intended to be a "living" document with regularly scheduled monitoring, evaluation, and updating.

As part of the 2018 Plan update process, the Planning Team recognized the need for improvement to the Plan monitoring and evaluation process. The results of those discussions are outlined in the following sections and the plan maintenance strategy.

## 7.1 Monitoring and Evaluation

The Planning Team has established the following monitoring and evaluation procedures:

- **Schedule** – The Plan shall be reviewed on at least an annual basis and following a major disaster. The County EM will contact the Tribe and each jurisdiction's point of contact or the City/Town Manager/Clerk to coordinate the Plan review.
- **Review Content** – The content and scope of the Plan review and evaluation will address the following questions:
    - ***Hazard Identification:*** *Have the risks and hazards changed?*
    - ***Goals and objectives:*** *Are the goals and objectives still able to address current and expected conditions?*
    - ***Mitigation Projects and Actions:*** *Has the project been completed? If not complete but started, what has been completed? What remains to be done? Are there changes to the scope of work?*

Each jurisdiction will review the Plan as it relates to their community and document responses to the above questions in the form of an informal memorandum. During the annual review process, each jurisdiction may present their review findings to the Planning Team to discuss concerns or successes. Documentation of the annual review will include a compilation of the memorandums generated by each jurisdiction plus any notes on discussions and conclusions. Copies of the annual review report are included in Appendix E.

## 7.2 Plan Update

According to DMA 2000, the Plan requires updating and approval from FEMA every five years. The plan update will adhere to that set schedule using the following procedure:

- ✓ Approximately one year prior to the plan expiration date, the Planning Team, or their designated planning consultant, will perform an update to the Plan and planning process and will revise the appropriate or affected portions of the plan and produce a revised plan document.
- ✓ The revised Plan document will be presented before the respective councils and boards for an official concurrence/adoption of the changes.
- ✓ The revised plan will be submitted to DEMA and FEMA for review, comment and approval.

## 7.3 Incorporation Into Existing Planning Mechanisms

Incorporation of the Plan into other planning mechanisms, either by content or reference, enhances a community's ability to perform natural hazard mitigation by expanding the scope of the Plan's influence. A poll of the participating jurisdictions revealed that methods for utilizing and/or incorporating the 2010 Plan elements over the past planning cycle into other planning programs has varied. Ways in which the 2010 Plan has been successfully incorporated or referenced into other planning mechanisms for each jurisdiction are summarized below:

Yuma County

- The County utilized the Plan as a blueprint when conducting yearly CIP planning activities.

Cocopah Tribe

- The Tribe utilized the Plan as a 'roadmap' for implementing mitigation projects.

City of San Luis

- The risk and vulnerability assessment helped the City focus on mitigating roadway flooding and led to updating the City Fire Code (2012).

City of Somerton

- The City referred to the Plan as part of their annual planning and budgeting processes.

Town of Wellton

- The Town utilized the previous Plan as part of their annual planning exercises, to identify opportunities to align mitigation project implementation into other related efforts.

City of Yuma

- The City referenced the previous Plan as part of their annual CIP efforts, to identify opportunities to implement mitigation projects.

Ways in which the 2018 Plan will be incorporated or referenced into other planning mechanisms for each Plan participant are summarized below:

Yuma County

- The County will continue to utilize the Plan as in input into their yearly CIP planning activities. Additionally, elements will be leveraged as they conduct the pending update to their COOP and any other Emergency Management planning.

Cocopah Tribe

- The Tribe plans to integrate the HIRA as they update their EOP in the near future.
- As mentioned with the past Plan, the Tribe plans to continue to reference the Plan to serve as their mitigation 'roadmap' going forward.

City of San Luis

- The City plans to integrate portions of and content from the 2018 HMP into their updated General Plan. Mitigation Actions will also help the City when prioritizing projects in the General Plan and as they look to update building codes.

City of Somerton

- The City will integrate use of this Plan into their annual CIP process and when evaluating on-going grant and loan applications.

Town of Wellton

- The Town is anticipating Administrative leadership changes and hopes this updated Plan can serve as a blueprint to implementing mitigation projects for future administrations.

City of Yuma

- The City plans to continue Plan integration into future CIP efforts.

Typical ways to use and incorporate the Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances.
- Addition of defined mitigation A/Ps to capital improvement programming.
- Inclusion of Plan elements into development and retrofitting planning and practices.
- Resource for developing and/or updating emergency operations plans, community wildfire protection plans, emergency response plans, etc.
- Make use of the annual evaluations to keep the Plan awareness elevated and that stakeholders are still identified.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the Plan participants. Whenever possible, Plan participants will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions' general plans (county comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

## 7.4 Continued Public Involvement

The Planning Team reviewed the subject of continued public involvement as was documented in the 2010 Plan and discussed the challenges and successes regarding the identified continued public involvement strategy. It was noted that public education and outreach relating to the hazards faced by communities was an on-going effort. Some of the participating jurisdictions specifically identified mitigation actions / projects relating to these public education and outreach efforts. Additional details relating to these on-going and new efforts can be found in Section 6.

This left the subject of how best to involve the public going forward with this updated Plan? It was decided that the Plan's annual review process would be expanded upon to include a larger component relating to continued public involvement of the Plan, and most importantly of the identified mitigation actions / projects.

Following the yearly plan review and monitoring meetings, meeting minutes and/or a summary report of progress on mitigation actions / projects will be produced and posted on the County website. Public questions relating to the yearly meeting and ideas for additional mitigation actions / projects will also be solicited.

# SECTION 8: PLAN TOOLS

## 8.1 Acronyms

A/P.....Mitigation Action/Project
ADEM .....Arizona Division of Emergency Management
ADEQ .....Arizona Department of Environmental Quality
ADWR .....Arizona Department of Water Resources
AGFD .....Arizona Game and Fish Department
ARS .....Arizona Revised Statutes
ASCE .....American Society of Civil Engineers
ASERC .....Arizona State Emergency Response Commission
ASLD .....Arizona State Land Department
ASU .....Arizona State University
AZDEQ .....Arizona Department of Environmental Quality
AZGS .....Arizona Geological Survey
BLM .....Bureau of Land Management
CAP .....Central Arizona Project
CAP .....Community Assistance Program
CFR .....Code of Federal Regulations
CRS .....Community Rating System
CWPP .....Community Wildfire Protection Plan
DEMA .....Arizona Department of Emergency and Military Affairs
DFIRM .....Digital Flood Insurance Rate
DMA 2000 .....Disaster Mitigation Act of 2000
DOT .....Department of Transportation
EHS .....Extremely Hazardous Substance
EPA .....Environmental Protection Agency
EPCRA .....Emergency Planning and Community Right to Know Act
FEMA .....Federal Emergency Management Agency
FMA .....Flood Mitigation Assistance Grant Program
GIS .....Geographic Information System
HAZMAT .....Hazardous Material
HAZUS-99 .....Hazards United States1999
HAZUS-MH .....Hazards United States Multi-Hazard
IFCI .....International Fire Code Institute
LEPC .....Local Emergency Planning Committee
MJHMP .....Multi-Jurisdictional Hazard Mitigation Plan
MMI .....Modified Mercalli Intensity
NCDC .....National Climate Data Center
NDMC .....National Drought Mitigation Center
NESDIS .....National Environmental Satellite, Data and Information Service
NFIP .....National Flood Insurance Program
NFPA .....National Fire Protection Association
NHC .....National Hurricane Center
NIBS .....National Institute of Building Services
NID .....National Inventory of Dams
NIST .....National Institute of Standards and Technology
NSF .....National Science Foundation
NOAA .....National Oceanic and Atmospheric Administration
NRC .....National Response Center
NWS .....National Weather Service
PSDI .....Palmer Drought Severity Index
RL .....Repetitive Loss
SARA .....Superfund Amendments and Reauthorization Act

SRLP .....Severe Repetitive Loss Properties
SRL .....Severe Repetitive Loss
UBC .....Uniform Building Code
USACE .....United States Army Corps of Engineers
USDA .....United States Department of Agriculture
USFS .....United States Forest Service
USGS .....United States Geological Survey
VA .....Vulnerability Analysis
WUI .....Wildland Urban Interface
YCFCD.....Yuma County Flood Control District

## 8.2 Definitions

The following terms and definitions are provided for reference and are taken from the 2013 State Plan with a few minor modifications.

## ARIZONA HAZARDS

**Dam Failure**
A dam failure is a catastrophic type of failure characterized by the sudden, rapid and uncontrolled release of impounded water. Dam failures are typically due to either overtopping or piping and can result from a variety of causes including natural events such as floods, landslides or earthquakes, deterioration of foundation or compositional materials, penetration by vegetative roots or animal burrows, fissures or improper design and construction. Such a failure presents a significant potential for a disaster as significant loss of life and property would be expected in addition to the possible loss of power and water resources.

**Drought**
A drought is a deficiency of precipitation over on extended period of time, resulting in water shortage for some activity, group or environmental sector. "Severe" to "extreme" drought conditions endanger livestock and crops, significantly reduce surface and ground water supplies, increase the potential risk for wildland fires, increase the potential for dust storms, and cause significant economic loss. Humid areas are more vulnerable than arid areas. Drought may not be constant or predictable and does not begin or end on any schedule. Short term droughts are less impacting due to the reliance on irrigation and groundwater in arid environments.

**Earthquake**
An earthquake is a naturally-induced shaking of the ground, caused by the fracture and sliding of rock within the Earth's crust. The magnitude is determined by the dimensions of the rupturing fracture (fault) and the amount of displacement that takes place. The larger the fault surface and displacement, the greater the energy. In addition to deforming the rock near the fault, this energy produces the shaking and a variety of seismic waves that radiate throughout the Earth. Earthquake magnitude is measured using the Richter Scale and earthquake intensity is measured using the Modified Mercalli Intensity Scale.

**Fissure**
Earth fissures are tension cracks that open as the result of subsidence due to severe overdrafts (i.e., pumping) of groundwater, and occur about the margins of alluvial basins, near exposed or shallow buried bedrock, or over zones of differential land subsidence. As the ground slowly settles, cracks form at depth and propagate towards the surface, hundreds of feet above. Individual fissures range in length from hundreds of feet to several miles, and from less than an inch to several feet wide. Rainstorms can erode fissure walls rapidly causing them to widen and lengthen suddenly and dangerously, forming gullies five to 15- feet wide and tens of feet deep.

**Flooding**
Flooding is an overflowing of water onto normally dry land and is one of the most significant and costly of natural disasters. Flooding tends to occur in Arizona during anomalous years of prolonged, regional rainfall (typical of an El Nino year), and is typified by increased humidity and high summer temperatures.

Flash flooding is caused excessive rain falling in a small area in a short time and is a critical hazard in Arizona. Flash floods are usually associated with summer monsoon thunderstorms or the remnants of a tropical storm. Several factors contribute to flash flooding: rainfall intensity and duration, topography, soil conditions, and ground cover. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area and can occur within a few minutes or hours of excessive rainfall, or a quick release from a dam or levee failure. Thunderstorms produce flash flooding, often far from the actual storm and at night when natural warnings may not be noticed.

**Landslide / Mudslide**
Landslides like avalanches are massive downward and outward movements of slope-forming materials. The term landslide is restricted to movement of rock and soil and includes a broad range of velocities. Slow movements, although rarely a threat to life, can destroy buildings or break buried utility lines. A landslide occurs when a portion of a hill slope becomes too weak to support its own weight. The weakness is generally initiated when rainfall or some other source of water increases the water content of the slope, reducing the shear strength of the materials. A mud slide is a type of landslide referred to as a flow. Flows are landslides that behave like fluids: mud flows involve wet mud and debris.

**Levee Failure / Breach**
Levee failures are typically due to either overtopping or erosive piping and can result from a variety of causes including natural events such as floods, hurricane/tropical storms, or earthquakes, deterioration of foundation or compositional materials, penetration by vegetative roots or animal burrows, fissures, or improper design, construction and maintenance. A levee breach is the opening formed by the erosion of levee material and can form suddenly or gradually depending on the hydraulic conditions at the time of failure and the type of material comprising the levee.

**Severe Wind**
Thunderstorms are characterized as violent storms that typically are associated with high winds, dust storms, heavy rainfall, hail, lightning strikes, and/or tornadoes. The unpredictability of thunderstorms, particularly their formation and rapid movement to new locations heightens the possibility of floods. Thunderstorms, dust/sand storms and the like are most prevalent in Arizona during the monsoon season, which is a seasonal shift in the winds that causes an increase in humidity capable of fueling thunderstorms. The monsoon season in Arizona typically is from late-June or early-July through mid-September.

Tornadoes are violently rotating columns of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds in excess of 250 mph. Damage paths can exceed a mile wide and 50 miles long. The damage from tornadoes is due to high winds. The Fujita Scale of Tornado Intensity measures tornado / high wind intensity and damage.

Tropical Storms are storms in which the maximum sustained surface wind ranges from 39-73 mph. Tropical storms are associated with heavy rain and high winds. High intensity rainfall in short periods is typical. A tropical storm is classified as a hurricane when its sustained winds reach or exceed 74 mph. These storms are medium to large in size and are capable of producing dangerous winds, torrential rains, and flooding, all of which may result in tremendous property damage and loss of life, primarily in coastal populated areas. The effects are typically most dangerous before a hurricane makes landfall, when most damage occurs. However, Arizona has experienced a number of tropical storms that caused extensive flooding and wind damage.

**Subsidence**
Land subsidence in Arizona is primarily attributed to substantial groundwater withdrawal from aquifers in sedimentary basins. As the water is removed, the sedimentary layers consolidate resulting in a general lowering of the corresponding ground surface. Subsidence frequently results in regional bowl-shaped depressions, with loss of elevation greatest in the center and decreasing towards the perimeter. Subsidence can measurably change or reverse basin gradients causing expensive localized flooding and adverse impacts or even rupture to long-baseline infrastructure such as canals, sewer systems, gas lines and roads. Earth fissures are the most spectacular and destructive manifestation of subsidence-related phenomena.

**Wildfire**
Wildfire is a rapid, persistent chemical reaction that releases heat and light, especially the exothermic combination of a combustible substance with oxygen. Wildfires present a significant potential for disaster in the southwest, a region of relatively high temperatures, low humidity, low precipitation, and during the spring moderately strong daytime winds. Combine these severe burning conditions with people or lightning and the stage is set for the occurrence of large, destructive wildfires.

**Winter Storm**
Winter storms bring heavy snowfall and frequently have freezing rain and sleet. Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Freezing rain begins as snow at higher altitudes and melts completely on its way down while passing through a layer of air above freezing temperature, then encounters a layer below freezing at lower level to become supercooled, freezing upon impact of any object it then encounters. Because freeing rain hits the ground as a rain droplet, it conforms to the shape of the ground, making one thick layer of ice. Snow is generally formed directly from the freezing of airborne water vapor into ice crystals that often agglomerates into snowflakes. Average annual snowfall in Arizona varies with geographic location and elevation, and can range from trace amounts to hundreds of inches. Severe snow storms can affect transportation, emergency services, utilities, agriculture and basic subsistence supply to isolated communities. In extreme cases, snowloads can cause significant structural damage to under-designed buildings.

## GENERAL PLAN TERMS

**Asset**
Any natural or human-caused feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

**Building**
A structure that is walled and roofed, principally above ground and permanently affixed to a site. The term includes a manufactured home on a permanent foundation on which the wheels and axles carry no weight.

**Critical Facilities and Infrastructure**
Systems or facilities whose incapacity or destruction would have a debilitating impact on the defense or economic security of the nation. The Critical Infrastructure Assurance Office (CIAO) defines eight categories of critical infrastructure, as follows:

**Telecommunications infrastructure**: Telephone, data services, and Internet communications, which have become essential to continuity of business, industry, government, and military operations.

**Electrical power systems**: Generation stations and transmission and distribution networks that create and supply electricity to end-users.

**Gas and oil facilities**: Production and holding facilities for natural gas, crude and refined petroleum, and petroleum-derived fuels, as well as the refining and processing facilities for these fuels.

**Banking and finance institutions**: Banks, financial service companies, payment systems, investment companies, and securities/commodities exchanges.

**Transportation networks**: Highways, railroads, ports and inland waterways, pipelines, and airports and airways that facilitate the efficient movement of goods and people.

**Water supply systems**: Sources of water; reservoirs and holding facilities; aqueducts and other transport systems; filtration, cleaning, and treatment systems; pipelines; cooling systems; and other delivery mechanisms that provide for domestic and industrial applications, including systems for dealing with water runoff, wastewater, and firefighting.

**Government services**: Capabilities at the federal, state, and local levels of government required to meet the needs for essential services to the public.

**Emergency services**: Medical, police, fire, and rescue systems.

**Disaster Mitigation Act of 2000 (DMA2K)**
A law signed by the President on October 30, 2000 that encourages and rewards local and state pre-disaster planning, promotes sustainability as a strategy for disaster resistance, and is intended to integrate state and local planning with the aim of strengthening statewide mitigation planning.

**Emergency Preparedness and Response (EPR) Directorate**
One of five major Department of Homeland Security Directorates which builds upon the formerly independent Federal Emergency Management Agency (FEMA). EPR is responsible for preparing for natural and human-caused disasters through a comprehensive, risk-based emergency management program of preparedness, prevention, response, and recovery. This work incorporates the concept of disaster-resistant communities, including providing federal support for local governments that promote structures and communities that reduce the chances of being hit by disasters.

**Emergency Response Plan**
A document that contains information on the actions that may be taken by a governmental jurisdiction to protect people and property before, during, and after a disaster.

**Federal Emergency Management Agency (FEMA)**
Formerly independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery. As of March 2003, FEMA is a part of the Department of Homeland Security's Emergency Preparedness and Response (EPR) Directorate.

**Flood Insurance Rate Map (FIRM)**
Map of a community, prepared by FEMA that shows the special flood hazard areas and the risk premium zones applicable to the community.

**Frequency**
A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1% chance – its probability – of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

**Geographic Information Systems (GIS)**
A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.

**Hazard**
A source of potential danger or adverse condition. Hazards include both natural and human-caused events. A natural event is a hazard when it has the potential to harm people or property and may include events such as floods, earthquakes, tornadoes, tsunami, coastal storms, landslides, and wildfires that strike populated areas. Human-caused hazard events originate from human activity and may include technological hazards and terrorism. Technological hazards arise from human activities and are assumed to be accidental and/or have unintended consequences (e.g., manufacture, storage and use of hazardous materials). While no single definition of terrorism exists, the Code of Federal Regulations defines terrorism as "…unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."

**Hazard Event**
A specific occurrence of a particular type of hazard.

**Hazard Identification**
The process of identifying hazards that threaten an area.

**Hazard Mitigation**
Cost effective measures taken to reduce or eliminate long-term risk associated with hazards and their effects.

**Hazard Profile**
A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent.

**HAZUS**
A GIS-based nationally standardized earthquake, flood and high wind event loss estimation tool developed by FEMA.

**Lateral Spreading**
The lateral displacement of large, surficial blocks of soil as a result of liquefaction in a subsurface layer.

**Mitigate**
To cause to become less harsh or hostile; to make less severe or painful. Mitigation activities are actions taken to eliminate or reduce the probability of the event, or reduce its severity of consequences, either prior to or following a disaster/emergency.

**Mitigation Plan**
A systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in a defined geographic area, including a description of actions to minimize future vulnerability to hazards.

**100-Hundred Year Floodplain**
Also referred to as the Base Flood Elevation (BFE) and Special Flood Hazard Area (SFHA). An area within a floodplain having a 1% or greater chance of flood occurrence in any given year.

**Planning**
The act or process of making or carrying out plans; the establishment of goals, policies, and procedures for a social or economic unit.

**Probability**
A statistical measure of the likelihood that a hazard event will occur.

**Promulgation**
To make public and put into action the Hazard Mitigation Plan via formal adoption and/or approval by the governing body of the respective community or jurisdiction (i.e. – Town or City Council, County Board of Directors, etc.).

**Q3 Data**
The Q3 Flood Data product is a digital representation of certain features of FEMA's Flood Insurance Rate Map (FIRM) product, intended for use with desktop mapping and Geographic Information Systems technology. The digital Q3 Flood Data are created by scanning the effective FIRM paper maps and digitizing selected features and lines. The digital Q3 Flood Data are designed to serve FEMA's needs for disaster response activities, National Flood Insurance Program activities, risk assessment, and floodplain management.

**Repetitive Loss Property**
A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least $1,000 each have been paid within any 10 year period since 1978.

**Risk**
The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage beyond a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

**Substantial Damage**
Damage of any origin sustained by a structure in a Special Flood Hazard Area whereby the cost of restoring the structure to its before-damaged condition would equal or exceeds 50% of the market value of the structure before the damage.

**Vulnerability**
Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power–if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects.

**Vulnerability Analysis**
The extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability analysis should address impacts of hazard events on the existing and future built environment.

**Vulnerable Populations**
Any segment of the population that is more vulnerable to the effects of hazards because of things such as lack of mobility, sensitivity to environmental factors, or physical abilities. These populations can include, but are not limited to, senior citizens and school children.

**Goals**
General guidelines that explain what you want to achieve. Goals are usually broad statements with long-term perspective.

**Objectives**
Defined strategies or implementation steps intended to attain the identified goals. Objectives are specific, measurable, and have a defined time horizon.

**Actions/Projects**
Specific actions or projects that help achieve goals and objectives.

**Implementation Strategy**
A comprehensive strategy that describes how the mitigation actions will be implemented.

## GENERAL HAZARD TERMS

**Fujita Scale of Tornado Intensity**
Rates tornadoes with numeric values from F0 to F5 based on tornado winds peed and damage sustained. An F0 indicates minimal damage such as broken tree limbs or signs, while an F5 indicates severe damage sustained.

**Liquefaction**
The phenomenon that occurs when ground shaking (earthquake) causes loose soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength.

**Modified Mercalli Intensity Scale**
The Modified Mercalli Intensity Scale is commonly used in the United States by seismologists seeking information on the severity of earthquake effects. Intensity ratings are expressed as Roman numerals between I at the low end and XII at the high end. The Intensity Scale differs from the Richter Magnitude Scale in that the effects of any one earthquake vary greatly from place to place, so there may be many Intensity values (e.g.: IV, VII) measured from one earthquake. Each earthquake, on the other hand, should have just one Magnitude, although the several methods of estimating it will yield slightly different values (e.g.: 6.1, 6.3).

**Monsoon**
A monsoon is any wind that reverses its direction seasonally. In the Southwestern U.S., for most of the year the winds blow from the west/northwest. Arizona is located on the fringe of the Mexican Monsoon which during the summer months turns the winds to a more south/southeast direction and brings moisture from the Pacific Ocean, Gulf of California, and Gulf of Mexico. This moisture often leads to thunderstorms in the higher mountains and Mogollon Rim, with air cooled from these storms often moving from the high country to the deserts, leading to further thunderstorm activity in the desert. A common misuse of the term monsoon is to refer to individual thunderstorms as monsoons.

**Richter Magnitude Scale**
A logarithmic scale devised by seismologist C.F. Richter in 1935 to express the total amount of energy released by an earthquake. While the scale has no upper limit, values are typically between 1 and 9, and each increase of 1 represents a 32-fold increase in released energy.

# APPENDIXES

# APPENDIX A: OFFICIAL RESOLUTION OF ADOPTION

# APPENDIX B: PLANNING PROCESS DOCUMENTATION

Michael Baker INTERNATIONAL

We Make a Difference

**Yuma County Multi-Jurisdiction Hazard Mitigation Plan**
**Project Kick-Off Meeting**

**When and Where**
Yuma County Health Department (auditorium west entrance), 2200 W 28th St, Yuma
April 3rd, 2017, 2:00 PM – 4:00 PM

**Agenda**

1. Welcome and Introductions
2. Project Overview/Purpose (Hazard mitigation overview, Benefits to Adoptees)
3. Project Schedule
4. Participation Requirements
5. Hazards to Profile / Calculated Priority Risk Index (CPRI) Exercise
6. 5-Year Plan Review
7. CIKR (Critical Infrastructure and Key Resources)
8. Capability Assessment Update
9. Mitigation Strategy
10. Data request (future growth/development, hazard studies, hazard mapping, historical events)
11. Public Outreach
12. Additional Questions?

**Action Items**

1. Provide relevant data/studies/reports to Mike (mgarner@mbakerintl.com / 720.514.1105)
2. Update your jurisdictions on this project
3. Identify public outreach tools that you will utilize as part of this plan

**Yuma County Multi-Jurisdiction Hazard Mitigation Plan**
**HMP Risk Assessment Meeting**

**When and Where**
Yuma County Health Department (auditorium west entrance), 2200 W 28th St, Yuma
December 7, 2017, 9:00 AM – 10:30 AM (LEPC)
December 7, 2017, 10:30 AM – 12:00 PM (HMP Planning Team)

**Agenda**

1. Welcome and Introductions
2. Project Overview/Purpose
3. Risk and Vulnerability Assessment
4. Mitigation Strategy
5. Public Outreach
6. Additional Questions?

**Action Items**

1. Review draft Risk Assessment Chapter – send edits/comments to Mike (mgarner@mbakerintl.com / 720.514.1105) by xxx
2. Complete final hazard ranking survey (to be distributed after RA comment period ends)
3. Assist with public outreach
4. Start initial inter-jurisdictional discussions relating to Mitigation Strategy Workshop (date TBD – early 2018)

Michael Baker
INTERNATIONAL

We Make a Difference

**Yuma County Multi-Jurisdiction Hazard Mitigation Plan**
**HMP Planning Team Meeting**

**When and Where:**
WebEx: https://meetings.mbakercorp.com/orion/joinmeeting.do?MeetingKey=998892780
Call-In: 571-209-6390, Access Code: 998 892 780
April 3, 2018, 10:00 – 12:00 AM

**Agenda**

1. Welcome and Introductions
2. Project Overview / Purpose
3. Risk and Vulnerability Assessment & Community Profiles
4. Risk Assessment Summary
5. Public Survey 1 Results
6. Mitigation Strategy
    a. Goals/Objective Review
    b. Public Survey 2 Results
    c. Review of FEMA guidance
7. Plan Maintenance / Implementation
8. Post Meeting Follow-up
9. Additional Questions?

**Action Items**

1. Complete final hazard ranking survey (to be emailed after this meeting)
2. Provide status updates to past mitigation actions (to be emailed after this meeting)
3. Complete plan maintenance / integration survey (to be emailed in a few weeks)
4. Begin development of new mitigation actions (to be finalized during up-coming workshops)

Michael Baker
INTERNATIONAL

We Make a Difference

**Yuma County Multi-Jurisdiction Hazard Mitigation Plan**
**HMP Planning Team Meeting**

**When and Where:**
May 7 – 16, 2018
Individual meetings located at each jurisdiction

**Agenda**

Listed below are the main goals of the workshop:

1. Report on the status of your previous plan's mitigation projects/actions.
2. Develop your new mitigation projects/actions
3. Rank / prioritize your new mitigation projects/actions
4. Discuss planned integration of this new plan into future planning efforts/operations/etc

# APPENDIX C: PUBLIC INVOLVEMENT RECORDS

- Emergency Management
CERT Application
+ Emergency Assistance Information
Events and Training Calendar
EXTREME HEAT WEATHER ALERT
Federal Emergency Management Agencies
Forms & Docs
Hazard Mitigation Plan Update
Miscellaneous/LEPC Minutes
Useful links
Preparedness



# Hazard Mitigation Plan Update



Welcome to the project website for the **Yuma County Multi-jurisdictional Hazard Mitigation Plan (HMP) Update**. Please check back often for project updates and postings. This website will be discontinued after the project is completed.

**NEWS**

**No results found.**

**EVENTS**

**No results found.**

## What is Hazard Mitigation?

The term "Hazard Mitigation" describes actions that can help reduce or eliminate long-term risks caused by hazards, such as floods, wildfires, landslides, tornadoes, and earthquakes. As the costs of disaster impacts continue to rise, governments and citizens must find ways to reduce hazard risks to our communities. Efforts made to reduce hazard risks are easily made compatible with other community goals; safer communities are more attractive to employers as well as residents. As communities plan for new development and improvements to existing infrastructure, mitigation can and should be an important component of the planning effort.

While mitigation activities can and should be taken before a disaster event has the chance to occur, after disasters hazard mitigation is essential. Oftentimes after disasters, repairs and reconstruction are often completed in such a way as to simply restore damaged property to pre-disaster conditions. These efforts may "get things back to normal", but the replication of pre-disaster conditions often results in a repetitive cycle of damage, reconstruction, and repeated damage. Hazard mitigation breaks this repetitive cycle by producing less vulnerable conditions through post-disaster repairs and reconstruction. The implementation of such hazard mitigation actions now by state and local governments means building stronger, safer and smarter communities that will be able to reduce future injuries and damages.

## About the Project

Yuma County created its previous Mitigation Plan in accordance with the requirements of the **Federal Stafford Act, the National Flood Insurance Act, and 44 Code of Federal Regulations (CFR).** The last plan was approved by FEMA in 2010, and was adopted by the County Board of Supervisors and municipalities within Yuma County. These plans must be updated and approved by FEMA every five years.

Yuma County and its participating jurisdictions (the Cities of San Luis, Somerton, and Yuma; Town of Wellton), the Cocopah Tribe, and other agencies and organizations are now in the process of updating the County-wide Hazard Mitigation Plan and expect to have it approved by FEMA in 2018.

**Plan participants will benefit from this project by:**

- **Ensuring eligibility for all sources of hazard mitigation funds made available through FEMA.**
- Increasing public awareness and understanding of vulnerabilities as well as support for specific actions to reduce losses from future natural disaster.
- Ensuring community policies, programs, and goals are compatible with reducing vulnerability to all hazards and identifying those that are incompatible.
- Building partnerships with diverse stakeholders increasing opportunities to leverage data and resources in reducing workloads as well as achieving shared community objectives.
- Expanding the understanding of potential risk reduction measures to include: local plans and regulations; structure and infrastructure projects; natural systems protection; education and awareness programs; and other tools.
- Informing the development, prioritization, and implementation of mitigation projects. Benefits accrue over the life of these projects as losses are avoided from each subsequent hazard event.

## Project Outreach and Communications

The Yuma County Office of Emergency Services is leading this project for the County and wants to ensure that all community stakeholders and citizens have an opportunity to be involved in this planning process. All project information and messaging will be posted utilizing this webpage and updates will also be communicated via the Yuma County Emergency Management website.

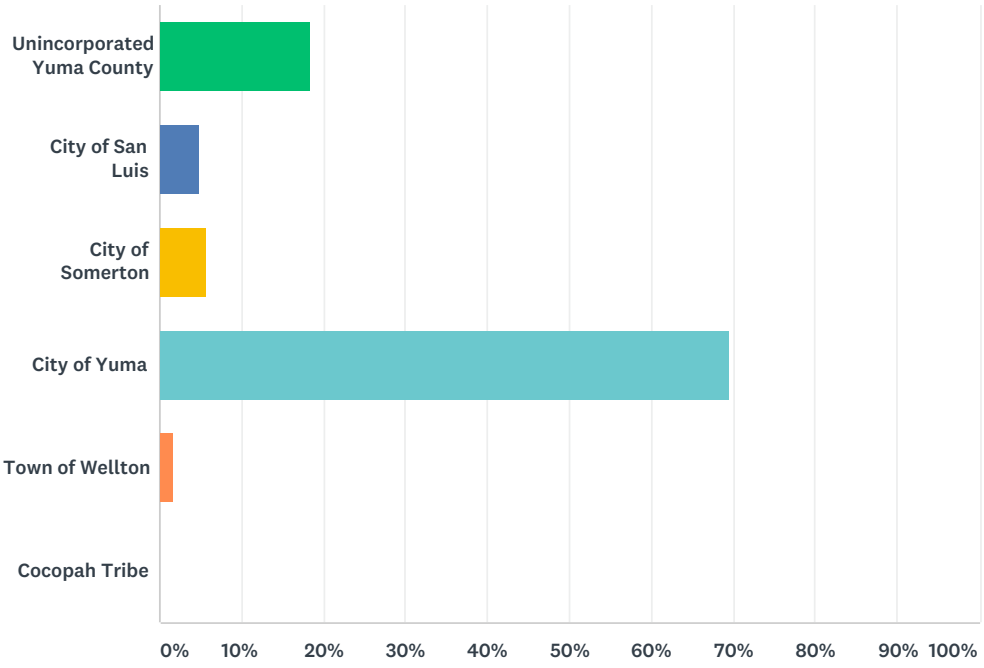
***Stay tuned for upcoming opportunities to participate in this important planning process!***

**Surveys**

Surveys will be utilized throughout the planning process to engage both the Hazard Mitigation Planning Team and the general public. Links to these surveys will be posted below as they become available.

# Q1 Which of the participating jurisdictions do you live in?

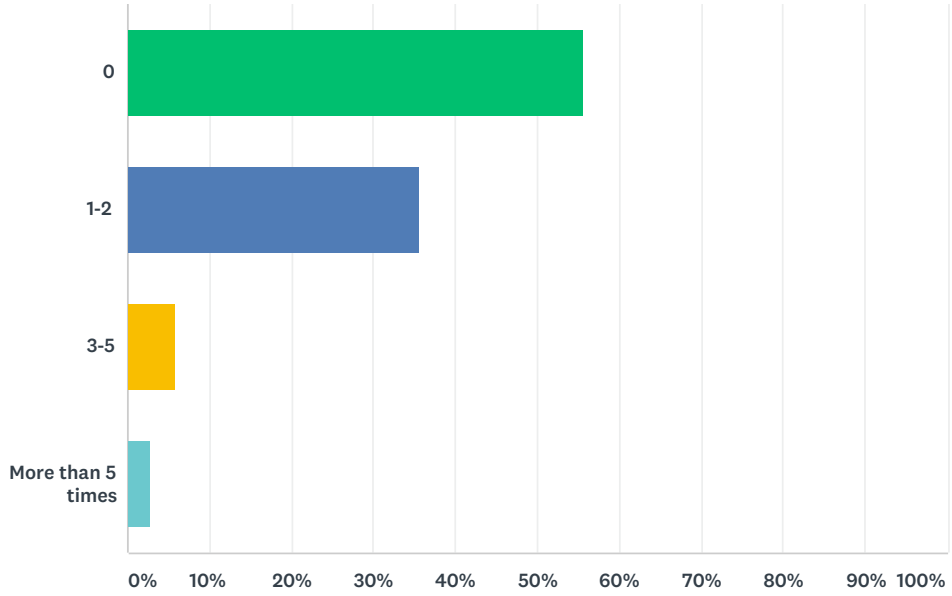
Answered: 508 Skipped: -1




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Unincorporated Yuma County | 18.50% | 94 |
| City of San Luis | 4.72% | 24 |
| City of Somerton | 5.71% | 29 |
| City of Yuma | 69.49% | 353 |
| Town of Wellton | 1.57% | 8 |
| Cocopah Tribe | 0.00% | 0 |
| TOTAL | | 508 |

# Q2 How many times has a natural hazard majorly impacted your daily life in the last five years?

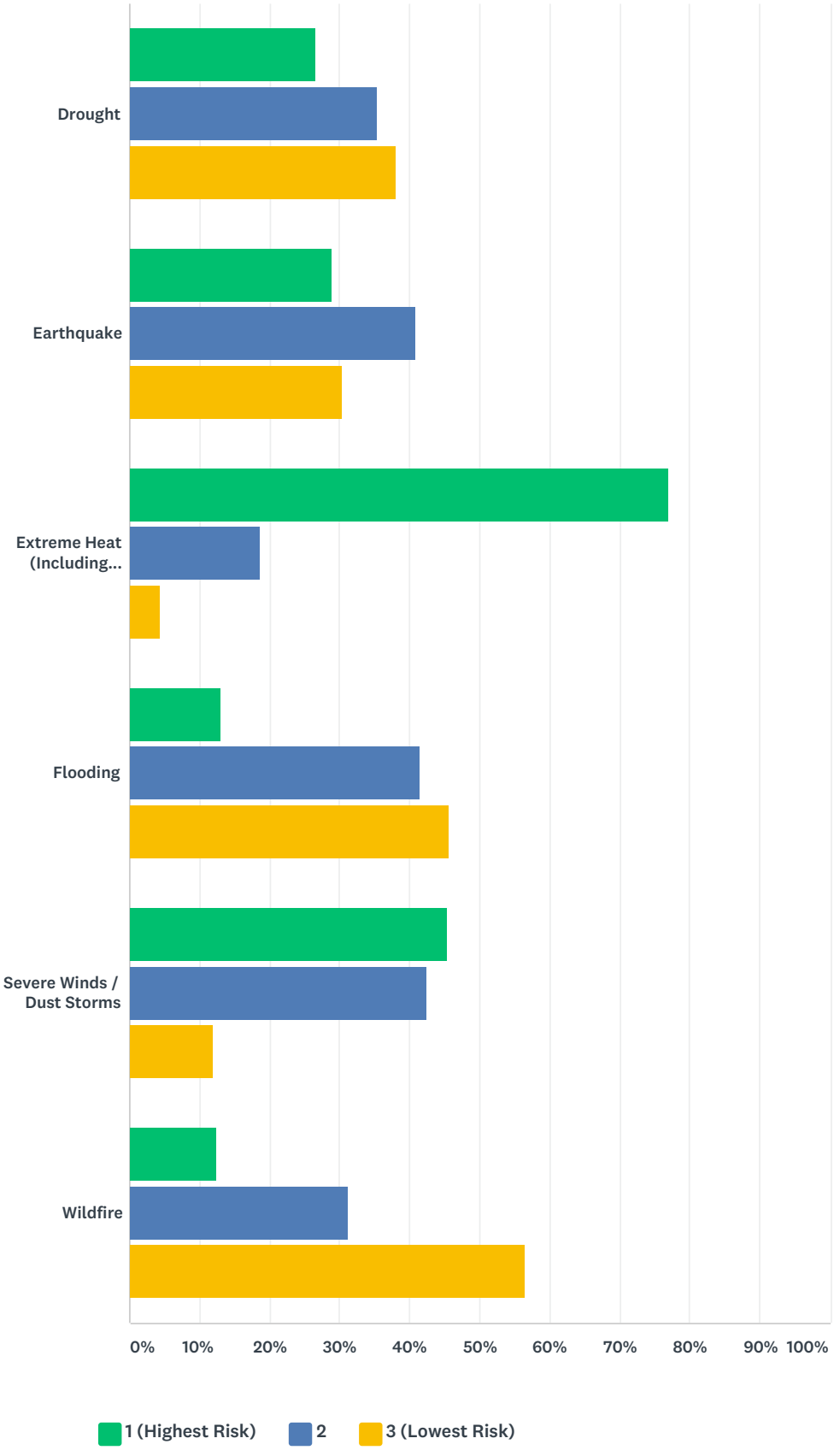
Answered: 508 Skipped: -1




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| 0 | 55.71% | 283 |
| 1-2 | 35.63% | 181 |
| 3-5 | 5.91% | 30 |
| More than 5 times | 2.76% | 14 |
| TOTAL | | 508 |

# Q3 Please rank the following hazards based on the overall risk that they present.

Answered: 508 Skipped: -1

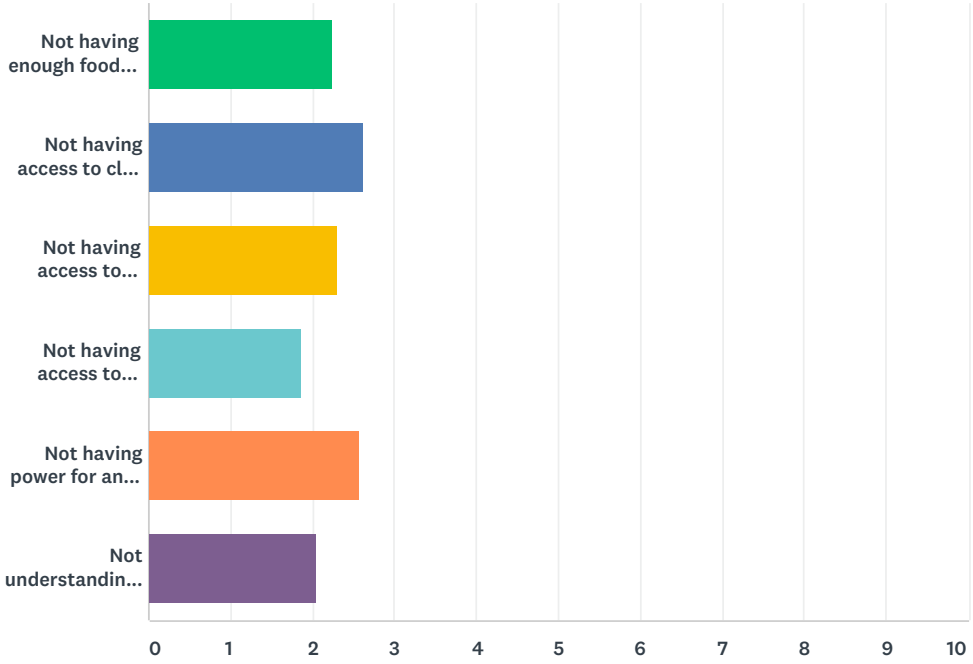



| | 1 (HIGHEST RISK) | 2 | 3 (LOWEST RISK) | TOTAL |
|---|---|---|---|---|
| Drought | 26.57%<br>135 | 35.43%<br>180 | 37.99%<br>193 | <br>508 |

| | | | | |
|---|---|---|---|---|
| Earthquake | 28.94%<br>147 | 40.75%<br>207 | 30.31%<br>154 | 508 |
| Extreme Heat (Including Power Outages) | 76.97%<br>391 | 18.70%<br>95 | 4.33%<br>22 | 508 |
| Flooding | 12.99%<br>66 | 41.34%<br>210 | 45.67%<br>232 | 508 |
| Severe Winds / Dust Storms | 45.47%<br>231 | 42.52%<br>216 | 12.01%<br>61 | 508 |
| Wildfire | 12.40%<br>63 | 31.10%<br>158 | 56.50%<br>287 | 508 |

# Q4 How concerned are you about the following scenarios?

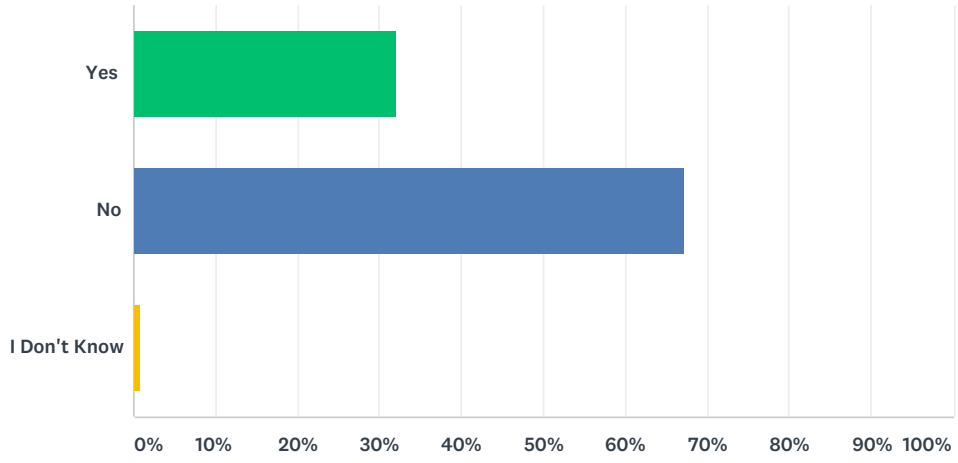
Answered: 508 Skipped: -1




| | NOT CONCERNED | SOMEWHAT CONCERNED | EXTREMELY CONCERNED | I DON'T KNOW/NO OPINION | TOTAL | WEIGHTE AVERAG |
|---|---|---|---|---|---|---|
| Not having enough food during a disaster | 13.98% 71 | 49.61% 252 | 34.65% 176 | 1.77% 9 | 508 | 2. |
| Not having access to clean water during a disaster | 5.54% 28 | 28.12% 142 | 64.95% 328 | 1.39% 7 | 505 | 2. |
| Not having access to medications during a disaster | 18.34% 93 | 35.50% 180 | 43.59% 221 | 2.56% 13 | 507 | 2. |
| Not having access to transportation in the event of an evacuation | 39.33% 199 | 36.17% 183 | 23.12% 117 | 1.38% 7 | 506 | 1. |
| Not having power for an extended period of time | 5.72% 29 | 30.97% 157 | 62.72% 318 | 0.59% 3 | 507 | 2. |
| Not understanding/hearing warning sirens or other warning messages | 30.69% 155 | 37.82% 191 | 28.71% 145 | 2.77% 14 | 505 | 2. |

# Q5 Do you have a preparedness kit?

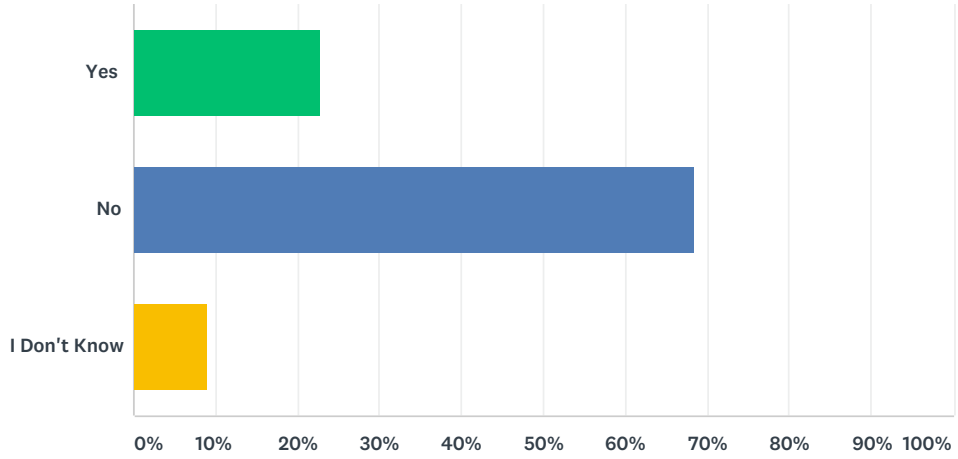
Answered: 502 Skipped: 5




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes | 32.07% | 161 |
| No | 67.13% | 337 |
| I Don't Know | 0.80% | 4 |
| TOTAL | | 502 |

# Q6 Have you taken any actions to make your home or neighborhood more resistant to hazards?

Answered: 506 Skipped: 1



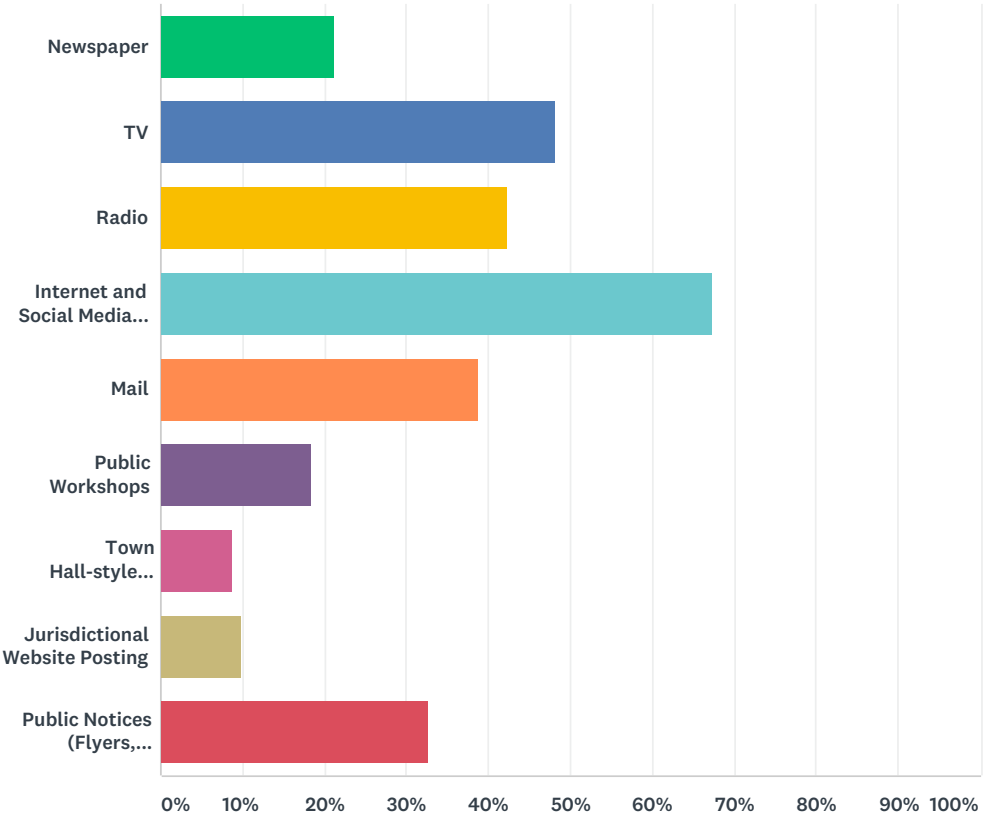

| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes | 22.73% | 115 |
| No | 68.38% | 346 |
| I Don't Know | 8.89% | 45 |
| TOTAL | | 506 |

# Q7 Do you have any ideas for projects or actions that you would like to see the county or its jurisdictions implement to reduce your community's risk from natural disaster events?

Answered: 239 Skipped: 268

# Q8 What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards (you may select more than one)?

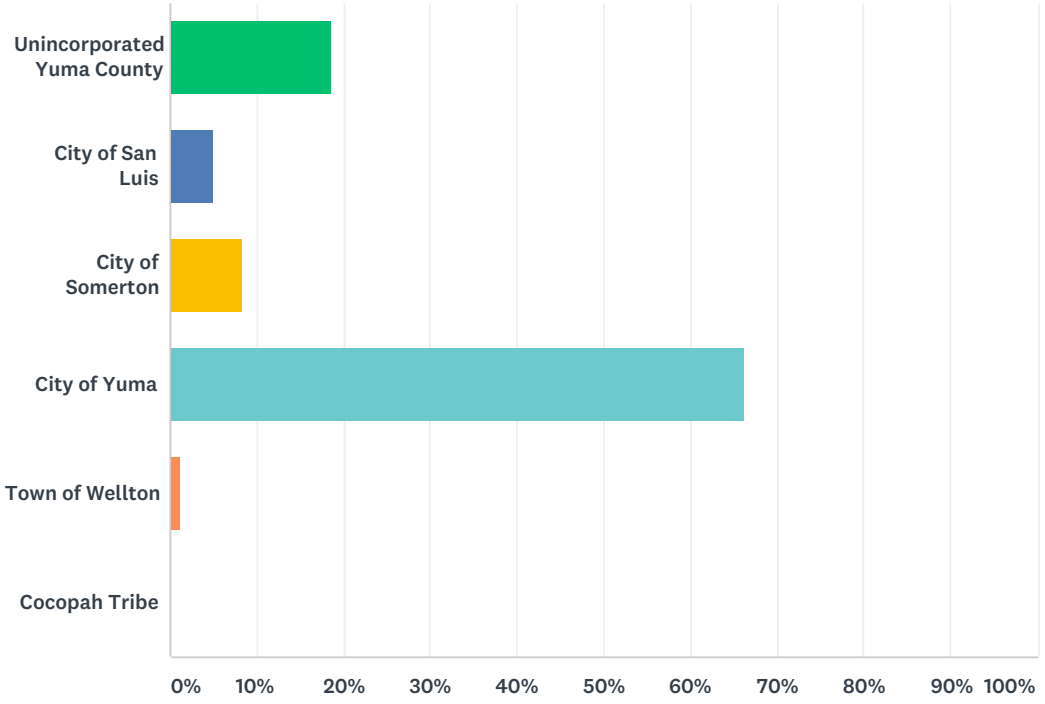
Answered: 497 Skipped: 10




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Newspaper | 21.13% | 105 |
| TV | 48.09% | 239 |
| Radio | 42.25% | 210 |
| Internet and Social Media (Twitter, Facebook) | 67.40% | 335 |
| Mail | 38.63% | 192 |
| Public Workshops | 18.51% | 92 |
| Town Hall-style Meetings | 8.85% | 44 |
| Jurisdictional Website Posting | 9.86% | 49 |
| Public Notices (Flyers, Postings, etc.) | 32.60% | 162 |
| Total Respondents: 497 | | |

# Q1 What jurisdiction do you live in?

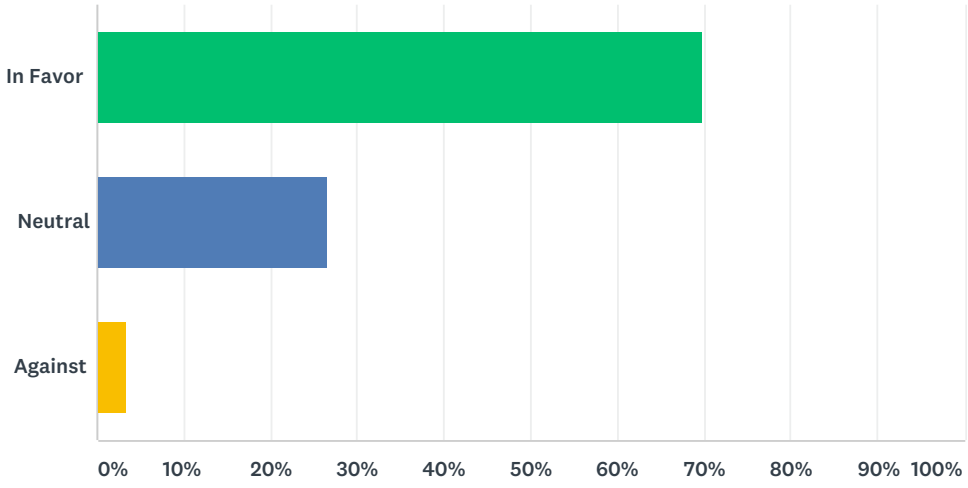
Answered: 449 Skipped: 0




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Unincorporated Yuma County | 18.71% | 84 |
| City of San Luis | 5.12% | 23 |
| City of Somerton | 8.46% | 38 |
| City of Yuma | 66.37% | 298 |
| Town of Wellton | 1.34% | 6 |
| Cocopah Tribe | 0.00% | 0 |
| TOTAL | | 449 |

# Q2 Local Planning and Regulations-Building Codes-Local Zoning and Land Use Codes-Identification/Mapping of Hazard Areas-Stormwater Management Planning

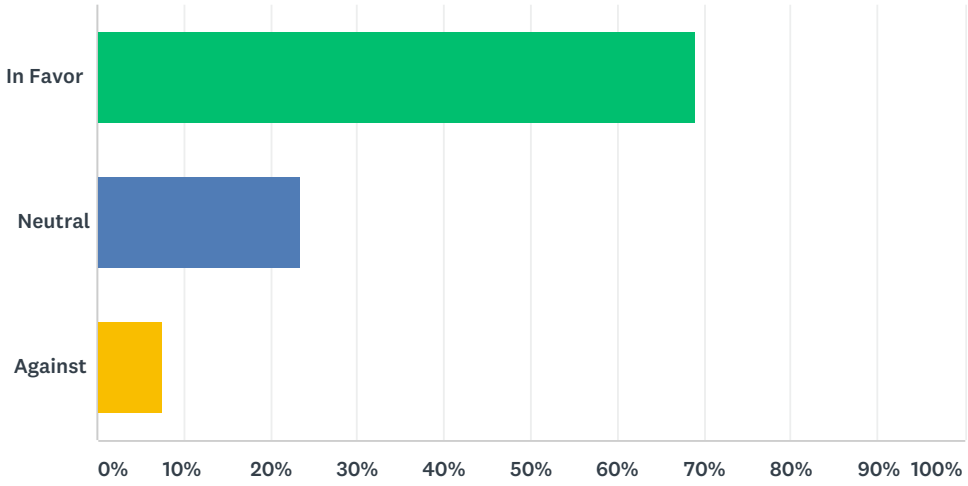
Answered: 443 Skipped: 6




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| In Favor | 69.98% | 310 |
| Neutral | 26.64% | 118 |
| Against | 3.39% | 15 |
| TOTAL | | 443 |

# Q3 Structure and Infrastructure Projects-Construct Tornado Safe Rooms-Improve Drainage to Reduce Flood Threats-Retrofit Buildings to Higher Code Standards-Acquire and Demolish Structures in Hazard-prone Areas

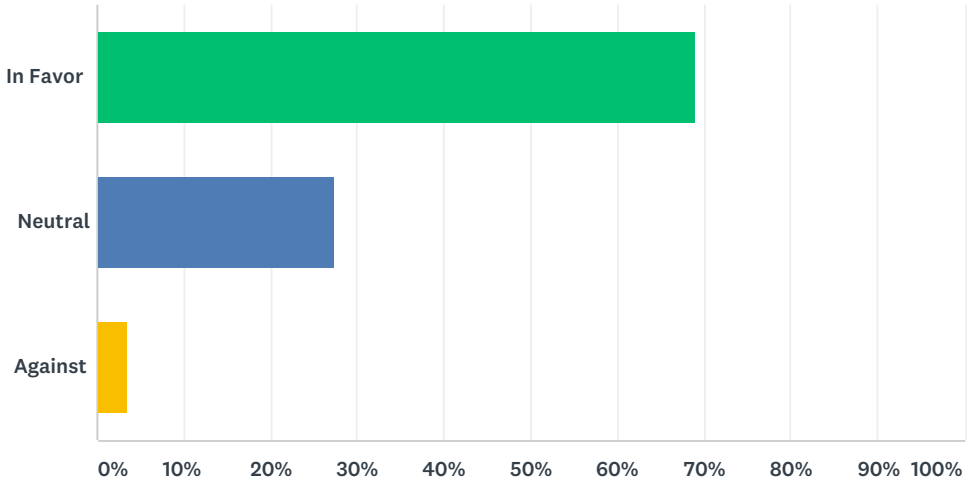
Answered: 443 Skipped: 6




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| In Favor | 69.07% | 306 |
| Neutral | 23.48% | 104 |
| Against | 7.45% | 33 |
| TOTAL | | 443 |

# Q4 Natural Systems Protection-Implement Erosion Control Measures-Create Defensible Space Regulations-Protect and Preserve Natural Areasx

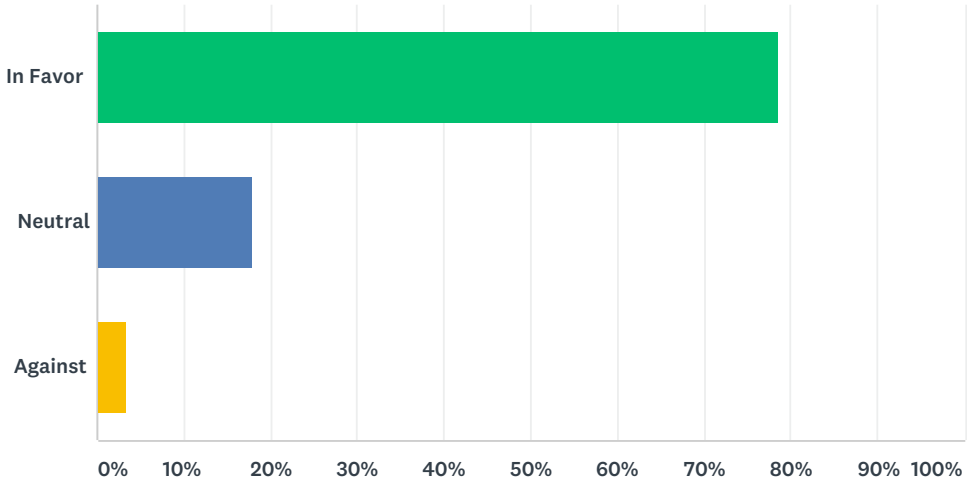
Answered: 445 Skipped: 4




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| In Favor | 68.99% | 307 |
| Neutral | 27.42% | 122 |
| Against | 3.60% | 16 |
| TOTAL | | 445 |

# Q5 Education and Awareness Programs-Incentivize Drought Tolerant Landscaping-Host Informational Workshops and Events-Educate the Public about Risks

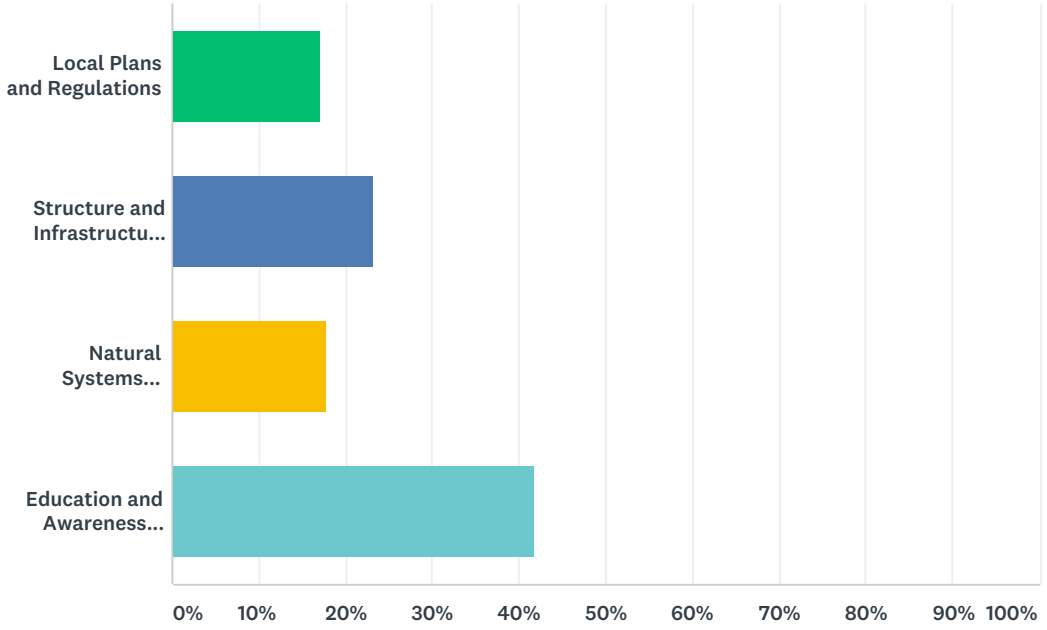
Answered: 444 Skipped: 5




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| In Favor | 78.60% | 349 |
| Neutral | 18.02% | 80 |
| Against | 3.38% | 15 |
| TOTAL | | 444 |

# Q6 Which of the above four categories are you most supportive of?

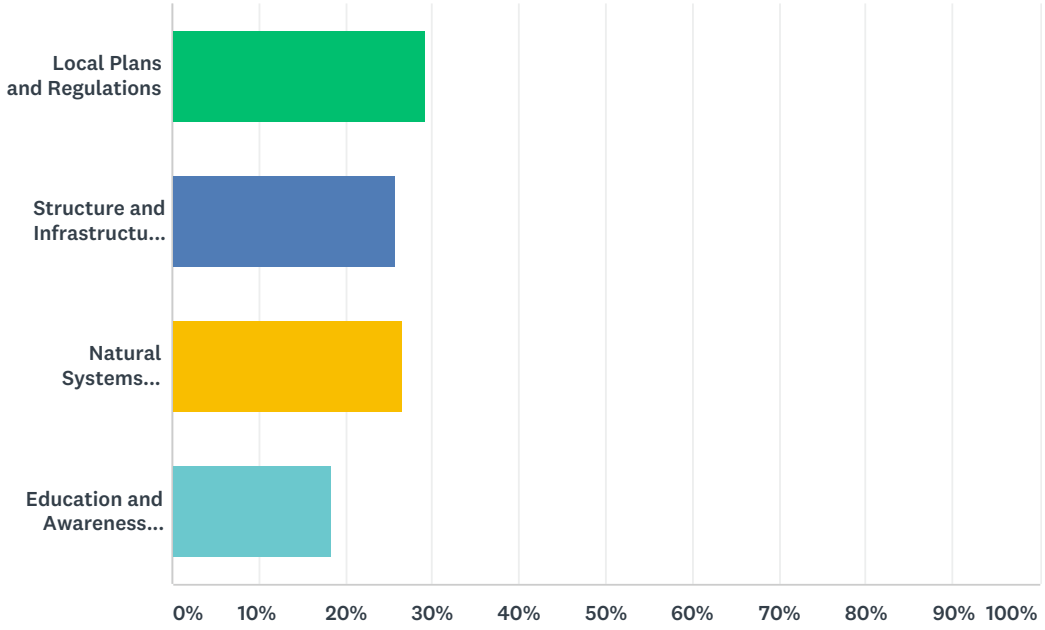
Answered: 443 Skipped: 6




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Local Plans and Regulations | 17.16% | 76 |
| Structure and Infrastructure Projects | 23.25% | 103 |
| Natural Systems Protection | 17.83% | 79 |
| Education and Awareness Programs | 41.76% | 185 |
| TOTAL | | 443 |

# Q7 Which of the above four categories are you least supportive of?

Answered: 423 Skipped: 26




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Local Plans and Regulations | 29.31% | 124 |
| Structure and Infrastructure Projects | 25.77% | 109 |
| Natural Systems Protection | 26.48% | 112 |
| Education and Awareness Programs | 18.44% | 78 |
| TOTAL | | 423 |

# Q8 Please share your top idea for a specific mitigation project or action that you would like to see implemented by your government, should funding be available.

Answered: 142 Skipped: 307

## Q9 Please share any additional comments or information, relating to mitigation strategies for natural hazards, that you would like your jurisdiction to receive. If you would like to be contacted regarding your comments, please include contact information as appropriate.

Answered: 89 Skipped: 360

# APPENDIX D: HISTORICAL HAZARD MITIGATION PROJECTS

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Cocopah Tribe | C-4 | | Analyze strength of water towers on North and West Reservation to determine the amount of sheer force they can withstand sheer forces during a large earthquake. | Complete | FY 2014 | This information was in the original document when built. |
| Cocopah Tribe | C-5 | | Provide Emergency Shut-off Valves in main Water Lines so adequate pressure can be maintained in undamaged system for fire fighting. | Complete | 2012 | |
| Cocopah Tribe | C-6 | | Elevate Ground Level Transformers for sewer transfer stations so they will continue operating in event of flood. | Complete | 2012 | |
| San Luis | 12.A.2 | Water Conservation Public Education | Develop and distribute brochures outlining the advantages of water conservation to City water-users | Complete, Ongoing | | Initial program for public education brochures was done. Will continue to utilize brochures and municipal utility billing inserts, electronic billboard, website and media to encourage water conservation. |
| San Luis | 12.A.1 | Water Rights Acquisition | Assurance of water supply through acquisition of senior Colorado River Water Rights with retirement of agricultural lands | Complete, Ongoing | | After the inaugural push to obtain water rights of retired/developed agricultural lands, City of San Luis Public Works, Utility and Development |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | | | | Services Departments continue to pursue water rights to supplement municipal water allocation. |
| San Luis | 13.A.2 | Well Site Video | Provide wireless video cameras and transmitters for seven (7) Well Sites to mitigate vandalism | Complete | 2007 | Cameras have been installed at identified locations. |
| San Luis | 13.A.1 | Wastewater Treatment Plant Video | Provide wireless video cameras and transmitters for two (2) Wastewater Treatment Plant Sites for mitigation of vandalism | Complete | 2007 | Cameras have been installed. |
| San Luis | 8.A.2 | Well Site Lighting | Provide additional lighting at all Well Sites for added security | Complete | 2006 | Lighting has been installed. |
| San Luis | 8.B.1 | Upgrade Well Site chlorine buildings | Provide more secure entrance to all chlorine buildings to mitigate potential HAZMAT incidents due to illegal entry | Complete | 2006 | Security measures have been improved to provide enhanced security in identified locations. |
| San Luis | 5.B.1 | Portable Pumps | Provide two (2) additional 6" portable pumps for mitigation of flooding due to heavy rainfall and wastewater emergencies. | | | 1 6” portable and two smaller pumps have been purchased to allow for the timely removal of accumulated rainfall and run-off during thunderstorms and other identified removal applications of wastewater events. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| San Luis | 9.C.1 | Transportation Planning Agency Coordination | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and Arizona Department of Transportation | Ongoing | | The City of San Luis continues to participate in transportation planning groups to insure awareness and input regarding transportation issues within corporate boundaries; AZ highway 195, LPOE 2, Rolle Airfield (Aux 4), etc. |
| San Luis | 7.C.1 | Seismic Building Code Enforcement | Continue to enforce seismic requirements in current building codes | Ongoing | | Building Officials continue to enforce family of codes associated with new construction and appropriate remodeling or change of use. |
| San Luis | 1.A.1 | Enforcement of Zoning and Building Code Ordinances | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | Ongoing | | The City of San Luis Fire and Development Services Departments have adopted a new family of codes (NFPA 1, UBC, UMC, UPC, etc) to insure new construction projects continue to be built to the latest standards to reduce effects of floods, thunderstorms/high wind, earthquake and other hazards. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| San Luis | 6.C.1 | Wildfire Mitigation Cooperation | Coordinate/cooperate with BLM/BOR wildfire mitigation activities along the Colorado River | Ongoing | | The City of San Luis Fire Department continues to work with BLM/BOR regarding the potential of wildfire events along the Colorado River. SLFD has budgeted for and is in the process of purchasing a slip-in unit for mounting to allow active firefighting efforts in previously un-accessible locations. Projected costs of this unit is $ 15, 000. |
| Somerton | 7.A.1 | Relocation to New Public Safety Facility | Relocate police and fire departments to a new joint-use facility that is seismic Zone 4 compliant. New facility will also include an emergency operations center. | Complete | 2006 | This project was completed in 2006 and we have operated the EOC during this year for storm flooding conditions. |
| Somerton | 9.A.1 | Transportation Study | Finalize current Small Area Transportation Study currently underway, to identify areas concern. Study is funded by ADOT | Complete | 2006 | |
| Somerton | 8.A.1 | Enforcement of the NFPA101 and UFC | Enforcement of the NFPA101 and UFC that requires HAZMAT placarding on fixed site facilities | In progress | | The team decided not to identify hazardous materials as a hazard for the 2010 plan.. |
| Somerton | 8.A.2 | Commodity Flow Study | Hire a consultant to perform a commodity flow study to determine volume and | No action | | No funding for this project at this or in the future |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | frequency of HAZMAT's being transported through the City of Somerton | | | |
| Somerton | 1.A.1 | Enforcement of Zoning and Building Code Ordinances | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | In progress | | This is an ongoing project. |
| Somerton | 7.C.1 | Seismic Building Code Enforcement | Continue to enforce current seismic building codes to reduce the effects earthquake hazards on new buildings and infrastructure | In progress | | With all of the seismic activity in our area, there will be new studies and new data that when it comes available we will revise our codes to meet the new changes. |
| Somerton | 5.B.3 | Somerton Avenue Storm Drain | Proposed flood control drain pipe to be installed in Somerton Avenue between Fern Street and Highway 95. Drain pipe will be tied to existing drain in Highway 95 that outfalls to a retention basin | No action | | No funding for this project. |
| Somerton | 11.A.1 | Water Conservation Plan Adoption | Formally adopt the Water Conservation Plan for the City of Somerton | Complete | 2008 | Adopted by resolution in 2008. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Somerton | 11.A.2 | Enforcement of Low Water-Use Fixture Requirements | Enforce low water use fixture requirements for new residential/commercial buildings in current plumbing codes | In progress | | All new construction have low water use fixtures installed, verified by building code inspector. |
| Somerton | 5.B.2 | State Avenue Storm Drain | Proposed flood control drain pipe to be installed in State Avenue between Spring Street and Highway 95. Drain pipe will be tied to existing drain in Highway 95 that outfalls to a retention basin | Complete | | Future project as funding comes available. |
| Somerton | 5.B.1 | Congress Avenue Storm Drain | Proposed flood control drain pipe to be installed in Congress Avenue between Cano Street and Highway 95. Drain pipe will be tied to existing drain in Highway 95 that outfalls to a retention basin | Complete | | As funding becomes available. |
| Somerton | SO-1 | | Enforcement of Zoning and Building codes to reduce the effects of flood, thunderstorm/high wind and earthquake. | Complete | Prior to 2018 | All new construction must meet current standards and is verified by building code inspectors |
| Somerton | SO-3 | | Water Conservation Plan Adoption to conserve water as a community to maintain water supply availability. | Complete | 2000 | Adopted by Resolution in 2000 |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Somerton | SO-5 | | Proposed State Ave storm drain pipe to be installed in State Ave between Spring Street and Hwy. 95. Drain pipe will be tied to existing drain in Hwy. 95 that outfalls to a retention basin to prevent flooding. | Complete | Prior to 2018 | |
| Somerton | SO-6 | | Proposed flood control drain pipe to be installed in Congress Avenue between Cano Street and Highway 95. Drain pipe will be tied to existing drain in Highway 95 that outfalls to a retention basin to distribute flow and prevent flooding. | Complete | Prior to 2018 | |
| Wellton | 1.A.1 | Enforcement of Zoning and Building Code Ordinances | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | Ongoing | | The Town has since updated it's building code and also has appointed a Code Enforcement Officer. This is a continual project in nature. |
| Wellton | 7.A.1 | Seismic Building Code Compliance | Continue to require compliance with Zone 3 Seismic building codes for | Ongoing | | The Town ensures that contracted Engineers build and design structures that are |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | new residential and commercial developments. | | | designed to meet current earthquake regulations. |
| Wellton | 12.A.2 | Enforce Low Water-Use Fixture | Continue to enforce low water-use fixture requirements in current plumbing codes | Ongoing | | The Town is in process of drafting an ordinance to enforce low water use fixtures in commercial buildings. |
| Wellton | 9.C.1 | Inter-Agency Coordination | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma County Highway Department and Arizona Department of Transportation. | Ongoing | | Town of Wellton participates in the YMPO (Yuma Metro Planning Org.) for transportation planning. One project is subsidizing the YCAT transport system. Also participates in the Yuma Co Fllod District and works with other local and state agencies as needed. |
| Wellton | 5.B.1 | Local Area Drainage Study | Perform a local area drainage study to determine the vulnerability of Oakland and San Jose Avenues from Dome Street to Jessie Street to determine the need for drainage improvements in the area. | Pending | | The Town is pending funds from the Yuma County Flood District for this project. Once completed, delete. |
| Wellton | 5.B.2 | Update Current FEMA Delineated Floodplain Mapping | Submit a formal request to the Yuma County Flood Control District to perform the necessary studies and analysis to update/revise the currently delineated | Pending approval from FEMA. Completed | | The Town worked with the Yuma County Flood District to complete a flood plan study and altered the flood plain layout. Pending FEMA approval. Once approved, delete program. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | floodplains so that they reflect actual conditions | | | |
| Wellton | 6.A.1 | Enforcement of Nuisance Abatement Ordinance | Continue to enforce current nuisance abatement ordinance for the control of weeds, debris and other flammable materials within the Town limits | Ongoing | | The Town PD identifies and evaluates hazard and nuisance abatement every 6 months. Violations are addressed as identified. This is a continuous program. |
| Wellton | 8.C.1 | Zoning Mapping Analysis and Update | Analyze and update current zoning maps to regulate land-use elements involving HAZMAT usage, dispensing and storage. | Ongoing | | The Town received $150,000.00 grant from Az Dept Transportation to evaluate transportation and land use. The Town will also update/add this to it's General Plan when updated. |
| Wellton | 5.A.1 | Adopt Formal Floodplain Regulations | Coordinate with, formally adopt, and regulate to new Yuma County Floodplain Regulations | Ongoing | | The Yuma County Flood District administers this and updates as needed.. |
| Wellton | 8.A.1 | HAZMAT Public Education | Promote awareness to hazardous materials transport and handling within the Town of Wellton | Ongoing | | The Planning Team decided not to identify hazardous materials as hazard for this 2010 plan. The focus is directed to natural hazards. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Wellton | 9.D.1 | Traffic Law Enforcement | Continue to enforce traffic laws within the Town limits | Ongoing | | The Town Police dept has increased the size of the agency and vehicle fleet to address traffic problems as they are discovered/observed. The vehicles have more equipment and are equipped with both moving and stationary radar for enforcement. This is also a continuous project. |
| Wellton | 12.A.1 | Prepare a Water Conservation Plan | Develop and formally adopt a Water Conservation Plan per recommendations from the Arizona Department of Water Resources | Complete | 2005 | The Town adopted a water rate with a conservation plan built into it back in 2005. This has proven to be effective |
| Wellton | 8.A.2 | HAZMAT Route Signage | Post signs along the Town designated HAZMAT routes to safely guide transport of materials through the Town | No action | | The Town is attempting to designate routes within Town limits for truck routes, hazard material routes and will post signs one any routes are identified and approved by ordinance. Once funding and ordinance approved, signs can be posted and project deleted. |
| Wellton | W-10 | | Adopt formal Floodplain regulations to reduce flooding issues within the community. | Complete | Prior to 2018 | Recently completed a Water Loss Study |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma | 5.B.1 | 28th Street Storm Drainage | Storm sewer installation in 28th St. from 8th Ave. to Smucker Park Retention Basin. Three phase project. YCFCD Master Plan | In progress | | All 3 phases are design complete. Phase 1 (basin) is being reviewed by the Arizona Department of Water Quality, because it will cause the construction of a jurisdictional dam within a Seismic Zone 4 area, which has never been accomplished previously in the State of Arizona. Construction anticipated to commence Fall 2010. Upstream Phases 2 & 3 construction to follow completion of Phase 1. |
| Yuma | 12.A.2 | Low Water-Use Fixture Requirements | Enforce low water use fixture requirements for new residential/commercial buildings. | Currently enforcing | | The city has adopted the IRC and the IPC both of which have provisions for low flow fixtures in both commercial and residential structures. The codes limit the amount of water that can flow from fixtures such as toilets sinks and showers heads. |
| Yuma | 9.C.1 | Transportation Accident Mitigation | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and | No action | | The City of Yuma has chosen not to mitigate against Transportation related accidents, due to the desire of focusing on the natural hazards. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | Arizona Department of Transportation. | | | |
| Yuma | 6.B.1 | Riverfront Park Development | Clear and remove dense stands of salt-cedar and re-establish native riparian vegetation along the Colorado River to produce a natural park area and mitigate the effects of wildland fire. Costs reflect vegetation removal and replacement only. | In progress | | Ongoing project |
| Yuma | 7.A.1 | Earthquake Safety Education | Continue to provide earthquake safety awareness to the community on an annual basis through booths at fairs, brochures, Channel 73 public service announcements, and utility bill inserts. | In progress | | Ongoing project |
| Yuma | 12.A.1 | Water Conservation Planning | Encourage the use of xeriscape landscaping in new and existing developments through impact fee incentives and public education through the “Use Water Wisely” Program | In progress | | Ongoing & active activity |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma | 8.A.1 | LEPC Participation | Continue to serve an active role in community planning and facility management where EHS materials are concerned. | No action | | City of Yuma has chosen not to mitigate against HAZMAT incidents, due to the desire of focusing on natural hazards. |
| Yuma | 5.B.4 | Hacienda Retention Basins | 4 phase project to excavate existing materials and replace with landscaping | Complete | 2004-2005 | |
| Yuma | 5.B.5 | Hacienda Estates Storm Force Main | 4 underground pipes and pump stations from retention basins to west line of subdivision | Complete | 2004-2005 | |
| Yuma | 5.B.14 | 4th Street Storm Sewer | Construct collection system from 9th Avenue to basin site at the southeast corner of the Avenue A intersection with 4th Street. Conjunction with YCFCD Storm Drainage Plan | Complete | 2004-2005 | |
| Yuma | 5.B.2 | 8th Avenue Storm Sewer Extension | Install 3000 L.F.- 48" storm sewer and appurtenances/planning context YCFCD West Yuma Mesa Master Plan. Design phase | No action | | Upstream project tied to full completion of ID 5.B.1 |
| Yuma | 8.A.3 | HAZMAT Commodity Flow Study | Hire a consultant to perform a commodity flow study for the major transportation corridors within the City of Yuma to include rail, air, roadways, and waterways. | No action | | COY has chosen not to mitigate against HAZMAT incidents since they are human caused and do not meet the criteria of this plan. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma | 5.B.9 | Ext. Storm Sewer/Arena Dr/9th to 10th | Extend existing storm sewer | In progress | | Project in design phase |
| Yuma | 5.B.6 | Storm Water NPDES permit | 2 phase project. Phase 1 completed. Phase II implement action plan and provide documentation to Arizona Department of Environmental Quality | In progress | | Mandated activity by the USEPA |
| Yuma | 5.B.7 | 6th Place Storm Sewer | In accordance with YCFCD Master Plan Construct 1750 linear feet of 24"to 36" storm drain and appurtenances. | Complete | | |
| Yuma | 7.C.1 | Seismic Building Code Enforcement | Continue to enforce current Zone D1 seismic requirements in residential and commercial building codes. | Currently enforcing | | Currently the city has the 2003 IRC and IBC codes adopted and we inspect all requirements for seismic. This includes liquefaction mitigation, seismic construction requirements and seismic bracing for all equipment and piping in buildings. |
| Yuma | 5.B.10 | Area Detention Basin-Victoria Meadows | Construction completed by YCFCD 02/03. City to construct storm drain lines and provide basin landscaping/dust suppression features | Complete | 2003 | |
| Yuma | 5.B.16 | The Manors Storm Sewer System | Design, construct and inspect storm sewer to drain La Mesa Manors 1 and 2, Desert View and La Mesa Park | No action | | Lack of funding to design & construct upper reach drainage to existing YCFCD main drainline. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | subdivisions/Conform to YCFCD East Mesa Storm sewer Outfall Plan/Multi phase project | | | |
| Yuma | 1.A.3 | Enforcement of Zoning and Building Code Ordinances | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | Currently enforcing | | The city has adopted the ICC family of codes to include the IBC, IRC,IEBC,IMPC,NEC,IPC,IMC,IFGC. We perform plan review, issue permits and perform all required inspections. We also enforce property maintenance codes for existing buildings to be sure they are in safe conditions. |
| Yuma | 5.B.8 | Fix alley drainage 4th Ave. and Ave A | 2 phase project; design and construction | In progress | | Phase 1 completed at a cost of $188,992. Phase 2 design to commence when funding is available |
| Yuma | 5.B.11 | Storm Pump Station Telemetry | Monitor and control condition of storm water pump stations (11) | No action | | No progress due to lack of funding |
| Yuma | 5.B.12 | 4th Avenue drainage upgrade | Replacement of East-West drain lines beneath 4th Avenue | Complete | | |
| Yuma | 5.B.13 | Araby Road Drainage improvements | Replace drainage spillways with curb inlets and piping to storm water basins | Complete | | |
| Yuma | 5.B.15 | Storm Water Lift Station Improvements | Install ductile iron piping in four lift station locations, Reagan School, 20th Street, | No action | | Project cancelled. If necessary, will be undertaken as an O&M activity. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | McKinly Street and 16th Street | | | |
| Yuma | 8.A.2 | Area Service Highway Project Participation | Coordinate/cooperate with the implementation of the proposed GYPA Area Service Highway and Commercial Port of Entry project | Complete | 2010 | Area Service Highway has been completed and is in use. Commercial Port of Entry is complete in the United States And awaiting computers and office furnishings for the facility in Mexico. Opening anticipated Summer 2010. |
| Yuma | Y-5 | | Storm water Basin Evacuation: 15th Street Basin at 45th Avenue and Storm water Basin Evacuation: 16th Street at 46th Avenue. Design, construct and inspect improvements to Cibola Heights Subdivision basin drainage and landscaping. The Developer of this subdivision did not complete basin improvements, to properly provide the City with a fully operational and aesthetically acceptable site | Complete | FY 2014 | Cibola Heights basin improvements completed in FY 2014. |
| Yuma County | 1.A.1, 5.A.1, 5.B.1,5.D.1 | FCD-District Regulations | Maintain Compliance with National Flood Insurance Program to reduce the effects of flood hazards on | In Progress but currently compliant | | Wrap and combine into existing project 1.A.2 |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | new buildings and infrastructure | | | |
| Yuma County | 1.A.2 | FCD-State Regulations | Fund annual State Floodplain regulations and develop technical and review standards for floodplain related topics | In progress | | Ongoing annual appropriation |
| Yuma County | 1.A.2, 1.B.2 | Regulation Review and Update | Update Emergency Operations Plan | In progress | | This is a response plan and not a mitigation effort. |
| Yuma County | 1.A.3 | Enforcement of Zoning and Building Code Ordinances | Continue to enforce zoning and building codes through current site plan, subdivision, and building permit review processes to reduce the effects of flood, thunderstorm/high wind, earthquake, transportation and other hazards on new buildings and infrastructure | In progress | | Ongoing annual appropriation |
| Yuma County | 1.B.1 | FCD-FIRM | Review, Support, and Adopt FEMA approved FIRM to reduce the effects of flood hazards on new buildings and infrastructure throughout unmapped portions of the county | Complete | | Ongoing to adopt future revisions |
| Yuma County | 12.A.1 | Low Water Use Fixtures | Continue to enforce building code low water use fixture | In progress | | Ongoing annual appropriation |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | requirements for new residential and commercial buildings. | | | |
| Yuma County | 12.A.2 | Drought Conservation Public Education | Public education campaign to encourage citizens to conserve water | No action | | No action taken these past years, will re-evaluate and possibly proceed in 2011 |
| Yuma County | 2.A.1 | FCD-Public Outreach | Develop and implement a Flood/Waterway Education and Public Outreach campaign to encourage citizen awareness to mitigate the damages of floods via the use of internet, public meetings, brochures, etc. | In progress | | On-going annual effort; Sent letters to 100 property owners advising grandfather status of Flood Insurance |
| Yuma County | 2.A.1, 2.B.2, 2.C.3, 2.D.2 | Public Education Campaign | Conduct Employee Training on the Emergency Response Plan | No action | | This is a response plan and not a mitigation effort. |
| Yuma County | 2.B.1, 4.A.1 | FCD-IGA Administration | Implement Master IGA's with Yuma City | Complete | | Amendments to reflect connections are complete |
| Yuma County | 2.B.1,2.C.1 | Communication Network Needs | Communication Network Needs Analysis | Complete | 2006 | |
| Yuma County | 2.D.1 | FCD-Flood Documentation | Document Flood Damage after flood events to further mitigate ongoing efforts by identification of potential and actual hazard areas; will also be used in public outreach and education campaign as well as provide | In progress | | Ongoing annual appropriation |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | historical reference for future mitigation efforts | | | |
| Yuma County | 3.B.1 | Develop Evacuation Plans | Prepare an Updated Emergency Disaster Preparedness Plan | No action | | This is a response plan and not a mitigation effort and are not included in this mitigation plan |
| Yuma County | 3.C.1 | FCD-Staff Education | Attend related technical conferences and relay new information to stakeholders | In progress | | Ongoing annual appropriation |
| Yuma County | 4.A.2 | Yuma-West Yuma Mesa O&M | West Yuma Mesa Operation and Maintenance Plan | No action | | This project became the responsibility of City of Yuma |
| Yuma County | 5.B.10 | Yuma-Tierra Kino & Del Oro Drainage Improvements | Construct new stormdrain and do drainage improvements at Tierra Kino & Del Oro to provide stormdrain to subdivisions and mobile home parks with limited drainage, mitigating flooding in this area. | Phase II complete in 2010 | | Future priority |
| Yuma County | 5.B.11 | FCD-Drainage Ditch Bypass | Yuma Valley Drainage Ditch Discharge Bypass – Design and construct new bypass that increased the capacity of the Yuma Valley Drainage System allowing more stormwater to be discharges into the system. | Complete | | Improvements constructed |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.12 | Yuma-28th Street System | This project is located in the La Jolla Subdivision. Project will provide drainage improvements, catch basin and storm water pipeline to drain this neighborhood. Storm water presently ponds in the street and requires removal by water trucks. | In progress | | Project is being developed |
| Yuma County | 5.B.13 | YC-Mesa Del Sol Retention Basin Channel | Mesa Del Sol Retention Basin Channel – Evaluation of basin shows adequate storage for subdivision. | No action | | No programmed funding |
| Yuma County | 5.B.14 | Yuma-28th Street Outfall | 28th Street Outfall Lines New Construction - The 28th Street Outfall Lines will be the drainage outfalls that convey stormwater to Smucker Park. These outfalls are needed to mitigate the damage and reduce uncontrolled runoff that currently flows down the West Mesa Area to the Yuma Valley resulting in flooding of surrounding areas. Design is complete. Construction is waiting Smucker Park Construction. | In progress | | Delete this entry as this project is the second phase of 5.B.33 |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.15 | Yuma-Kofa High Basin | Design and construct Kofa High School Detention Basin Improvements to provide overflow storage for 32nd Street and overflow from Smucker Park Basin. | In progress | | Wrapped into Smucker Basin and City improvements |
| Yuma County | 5.B.16 | Yuma-Castle Dome Drainage Improvements | Castle Dome Drainage Improvement Plan providing drainage and runoff storage for Castle Dome Drive has been constructed as part of regional development. | Complete | | |
| Yuma County | 5.B.17 | Yuma-Virginia Ave/24th St Drainage Improvements | Virginia Ave/24th Street Storm Drain Improvements is an extension of the 28th Street Stormdrain System. | In progress | | Combine and wrap into 5.B.33 Project as future phase |
| Yuma County | 5.B.18 | Yuma-La Mesa Manor Drainage Improvements | La Mesa Manor Storm Drain is part of the East Mesa Stormdrain system and drains the La Mesa Manor area. - Complete | Complete | 2002 | |
| Yuma County | 5.B.19 | Yuma-Engler Avenue Basin Pump Station | Design and re-construct of Engler Avenue Basin Pump Station to drain this basin to the East Mesa Outfall System mitigating damage to surrounding area and thus reducing detention times below 5 days. | In progress | | Design completed, construction programmed |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.2 | YC-Avenue 64 Crossing | Perform erosion control mitigation efforts such as planting, rip rap, bank stabilization, etc. at the Avenue 64E/Gila River Bridge to mitigate and protect a vital Gila River Crossing from erosion due to meander migration. | In progress | | Project funding tabled to future FY |
| Yuma County | 5.B.20 | YC-Quartz & Amber St. Erosion Control Plan | Quartz & Amber St. Erosion Control Plan has been evaluated and sufficient storm storage is available. | In progress | | Sufficient storm storage is available. |
| Yuma County | 5.B.21 | YC- Phoenix & Mesa St. Drainage Improvements | Phoenix and Mesa St. within the Yuma East area. On site drainage has been filled in by the owners. Design will provide alternatives to address the storm water ponding. | In progress | | Alternatives identified |
| Yuma County | 5.B.22 | Gadsden-Drainage Improvements | Design and then renovate the Gadsden Area Drainage to provide storm water facilities, to mitigate the effects of existing storm water ponds occurring within roadway or adjacent properties | In progress | | Master Drainage Plan complete, improvements to be prioritized |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.23 | Somerton-Cano St. Drainage Improvements | Design and then renovate the Somerton Area Drainage improvements to mitigate storm damage and provide storm water facilities which will mitigate the effects of existing storm water ponds occurring on the roadway or on adjacent properties | In progress | | Drainage Plan approved, improvements to be prioritized |
| Yuma County | 5.B.24 | FCD-Riebe | Riebe Avenue Storm Drain and Basin<br>New Construction – Riebe Avenue Storm Drain and Basin collects and stores stormwater from the 8th Street and Avenue C area. This regional basin can also be used for in-line storage for the Avenue C system. Construction was complete in 2004. | Complete | 2004 | Project has been constructed |
| Yuma County | 5.B.25 | Yuma-Giss Parkway | Giss Parkway Drainage Improvements | In progress | | FCD has been tracking Giss Parkway underpass flooding in the Flood Control Assessment Report so we put it in our Mitigation Plan. FCD dropped it out of the Mitigation Plan because it is a City/ADOT project and we are limited to ten projects. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.26 | FCD-East Main Canal Extention ADS | Design and construct East Main Canal Extension Area Drainage Plan which is a portion of the Yuma Valley drainage study. With the overall Yuma Valley drainage study being updated this year, this work will be completed. | No action | | Incorporated into the Yuma Valley drainage study |
| Yuma County | 5.B.27 | YC-Mapping | Perform topographic mapping of Flood Control District to complete drainage studies that will mitigate effects of storms and run off and for Floodplain studies | In progress, previous years phases complete | | Ongoing effort to upgrade mapping as necessary for drainage studies |
| Yuma County | 5.B.28 | FCD-East Mesa ADS | East Mesa Area Drainage Study – Area Drainage Study. This study looked at the drainage needs for the area between Avenue 3E and Avenue 11E. H&H was performed and needs identified. | Complete | | |
| Yuma County | 5.B.29 | Yuma-12th Ave/Arena Drive Drainage Improvements | 12th Avenue/Arena Drive Storm Drain | No action | | Currently, this project is not Yuma County's priority. The city is under design. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 5.B.3 | FCD-Fortuna Wash Banks | Bank stabilization of the Fortuna Wash area is proposed to prevent bank subsidence from riverine erosion. This mitigates damage to homes in the area. Phase I is scheduled to be constructed this year and will improve conditions for 9 homes, two bridges, and the Foothills Blvd storm drain system. | In progress | | Project design complete, phase I is scheduled to be constructed |
| Yuma County | 5.B.31 | Somerton-Capital St. Drainage Improvements | Design and construct new drainage improvements at Capital Street in Somerton to drain two residential streets where the houses are built below street level, thus mitigating flooding. | In progress | | Combine and wrap into Somerton area drainage Master Drainage Plan approved, improvements to be prioritized |
| Yuma County | 5.B.32 | Yuma-18th St. Drainage Improvements | 18th Street Drainage Improvements was road improvements to drain ponding into an existing retention basin. | Complete | | |
| Yuma County | 5.B.33 | Yuma-Smucker Park | Design and construct a new storm water a basin, Smucker Park Detention Basin. New construction - This planned detention basin for the Yuma Mesa area will store the 100-year discharge. | In progress | | Project has been delayed due to extended design requirements |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | This basin is needed to mitigate the damage and reduce uncontrolled runoff that currently flows down the West Mesa Area to the Yuma Valley resulting in flooding of surrounding areas. Design is complete and is in state permitting process. | | | |
| Yuma County | 5.B.34 | Yuma-3rd Place Drainage Improvements | 3rd Place Drainage Improvements New construction is needed to drain a residential area with homes at or below street grade. | In progress | | Incorporated into the Avenue C project |
| Yuma County | 5.B.35 | San Luis-Merrill Street Drainage Improvements | Design and reconstruction of San Luis area Merrill Street Basin Drainage Improvements to mitigate effects of runoff on surrounding properties and provide a stormwater outfall to drain retention basins | In progress | | Construction contract has been awarded |
| Yuma County | 5.B.36 | Yuma-B8 Drainage Improvements | Business 8 Drainage Improvements are needed to drain ponding along roadway. | Ave 2 ½ E Phase programmed in 2010 | | Future priority |
| Yuma County | 5.B.37 | Yuma-Crane/Poppy | New construction of stormdrain improvements at Crane/Poppy Storm Drain to | Complete | 2004 | |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | Drainage Improvements | drain a residential area with homes at or below street level, thus mitigating flooding. | | | |
| Yuma County | 5.B.4 | FCD-Gila River | Gila River Obstruction Removal and Channel Restoration is a watershed improvement project. The Gila River has been overgrown with invasive Salt Cedars which plug the overbank area of the Gila River resulting in reduced capacity and damage to the natural habitat. | No action | | Project has been on hold pending Bureau of Reclamation securing funding |
| Yuma County | 5.B.5 | FCD-Groundwater Wells | Design and construct additional Groundwater Wells to mitigate and lower the groundwater levels during sustained flooding of the Colorado River and along the west Yuma Mesa. | No action | | Additional wells dependent on need and capacity of Conduit |
| Yuma County | 5.B.6 | Yuma-Floodplain Mapping | East Main Canal Floodplain Delineation to reduce the effects of flood hazards on new buildings and infrastructure along the East Main Canal | In progress | | This Project is associated with 4.A.2; combine projects |
| Yuma County | 5.B.7 | FCD-Colorado River Mapping | Colorado River Floodplain Delineation to accurately report flood hazard for | Complete | | Colorado River flood improvements certified by Bureau of Reclamation |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | buildings and infrastructure in the Gila and Yuma Valleys | | | |
| Yuma County | 5.B.8 | Yuma-East Drain Extension Canal Improvements | East Drain Extension Canal Enlargement was construction of new culverts along the east drain extension canal to increase capacity for drainage. | Complete | | |
| Yuma County | 5.B.9 | YC-Foothills Drainage Channel Improvements | Construct two box culverts at the Foothills Drainage on 48th Street and perform Channel & Bank Erosion Mitigation to ncrease capacity of channel thus reducing the effects of flooding in surrounding areas | Complete | 2010 | |
| Yuma County | 5.C.1 | FCD-CRS | Participate in Community Assistance Program, , and other state and federal programs when they benefit Yuma County. | No action | | Future priority |
| Yuma County | 6.B.1 | Burn Permit Enforcement | Continue to require county residents to acquire burn permits to mitigate against the potential for wildland fires. | In progress | | Ongoing annual appropriation |
| Yuma County | 7.A.1, 2.C.2 | Earthquake Mitigation Plan | Develop Earthquake Mitigation Plan | No action | | Will be part of countywide all hazards community awareness and public outreach campaign. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | 8.A.1 | HAZMAT Corridor Mitigation Planning | Continue to coordinate and cooperate with inter-agency transportation planning groups such as YMPO and GYPA. | No action | | This is a response plan and not a mitigation effort. Haz Mat incidents are manmade and not included in this mitigation plan |
| Yuma County | 8.A.2 | HAZMAT Evacuation and Detour Routes | Use County GIS resources to develop evacuation and detour routing plans. | No action | | This is a response plan and not a mitigation effort. Haz Mat incidents are manmade and not included in this mitigation plan |
| Yuma County | 9.C.1 | Inter-Agency Transportation Planning | Continue to coordinate and participate with inter-agency transportation planning groups such as the Yuma Metropolitan Planning Organization, Greater Yuma Port Authority, Yuma Marine Corps Air Station, and Arizona Department of Transportation | In progress | | Ongoing annual occurrence |
| Yuma County | 9.D.1 | Runway Protection Zone Enforcement | Continued enforcement of development restricted areas relative to the MCAS and the MCAS Auxiliary Field II as identified in the Joint Land Use Plan. | In progress | | Ongoing annual appropriation |
| Yuma County | YC-11 | | Review, Support, and Adopt FEMA approved FIRM to reduce the effects of flood hazards on new buildings and infrastructure throughout | Complete, FIRM update effective Jan-2014 | 2011 | Yuma County has an automatic adoption clause in its Floodplain Regulations. District has mapped portions of the Gila River system |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | unmapped portions of the county | | | |
| Yuma County | YC-13 | | Construct new storm drain and do drainage improvements at Tierra Kino & Del Oro to provide storm drain to subdivisions and mobile home parks with limited drainage, mitigating flooding in this area. | Complete | 2015 | City constructed storm drain for Casa Manana. System completed. |
| Yuma County | YC-18 | | Design and then renovate the Somerton Area Drainage improvements to mitigate storm damage and provide storm water facilities which will mitigate the effects of existing storm water ponds occurring on the roadway or on adjacent properties | Complete | 2015 | NW System completed. |
| Yuma County | YC-19 | | 3rd Place Drainage Improvements New construction is needed to drain a residential area with homes at or below street grade. | Complete | 2015 | Completed. System constructed with Ave. C reconstruction. |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | YC-2 | | Bank stabilization of the Fortuna Wash area is proposed to prevent bank subsidence from riverine erosion. This mitigates damage to homes in the area. Phase I is scheduled to be constructed this year and will improve conditions for 9 homes, two bridges, and the Foothills Blvd storm drain system. | Complete | 2010 | |
| Yuma County | YC-20 | | Design and reconstruction of San Luis area Merrill Street Basin Drainage Improvements to mitigate effects of runoff on surrounding properties and provide a stormwater outfall to drain retention basins | Complete | 2015 | Completed. System constructed. |
| Yuma County | YC-3 | | Perform erosion control mitigation efforts such as planting, rip rap, bank stabilization, etc. at the Avenue 64E/Gila River Bridge to mitigate and protect a vital Gila River Crossing from erosion due to meander migration. | Complete | 2015 | |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | YC-30 | Avenue 64E bridge over Gila River | Construct a new bridge to cross the Gila River | | 1982 | |
| Yuma County | YC-31 | Avenue 45E and 20E bridge over the Gila River | Construct two new bridges to cross the Gila River | | 1982 | |
| Yuma County | YC-32 | Avenue 2E Railroad Overpass | Construct a new railroad overpass to replace an at grade crossing | | 1982 | |
| Yuma County | YC-33 | Yuma Mesa Conduit Agreement | Contract signed with the Bureau of Reclamation to utilize the Yuma Mesa Conduit to transport storm water to the Colorado River | | 1983 | |
| Yuma County | YC-34 | Groundwater wells | Install four groundwater wells, and conduit connections, within the urban area of the City of Yuma to address elevated groundwater from the 1983 Colorado River flood | | 1985 | |
| Yuma County | YC-35 | 26th Street Pipeline and connection to the Mesa conduit | Construct a drainage and stormwater pipeline to connect groundwater and stormwater pumps within the Yuma Valley to Conduit | | 1990 | |
| Yuma County | YC-36 | Avenue C Groundwater and Storm sewer line | Construct a drainage and stormwater pipeline to connect groundwater and stormwater pumps within | | 1990 | |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| | | | the Yuma Valley to Colorado River | | | |
| Yuma County | YC-37 | West Main Canal Groundwater and Stormwater conduit | Construct a drainage and stormwater pipeline to connect groundwater and stormwater pumps within the Yuma Valley to Conduit | | 1991 | |
| Yuma County | YC-38 | Ave 40E bridge over Gila River | Construct new bridge to provide emergency access and accommodate the 100 yr flood | | 1993 | |
| Yuma County | YC-39 | Ave 64E bridge over Gila River | Extend existing bridge to provide emergency access and accommodate the 100 yr flood | | 1993 | |
| Yuma County | YC-40 | Yuma Valley Drainage System | Signed agreement with Yuma County Water Users and Bureau of Reclamation for the use of the Valley drain system for disposal of stormwater to the Colorado River | | 1993 | |
| Yuma County | YC-41 | Yuma Mesa Hazard Elimination Project | Reconstruct and widen over 35 narrow irrigation crossings | | 1990-1994 | |
| Yuma County | YC-42 | Railroad crossing safety improvements | Installed automatic gates with flashers at 21 at grade roadway/train crossings | | 1976-1997 | |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | YC-43 | B-8 Storm Drainage System | Construct a storm sewer system for State Business Route 8 | | 1998 | |
| Yuma County | YC-44 | Martinez Lake Sheriff substation | Construct a new Sheriff Colorado River administrative and emergency first aid substation | | 1998 | |
| Yuma County | YC-45 | Groundwater drainage well power lines | Install and extend WAPA electrical power to service all groundwater/storm water pumping facilities (replaced APS service) | | 1999 | |
| Yuma County | YC-46 | Project Impact | Project Impact | | | |
| Yuma County | YC-47 | Foothills Blvd, I-8 to 48th Street | Reconstruct Foothills Blvd to 5 lanes, new traffic signals (3), curb & gutter, sidewalk, and storm water outfall to Fortuna Wash | | 2001 | |
| Yuma County | YC-48 | New County Public Works Facility | Relocate County Public Works facility from the valley to the mesa due to it's location and responsibility as a first responder | | 2002 | |
| Yuma County | YC-49 | Old Highway 80 safety project | Install over 50,000 lin. ft of roadside guardrail at slope embankments and culvert crossings, Liguerta to Wellton Pass | | 2002 | |

| Jurisdiction | ID No. | Name | Description | Status | Completion Date | Summary |
|---|---|---|---|---|---|---|
| Yuma County | YC-50 | East Mesa Storm Sewer System | Construct 4 new detention basins, collection system with storm sewer trunk lines/pump stations to discharge to the Colorado River | | 1995-2000 | |
| Yuma County | YC-51 | Co. 8th Str, Ave B to Ave C Ave C, 12 - 8th Street | Reconstruct Co. 8th Street and Avenue C to 5 lanes, new traffic signal, curb & gutter, sidewalk, storm water system and construct Reibe Avenue basin. | | 2005 | |
| Yuma County | YC-52 | Somerton Avenue and Co. 8th Street realignment | Reconstructed roadway curve to current design criteria | | 2007 | |
| Yuma County | YC-53 | Yuma County Bridge Replacement Program | Reconstruct approximately 70 bridges, majority were timber, with concrete or steel structures | | 1976-2010 | |

# APPENDIX E: ANNUAL PLAN REVIEW REPORTS

# REGION IX LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers states and FEMA mitigation planners an opportunity to provide feedback to the community.

- The **Regulation Checklist** provides a summary of FEMA's evaluation of whether the plan has addressed all requirements.
- The **Plan Assessment** identifies the plan's strengths as well as documents areas for future improvement. This section also includes a list of resources for implementation of the plan.
- The **Multi-Jurisdiction Summary Sheet** is a **mandatory** worksheet that is used to document which jurisdictions have participated in the planning process and are eligible to adopt the plan.
- The **Hazard Identification and Risk Assessment Matrix** is a tool for plan reviewers to identify if all components of Element B are met.

| **Jurisdiction:** Yuma County & respective tribe and incorporated jurisdictions | **Title of Plan:** Yuma County Multi-Jurisdictional Hazard Mitigation Plan | **Date of Plan:** November 2018 |
|---|---|---|
| **Local Point of Contact:** Tony Badilla | **Address:** Yuma County Office of Emergency Management 2200 W. 28th Street, Yuma AZ 85364 | |
| **Title:** Emergency Management Direction | | |
| **Agency:** Yuma County | | |
| **Phone Number:** 928-317-4680 | **E-Mail:** tony.badilla@yumacountyaz.gov | |

| **State Reviewer:** Susan Austin | **Title:** Planning Branch Manager | **Date:** November 2018 |
|---|---|---|
| **Date Received at State Agency** | November 5, 2018 | |
| **Plan Not Approved** | | |
| **Plan Approved/Sent to FEMA** | November 6, 2018 | |

| **FEMA Reviewer:** Jesse Carpentier | **Title:** Community Planner | **Date:** January 23, 2019 |
|---|---|---|
| **Date Received in FEMA Region IX** | December 19, 2018 | |
| **Plan Not Approved** | February 1, 2019 | |
| **Plan Approvable Pending Adoption** | May 10, 2019 | |
| **Plan Approved** | | |

## SECTION 1:
## REGULATION CHECKLIST

**INSTRUCTIONS:** The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in the *Local Plan Review Guide* in Section 4, Regulation Checklist.

| **1. REGULATION CHECKLIST**<br>**Regulation** (44 CFR 201.6 Local Mitigation Plans) | | **Location in Plan (section and/or page number)** | **Met** | **Not Met** |
|---|---|---|---|---|
| **ELEMENT A. PLANNING PROCESS** | | | | |
| A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1)) | a. Does the plan provide documentation of how the plan was prepared? This documentation must include the schedule or timeframe and activities that made up the plan's development as well as who was involved. | Sect 4<br>Appendix B | X | |
| | b. Does the plan list the jurisdiction(s) participating in the plan that are seeking approval? | Sect 1.2 | X | |
| | c. Does the plan identify who represented each jurisdiction? (At a minimum, it must identify the jurisdiction represented and the person's position or title and agency within the jurisdiction.) | Sect 4.3 | X | |
| A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2)) | a. Does the plan document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interested parties to be involved in the planning process? | Sect 4.4 | X | |
| | b. Does the plan identify how the stakeholders were invited to participate in the process? | Sect 4.4.3 | X | |

| **1. REGULATION CHECKLIST**<br>**Regulation** (44 CFR 201.6 Local Mitigation Plans) | | **Location in Plan** (section and/or page number) | **Met** | **Not Met** |
|---|---|---|---|---|
| A3. Does the plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1)) | | Sect 4.5 | X | |
| A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3)) | | Sect. 7.4 | X | |
| A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii)) | | Sect 7.4 | X | |
| A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i)) | a. Does the plan identify how, when, and by whom the plan will be **monitored** (how will implementation be tracked) over time? | Sect 7.1 | X | |
| | b. Does the plan identify how, when, and by whom the plan will be **evaluated** (assessing the effectiveness of the plan at achieving stated purpose and goals) over time? | Sect 7.1 | X | |
| | c. Does the plan identify how, when, and by whom the plan will be **updated** during the 5-year cycle? | Sect 7.1 & 7.2 | X | |
| **ELEMENT A: REQUIRED REVISIONS** | | | | |
| **ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT**<br>(Reviewer: See Section 4 for assistance with Element B) | | | | |
| B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i)) | a. Does the plan include a general **description** of all natural hazards that can affect each jurisdiction? | Sect 5.3 | X | |
| | b. Does the plan provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? | N/A – none omitted. | X | |
| | c. Does the plan include a description of the **location** for all natural hazards that can affect each jurisdiction? | Sect 5.3 | X | |
| | d. Does the plan include a description of the **extent** for all natural hazards that can affect each jurisdiction? | Sect 5.3 | X | |
| B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement | a. Does the plan include information on **previous occurrences** of hazard events for each jurisdiction? | Sect 5.3 | X | |

| 1. REGULATION CHECKLIST<br>**Regulation** (44 CFR 201.6 Local Mitigation Plans) | | Location in Plan (section and/or page number) | Met | Not Met |
|---|---|---|---|---|
| §201.6(c)(2)(i)) | b. Does the plan include information on the **probability** of future hazard events for each jurisdiction? | Sect 5.3 | X | |
| B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii)) | a. Is there a description of each hazard's **impacts** on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)? | Sect 5.3 | X | |
| | b. Is there a description of each identified hazard's overall **vulnerability** (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction? | Sect 5.3 | X | |
| B4. Does the plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii)) | | Sect 5.3.4 | X | |
| **ELEMENT B: REQUIRED REVISIONS** | | | | |
| **ELEMENT C. MITIGATION STRATEGY** | | | | |
| C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3)) | a. Does the plan document each jurisdiction's existing authorities, policies, programs and resources? | Sect 6.2 | X | |
| | b. Does the plan document each jurisdiction's ability to expand on and improve these existing policies and programs? | Sect 6.2 | X | |
| C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii)) | | Sect 6.2.4 | X | |
| C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i)) | | Sect 6.1 | X | |
| C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii)) | a. Does the plan identify and analyze a comprehensive range (different alternatives) of specific mitigation actions and projects to reduce the impacts from hazards? | Sect 6.3.2 | X | |
| | b. Does the plan identify mitigation actions for every hazard posing a threat to each participating jurisdiction? | Sect 6.3.2 | X | |

| 1. REGULATION CHECKLIST<br>**Regulation** (44 CFR 201.6 Local Mitigation Plans) | | Location in Plan (section and/or page number) | Met | Not Met |
|---|---|---|---|---|
| | c. Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure? | Sect 6.3.2 | X | |
| C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii)) | a. Does the plan explain how the mitigation actions and projects will be prioritized (including cost benefit review)? | Sect 6.3.2 | X | |
| | b. Does the plan identify the position, office, department, or agency responsible for implementing and administering the action/project, potential funding sources and expected timeframes for completion? | Sect 6.3.2 | X | |
| C6. Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii)) | a. Does the plan identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated? | Sect 7.3 | X | |
| | b. Does the plan describe each community's process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms? | Sect 7.3 | X | |
| | c. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts. | Sect 7.3 | X | |
| **ELEMENT C: REQUIRED REVISIONS** | | | | |
| **ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION**<br>(Applicable to plan updates only) | | | | |
| D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3)) | | Sect. 5.3 | X | |
| D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3)) | | Sect 2.4 & Sect 6.3.1 | X | |
| D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3)) | | Sect 6.1 | X | |
| **ELEMENT D: REQUIRED REVISIONS** | | | | |

| 1. REGULATION CHECKLIST<br>**Regulation** (44 CFR 201.6 Local Mitigation Plans) | Location in Plan (section and/or page number) | Met | Not Met |
|---|---|---|---|
| **ELEMENT E. PLAN ADOPTION** | | | |
| E1. Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5)) | Adoption upon successful FEMA review | | |
| E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5)) | Adoption upon successful FEMA review | | |
| **ELEMENT E: REQUIRED REVISIONS** | | | |
| **ELEMENT F. ADDITIONAL STATE REQUIREMENTS**<br>(Optional for State Reviewers only; not to be completed by FEMA) | | | |
| F1. | | | |
| F2. | | | |
| **ELEMENT F: REQUIRED REVISIONS** | | | |

## SECTION 2:
## PLAN ASSESSMENT

**INSTRUCTIONS**: The purpose of this Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The Plan Assessment **must** be completed by FEMA.

The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the plan; 2) specific sections in the plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically Risk MAP and Hazard Mitigation Assistance programs.

The Plan Assessment is divided into two sections:

1) Plan Strengths and Opportunities for Improvement
2) Resources for Implementing Your Approved Plan

***Plan Strengths and Opportunities for Improvement*** is organized according to the plan elements listed in the Regulation Checklist. Each element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

***Resources for Implementing Your Approved Plan*** provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

## A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

### Element A: Planning Process

**Strengths:**

1) Detailed information and supporting documentation for the planning process.
2) Interesting, detailed profiles of the county and the jurisdictions. This background information is not required, but it provides important context for the rest of the plan.
3) The maps in the profiles are also very useful.

**Opportunities for Improvement:**

1) The responses to Question 7 would have been more clearly summarized if illustrated in bar graphs like the other ones.
2) For the next plan update, it would be beneficial to have different opportunities for public participation in addition to the online survey, particularly opportunities that target socially vulnerable communities (these opportunities might include an online survey, but it would be strategically distributed, accessible in terms of technology and language, etc.). I suggest involving community organizations that advocate for these groups during drafting and implementation.

### Element B: Hazard Identification and Risk Assessment

**Strengths:**

1) The maps are very clear and useful throughout.
2) Excellent to see an analysis of future development changes and how that might affect risk and vulnerability.
3) The CPRI tables in each hazard profile are very useful and clearly show how priorities differ slightly between communities.

### Element C: Mitigation Strategy

**Strengths:**

1) Using tables for the capability assessment is a very good way to keep it clear and organized.
2) The Annual Plan Review Reports will be an excellent way to keep an publically accessible record of plan implementation.

**Opportunities for Improvement:**

1) It is important for the jurisdictions and the consultant to understand that the ability to "expand or improve upon existing capabilities" does not only mean the ability to fund more mitigation activities; it can also mean to leverage an existing capability, with no additional resources required. To say that none of the jurisdictions have the ability to improve or expand upon existing capabilities seems very unlikely, and attempting to bypass this question is truly a missed opportunity in this planning process to identify feasible ways in which a community can increase its resilience.
2) Existing capabilities are listed, but it would be helpful to see a discussion of how/why each item is a capability to support hazard mitigation.

### Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

**Strengths:**

1) Progress in local mitigation efforts are clearly described in a table.
2) It seems that the planning team spent a lot of time evaluating the previous planning process, which is a good practice that I hope continues in the future.

## B. Resources for Implementing and Updating Your Approved Plan

This resource section is organized into three categories:

1) Guidance and Resources
2) Training Topics and Courses
3) Funding Sources

### Guidance and Resources

Local Mitigation Planning Handbook
https://www.fema.gov/media-library/assets/documents/31598
Beyond the Basics
http://mitigationguide.org/
Mitigation Ideas
https://www.fema.gov/media-library/assets/documents/30627
Plan Integration: Linking Local Planning Efforts
https://www.fema.gov/media-library/assets/documents/108893
Integrating Disaster Data into Hazard Mitigation Planning
https://www.fema.gov/media-library/assets/documents/103486
Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning
https://www.fema.gov/ar/media-library/assets/documents/4317
Community Rating System User Manual
https://www.fema.gov/media-library/assets/documents/8768
U.S. Climate Resilient Toolkit
https://toolkit.climate.gov/
2014 National Climate Assessment
http://nca2014.globalchange.gov/
Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation
http://ipcc-wg2.gov/SREX/images/uploads/SREX-All_FINAL.pdf
FY15 Hazard Mitigation Assistance Unified Guidance
https://www.fema.gov/media-library/assets/documents/103279
Climate Resilient Mitigation Activities for Hazard Mitigation Assistance
https://www.fema.gov/media-library/assets/documents/110202

### Training

More information at https://training.fema.gov/emi.aspx or through your State Training Officer

Mitigation Planning

- IS-318 Mitigation Planning for Local and Tribal Communities
  https://training.fema.gov/is/courseoverview.aspx?code=is-318
- IS-393 Introduction to Hazard Mitigation
  https://training.fema.gov/is/courseoverview.aspx?code=is-393.a
- G-318 Preparing and Reviewing Local Plans
- G-393 Mitigation for Emergency Managers

Hazard Mitigation Assistance (HMA) Grant Programs

IS-212.b Introduction to Unified HMA
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-212.b
IS-277 Benefit Cost Analysis Entry Level
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-277
E-212 HMA: Developing Quality Application Elements
E-213 HMA: Application Review and Evaluation
E-214 HMA: Project Implementation and Programmatic Closeout
E-276 Benefit-Cost Analysis Entry Level

GIS and Hazus-MH

IS-922 Application of GIS for Emergency Management
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-922
E-190 ArcGIS for Emergency Managers
E-296 Application of Hazus-MH for Risk Assessment
E-313 Basic Hazus-MH

Floodplain Management

E-273 Managing Floodplain Development through the NFIP
E-278 National Flood Insurance Program/ Community Rating System

**Potential Funding Sources**

Hazard Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/hazard-mitigation-grant-program

Pre-Disaster Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/pre-disaster-mitigation-grant-program

Flood Mitigation Assistance Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/flood-mitigation-assistance-grant-program

Emergency Management Performance Grant Program

POC: FEMA Region IX
Website: https://www.fema.gov/emergency-management-performance-grant-program

## SECTION 3:
## MULTI-JURISDICTIONAL SUMMARY SHEET

**INSTRUCTIONS**: For multi-jurisdictional plans, this summary sheet must be completed by listing each participating jurisdiction that is eligible to adopt the plan.

| # | Jurisdiction Name | Jurisdiction Type | Eligible to Adopt the Plan? | Plan POC | Email |
|---|---|---|---|---|---|
| 1 | Yuma County | County | Y | Tony Badilla | tony.badilla@yumacountyaz.gov |
| 2 | San Luis | City | Y | Eulogio Vera | evera@cityofsanluis.org |
| 3 | Somerton | City | Y | Paul Deanda | pauldeanda@somertonaz.gov |
| 4 | Wellton | Town | Y | Donald Jones | djones@town.wellton.az.us |
| 5 | Yuma | City | Y | Michael Erfert<br>Don Willits | mike.efert@yumaaz.gov |
| 6 | Cocopah Indian Tribe | Indian Tribe | Y | Mike Fila | mfila@cocopah.com |
| 7 | | | | | |
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## SECTION 4:
## HAZARD IDENTIFICATION AND RISK ASSESSMENT MATRIX (OPTIONAL)

**INSTRUCTIONS**: This matrix can be used by the plan reviewer to help identify if all of the components of Element B have been met. List out natural hazard names that are identified in the plan in the column labeled "Hazards" and put a "Y" or "N" for each component of Element B.

| HAZARD IDENTIFICATION AND RISK ASSESSMENT MATRIX | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hazard | Requirement Met? (Y/N) | | | | | | |
| | Type | Location | Extent | Previous Occurrences | Probability | Impacts | Vulnerabilities |
| Drought | Y | Y | Y | Y | Y | Y | Y |
| Earthquake | Y | Y | Y | Y | Y | Y | Y |
| Extreme Heat | Y | Y | Y | Y | Y | Y | Y |
| Flooding | Y | Y | Y | Y | Y | Y | Y |
| Severe wind | Y | Y | Y | Y | Y | Y | Y |
| Wildfire | Y | Y | Y | Y | Y | Y | Y |

**U.S. Department of Homeland Security**
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

May 13, 2019

Tony Badilla
Emergency Management Director
Yuma County
2200 W. 28th Street
Yuma, AZ 85364

Dear Mr. Badilla:

We have completed our review of the *Yuma County Multi-Jurisdictional Hazard Mitigation Plan.* and have determined that this plan is eligible for final approval pending its adoption by Yuma County and all participating jurisdictions. Please see the enclosed list of approvable pending adoption jurisdictions.

Formal adoption documentation must be submitted to the FEMA Region IX office by the lead jurisdiction within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. We will approve the plan upon receipt of the documentation of formal adoption.

If you have any questions regarding the planning or review processes, please contact the FEMA Region IX Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

Juliette Hayes
Director
Mitigation Division
FEMA, Region IX

Enclosure

cc: Lucrecia Hernandez, State Hazard Mitigation Officer, Arizona Department of Emergency and Military Affairs
Susan Austin, Planning Branch Manager, Arizona Department of Emergency and Military Affairs

Status of Participating Jurisdictions as of May 13, 2019

Jurisdictions – Adopted and Approved

| # | Jurisdiction | Date of Adoption |
|---|---|---|
| | | |
| | | |
| | | |
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| | | |

Jurisdictions – Approvable Pending Adoption

| # | Jurisdiction |
|---|---|
| 1 | Cocopah Indian Tribe |
| 2 | San Luis, City of |
| 3 | Somerton, City of |
| 4 | Wellton, Town of |
| 5 | Yuma, City of |
| 6 | Yuma County |
| | |
| | |
| | |
| | |

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.D.**

**Meeting Date:** 07/24/2019

**Department Head:** Kay Macuil, City Attorney, Attorney's Office

**Submitted By:** Kay Macuil, City Attorney, Attorney's Office

Action Requested: Motion
Resolution

**ITEM:**

Discussion and possible action on any and all matters regarding Resolution No. 2085. A Resolution of the Mayor and City Council of the City of San Luis, Arizona, approving and adopting the Land Use Assumptions of the City of San Luis 2019. **(Monica Castro, Director of Finance)**

**SUMMARY:**

Under A.R.S. §9-463.05, this item is for City Council to consider approval and adoption or disapproval of the Land Use Assumptions which are part of the attached Infrastructure Improvements Plan and Development Fee Report.

**RECOMMENDATION / SUGGESTED MOTION:**

**I MOVE TO APPROVE AND ADOPT RESOLUTION NO. 2085.**

N/A

**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | No |
| **CITY/STATE/FEDERAL FUNDS:** | N/A |
| **TOTAL:** | N/A |
| **BUDGETED AMOUNT:** | N/A |
| **AVAILABLE AMOUNT TO TRANSFER:** | N/A |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | N/A |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

There are no costs or revenue associated with this item. This is one of the steps in the process of updating the Development Impact Fees. Under Arizona Revised Statute Section 9-463.05, no decision can be made on the fees until after the adoption of these Land Use Assumptions as well as the Infrastructure Improvement Plan and a Public Hearing to receive comment on the Development fees (scheduled for August 28, 2019, at 7:00 P.M.).

**Attachments**

Resolution No. 2085

IIP & Dev Fee Rpt

OFFICE OF THE
MAYOR
CITY OF SAN LUIS

# Resolution

**No. 2085**

**A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF SAN LUIS ARIZONA, ADOPTING THE LAND USE ASSUMPTIONS OF THE CITY OF SAN LUIS 2019**

**BE IT RESOLVED** by the Mayor and City Council of the City of San Luis as follows:

**Section 1.** Appendix C, pages 79 through 91 of the document titled "Draft Infrastructure Improvement Plan and Development Fee Report" dated December 19, 2018, by TischlerBise three (3) copies of which are on file in the Office of the City Clerk of the City of San Luis, which was made a public record of the City of San Luis, is incorporated by this reference as if fully set out in this resolution as the Land Use Assumption of the City of San Luis 2019.

**PASSED, APPROVED and ADOPTED** by the Mayor and City Council of the City of San Luis, Yuma County, Arizona this ____ day of July, 2019.

_____
Gerardo Sanchez, Mayor

**ATTEST:**

_____
Sonia Cornelio, City Clerk

**APPROVED AS TO FORM:**

_____
Kay Marion Macuil, City Attorney

**DRAFT**

# Infrastructure Improvements Plan, and Development Fee Report

**Prepared for:**
**San Luis, Arizona**

**December 19, 2018**


TischlerBise
FISCAL | ECONOMIC | PLANNING

**4701 Sangamore Road**
**Suite S240**
**Bethesda, MD 20816**
**301.320.6900**
**www.TischlerBise.com**

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# EXECUTIVE SUMMARY

The City of San Luis, Arizona, contracted with TischlerBise to document land use assumptions, prepare the Infrastructure Improvements Plan (hereinafter referred to as the "IIP"), and update development fees within the San Luis Service Area pursuant to Arizona Revised Statutes ("ARS") § 9-436.05 (hereafter referred to as the "Enabling Legislation"). Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan and Land Use Assumptions. The IIP for each type of infrastructure is in the middle section of this document. The proposed development fees are displayed in the Development Fee Report in the next section.

Development fees are one-time payments used to construct system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements or debt service for growth-related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement, or correcting existing deficiencies.

This update of San Luis's Infrastructure Improvements Plan and associated update to its development fees includes the following necessary public services:

1. General Government Facilities
2. Fire Facilities
3. Parks Facilities
4. Police Facilities
5. Street Facilities
6. Water Facilities
7. Wastewater Facilities

This plan includes all necessary elements required to be in full compliance with SB 1525.

## ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION

The Enabling Legislation governs how development fees are calculated for municipalities in Arizona.

### Necessary Public Services

Under the requirements of the Enabling Legislation, development fees may only be used for construction, acquisition or expansion of public facilities that are necessary public services. "Necessary public service" means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, library, street, fire, police, and neighborhood parks and recreational. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

1. Development fees were pledged to repay debt service obligations related to the construction of the facility.
2. After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

## Infrastructure Improvements Plan

Development fees must be calculated pursuant to an IIP. For each necessary public service that is the subject of a development fee, by law, the IIP shall include the following seven elements:

1. A description of the existing necessary public services in the service area and the costs to update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.
2. An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
3. A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved Land Use Assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.
4. A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.
5. The total number of projected service units necessitated by and attributable to new development in the service area based on the approved Land Use Assumptions and calculated pursuant to generally accepted engineering and planning criteria.
6. The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
7. A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved Land Use Assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

## Qualified Professionals

The IIP must be developed by qualified professionals using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education, or experience." TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure financing analyses, user fee/cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

## Conceptual Development Fee Calculation

In contrast to project-level improvements, development fees fund growth-related infrastructure that will benefit multiple development projects, or the entire service area (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the development fee formula is to determine infrastructure improvement units per service unit, typically called level-of-service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acres per thousand people. The third step in the development fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish a cost per acre for land acquisition and/ or park improvements.

## Evaluation of Credits/Offsets

Regardless of the methodology, a consideration of credits/offsets is integral to the development of a legally defensible development fee. There are two types of credits/offsets that should be addressed in development fee studies and ordinances. The first is a revenue credit/offset due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit/offset is integrated into the fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

# DEVELOPMENT FEE REPORT

## METHODOLOGY

Development fees for the necessary public services made necessary by new development must be based on the same level of service ("LOS") provided to existing development in the service area. There are three basic methodologies used to calculate development fees. They examine the past, present, and future status of infrastructure. The objective of evaluating these different methodologies is to determine the best measure of the demand created by new development for additional infrastructure capacity. Each method has advantages and disadvantages in a particular situation and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss basic methods for calculating development fees and how those methods can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion method documents current LOS standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

## DEVELOPMENT FEE COMPONENTS

Figure 1 summarizes service areas, methodology, and infrastructure cost components for each development fee. Because San Luis plans to provide a uniform level of service for all types of infrastructure included in this IIP, the service area for all fee components is the City of San Luis.

**Figure 1: Proposed Development Fee Service Areas, Methods, and Cost Components**

| Necessary Public Service | Service Area | Incremental Expansion | Plan-Based | Cost Recovery | Cost Allocation |
|---|---|---|---|---|---|
| Fire | Citywide | Apparatus, Communications Equipment | Fire Stations, Development Fee Report | N/A | Population, Jobs |
| General Government | Citywide | N/A | N/A | City Hall | Population, Jobs |
| Parks | Citywide | Community Park Land and Amenities, Neighborhood Park Amenities | Development Fee Report | N/A | Population, Jobs |
| Police | Citywide | Stations, Vehicles, Communications Equipment | Development Fee Report | N/A | Population, Vehicle Trips |
| Street | Citywide | Arterials | Development Fee Report | N/A | Vehicle Miles of Travel |
| Water | Citywide | N/A | Water Storage, Development Fee Report | Water Production | Gallons |
| Wastewater | Citywide | N/A | Wastewater Treatment, Development Fee Report | N/A | Gallons |

## PROPOSED DEVELOPMENT FEES

Development fees for residential development will be assessed per dwelling unit, based on the type of unit. Nonresidential development fees will be assessed per square foot of floor area (non-utility) or per meter (utility). Fees shown below represent the maximum allowable fees – development fees fund 100 percent of growth-related infrastructure.

San Luis may adopt fees that are less than the amounts shown; however, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital improvements, and/or a decrease in San Luis' LOS standards. All costs in the Development Fee Report are in current dollars with no assumed inflation rate over time. If cost estimates change significantly over time, development fees should be recalibrated.

**Figure 2: Proposed Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $562 | $308 | $753 | $446 | $1,709 | **$3,778** |
| Multi-Family | $363 | $199 | $487 | $288 | $799 | **$2,136** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $433 | $238 | $127 | $135 | $378 | **$1,311** |
| Commercial | $622 | $341 | $183 | $678 | $1,718 | **$3,542** |
| Institutional | $247 | $136 | $73 | $350 | $982 | **$1,788** |
| Office & Other Services | $789 | $433 | $232 | $265 | $743 | **$2,462** |

**Figure 3: Proposed Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $542 | $912 | **$1,454** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $542 | $912 | **$1,454** |
| 1.00 Displacement | $905 | $1,523 | **$2,428** |
| 1.50 Displacement | $1,804 | $3,036 | **$4,840** |
| 2.00 Compound | $2,888 | $4,860 | **$7,748** |
| 3.00 Compound | $5,781 | $9,729 | **$15,510** |
| 4.00 Compound | $9,031 | $15,200 | **$24,231** |
| 6.00 Compound | $18,058 | $30,391 | **$48,449** |
| 8.00 Compound | $28,893 | $48,628 | **$77,521** |

## CURRENT DEVELOPMENT FEES

San Luis's current development fees are displayed below in Figure 4 and Figure 5.

**Figure 4: Current Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $405 | $476 | $735 | $503 | $943 | **$3,062** |
| Multi-Family | $365 | $428 | $662 | $452 | $801 | **$2,708** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $163 | $461 | $320 | $177 | $336 | **$1,457** |
| Commercial | $659 | $399 | $277 | $716 | $1,231 | **$3,282** |
| Institutional | $238 | $196 | $136 | $259 | $492 | **$1,321** |
| Office & Other Services | $258 | $663 | $461 | $280 | $533 | **$2,195** |

**Figure 5: Current Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $0 | $1,634 | **$1,634** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $0 | $1,634 | **$1,634** |
| 1.00 Displacement | $0 | $2,721 | **$2,721** |
| 1.50 Displacement | $0 | $5,412 | **$5,412** |
| 2.00 Compound | $0 | $8,654 | **$8,654** |
| 3.00 Compound | $0 | $17,311 | **$17,311** |
| 4.00 Compound | $0 | $27,039 | **$27,039** |
| 6.00 Compound | $0 | $54,048 | **$54,048** |
| 8.00 Compound | $0 | $86,472 | **$86,472** |

## Difference Between Proposed and Current Development Fees

The differences between the proposed and current development fees are displayed below in Figure 6 and Figure 7.

**Figure 6: Difference Between Proposed and Current Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $157 | ($168) | $18 | ($57) | $766 | **$716** |
| Multi-Family | ($2) | ($229) | ($175) | ($164) | ($2) | **($572)** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $270 | ($223) | ($193) | ($42) | $42 | **($146)** |
| Commercial | ($37) | ($58) | ($94) | ($38) | $487 | **$260** |
| Institutional | $9 | ($60) | ($63) | $91 | $490 | **$467** |
| Office & Other Services | $531 | ($230) | ($229) | ($15) | $210 | **$267** |

**Figure 7: Difference Between Proposed and Current Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $542 | ($722) | **($180)** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $542 | ($722) | **($180)** |
| 1.00 Displacement | $905 | ($1,198) | **($293)** |
| 1.50 Displacement | $1,804 | ($2,376) | **($572)** |
| 2.00 Compound | $2,888 | ($3,794) | **($906)** |
| 3.00 Compound | $5,781 | ($7,582) | **($1,801)** |
| 4.00 Compound | $9,031 | ($11,839) | **($2,808)** |
| 6.00 Compound | $18,058 | ($23,657) | **($5,599)** |
| 8.00 Compound | $28,893 | ($37,844) | **($8,951)** |

# FIRE FACILITIES IIP

ARS § 9-463.05 (T)(7)(f) defines the facilities and assets that can be included in the Fire Facilities IIP:

> *"Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training police and firefighters from more than one station or substation."*

The Fire Facilities IIP includes components for fire stations, apparatus, communications equipment, and the cost of preparing the Fire Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the apparatus and communications equipment components of the Fire Facilities IIP and Development Fees. A plan-based methodology is used for fire stations and the Development Fee Report.

## Service Area

San Luis's Fire Department strives to provide a uniform response time citywide, and its fire stations operate as an integrated network. Depending on the number and type of calls, apparatus can be dispatched citywide from any of the stations. As a result, the service area for the Fire Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Fire Facilities IIP and related Development Fee Report will allocate the cost of public services between residential and nonresidential based on functional population.

For certain infrastructure facilities TischlerBise often uses "functional population" to establish the relative demand for infrastructure from both residential and nonresidential development. As shown in the Appendix C, functional population accounts for people living and working in a jurisdiction. Residents who do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in San Luis are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside San Luis are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data, the most recent year available, the resulting proportionate share is 80 percent residential and 20 percent nonresidential.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Shown below, Figure F1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of employees per thousand square feet of floor area.

**Figure F1: Fire Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

### Fire Stations – Plan-Based

The City of San Luis plans to expand its current inventory of fire stations to serve existing and future development. Shown below in Figure F2, San Luis's existing fire station includes 14,466 square feet. To allocate the proportionate share of demand for fire stations to residential and nonresidential development, this analysis uses functional population. San Luis's existing level of service for residential development is 0.34069 square feet per person (14,466 square feet X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.55596 square feet per job (14,466 square feet X 20 percent nonresidential share / 5,204 jobs).

**Figure F2: Existing Fire Stations**

| Description | Square Feet |
|---|---|
| Fire Station #1 | 14,466 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 14,466 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Square Feet per Person | 0.34069 |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Square Feet per Job | 0.55596 |

## Fire Stations Planned Level of Service

San Luis plans to spend $2,500,000 to construct a 15,000-square-foot facility, Fire Station #2, by 2028 to serve all development in 2028. Upon completion of Fire Station #2, San Luis fire stations will include 29,466 square feet of floor area. To allocate the proportionate share of demand for fire stations to residential and nonresidential development, this analysis uses functional population. San Luis's planned (2028) level of service for residential development in 2028 is 0.48814 square feet per person (29,466 square feet X 80 percent residential share / 48,291 persons), and the planned (2028) nonresidential level of service in 2028 is 0.79659 square feet per job (29,466 square feet X 20 percent nonresidential share / 7,398 jobs). Since the planned level of service exceeds the existing level of service, San Luis will need to identify funding from sources other than development fees to pay for existing development's share of Fire Station #2 – a requirement of the Enabling Legislation to ensure future development receives the same level of service as existing development.

Based on San Luis Fire Department estimates for Fire Station #2, the cost is $167 per square foot ($2,500,000 / 15,000 square feet). The residential cost is $81.36 per person (0.48814 square feet per person X $167 per square foot) and the nonresidential cost is $132.77 per job (0.79659 square feet per job X $167 per square foot).

**Figure 8: Planned Fire Station Level of Service**

| Description | Square Feet | Total Cost |
|---|---|---|
| Fire Station #2 | 15,000 | $2,500,000 |

| Cost Allocation Factors | |
|---|---|
| Cost per Square Foot | $167 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 14,466 |
| Additional Square Feet | 15,000 |
| 2028 Square Feet | 29,466 |
| Residential | |
| Residential Share | 80% |
| 2028 Population | 48,291 |
| Square Feet per Person | 0.48814 |
| **Cost per Person** | **$81.36** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2028 Jobs | 7,398 |
| Square Feet per Job | 0.79659 |
| **Cost per Job** | **$132.77** |

Source: City of San Luis Fire Department.

## Fire Apparatus – Incremental Expansion

Development fees will be used to expand San Luis Fire Department's inventory of fire apparatus in order to serve future development. Figure F3 lists the current apparatus used by the San Luis Fire Department, and it includes 5 apparatus with a total replacement cost of approximately $2,865,000. The replacement cost per unit is $573,000 ($2,865,000 / 5 apparatus).

**Figure F3: Existing Fire Apparatus and Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Pumper | 2 | $765,000 | $1,530,000 |
| Ladder Truck | 1 | $1,000,000 | $1,000,000 |
| Rescue Vehicle | 1 | $85,000 | $85,000 |
| Special Ops Truck | 1 | $250,000 | $250,000 |
| Total | 5 | $573,000 | $2,865,000 |

## Fire Apparatus Level of Service

As previously discussed, functional population is used to allocate the proportionate share of demand to residential and nonresidential development. The existing LOS for residential development is 0.00012 apparatus per person (5 apparatus X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.00019 apparatus per job (5 apparatus X 20 percent nonresidential share / 5,204 jobs). For fire apparatus, the residential cost is $67.47 per person (0.00012 apparatus per person X $573,000 per apparatus), and the nonresidential cost is $110.11 (0.00019 units per job X $573,000 per apparatus).

**Figure 9: Existing Fire Apparatus Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Apparatus | 5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Apparatus per Person | 0.00012 |
| **Cost per Person** | **$67.47** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Apparatus per Job | 0.00019 |
| **Cost per Job** | **$110.11** |

Source: City of San Luis Fire Department.

## Communications Equipment – Incremental Expansion

Development fees will be used to expand San Luis Fire Department's inventory of communications equipment in order to serve future development. Figure F4 lists the current communications equipment used by the San Luis Fire Department, and it does not include communications equipment used by the San Luis Police Department. The existing inventory includes 45.5 units of communications equipment with a total replacement cost of $532,000. The replacement cost per unit is $11,692 ($532,000 / 45.5 units).

**Figure F4: Existing Communications Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Mobile Radios | 10.0 | $6,000 | $60,000 |
| Portable Radios | 30.0 | $5,000 | $150,000 |
| Console Radios | 5.0 | $29,000 | $145,000 |
| Communication Equipment | 0.5 | $354,000 | $177,000 |
| Total | 45.5 | $11,692 | $532,000 |

## Communications Equipment Level of Service

As previously discussed, functional population is used to allocate the proportionate share of demand to residential and nonresidential development. The existing LOS for residential development is 0.00107 units per person (45.5 units X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.00175 units per job (45.5 units X 20 percent nonresidential share / 5,204 jobs). For communications equipment, the residential cost is $12.53 per person (0.00107 units per person X $11,692 per unit), and the nonresidential cost is $20.45 (0.00175 units per job X $11,692 per unit).

**Figure F5: Existing Communications Equipment Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Units | 45.5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00107 |
| **Cost per Person** | **$12.53** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Units per Job | 0.00175 |
| **Cost per Job** | **$20.45** |

Source: City of San Luis Fire Department.

### IIP and Development Fee Report – Plan-Based

The cost to prepare the Fire Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $1.41 per person and $2.30 per job.

**Figure F6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The *Land Use Assumptions* document projects an additional 14,322 persons and 2,194 jobs over the next 10 years, as shown in Figure F7.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to construct approximately 8,700 square feet of fire stations, acquire approximately 2 fire apparatus, and acquire approximately 19 units of communications equipment to serve future development.

## Fire Stations

Shown in Figure F7, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the planned (2028) LOS, future development will demand 8,739 additional square feet of fire stations. Based on the average cost of $167 per square foot, the growth-related expenditure on fire stations is $1.5 million (8,739 square feet X $167 per square foot). Based on the planned (2028) LOS, San Luis should have 20,727 square feet of fire stations in the 2018 base year. Since San Luis has only 14,466 square feet of fire facilities, existing development will be required to fund 6,261 square feet of Fire Station #2. Therefore, existing development's share of Fire Station #2 is approximately $1.0 million (6,261 square feet X $167 per square foot).

**Figure F7: Projected Demand for Fire Stations**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Square Foot |
|---|---|---|---|
| Fire Stations | 0.48814 Square Feet | per Person | $167 |
| | 0.79659 Square Feet | per Job | |

| Need for Fire Stations | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Square Feet | Nonresidential Square Feet | Total Square Feet |
| 2018 | 33,969 | 5,204 | 16,582 | 4,145 | 20,727 |
| 2019 | 35,187 | 5,390 | 17,176 | 4,294 | 21,470 |
| 2020 | 36,447 | 5,583 | 17,791 | 4,447 | 22,239 |
| 2021 | 37,753 | 5,783 | 18,429 | 4,607 | 23,035 |
| 2022 | 39,102 | 5,990 | 19,087 | 4,772 | 23,859 |
| 2023 | 40,503 | 6,205 | 19,771 | 4,943 | 24,714 |
| 2024 | 41,954 | 6,427 | 20,479 | 5,120 | 25,599 |
| 2025 | 43,454 | 6,657 | 21,212 | 5,303 | 26,515 |
| 2026 | 45,010 | 6,895 | 21,971 | 5,493 | 27,464 |
| 2027 | 46,623 | 7,142 | 22,759 | 5,689 | 28,448 |
| 2028 | 48,291 | 7,398 | 23,573 | 5,893 | 29,466 |
| 10-Yr Increase | 14,322 | 2,194 | 6,991 | 1,748 | 8,739 |

| Growth-Related Expenditures | $1,165,192 | $291,288 | $1,456,480 |
|---|---|---|---|

## Fire Apparatus

Shown in Figure F8, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the 2018 LOS, future development will demand 2.1 additional apparatus. Based on the average cost of $573,000 per unit, the growth-related expenditure on apparatus is $1.2 million (2.1 units X $573,000).

**Figure F8: Projected Demand for Fire Apparatus**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Fire Apparatus | 0.00012 Apparatus | per Person | $573,000 |
| | 0.00019 Apparatus | per Job | |

| Need for Fire Apparatus | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Apparatus | Nonresidential Apparatus | Total Apparatus |
| 2018 | 33,969 | 5,204 | 4.0 | 1.0 | 5.0 |
| 2019 | 35,187 | 5,390 | 4.1 | 1.0 | 5.2 |
| 2020 | 36,447 | 5,583 | 4.3 | 1.1 | 5.4 |
| 2021 | 37,753 | 5,783 | 4.4 | 1.1 | 5.6 |
| 2022 | 39,102 | 5,990 | 4.6 | 1.2 | 5.8 |
| 2023 | 40,503 | 6,205 | 4.8 | 1.2 | 6.0 |
| 2024 | 41,954 | 6,427 | 4.9 | 1.2 | 6.2 |
| 2025 | 43,454 | 6,657 | 5.1 | 1.3 | 6.4 |
| 2026 | 45,010 | 6,895 | 5.3 | 1.3 | 6.6 |
| 2027 | 46,623 | 7,142 | 5.5 | 1.4 | 6.9 |
| 2028 | 48,291 | 7,398 | 5.7 | 1.4 | 7.1 |
| 10-Yr Increase | 14,322 | 2,194 | 1.7 | 0.4 | 2.1 |
| **Growth-Related Expenditures** | | | **$966,352** | **$241,576** | **$1,207,928** |

## Communications Equipment

Shown in Figure F9, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the 2018 LOS, future development will demand 19.2 additional units of communications equipment. Based on the average cost of $11,692 per unit, the growth-related expenditure on communications equipment is $224,313 (19.2 units X $11,692).

**Figure F9: Projected Demand for Communications Equipment**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Communications Equipment | 0.00107 Units | per Person | $11,692 |
| | 0.00175 Units | per Job | |

| Need for Communications Equipment | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 5,204 | 36.4 | 9.1 | 45.5 |
| 2019 | 35,187 | 5,390 | 37.7 | 9.4 | 47.1 |
| 2020 | 36,447 | 5,583 | 39.1 | 9.8 | 48.8 |
| 2021 | 37,753 | 5,783 | 40.5 | 10.1 | 50.6 |
| 2022 | 39,102 | 5,990 | 41.9 | 10.5 | 52.4 |
| 2023 | 40,503 | 6,205 | 43.4 | 10.9 | 54.3 |
| 2024 | 41,954 | 6,427 | 45.0 | 11.2 | 56.2 |
| 2025 | 43,454 | 6,657 | 46.6 | 11.6 | 58.2 |
| 2026 | 45,010 | 6,895 | 48.2 | 12.1 | 60.3 |
| 2027 | 46,623 | 7,142 | 50.0 | 12.5 | 62.4 |
| 2028 | 48,291 | 7,398 | 51.7 | 12.9 | 64.7 |
| 10-Yr Increase | 14,322 | 2,194 | 15.4 | 3.8 | 19.2 |
| **Growth-Related Expenditures** | | | **$179,455** | **$44,858** | **$224,313** |

## Fire Facilities Development Fees

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Fire Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Fire Facilities Development Fees

Infrastructure components and cost factors for Fire Facilities are summarized in the upper portion of Figure F10. The cost per service unit is $162.77 per person and $265.62 per job. Figure F10 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Fire Facilities development fees for residential development are assessed according to the number of persons per housing unit. The single-family fee of $562 is calculated using a cost per service unit of $162.77 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are assessed according to the number of jobs per 1,000 square feet of floor area. The fee of $622 per 1,000 square feet of commercial development is derived from a cost per service unit of $265.62 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure F10: Schedule of Fire Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| Fire Station | $81.36 | $132.77 |
| Fire Apparatus | $67.47 | $110.11 |
| Communications Equipment | $12.53 | $20.45 |
| Development Fee Report | $1.41 | $2.30 |
| Total | $162.77 | $265.62 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Single Family | 3.45 | **$562** | $405 | $157 |
| Multi-Family | 2.23 | **$363** | $365 | ($2) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Industrial | 1.63 | **$433** | $163 | $270 |
| Commercial | 2.34 | **$622** | $659 | ($37) |
| Institutional | 0.93 | **$247** | $238 | $9 |
| Office & Other Services | 2.97 | **$789** | $258 | $531 |

1. See Land Use Assumptions
2. Fire share of current Public Safety Fees.

## PROJECTED FIRE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Fire Facilities Development Fee Revenue

Projected fee revenue shown in Figure F11 is based on the development projections in the *Land Use Assumptions* document and the updated Fire Facilities development fees. If development occurs faster than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.899 million over the next 10 years is approximately equal to the projected growth-related cost of fire infrastructure ($2.900 million). Existing development's share of Fire Station #2 is approximately $1.043 million and should be funded with revenue other than development fees.

**Figure F11: Projected Fire Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Fire Station | $1,456,479 | $1,043,521 | $2,500,000 |
| Fire Apparatus | $1,207,928 | $0 | $1,207,928 |
| Communications Equipment | $224,313 | $0 | $224,313 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $2,900,220 | $1,043,521 | $3,943,741 |

| | | Residential Units $536 per unit | Industrial $433 per 1,000 sq. ft. | Commercial $622 per 1,000 sq. ft. | Institutional $247 per 1,000 sq. ft. | Office & Other $789 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $2,320,110 | $70,672 | $136,095 | $152,188 | $220,633 |

| | |
|---|---|
| **Projected Fee Revenue** | **$2,899,697** |
| **Total Expenditures** | **$3,943,741** |
| **Existing Development Share** | **$1,044,044** |

## General Government Facilities IIP

ARS § 9-463.05 (T)(7)(h) defines the facilities and assets that can be included in the General Government Facilities IIP:

> *"any facility that was financed and that meets all of the requirements prescribed in Subsection R of this section."*

ARS § 9-463.05 (R) states:

> *"A municipality may continue to assess a development fee adopted before January 1, 2012 for any facility that was financed before June 1, 2011 if:*
>
> *1. Development fees were pledged to repay debt service obligations related to the construction of the facility.*
>
> *2. After August 1, 2014, any development fees collected under this subsection are used solely for the payment of principal and interest on the portion of the bonds, notes or other debt service obligations issued before June 1, 2011 to finance construction of the facility."*

The General Government Facilities IIP includes a component for facilities financed before June 1, 2011. San Luis issued bonds in 2005 to finance its City Hall and issued a bond in 2014 to refund the 2005 bond. The cost recovery method is used to repay future development's share of the remaining principal and interest.

### Service Area

San Luis provides a uniform level of service and equal access to City Hall within the city limits. As a result, the service area for the General Government Facilities IIP is citywide.

### Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The General Government Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on functional population. As shown in the *Land Use Assumptions* document, residential development generates 80 percent of demand and nonresidential development generates the remaining 20 percent of demand.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure GG1**Error! Reference source not found.** displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of jobs per thousand square feet of floor area.

**Figure GG1: General Government Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

### General Government Facilities – Cost Recovery

San Luis issued bonds to finance its City Hall in 2005 and issued a bond in 2014 to refund the 2005 debt, so the development fees will be used solely for the repayment of principal and interest. San Luis plans to retire the City Hall debt in 2038, and City Hall is projected to serve both existing and future development. Therefore, remaining principal and interest costs are allocated to total projected residential and nonresidential development in 2038. San Luis's population in 2038 is projected to be 68,649 persons of whom 33,969 are from existing development with the remaining 34,680 persons from future development. Total employment in 2038 is projected to be 10,516 jobs. Existing employment is estimated to equal 5,204 jobs, and the projected employment increase equals 5,312 jobs from future development. For both residential and nonresidential development, the growth share (future development's share) equals 50.5 percent of total development in 2038.

Based on remaining principal and interest of $7.67 million, the residential cost is $89.38 per person ($7,672,619 X 80 percent residential share X 50.5 percent growth share / 34,680 population increase) and the nonresidential cost is $145.88 per job ($7,672,619 X 20 percent nonresidential share X 50.5 percent growth share / 5,312 employment increase).

**Figure GG2: Planned Level of Service**

| Description | Year of Debt Obligation[1] | Year of Final Payment | Remaining Principal and Interest |
|---|---|---|---|
| 2014 Series Bond (City Hall Share) | 2014 | 2038 | $ 7,672,619 |

| Development Type | Proportionate Share | Proportionate Cost | Growth Share[2] | Growth Cost | 2018 - 2038 Demand Unit Increase | | Cost per Demand Unit | |
|---|---|---|---|---|---|---|---|---|
| Residential | 80% | $6,138,095 | 50.5% | $3,099,738 | 34,680 | persons | **$89.38** | **per person** |
| Nonresidential | 20% | $1,534,524 | 50.5% | $774,934 | 5,312 | jobs | **$145.88** | **per job** |
| Total | | $7,672,619 | 50.5% | $3,874,672 | | | | |

1. Original debt issued in 2005. Refunding bond issued in 2014.

2. Residential Growth Share (50.5%) is 1 - (33,969 residents in 2018/ 68,649 residents in 2038). Nonresidential Growth Share (50.5%) is 1 - (5,204 jobs in 2018/ 10,516 jobs in 2038).

## PROJECTED DEMAND FOR SERVICES AND COSTS

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

As shown in the *Land Use Assumptions* document, population is expected to increase by an additional 34,680 persons and employment is expected to increase by 5,312 jobs over the next 20 years.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

## General Government Facilities Development Fees

### Revenue Credit/Offset

A revenue credit/offset is not necessary for General Government Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected General Government Facilities Development Fees

Infrastructure components and cost factors for General Government Facilities are summarized in the upper portion of Figure GG3. The cost per service unit for General Government Facilities is $89.38 per person and $145.88 per job. Figure GG3 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

General Government Facilities development fees for residential development are assessed according to the number of persons per housing unit. The single-family fee of $308 is calculated using a cost per service unit of $89.38 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are assessed using jobs as the service unit. The fee of $341 per 1,000 square feet of commercial development is derived from a cost per service unit of $145.88 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure GG3: Schedule of General Government Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| City Hall Debt | $89.38 | $145.88 |
| Total | $89.38 | $145.88 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 3.45 | **$308** | $476 | ($168) |
| Multi-Family | 2.23 | **$199** | $428 | ($229) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 1.63 | **$238** | $461 | ($223) |
| Commercial | 2.34 | **$341** | $399 | ($58) |
| Institutional | 0.93 | **$136** | $196 | ($60) |
| Office & Other Services | 2.97 | **$433** | $663 | ($230) |

1. See Land Use Assumptions

## PROJECTED GENERAL GOVERNMENT FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS § 9-463.05(E)(7)).

In accordance with state law, this report includes an IIP for General Government Facilities needed to accommodate new development. Projected fee revenue shown in Figure GG4 is based on the development projections in the *Land Use Assumptions* document and the updated development fees for General Government Facilities. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease, along with development fee revenue. Anticipated 10-year development fee revenue of $1.60 million is approximately equal to the projected growth-related cost of City Hall debt ($1.60 million) during the next 10 years. Existing development's share will need to be funded with other sources of revenue.

**Figure GG4: Projected General Government Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| City Hall Debt | $3,874,672 | $3,797,947 | $7,672,619 |
| Total | $3,874,672 | $3,797,947 | $7,672,619 |

| Year | | Residential Units $294 per unit | Industrial $238 per 1,000 sq. ft. | Commercial $341 per 1,000 sq. ft. | Institutional $136 per 1,000 sq. ft. | Office & Other $433 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Year Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $1,280,044 | $38,997 | $75,099 | $83,979 | $121,747 |

| | |
|---|---|
| **Projected Fee Revenue** | **$1,599,866** |
| **Total Expenditures** | **$7,672,619** |

# PARKS FACILITIES IIP

ARS § 9-463.05 (T)(7)(g) defines the facilities and assets that can be included in the Parks Facilities IIP:

> *"Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

The Parks Facilities IIP includes components for community park land, community park amenities, neighborhood park amenities, and the cost of preparing the Parks Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the community park land, community park amenities, and neighborhood park amenities components. A plan-based methodology is used for the Development Fee Report.

## Service Area

San Luis plans to provide a uniform level of service and equal access to parks and recreational facilities within the city limits. The parks and recreation programs are structured and provided to make full use of San Luis' total inventory of facilities. As a result, the service area for the Parks Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Parks Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on daytime population. According to the U.S. Census Bureau's OnTheMap web application, there were 2,655 inflow commuters traveling to San Luis for work in 2015. The proportionate share is based on cumulative impact days per year with residents potentially impacting parks and recreational facilities 365 days per year. Inflow commuters potentially impact park and recreational facilities 250 days per year, assuming 5 workdays per week multiplied by 50 weeks per year. For parks and recreational facilities, residential development generates 95 percent of demand and nonresidential development generates the remaining five percent of demand.

**Figure PR1: Daytime Population**

| Land Use | Population / Inflow Commuters[1] | Annual Impact Days per Capita[2] | Cumulative Annual Impact Days | Proportionate Share |
|---|---|---|---|---|
| Residential | 33,969 | 365 | 12,398,685 | 95% |
| Nonresidential | 2,655 | 250 | 663,750 | 5% |

1. Inflow commuters from Inflow/ Outflow Analysis, OnTheMap Web Application 6.5, U.S. Census Bureau.

2. Residential: 365 Days per Year, Nonresidential: 5 Days per Week x 50 Weeks per Year

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure PR2 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of jobs per thousand square feet of floor area.

**Figure PR2: Parks Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Community Park Land – Incremental Expansion

San Luis plans to maintain its current LOS for community park land over the next 10 years. Shown below in Figure PR3, San Luis' existing community parks include 33.1 acres of land. The definition of necessary public services for parks and recreational facilities includes parks or facilities on real property up to 30 acres in area, or parks and facilities larger than 30 acres if the facilities provide a direct benefit to the development. All of San Luis' community parks are less than 30 acres.

**Figure PR3: Existing Community Park Land**

| Description | Acres |
|---|---|
| Friendship Park | 6.5 |
| Joe Cabello Park | 3.1 |
| Joe Orduño Park | 16.7 |
| Moctezuma Park | 6.8 |
| Total | 33.1 |

## Community Park Land Level of Service

To allocate the proportionate share of demand for developed park land to residential and nonresidential development, this analysis uses daytime population shown in Figure PR1. San Luis' existing LOS for residential development is approximately 0.00092 acres of community park land per person (33.1 acres of community park land X 95 percent residential share / 33,969 persons). For nonresidential development, the existing LOS is approximately 0.00032 acres of community park land per job (33.1 acres of community park land X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR4, San Luis plans to spend $2.2 million to acquire 30 acres of community park land, therefore, this analysis uses $73,333 per acre of community park land. The residential cost of community park land is $67.83 per person (0.00092 acres of community park land per person X $73,333 per acre of community park land) and the nonresidential cost of community park land is $23.70 per job (0.00032 acres of community park land per job X $73,333 per acre of community park land).

**Figure PR4: Existing Community Park Land Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Land Acquisition[1] | $73,333 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Total Acres | 33.1 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Total Acres per Person | 0.00092 |
| **Cost per Person** | **$67.83** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Total Acres per Job | 0.00032 |
| **Cost per Job** | **$23.70** |

| Description | Acres[1] | Cost per Acre | Total Cost[1] |
|---|---|---|---|
| Land | 30 | $73,333 | $2,200,000 |
| Amenities | 30 | $92,167 | $2,765,000 |
| Total | 30 | $165,500 | $4,965,000 |

1. City of San Luis Parks and Recreation Department

## Community Park Amenities – Incremental Expansion

San Luis will use development fees to expand its inventory of community park amenities. The current inventory of community park amenities, shown below in Figure PR5, includes 33.1 acres of amenities.

**Figure PR5: Existing Community Park Amenities**

| Description | Acres |
|---|---|
| Friendship Park | 6.5 |
| Joe Cabello Park | 3.1 |
| Joe Orduño Park | 16.7 |
| Moctezuma Park | 6.8 |
| Total | 33.1 |

## Community Park Amenities Level of Service

As previously discussed, daytime population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing community park amenity level of service for residential development is 0.00092 acres of amenities per person (33.1 acres of amenities X 95 percent residential share / 33,969 persons). The nonresidential level of service is 0.00032 acres of amenities per job (33.1 acres of amenities X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR6, San Luis plans to spend $2.765 million to construct amenities on 30 acres of community park land, therefore, this analysis uses $92,167 per acre of community park amenities. The community park amenities cost for residential development is $85.25 per person (0.00092 acres of amenities per person X $92,167 per acre of amenities). The community park amenities cost for nonresidential development is $29.79 per job (0.00032 acres of amenities per job X $92,167 per amenity).

**Figure PR6: Existing Community Park Amenities Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Amenities[1] | $92,167 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Developed Acres | 33.1 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Developed Acres per Person | 0.00092 |
| **Cost per Person** | **$85.25** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Developed Acres per Job | 0.00032 |
| **Cost per Job** | **$29.79** |

**Cost Basis from Planned Community / Regional Park**

| Description | Acres[1] | Cost per Acre | Total Cost[1] |
|---|---|---|---|
| Land | 30 | $73,333 | $2,200,000 |
| Amenities | 30 | $92,167 | $2,765,000 |
| Total | 30 | $165,500 | $4,965,000 |

1. City of San Luis Parks and Recreation Department

## Neighborhood Park Amenities – Incremental Expansion

San Luis will use development fees to expand its inventory of neighborhood park amenities. Since San Luis receives most land for neighborhood parks through land dedications for storm drainage, this analysis excludes the cost of land acquisition for neighborhood parks. The current inventory of neighborhood park amenities includes 28 amenities with a replacement cost of $2.28 million. Neighborhood park amenities are distributed across 36.4 acres of neighborhood park land; therefore, neighborhood park amenities cost $62,637 per acre ($2,280,000 replacement cost / 36.4 acres of neighborhood park land).

**Figure PR7: Existing Neighborhood Park Amenities**

| Description | Units[1] | Unit Cost | Replacement Cost[1] |
|---|---|---|---|
| Playground | 26 | $80,000 | $2,080,000 |
| Skate Park | 2 | $100,000 | $200,000 |
| Total | 28 | $81,429 | $2,280,000 |

| Cost Allocation Factors | |
|---|---|
| Replacement Cost | $2,280,000 |
| Acres of Amenities[1] | 36.4 |
| Cost per Acre - Amenities | $62,637 |

1. City of San Luis Parks and Recreation Department

## Community Park Amenities Level of Service

As previously discussed, daytime population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing neighborhood park amenity level of service for residential development is 0.00102 acres of amenities per person (36.4 acres of amenities X 95 percent residential share / 33,969 persons). The nonresidential level of service is 0.00036 acres of amenities per job (36.4 acres of amenities X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR7, San Luis spends $62,637 per acre for neighborhood park amenities. The neighborhood park amenities cost for residential development is $63.71 per person (0.00102 acres of amenities per person X $62,637 per acre of amenities). The neighborhood park amenities cost for nonresidential development is $22.26 per job (0.00036 acres of amenities per job X $62,637 per amenity).

**Figure PR8: Existing Neighborhood Park Amenities Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Land Acquisition | $0 |
| Cost per Acre - Amenities[1] | $62,637 |
| Total Cost per Acre | $62,637 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Developed Acres | 36.4 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Developed Acres per Person | 0.00102 |
| **Cost per Person** | **$63.71** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Developed Acres per Job | 0.00036 |
| **Cost per Job** | **$22.26** |

1. City of San Luis Parks and Recreation Department

## Development Fee Report – Plan-Based

The cost to prepare the Parks Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new development from the *Land Use Assumptions* document, the cost is $1.41 per person and $2.30 per job.

**Figure PR9: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## PROJECTED DEMAND FOR SERVICES AND COSTS

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The *Land Use Assumptions* document projects an additional 14,322 persons and 2,194 jobs over the next 10 years, as shown in Figure PR10.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to acquire and construct approximately 14 acres of community park land and amenities, and construct approximately 15 acres of neighborhood park amenities to serve future development.

## Community Park Land

San Luis plans to maintain its current community park land level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 13.2 additional acres of community park land (14,322 additional persons X 0.00092 acres per person). Future nonresidential development demands 0.7 additional acres of community park land (2,194 additional jobs X 0.00032 acres per job) over the next 10 years. Future development demands 13.9 additional acres of community park land over the next 10 years at a cost of approximately $1.0 million.

**Figure PR10: Projected Demand for Community Park Land**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Community Park Land | 0.00092 Acres | per Person | $73,333 |
| | 0.00032 Acres | per Job | |

| Need for Community Parks | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 31.4 | 1.7 | 33.1 |
| 2,019 | 35,187 | 5,390 | 32.5 | 1.7 | 34.3 |
| 2,020 | 36,447 | 5,583 | 33.7 | 1.8 | 35.5 |
| 2,021 | 37,753 | 5,783 | 34.9 | 1.9 | 36.8 |
| 2,022 | 39,102 | 5,990 | 36.2 | 1.9 | 38.1 |
| 2,023 | 40,503 | 6,205 | 37.5 | 2.0 | 39.5 |
| 2,024 | 41,954 | 6,427 | 38.8 | 2.1 | 40.9 |
| 2,025 | 43,454 | 6,657 | 40.2 | 2.2 | 42.3 |
| 2,026 | 45,010 | 6,895 | 41.6 | 2.2 | 43.9 |
| 2,027 | 46,623 | 7,142 | 43.1 | 2.3 | 45.4 |
| 2,028 | 48,291 | 7,398 | 44.7 | 2.4 | 47.1 |
| 10-Yr Increase | 14,322 | 2,194 | 13.2 | 0.7 | 13.9 |

| | | | |
|---|---|---|---|
| **Growth-Related Expenditures** | **$971,461** | **$51,998** | **$1,023,459** |

## Community Park Amenities

San Luis also plans to maintain its current community park amenities level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 13.2 additional acres of community park amenities (14,322 additional persons X 0.00092 acres of amenities per person). Future nonresidential development demands 0.7 additional acres of community park amenities (2,194 additional jobs X 0.00032 acres of park amenities per job) over the next 10 years. Future development demands 13.9 additional acres of community park amenities over the next 10 years at a cost of approximately $1.3 million.

**Figure PR11: Projected Demand for Community Park Amenities**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Community Park Amenities | 0.00092 Developed Acres | per Person | $92,167 |
| | 0.00032 Developed Acres | per Job | |

| Need for Community Park Amenities | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 31.4 | 1.7 | 33.1 |
| 2,019 | 35,187 | 5,390 | 32.5 | 1.7 | 34.3 |
| 2,020 | 36,447 | 5,583 | 33.7 | 1.8 | 35.5 |
| 2,021 | 37,753 | 5,783 | 34.9 | 1.9 | 36.8 |
| 2,022 | 39,102 | 5,990 | 36.2 | 1.9 | 38.1 |
| 2,023 | 40,503 | 6,205 | 37.5 | 2.0 | 39.5 |
| 2,024 | 41,954 | 6,427 | 38.8 | 2.1 | 40.9 |
| 2,025 | 43,454 | 6,657 | 40.2 | 2.2 | 42.3 |
| 2,026 | 45,010 | 6,895 | 41.6 | 2.2 | 43.9 |
| 2,027 | 46,623 | 7,142 | 43.1 | 2.3 | 45.4 |
| 2,028 | 48,291 | 7,398 | 44.7 | 2.4 | 47.1 |
| 10-Yr Increase | 14,322 | 2,194 | 13.2 | 0.7 | 13.9 |

| | | | |
|---|---|---|---|
| **Growth-Related Expenditures** | **$1,220,951** | **$65,359** | **$1,286,310** |

## Neighborhood Park Amenities

San Luis also plans to maintain its current neighborhood park amenities level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 14.6 additional acres of neighborhood park amenities (14,322 additional persons X 0.00102 acres of amenities per person). Future nonresidential development demands 0.8 additional acres of neighborhood park amenities (2,194 additional jobs X 0.00036 acres of park amenities per job) over the next 10 years. Future development demands 15.4 additional acres of neighborhood park amenities over the next 10 years at a cost of approximately $961,000.

**Figure PR12: Projected Demand for Neighborhood Park Amenities**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Neighborhood Park Amenities | 0.00102 Developed Acres | per Person | $62,637 |
| | 0.00036 Developed Acres | per Job | |

| Need for Neighborhood Park Amenities | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 34.6 | 1.8 | 36.4 |
| 2,019 | 35,187 | 5,390 | 35.8 | 1.9 | 37.7 |
| 2,020 | 36,447 | 5,583 | 37.1 | 2.0 | 39.1 |
| 2,021 | 37,753 | 5,783 | 38.4 | 2.1 | 40.5 |
| 2,022 | 39,102 | 5,990 | 39.8 | 2.1 | 41.9 |
| 2,023 | 40,503 | 6,205 | 41.2 | 2.2 | 43.4 |
| 2,024 | 41,954 | 6,427 | 42.7 | 2.3 | 45.0 |
| 2,025 | 43,454 | 6,657 | 44.2 | 2.4 | 46.6 |
| 2,026 | 45,010 | 6,895 | 45.8 | 2.5 | 48.2 |
| 2,027 | 46,623 | 7,142 | 47.4 | 2.5 | 50.0 |
| 2,028 | 48,291 | 7,398 | 49.1 | 2.6 | 51.7 |
| 10-Yr Increase | 14,322 | 2,194 | 14.6 | 0.8 | 15.4 |
| **Growth-Related Expenditures** | | | **$912,455** | **$48,838** | **$961,293** |

## PARKS FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Parks Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Parks Facilities Development Fees

Infrastructure components and cost factors for Parks Facilities are summarized in the upper portion of Figure PR13. The cost per service unit for Parks Facilities is $218.20 per person and $78.05 per job. Figure PR13 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Parks Facilities development fees for residential development are assessed according to the number of persons per housing unit. For example, the single-family fee of $753 is calculated using a cost per service unit of $218.20 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are calculated using jobs as the service unit. The fee of $183 per 1,000 square feet of commercial development is derived from a cost per service unit of $78.05 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure PR13: Schedule of Parks Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| Community Park Land | $67.83 | $23.70 |
| Community Park Amenities | $85.25 | $29.79 |
| Neighborhood Park Amenities | $63.71 | $22.26 |
| Development Fee Report | $1.41 | $2.30 |
| Total | $218.20 | $78.05 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 3.45 | **$753** | $735 | $18 |
| Multi-Family | 2.23 | **$487** | $662 | ($175) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 1.63 | **$127** | $320 | ($193) |
| Commercial | 2.34 | **$183** | $277 | ($94) |
| Institutional | 0.93 | **$73** | $136 | ($63) |
| Office & Other Service | 2.97 | **$232** | $461 | ($229) |

1. See Land Use Assumptions

## PROJECTED PARKS FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

In accordance with state law, this report includes an IIP for Parks Facilities needed to accommodate new development. Projected fee revenue shown in Figure PR14 is based on the development projections in the *Land Use Assumptions* document and the updated development fees for Parks Facilities. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease, along with development fee revenue. Anticipated development fee revenue of $3.3 million is approximately equal to the projected growth-related cost of parks facilities ($3.3 million).

**Figure PR14: Projected Parks Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Community Park Land | $1,023,459 | $0 | $1,023,459 |
| Community Park Amenities | $1,286,310 | $0 | $1,286,310 |
| Neighborhood Park Amenities | $961,293 | $0 | $961,293 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $3,282,562 | $0 | $3,282,562 |

| | | Residential Units $718 per unit | Industrial $127 per 1,000 sq. ft. | Commercial $183 per 1,000 sq. ft. | Institutional $73 per 1,000 sq. ft. | Office & Other $232 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $3,113,943 | $20,531 | $39,534 | $44,210 | $64,093 |

| | |
|---|---|
| **Projected Fee Revenue** | **$3,282,311** |
| **Total Expenditures** | **$3,282,562** |

# POLICE FACILITIES IIP

ARS § 9-463.05 (T)(7)(f) defines the facilities and assets that can be included in the Police Facilities IIP:

> *"Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training firefighters or officers from more than one station or substation."*

The Police Facilities IIP includes components for police stations, vehicles, communications equipment, and the cost of preparing the Police Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the components for stations, vehicles, and communications equipment. A plan-based methodology is used for the Development Fee Report.

## Service Area

San Luis's Police Department strives to provide a uniform response time citywide. As a result, the service area for the Police Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Police Facilities IIP and development fees are assessed on both residential and nonresidential development based on functional population shown in the *Land Use Assumptions* document. Based on 2015 functional population data, residential development accounts for approximately 80 percent of demand for police services and nonresidential development is responsible for the remaining 20 percent.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure P1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of vehicle trips generated per thousand square feet of floor area.

**Figure P1: Police Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Avg Wkdy Veh Trips[1]** |
| Industrial | 2.48 |
| Commercial | 12.46 |
| Institutional | 6.44 |
| Office & Other Service | 4.87 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Police Stations – Incremental Expansion

San Luis plans to use development fees to expand its current inventory of police stations to serve future development. Shown below in Figure P2, San Luis' existing police station includes 19,856 square feet. This is San Luis's only police station, and a substation will be needed as the east side of San Luis becomes more developed.

**Figure P2: Existing Police Stations**

| Description | Square Feet |
|---|---|
| Police Station #1 | 19,856 |
| Total | 19,856 |

## Police Station Level of Service

Functional population provides the proportionate share of demand for police stations from residential and nonresidential development. San Luis' existing level of service for residential development is 0.46763 square feet per person (19,856 square feet X 80 percent residential share / 33,696 persons). The nonresidential level of service is 0.19674 square feet per vehicle trip (19,856 square feet X 20 percent nonresidential share / 20,185 vehicle trips). Using estimates for the planned police substation, the cost is $167 per square foot ($1,118,900 / 6,700 square feet). The residential cost is $78.09 per person (0.46763 square feet per person X $167 per square foot), and the nonresidential cost is $32.86 per vehicle trip (0.19674 square feet per vehicle trip X $167 per square foot).

**Figure P3: Existing Police Station Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 19,856 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Square Feet per Person | 0.46763 |
| **Cost per Person** | **$78.09** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Square Feet per Vehicle Trip | 0.19674 |
| **Cost per Vehicle Trip** | **$32.86** |

**Cost Basis from Planned Stations**

| Description | Square Feet[1] | Total Cost[1] |
|---|---|---|
| New Substation | 6,700 | $1,118,900 |

1. City of San Luis Police Department.

## Police Vehicles – Incremental Expansion

Development fees will be used to expand San Luis' inventory of police vehicles. Figure P4 lists the current vehicles used by San Luis's Police Department – 37 vehicles representing a replacement cost of approximately $1.58 million.

**Figure P4: Existing Police Vehicles**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Patrol Vehicles | 25 | $48,000 | $1,200,000 |
| Motor Unit Vehicles | 4 | $32,000 | $128,000 |
| K-9 Vehicles | 2 | $37,000 | $74,000 |
| Detective Vehicles | 4 | $27,000 | $108,000 |
| Command Staff Vehicles | 2 | $37,000 | $74,000 |
| Total | 37 | $42,811 | $1,584,000 |

## Police Vehicle Level of Service

Functional population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing level of service for residential development is 0.00087 vehicles per person (37 vehicles X 80 percent residential share / 33,969 persons). The nonresidential level of service is 0.00037 vehicles per vehicle trip (37 vehicles X 20 percent nonresidential share / 20,185 vehicle trips). The residential cost is $37.30 per person ($42,811 per vehicle X 0.00087 vehicles per person), and the nonresidential cost is $15.69 per vehicle trip ($42,811 per vehicle X 0.00037 vehicles per vehicle trip).

**Figure P5: Existing Police Vehicle Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Vehicle | $42,811 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Vehicles | 37 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00087 |
| **Cost per Person** | **$37.30** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Units per Vehicle Trip | 0.00037 |
| **Cost per Vehicle Trip** | **$15.69** |

Source: City of San Luis Police Department.

## Communications Equipment – Incremental Expansion

Development fees will be used to expand San Luis' inventory of communications equipment. Figure P6 lists the current communications equipment used by San Luis' Police Department and does not include communications equipment used by San Luis' Fire Department. San Luis currently has 43.5 units of communications equipment representing a replacement cost of $531,000 ($12,207 per unit).

**Figure P6: Existing Communications Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Mobile Radios | 12.0 | $5,000 | $60,000 |
| Portable Radios | 25.0 | $5,000 | $125,000 |
| Radio Console 5000 | 2.0 | $29,000 | $58,000 |
| Digital Video Recorders | 3.0 | $23,000 | $69,000 |
| Radio Console 7500 | 1.0 | $42,000 | $42,000 |
| Communication Equipment | 0.5 | $354,000 | $177,000 |
| Total | 43.5 | $12,207 | $531,000 |

## Communications Equipment Level of Service

Communications equipment costs are allocated according to functional population – 80 percent to residential development and 20 percent to nonresidential development. San Luis' existing level of service for residential development is 0.00102 units per person (43.5 units X 80 percent residential share / 33,969 persons). The nonresidential level of service is 0.00043 units per vehicle trip (43.5 units X 20 percent nonresidential share / 20,185 vehicle trips). The residential cost is $12.51 per person ($12,207 per unit X 0.00102 units per person), and the nonresidential cost is $5.26 per vehicle trip ($12,207 per unit X 0.00043 units per vehicle trip).

**Figure P7: Existing Communications Equipment Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Unit | $12,207 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Units | 43.5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00102 |
| **Cost per Person** | **$12.51** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Units per Vehicle Trip | 0.00043 |
| **Cost per Vehicle Trip** | **$5.26** |

Source: City of San Luis Police Department.

## Development Fee Report – Plan-Based

The cost to prepare the Police Facilities IIP and related Development Fee Report totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $1.41 per person and $0.59 per vehicle trip.

**Figure P8: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

## Projected Service Units and Projected Demand for Services

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

As shown in the *Land Use Assumptions* document, San Luis expects an additional 14,322 persons and 8,503 nonresidential vehicle trips over the next 10 years.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to construct approximately 8,400 square feet of police facilities, acquire approximately 16 additional vehicles, and acquire approximately 18 additional units of communications equipment to serve future development.

## Police Stations

Over the next 10 years, San Luis' population is projected to increase by 14,322 persons and nonresidential vehicle trips are projected to increase by 8,503. Using the 2018 LOS standards shown at the top of Figure P9, future residential development generates demand for 6,697 additional square feet of police stations (0.46763 square feet per person X 14,322 additional persons), and future nonresidential development generates demand for 1,673 additional square feet of police stations (0.19674 square feet per vehicle trip X 8,053 additional vehicle trips). The 10-year demand for additional police stations equals 8,370 square feet at a cost of approximately $1.40 million.

**Figure P9: Projected Demand for Police Stations**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Stations | 0.46763 Units | per Person | $167 |
| | 0.19674 Units | per Vehicle Trip | |

| Need for Police Stations | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Square Feet | Nonresidential Square Feet | Total Square Feet |
| 2018 | 33,969 | 20,185 | 15,885 | 3,971 | 19,856 |
| 2019 | 35,187 | 20,902 | 16,454 | 4,112 | 20,567 |
| 2020 | 36,447 | 21,656 | 17,044 | 4,261 | 21,304 |
| 2021 | 37,753 | 22,431 | 17,654 | 4,413 | 22,067 |
| 2022 | 39,102 | 23,225 | 18,285 | 4,569 | 22,854 |
| 2023 | 40,503 | 24,057 | 18,940 | 4,733 | 23,673 |
| 2024 | 41,954 | 24,920 | 19,619 | 4,903 | 24,522 |
| 2025 | 43,454 | 25,821 | 20,320 | 5,080 | 25,400 |
| 2026 | 45,010 | 26,735 | 21,048 | 5,260 | 26,308 |
| 2027 | 46,623 | 27,698 | 21,802 | 5,449 | 27,251 |
| 2028 | 48,291 | 28,688 | 22,582 | 5,644 | 28,226 |
| 10-Yr Increase | 14,322 | 8,503 | 6,697 | 1,673 | 8,370 |

| | | | |
|---|---|---|---|
| Growth-Related Expenditures | $1,118,405 | $279,415 | $1,397,820 |

## Police Vehicles

Shown in Figure P10, population is projected to increase by 14,322 persons by 2028, and nonresidential trips will increase by 8,503 trips during the same period. Using the 2018 LOS standards shown in Figure P10, future residential development generates demand for 12.5 additional vehicles (0.00087 vehicles per person X 14,322 additional persons), and future nonresidential development generates demand for 3.1 additional vehicles (0.00037 vehicles per vehicle trip X 8,503 additional vehicle trips). The 10-year demand for additional police vehicles equals 15.6 vehicles at a cost of approximately $670,000.

**Figure P10: Projected Demand for Police Vehicles**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Vehicles | 0.00087 Units | per Person | $42,811 |
| | 0.00037 Units | per Vehicle Trip | |

| Need for Police Vehicles | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 20,185 | 29.6 | 7.4 | 37.0 |
| 2019 | 35,187 | 20,902 | 30.7 | 7.7 | 38.3 |
| 2020 | 36,447 | 21,656 | 31.8 | 7.9 | 39.7 |
| 2021 | 37,753 | 22,431 | 32.9 | 8.2 | 41.1 |
| 2022 | 39,102 | 23,225 | 34.1 | 8.5 | 42.6 |
| 2023 | 40,503 | 24,057 | 35.3 | 8.8 | 44.1 |
| 2024 | 41,954 | 24,920 | 36.6 | 9.1 | 45.7 |
| 2025 | 43,454 | 25,821 | 37.9 | 9.5 | 47.3 |
| 2026 | 45,010 | 26,735 | 39.2 | 9.8 | 49.0 |
| 2027 | 46,623 | 27,698 | 40.6 | 10.2 | 50.8 |
| 2028 | 48,291 | 28,688 | 42.1 | 10.5 | 52.6 |
| 10-Yr Increase | 14,322 | 8,503 | 12.5 | 3.1 | 15.6 |
| **Growth-Related Expenditures** | | | **$534,211** | **$133,415** | **$667,626** |

## Communications Equipment

As shown in Figure P11, population and nonresidential trips drive the need for communications equipment. Based on the development projections in the *Land Use Assumptions* document, San Luis will need approximately 18 additional units of communications equipment over the next 10 years [(0.00102 units per person X 14,322 additional persons) + (0.00043 units per vehicle trip X 8,503 additional vehicle trips). The 10-year, growth-related capital cost associated with these additional units of communications equipment is $223,895.

**Figure P11: Projected Demand for Communications Equipment**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Communications Equipment | 0.00102 Units | per Person | $12,207 |
| | 0.00043 Units | per Vehicle Trip | |

| Need for Police Communications Equipment | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 20,185 | 34.8 | 8.7 | 43.5 |
| 2019 | 35,187 | 20,902 | 36.0 | 9.0 | 45.1 |
| 2020 | 36,447 | 21,656 | 37.3 | 9.3 | 46.7 |
| 2021 | 37,753 | 22,431 | 38.7 | 9.7 | 48.3 |
| 2022 | 39,102 | 23,225 | 40.1 | 10.0 | 50.1 |
| 2023 | 40,503 | 24,057 | 41.5 | 10.4 | 51.9 |
| 2024 | 41,954 | 24,920 | 43.0 | 10.7 | 53.7 |
| 2025 | 43,454 | 25,821 | 44.5 | 11.1 | 55.6 |
| 2026 | 45,010 | 26,735 | 46.1 | 11.5 | 57.6 |
| 2027 | 46,623 | 27,698 | 47.8 | 11.9 | 59.7 |
| 2028 | 48,291 | 28,688 | 49.5 | 12.4 | 61.8 |
| 10-Yr Increase | 14,322 | 8,503 | 14.7 | 3.7 | 18.3 |
| **Growth-Related Expenditures** | | | **$179,168** | **$44,727** | **$223,895** |

## POLICE FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Police Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Police Facilities Development Fees

Figure P12 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. Police Facilities development fees for residential development are assessed according to the number of persons per housing unit. Nonresidential development fees are calculated using vehicle trips as the service unit. The multipliers for each land use, which include average weekday vehicle trips ends per thousand square feet and a trip adjustment factor, are shown below. The cost per service unit for Police Facilities is $129.31 per person and $54.40 per vehicle trip.

Development fees for residential development are determined by type of housing unit. For example, the single-family fee of $446 is calculated using a cost per service unit of $129.31 per person multiplied by the demand unit of 3.45 persons per housing unit.

Nonresidential development fees are calculated using vehicle trips as the service unit. Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 10th Edition 2017). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent.

For commercial development, the trip adjustment factor is less than 50 percent because retail development and some services attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

The fee of $678 per 1,000 square feet of commercial development is derived from a cost per service unit of $54.40 per vehicle trip, ,multiplied by a demand unit of 37.75 average weekday vehicle trip ends per 1,000 square feet, multiplied by a trip rate adjustment factor of 33 percent.

**Figure P12: Schedule of Police Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Vehicle Trip |
|---|---|---|
| Police Station | $78.09 | $32.86 |
| Vehicles | $37.30 | $15.69 |
| Communications Equipment | $12.51 | $5.26 |
| Development Fee Report | $1.41 | $0.59 |
| Total | $129.31 | $54.40 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Single Family | 3.45 | **$446** | $503 | ($57) |
| Multi-Family | 2.23 | **$288** | $452 | ($164) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | |
|---|---|---|---|---|---|
| Land Use | Avg Wkdy Veh Trip Ends[1] | Trip Rate Adjustment | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Industrial | 4.96 | 50% | **$135** | $177 | ($42) |
| Commercial | 37.75 | 33% | **$678** | $716 | ($38) |
| Institutional | 19.52 | 33% | **$350** | $259 | $91 |
| Office & Other Service | 9.74 | 50% | **$265** | $280 | ($15) |

1. See Land Use Assumptions
2. Police share of current Public Safety Fees.

## PROJECTED POLICE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains revenue forecasts required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Police Facilities Development Fee Revenue

Projected fee revenue shown in Figure P13 is based on the development projections in the *Land Use Assumptions* document and the updated Police Facilities development fees. If development occurs faster than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.3 million over the next 10 years is approximately equal to the projected growth-related cost of police facilities ($2.3 million).

**Figure P13: Projected Revenue from Police Facilities Development Fees**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Police Station | $1,397,820 | $0 | $1,397,820 |
| Vehicles and Equipment | $667,626 | $0 | $667,626 |
| Communications Equipment | $223,895 | $0 | $223,895 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $2,300,841 | $0 | $2,300,841 |

| | | Residential Units $425 per unit | Industrial $135 per 1,000 sq. ft. | Commercial $678 per 1,000 sq. ft. | Institutional $350 per 1,000 sq. ft. | Office & Other $265 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $1,840,916 | $21,995 | $148,209 | $215,631 | $74,005 |

| | |
|---|---|
| **Projected Fee Revenue** | **$2,300,757** |
| **Total Expenditures** | **$2,300,841** |

# STREET FACILITIES IIP

ARS § 9-463.05 (T)(7)(e) defines the facilities and assets that can be included in the Street Facilities IIP:

> *"Street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon."*

The Street Facilities IIP includes components for arterial improvements and the cost of professional services for preparing the Street Facilities IIP and related Development Fee Report. The incremental expansion methodology is used for arterial improvements, and the plan-based methodology is used for the related Development Fee Report.

## Service Area

San Luis' arterial street network is designed to efficiently move traffic throughout the city; therefore, the service area for the Street Facilities IIP and Development Fees is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. Trip generation rates and trip adjustment factors are used to determine the proportionate impact of residential, commercial, office, and industrial land uses San Luis' street network.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure S1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays VMT generated per housing unit. For nonresidential development the table displays VMT generated per thousand square feet of floor area.

**Figure S1: Street Facilities Ratio of Service Unit to Development Unit**

| Residential Development | per Unit | | | | |
|---|---|---|---|---|---|
| Land Use | AWVTE per Unit[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Average Miles per Trip | Vehicle Miles of Travel |
| Single Family | 10.90 | 62% | 1.21 | 2.325 | 19.01 |
| Multi-Family | 5.10 | 62% | 1.21 | 2.325 | 8.90 |

| Nonresidential Development | per 1,000 Square Feet | | | | |
|---|---|---|---|---|---|
| Land Use | AWVTE per 1,000 Sq Ft[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Average Miles per Trip | Vehicle Miles of Travel |
| Industrial | 4.96 | 50% | 0.73 | 2.325 | 4.21 |
| Commercial | 37.75 | 33% | 0.66 | 2.325 | 19.12 |
| Institutional | 19.52 | 33% | 0.73 | 2.325 | 10.93 |
| Office & Other Servuces | 9.74 | 50% | 0.73 | 2.325 | 8.27 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

The existing public services included in the Street Facilities IIP are 24 lane miles of arterials.

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

The daily lane capacity used in this analysis is 9,000, which is the roadway capacity of a two-lane rural arterial, found in the City of San Luis Small Area Transportation Study.

## LEVEL OF SERVICE AND RATIO OF SERVICE UNIT TO LAND USE

### Service Units

San Luis will use average weekday vehicle trip ends as the service units for documenting existing level-of-service standards and allocating the costs of future improvements. Components used to determine the service units and input variables are discussed, including trip generation rates, adjustments for commuting patterns and pass-by trips, and trip length weighting factors.

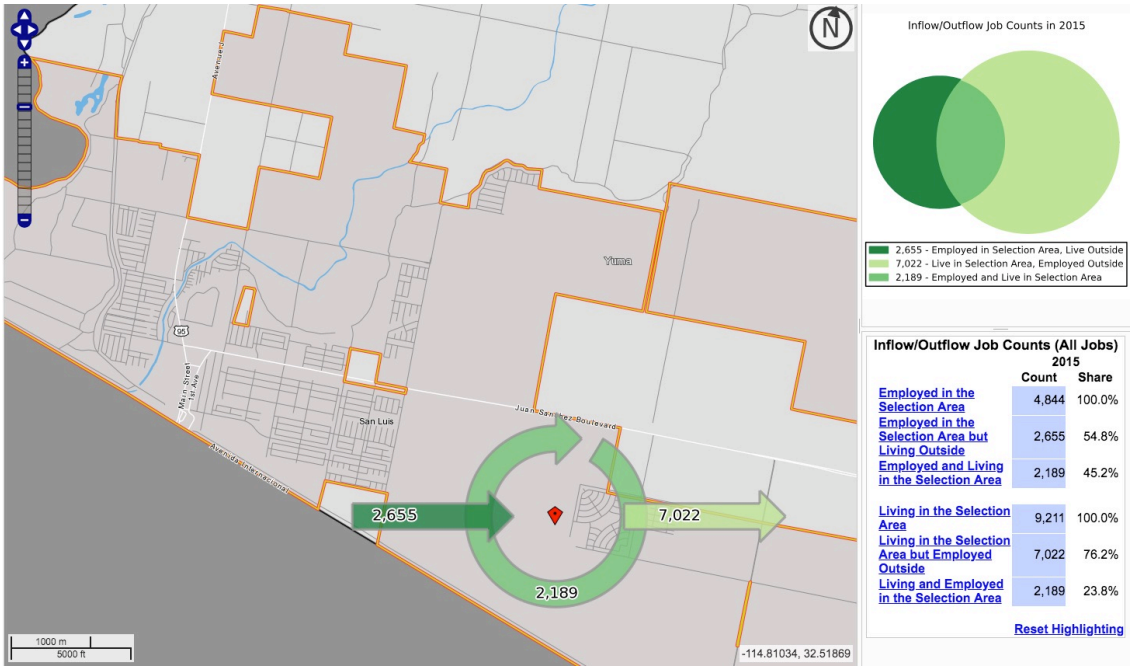
### Trip Rate Adjustments

San Luis's Street Facilities Development Fees use average weekday trip generation rates from the reference book *Trip Generation* published by the Institute of Transportation Engineers (ITE 2017). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate Street Facilities Development Fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the development fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

### Adjustment for Commuting Patterns

Residential development has a trip adjustment factor of 65 percent to account for commuters leaving San Luis for work. According to the 2009 National Household Travel Survey, weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure S2, the Census Bureau's web application OnTheMap indicates 76.2 percent of resident workers traveled outside San Luis for work in 2015. In combination, these factors (0.31 x 0.50 x 0.756 = 0.118) support the additional 12 percent allocation of trips to residential development.

**Figure S2: Inflow / Outflow Analysis**



### Adjustment for Pass-By Trips

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

### Trip Length Weighting Factor by Type of Land Use

The Street Facilities Development Fees methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121 percent of the average trip length. The residential trip length adjustment factor includes data on home-based work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66 percent of the average trip length while other nonresidential development typically accounts for trips that are 73 percent of the average for all trips.

## PROJECTED SERVICE UNITS, DEMAND, AND COSTS FOR SERVICES

TischlerBise created an aggregate travel model to convert development units within San Luis to project vehicle trips and vehicle miles of travel. Figure S3 summarizes the input variables used in the aggregate travel demand model.

**Figure S3: Input Variables for Travel Demand Model**

| Development Type | ITE Code | Weekday VTE | Dev Unit | Trip Adj | Trip Length Wt Factor |
|---|---|---|---|---|---|
| Single Family | 210 | 10.90 | HU | 62% | 121% |
| Multi-Family | 221 | 5.10 | HU | 62% | 121% |
| Industrial | 110 | 4.96 | KSF | 50% | 73% |
| Commercial | 820 | 37.75 | KSF | 33% | 66% |
| Institutional | 520 | 19.52 | KSF | 33% | 73% |
| Office & Other Service | 710 | 9.74 | KSF | 50% | 73% |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |
| Vehicle Capacity Per Lane | 9,000 |

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

Projected development in San Luis over the next 10 years, and the corresponding need for additional lane miles of arterials, are shown in Figure S4. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. As shown in Figure S4, future development in San Luis will generate 35,903 additional vehicle trips.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

The travel demand model inputs are used to derive level of service in Vehicle Miles of Travel and future needs of lane miles. A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length. Based on estimates shown in Figure S4, existing infrastructure standards using the average trip length of 2.325 miles in San Luis are 1.11 lane miles per 10,000 VMT (24.0 arterial lane miles / (216,030 VMT / 10,000)).

As shown on the lower right side of Figure S4, future development generates an additional 91,070 VMT over the next 10 years. To maintain the existing infrastructure standards, San Luis needs 10.12 additional lane miles of arterials to accommodate projected development over the next 10 years.

**Figure S4: Projected Travel Demand**

| Development Type | ITE Code | Weekday VTE | Dev Unit | Trip Adj | Trip Length Wt Factor |
|---|---|---|---|---|---|
| Single Family | 210 | 10.90 | HU | 62% | 121% |
| Multi-Family | 221 | 5.10 | HU | 62% | 121% |
| Industrial | 110 | 4.96 | KSF | 50% | 73% |
| Commercial | 820 | 37.75 | KSF | 33% | 66% |
| Institutional | 520 | 19.52 | KSF | 33% | 73% |
| Office & Other Service | 710 | 9.74 | KSF | 50% | 73% |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |
| Vehicle Capacity Per Lane | 9,000 |

| | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|
| | | Base | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| Development Base | Single-Family Units | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 12,786 | 3,792 |
| | Multi-Family Units | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,892 | 561 |
| | Industrial KSF | 390 | 404 | 418 | 433 | 449 | 465 | 554 | 164 |
| | Commercial KSF | 524 | 542 | 562 | 582 | 602 | 624 | 744 | 220 |
| | Institutional KSF | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 2,084 | 619 |
| | Office & Other Service KSF | 668 | 692 | 717 | 742 | 769 | 796 | 949 | 281 |
| Average Weekday Vehicle Trips | Single-Family Trips | 60,781 | 62,958 | 65,215 | 67,553 | 69,966 | 72,473 | 86,408 | 25,626 |
| | Multi-Family Trips | 4,209 | 4,360 | 4,515 | 4,677 | 4,844 | 5,018 | 5,983 | 1,774 |
| | Residential Trips | 64,990 | 67,318 | 69,730 | 72,230 | 74,810 | 77,491 | 92,390 | 27,400 |
| | Industrial Trips | 967 | 1,002 | 1,037 | 1,074 | 1,114 | 1,153 | 1,374 | 407 |
| | Commercial Trips | 6,528 | 6,752 | 7,001 | 7,250 | 7,499 | 7,773 | 9,268 | 2,741 |
| | Institutional Trips | 9,437 | 9,778 | 10,126 | 10,493 | 10,867 | 11,253 | 13,424 | 3,987 |
| | Office & Other Service Trips | 3,253 | 3,370 | 3,492 | 3,614 | 3,745 | 3,877 | 4,622 | 1,368 |
| | Nonresidential Trips | 20,185 | 20,902 | 21,656 | 22,431 | 23,225 | 24,057 | 28,688 | 8,503 |
| | Total Vehicle Trips | 85,175 | 88,220 | 91,386 | 94,661 | 98,035 | 101,548 | 121,079 | 35,903 |
| Demand | **Vehicle Miles of Travel (VMT)** | **216,030** | **223,760** | **231,784** | **240,091** | **248,657** | **257,566** | **307,100** | **91,070** |
| | **Arterial Lane Miles Cumulative)** | **24.00** | **24.86** | **25.75** | **26.68** | **27.63** | **28.62** | **34.12** | **10.12** |
| | Annual Lane Miles (Annual) | | 0.86 | 0.89 | 0.93 | 0.95 | 0.99 | 1.18 | |
| | | | | | | | | 10-Year VMT Increase | 42.2% |

ARS § 9-463.05(E)(3) requires:

> *"A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Arterial Improvements – Incremental Expansion

San Luis' current level of service for arterials is 1.11 lane miles per 10,000 VMT (24 lane miles / (216,030 VMT / 10,000)), and San Luis plans to maintain this level of service over the next 10 years. As shown in Figure S4, San Luis needs to construct 10.12 additional lane miles of arterials to maintain this standard over the next 10 years ((91,070 additional VMT / 10,000) X 1.11 lane miles per 10,000 VMT).

Shown below in Figure S5, San Luis' staff identified 23 lane miles of potential arterial improvements with an average cost of $806,087 per lane mile ($18,540,000 / 23 lane miles). San Luis may use development fees to fund 10.12 lane miles of the arterial improvements included in Figure S5. The cost per VMT for arterial improvements is $89.58 ($806,087 per lane mile X 10.12 additional lane miles / 91,070 additional VMT).

**Figure S5: Planned Arterial Improvements**

| Project | Lane Miles | Eligible Cost |
|---|---|---|
| Juan Sanchez Blvd (Ave E to Main St) | 8 | $11,440,000 |
| Juan Sanchez and 4th St Intersection Project | 3 | $1,100,000 |
| Juan Sanchez and 6th St Intersection Project | 1 | $500,000 |
| 10th Ave Widening (Juan Sanchez to Co 22nd) | 3 | $1,500,000 |
| Co 24th St Paving Project | 3 | $1,500,000 |
| Co 22nd St and Sidewinder Rd Intersection | 1 | $500,000 |
| Co 22nd St Widening (Sidewinder Rd to Main St) | 4 | $2,000,000 |
| Total | 23 | $18,540,000 |

Source: City of San Luis Public Works Dept.

| | |
|---|---|
| Cost per Lane Mile | $806,087 |
| 10-Year Demand for Additional Lane Miles | 10.12 |
| 10-Year Cost for Additional Lane Miles | $8,157,600 |
| 10-Year VMT Increase | 91,070 |
| Cost per VMT | $89.58 |

## Development Fee Report – Plan-Based

The cost to prepare the Street Facilities IIP and related Development Fee Report totals $11,960. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new development from the *Land Use Assumptions* document, the cost is $0.29 per VMT.

**Figure S6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

## STREET FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for the Street Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Street Facilities Development Fees

Infrastructure standards and cost factors for Street Facilities are summarized in the upper portion of Figure S7. The cost per service unit is $89.87 per vehicle mile of travel. Figure S7 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Street Facilities development fees for residential development are assessed according to VMT generated per unit. The single-family fee of $1,709 is calculated using a cost per service unit of $89.87 per VMT multiplied by 10.90 average weekday vehicle trip ends, multiplied by 62 percent trip adjustment factor, multiplied by 2.325 miles per trip, multiplied by 121 percent trip length adjustment.

Nonresidential development fees are calculated using VMT as the service unit. The fee of $1,718 per 1,000 square feet of commercial development is derived from a cost per service unit of $89.87 per VMT multiplied by 37.75 average weekday vehicle trip ends, multiplied by 33 percent trip adjustment factor, multiplied by 2.325 miles per trip, multiplied by 66 percent trip length adjustment.

**Figure S7: Schedule of Street Facilities Development Fees**

| Fee Component | Cost per VMT |
|---|---|
| Arterial Improvements | $89.58 |
| Development Fee Report | $0.29 |
| Total | $89.87 |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | AWVTE per Unit[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 10.90 | 62% | 1.21 | **$1,709** | $943 | $766 |
| Multi-Family | 5.10 | 62% | 1.21 | **$799** | $801 | ($2) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | AWVTE per 1,000 Sq Ft[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 4.96 | 50% | 0.73 | **$378** | $336 | $42 |
| Commercial | 37.75 | 33% | 0.66 | **$1,718** | $1,231 | $487 |
| Institutional | 19.52 | 33% | 0.73 | **$982** | $492 | $490 |
| Office & Other Servuces | 9.74 | 50% | 0.73 | **$743** | $533 | $210 |

1. See Land Use Assumptions

## PROJECTED STREET FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Street Facilities Development Fee Revenue

Projected fee revenue shown in Figure S8 is based on the development projections in the *Land Use Assumptions* document and the updated Street Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $8.13 million over the next 10 years is approximately equal to the projected growth-related cost of street facilities ($8.17 million).

**Figure S8: Projected Street Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Arterial Improvements | $8,157,600 | $0 | $8,157,600 |
| Development Fee Report | $11,960 | $0 | $11,960 |
| Total | $8,169,560 | $0 | $8,169,560 |

| Year | | Residential Units $1,583 per unit | Industrial $378 per 1,000 sq. ft. | Commercial $1,718 per 1,000 sq. ft. | Institutional $982 per 1,000 sq. ft. | Office & Other $743 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| | | Hsg Unit | KSF | KSF | KSF | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $6,879,229 | $61,926 | $377,266 | $607,098 | $208,358 |

| | |
|---|---|
| **Projected Fee Revenue** | **$8,133,877** |
| **Total Expenditures** | **$8,169,560** |

# WATER FACILITIES IIP

ARS § 9-463.05 (T)(7)(a) defines facilities and assets that can be included in the Water Facilities IIP:

> *"Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities."*

The Water Facilities IIP includes components for existing water production, water storage, and the cost of preparing the Wastewater Facilities IIP and development fees. The cost recovery methodology is used for water production. The plan-based methodology is used for water storage and the Development Fee Report.

## Service Area

The service area for the Water Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. The water fees assessed pursuant to the Water Facilities IIP and related Development Fee Report are assessed on both residential and nonresidential development. City staff provided water demand to differentiate demand for water facilities from residential and nonresidential development. In 2018, residential water customers accounted for approximately 94 percent of total customers and 68 percent of max day demand. Nonresidential customers accounted for approximately six percent of total customers and 32 percent of max day demand.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Residential Water Facilities development fees are assessed per meter, based on max day gallons per connection. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use.

For nonresidential Water Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for water facilities. Capacity ratios equate 0.75-inch meters to the max day gallons per average single-family residential unit. Utilizing max day gallons is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Water Facilities development fees are calculated by multiplying the number of gallons per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown in Figure W1.

**Figure W1: Water Facilities Ratio of Service Unit to Development Unit**

| Demand Indicators | |
|---|---|
| Residential Gallons per Max Day | 510 |

| Meter Size (inches) | | Capacity Ratio[1] |
|---|---|---|
| 0.75 | Displacement | 1.00 |
| 1.00 | Displacement | 1.67 |
| 1.50 | Displacement | 3.33 |
| 2.00 | Compound | 5.33 |
| 3.00 | Compound | 10.67 |
| 4.00 | Compound | 16.67 |
| 6.00 | Compound | 33.33 |
| 8.00 | Compound | 53.33 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Existing Capacity and Usage

San Luis has seven well sites with a total capacity of 9.94 MGD. Production facilities for the water system should have sufficient capacity to meet the demands of the maximum day of the year. According to the City of San Luis Public Works Department, 2018 average day consumption is approximately 3.22 MGD. Using peaking factors from the San Luis Water System Master Plan (2016), max day demand is 1.5 times greater than average day demand. Applying the max day peaking factor to the average day demand of 3.22 MGD results in max day demand of 4.84 MGD – leaving 5.10 MGD of excess capacity in San Luis' water production facilities to serve future development (9.94 MGD – 4.84 MGD).

**Figure W2: Well Capacity**

| Existing Wells | Capacity (MGD) | Max Day Usage (MGD) | Remaining (MGD) |
|---|---|---|---|
| Well Site 1 | 0.29 | 4.84 | 5.10 |
| Well Site 2 | 0.43 | | |
| Well Site 3 | 1.44 | | |
| Well Site 4 | 1.44 | | |
| Well Site 5 | 0.00 | | |
| Well Site 6 | 3.17 | | |
| Well Site 7 | 3.17 | | |
| **Total** | **9.94** | **4.84** | **5.10** |

Source: City of San Luis Public Works.

## Water Demand

The following factors are used to differentiate the demand for water infrastructure between residential and nonresidential development. In 2018, average day water demand totaled 3.22 MGD. Residential water customers accounted for approximately 2.20 MGD of average day demand, and nonresidential water customers accounted for the remaining 1.03 MGD. Since this analysis uses max day demand to more accurately assess demand for water infrastructure to future development, Figure W3 shows the conversion of average day demand to max day demand using peaking factors from the San Luis Water System Master Plan (2016). Based on the analysis in the master plan, max day demand is 1.5 times greater than average day demand.

The existing level of service for water infrastructure is based on max demand in 2018. The current level of service for residential development for water service is approximately 510 gallons per connection per day. For nonresidential connections, water demand averages 4,029 gallons per connection per day. Each nonresidential connection averages approximately 13.5 jobs, and the projected increase in jobs drives the demand for water capacity from nonresidential development.

**Figure W3: Water Demand Factors**

| Land Use | Avg Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 2,190,620 | 6,443 | 340 |
| Nonresidential | 1,034,110 | 385 | 2,686 |
| Total | 3,224,730 | 6,828 | |

1. Average of water use in 2018, provided by the City of San Luis. Nonresidential includes Commercial, Government, Schools, and City.

| Land Use | Max Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 3,285,930 | 6,443 | **510** |
| Nonresidential | 1,551,165 | 385 | 4,029 |
| Total | 4,837,095 | 6,828 | |

1. Max Day Demand = Average Day Demand X 1.5, San Luis Water System Master Plan 2016.

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Over the next 10 years, it is projected there will be an increase of 2,879 connections. Accordingly, the projected water demand increases by 2,039,311 max day gallons during the same period.

**Figure W4: Projected Water Demand**

| Water Demand Projections | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | | Residential Connections | Nonresidential Connections | Total Connections | Residential Gallons | Nonresidential Gallons | Average Day Gallons | Max Day Gallons |
| Base | 2018 | 6,443 | 385 | 6,828 | 2,190,620 | 1,034,110 | 3,224,730 | 4,837,095 |
| Year 1 | 2019 | 6,674 | 399 | 7,073 | 2,269,122 | 1,071,071 | 3,340,193 | 5,010,289 |
| Year 2 | 2020 | 6,913 | 413 | 7,326 | 2,350,381 | 1,109,423 | 3,459,804 | 5,189,706 |
| Year 3 | 2021 | 7,161 | 428 | 7,588 | 2,434,612 | 1,149,166 | 3,583,777 | 5,375,666 |
| Year 4 | 2022 | 7,416 | 443 | 7,860 | 2,521,600 | 1,190,300 | 3,711,899 | 5,567,849 |
| Year 5 | 2023 | 7,682 | 459 | 8,141 | 2,611,983 | 1,233,023 | 3,845,006 | 5,767,509 |
| Year 6 | 2024 | 7,957 | 475 | 8,433 | 2,705,548 | 1,277,138 | 3,982,686 | 5,974,029 |
| Year 7 | 2025 | 8,242 | 492 | 8,735 | 2,802,296 | 1,322,842 | 4,125,138 | 6,187,708 |
| Year 8 | 2026 | 8,537 | 510 | 9,047 | 2,902,651 | 1,370,136 | 4,272,787 | 6,409,181 |
| Year 9 | 2027 | 8,843 | 528 | 9,371 | 3,006,613 | 1,419,219 | 4,425,831 | 6,638,747 |
| Year 10 | 2028 | 9,159 | 547 | 9,707 | 3,114,181 | 1,470,090 | 4,584,271 | 6,876,406 |
| 10-Yr Increase | | 2,716 | 162 | 2,879 | 923,561 | 435,980 | 1,359,541 | 2,039,311 |

## Water Production – Cost Recovery

As shown in Figure W2, San Luis' water production facilities have 5.10 MGD of available capacity to serve future development. San Luis installed iron and manganese filters to increase water production capacity within the water system by 1.728 MGD, and development fees will be used to pay for future development's share of the production capacity created by the iron and manganese filters. Based on a cost of $2.3 million and additional capacity of 1.728 MGD, the cost of water production is $1.33 per gallon of capacity.

San Luis included $1.0 million of funding for the iron and manganese filters during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $1.0 million of rate revenue to 1,728,000 gallons of capacity provides a credit of $0.58 per gallon.

**Figure W5: Water Production Cost Allocation Factors**

| Project | Total Capacity | Total Cost | Cost per Gallon |
|---|---|---|---|
| Iron and Manganese Filters | 1,728,000 | $2,300,000 | $1.33 |

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $1,000,000 |
| Total Capacity (Gallons) | 1,728,000 |
| Rate Credit per Gallon | ($0.58) |

## Water Storage – Plan-Based

San Luis plans to construct a new water storage tank with 1.0 MG of capacity to serve future development. Shown below in Figure W6, San Luis staff identified a growth-related water storage tank with a cost of $1.3 million. When allocated to the planned capacity of 1.0 MG, the cost is $1.30 per gallon of capacity.

San Luis included $1.0 million of funding for the water storage tank during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $1.0 million of rate revenue to 1,000,000 gallons of capacity provides a credit of $1.00 per gallon.

**Figure W6: Water Storage Cost Allocation Factors**

| Project | Total Capacity | Total Cost | Cost per Gallon |
|---|---|---|---|
| Water Storage Tank | 1,000,000 | $1,300,000 | $1.30 |

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $1,000,000 |
| Total Capacity (Gallons) | 1,000,000 |
| Rate Credit per Gallon | ($1.00) |

### IIP and Development Fee Report – Plan-Based

The cost to prepare the Water Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $0.01 per gallon.

**Figure W7: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## WATER FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is necessary for the Water Facilities development fees, because costs include projects funded with water rate revenue. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Water Facilities Development Fees

Infrastructure components and cost factors for Water Facilities are summarized in the upper portion of Figure W8. The cost per service unit is $1.06 per gallon. Figure W8 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Residential Water Facilities development fees are assessed on a per meter basis, based on max day demand – approximately 510 gallons. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use. The single-family fee of $542 is calculated using a cost per service unit of $1.06 per gallon multiplied by max day demand per residential unit of approximately 510 gallons.

For nonresidential Water Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Water Facilities. Capacity ratios equate 0.75-inch meters to the max day demand per residential unit. Utilizing max day demand is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Water Facilities development fees are calculated by multiplying the max day demand per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown below in Figure W8. The fee for a 1.0-inch meter, $905, is calculated using a cost per service unit of $1.06 per gallon multiplied by max day demand per residential unit of approximately 510 gallons, multiplied by the capacity ratio of 1.67.

**Figure W8: Schedule of Water Facilities Development Fees**

| Demand Indicators | |
|---|---|
| Residential Gallons per Max Day | 510 |
| **Cost Factors per Gallon of Capacity** | |
| Water Production | $1.33 |
| Water Production Rate Credit | ($0.58) |
| Water Storage | $1.30 |
| Water Storage Rate Credit | ($1.00) |
| Development Fee Report | $0.01 |
| **Total Cost per Gallon of Capacity** | **$1.06** |

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | **$542** | $0 | $542 |

| Nonresidential Development | | | Development Fees per Meter | | |
|---|---|---|---|---|---|
| Meter Size (inches) | | Capacity Ratio[1] | Proposed Fees | Current Fees | Increase / Decrease |
| 0.75 | Displacement | 1.00 | **$542** | $0 | $542 |
| 1.00 | Displacement | 1.67 | **$905** | $0 | $905 |
| 1.50 | Displacement | 3.33 | **$1,804** | $0 | $1,804 |
| 2.00 | Compound | 5.33 | **$2,888** | $0 | $2,888 |
| 3.00 | Compound | 10.67 | **$5,781** | $0 | $5,781 |
| 4.00 | Compound | 16.67 | **$9,031** | $0 | $9,031 |
| 6.00 | Compound | 33.33 | **$18,058** | $0 | $18,058 |
| 8.00 | Compound | 53.33 | **$28,893** | $0 | $28,893 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## PROJECTED WATER FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Water Facilities Development Fee Revenue

Projected fee revenue shown in Figure W9 is based on the development projections in the *Land Use Assumptions* document and the updated Water Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.16 million over the next 10 years exceeds the projected growth-related cost of water facilities ($1.61 million). San Luis should include additional water facilities or stop collecting Water Facilities development fees when no additional capacity exists in the water production and water storage facilities included in the Water Facilities IIP.

**Figure W9: Projected Water Facilities Development Fee Revenue**

| Fee Component | Growth Share |
|---|---|
| Water Production | $2,300,000 |
| Water Production Credit | ($1,000,000) |
| Water Storage | $1,300,000 |
| Water Storage Credit | ($1,000,000) |
| Development Fee Report | $11,500 |
| Total | $1,611,500 |

| | | $1.06 per gallon |
|---|---|---|
| Year | | Gallons |
| Base | 2018 | 4,837,095 |
| Year 1 | 2019 | 5,010,289 |
| Year 2 | 2020 | 5,189,706 |
| Year 3 | 2021 | 5,375,666 |
| Year 4 | 2022 | 5,567,849 |
| Year 5 | 2023 | 5,767,509 |
| Year 6 | 2024 | 5,974,029 |
| Year 7 | 2025 | 6,187,708 |
| Year 8 | 2026 | 6,409,181 |
| Year 9 | 2027 | 6,638,747 |
| Year 10 | 2028 | 6,876,406 |
| 10-Yr Increase | | 2,039,311 |
| Projected Revenue | | $2,155,301 |

# WASTEWATER FACILITIES IIP

ARS § 9-463.05 (T)(7)(b) defines facilities and assets that can be included in the Wastewater Facilities IIP:

> *"Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities"*

The Wastewater Facilities IIP includes components for treatment and the cost of preparing the Wastewater Facilities IIP and related Development Fee Report. The plan-based methodology is used for the treatment component and the Development Fee Report.

## Service Area

The service area for the Wastewater Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. The Wastewater Facilities IIP is based, and development fees are assessed, on both residential and nonresidential development. City staff provided wastewater flows to differentiate demand for wastewater facilities from residential and nonresidential development. In 2018, residential wastewater customers accounted for approximately 96 percent of total customers and 73 percent of average day flows. Nonresidential customers accounted for approximately four percent of total customers and 27 percent of average day flows.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Residential Wastewater Facilities development fees are assessed on a per meter basis, based on average day gallons per connection. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use.

For nonresidential Wastewater Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Wastewater Facilities. Capacity ratios equate 0.75-inch meters to the average day gallons per average single-family residential unit. Utilizing average day gallons is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Wastewater Facilities development fees are calculated by multiplying the number of gallons per single-family unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown below in Figure WW1.

**Figure WW1: Wastewater Facilities Ratio of Service Unit to Development Unit**

| Demand Indicators | |
|---|---|
| Residential Gallons per Average Day | 207 |

| Meter Size (inches) | | Capacity Ratio[1] |
|---|---|---|
| 0.75 | Displacement | 1.00 |
| 1.00 | Displacement | 1.67 |
| 1.50 | Displacement | 3.33 |
| 2.00 | Compound | 5.33 |
| 3.00 | Compound | 10.67 |
| 4.00 | Compound | 16.67 |
| 6.00 | Compound | 33.33 |
| 8.00 | Compound | 53.33 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

San Luis has two wastewater treatment plants. The West Wastewater Treatment Plant has a total capacity of 1.50 MGD and generally receives wastewater flows from development on the west side of San Luis. The East Mesa Wastewater Treatment Plant has a total capacity of 1.00 MGD and generally receives wastewater flows from development on the east side of San Luis and any flows the West Wastewater Treatment Plant cannot treat. The total capacity of citywide wastewater treatment is 2.50 MGD, but San Luis can only use 80 percent of the total capacity under existing Arizona law. According to the City of San Luis Public Works Department, current usage is approximately 1.78 MGD, leaving 0.72 MGD of excess capacity to serve growth.

**Figure WW2: Wastewater Treatment Plant Capacity**

| Facility | Capacity (MGD) | Average Day Flows (MGD) | Remaining (MGD) |
|---|---|---|---|
| East Mesa Wastewater Treatment Plant | 1.00 | 0.28 | 0.72 |
| West Wastewater Treatement Plant | 1.50 | 1.50 | 0.00 |
| **Total** | **2.50** | **1.78** | **0.72** |

Source: City of San Luis Public Works Department

### Average Day Flows

The following factors are used to differentiate the demand for wastewater infrastructure between residential and nonresidential development. The existing level of service for wastewater infrastructure is based on average flows in 2018. The current level of service for residential development for wastewater service is 207 average day gallons per connection. For nonresidential connections, wastewater flows average 1,842 average day gallons per connection. Each nonresidential connection averages approximately 20 jobs, and the projected increase in jobs drives the demand for wastewater capacity from nonresidential development.

**Figure WW3: Wastewater Flow Factors**

| Land Use | Avg Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 1,302,030 | 6,290 | 207 |
| Nonresidential | 475,236 | 258 | 1,842 |
| Total | 1,777,266 | 6,548 | |

1. Average Gallons per Day based on approximate usage provided by City of San Luis. Division between residential and nonresidental based on portions of City of San Luis water usage in 2018.

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Over the next 10 years, it is projected there will be an increase of 2,761 connections and 749,292 gallons.

**Figure WW4: Projected Wastewater Flows**

| Wastewater Flow Projections | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year | | Residential Connections | Nonresidential Connections | Total Connections | Residential Gallons | Nonresidential Gallons | Total Gallons |
| Base | 2018 | 6,290 | 258 | 6,548 | 1,302,030 | 475,236 | 1,777,266 |
| Year 1 | 2019 | 6,515 | 267 | 6,783 | 1,348,689 | 492,222 | 1,840,910 |
| Year 2 | 2020 | 6,749 | 277 | 7,026 | 1,396,987 | 509,847 | 1,906,834 |
| Year 3 | 2021 | 6,991 | 287 | 7,277 | 1,447,050 | 528,111 | 1,975,161 |
| Year 4 | 2022 | 7,240 | 297 | 7,537 | 1,498,753 | 547,015 | 2,045,768 |
| Year 5 | 2023 | 7,500 | 308 | 7,807 | 1,552,474 | 566,649 | 2,119,122 |
| Year 6 | 2024 | 7,769 | 319 | 8,087 | 1,608,086 | 586,922 | 2,195,008 |
| Year 7 | 2025 | 8,046 | 330 | 8,376 | 1,665,590 | 607,926 | 2,273,515 |
| Year 8 | 2026 | 8,334 | 342 | 8,676 | 1,725,237 | 629,660 | 2,354,897 |
| Year 9 | 2027 | 8,633 | 354 | 8,987 | 1,787,028 | 652,217 | 2,439,245 |
| Year 10 | 2028 | 8,942 | 367 | 9,309 | 1,850,963 | 675,595 | 2,526,558 |
| 10-Yr Increase | | 2,652 | 109 | 2,761 | 548,933 | 200,359 | 749,292 |

## Wastewater Treatment

San Luis plans to expand its wastewater treatment capacity with 1.60 MGD of capacity to serve future development. Shown below in Figure WW5, San Luis plans to spend $10.0 million on the planned wastewater treatment plant expansion. When allocated to the planned capacity of 1.60 MGD, the cost is $6.25 per gallon of capacity.

San Luis included $3.0 million of funding for the wastewater treatment plant expansion during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $3.0 million of rate revenue to 1.60 MGD of capacity provides a credit of $1.88 per gallon.

**Figure WW5: Wastewater Treatment Cost Allocation Factors**

| Description | Capacity[1] | Cost | Cost per Gallon |
|---|---|---|---|
| Wastewater Treatment Plant Exansion | 1,600,000 | $10,000,000 | $6.25 |

1. Represents 80 percent of 2.0 MGD capacity.

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $3,000,000 |
| Total Capacity (Gallons) | 1,600,000 |
| Rate Credit per Gallon | ($1.88) |

## IIP and Development Fee Report – Plan-Based

The cost to prepare the Wastewater Facilities IIP and related Development Fee Report totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $0.03 per gallon.

**Figure WW6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## WASTEWATER FACILITIES DEVELOPMENT FEES

### Revenue Credit

A revenue credit is necessary for the Wastewater Facilities development fees, because costs include projects funded with sewer rate revenue. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Wastewater Facilities Development Fees

Infrastructure components and cost factors for Wastewater Facilities are summarized in the upper portion of Figure WW7. The cost per service unit is $4.41 per gallon. Figure WW7 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Residential Wastewater Facilities development fees are assessed on a per meter basis, based on average day flows – approximately 207 gallons. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use. The single-family fee of $912 is calculated using a cost per service unit of $4.41 per gallon multiplied by average day flows per residential unit of approximately 207 gallons.

For nonresidential Wastewater Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Wastewater Facilities. Capacity ratios equate 0.75-inch meters to the average day flows per residential unit. Utilizing average day flows is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Wastewater Facilities development fees are calculated by multiplying the average day flows per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown in Figure WW7. The fee for a 1.0-inch meter, $1,523, is calculated using a cost per service unit of $4.41 per gallon multiplied by average day flows per residential unit of approximately 207 gallons, multiplied by the capacity ratio of 1.67.

**Figure WW7: Schedule of Wastewater Facilities Development Fees**

| Demand Indicators | |
|---|---|
| Residential Gallons per Average Day | 207 |
| **Cost Factors per Gallon of Capacity** | |
| Wastewater Treatment | $6.25 |
| Wastewater Treatment Rate Credit | ($1.88) |
| Development Fee Report | $0.03 |
| **Total Cost per Gallon of Capacity** | **$4.41** |

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | **$912** | $1,634 | ($722) |

| Nonresidential | | | Development Fees per Meter | | |
|---|---|---|---|---|---|
| Meter Size (inches) | | Capacity Ratio[1] | Proposed Fees | Current Fees | Increase / Decrease |
| 0.75 | Displacement | 1.00 | **$912** | $1,634 | ($722) |
| 1.00 | Displacement | 1.67 | **$1,523** | $2,721 | ($1,198) |
| 1.50 | Displacement | 3.33 | **$3,036** | $5,412 | ($2,376) |
| 2.00 | Compound | 5.33 | **$4,860** | $8,654 | ($3,794) |
| 3.00 | Compound | 10.67 | **$9,729** | $17,311 | ($7,582) |
| 4.00 | Compound | 16.67 | **$15,200** | $27,039 | ($11,839) |
| 6.00 | Compound | 33.33 | **$30,391** | $54,048 | ($23,657) |
| 8.00 | Compound | 53.33 | **$48,628** | $86,472 | ($37,844) |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## PROJECTED WASTEWATER FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Wastewater Facilities Development Fee Revenue

Projected fee revenue shown in Figure WW8 is based on the development projections in the *Land Use Assumptions* document and the updated Wastewater Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Over the next 10 years, anticipated development fee revenue equals approximately $3.3 million.

**Figure WW8: Projected Wastewater Facilities Development Fee Revenue**

| Fee Component | Growth Share |
|---|---|
| Wastewater Treatment | $10,000,000 |
| Wastewater Treatment Credit | ($3,000,000) |
| Development Fee Report | $11,500 |
| Total | $7,011,500 |

| | | $4.41 per gallon |
|---|---|---|
| Year | | Gallons |
| Base | 2018 | 1,777,266 |
| Year 1 | 2019 | 1,840,910 |
| Year 2 | 2020 | 1,906,834 |
| Year 3 | 2021 | 1,975,161 |
| Year 4 | 2022 | 2,045,768 |
| Year 5 | 2023 | 2,119,122 |
| Year 6 | 2024 | 2,195,008 |
| Year 7 | 2025 | 2,273,515 |
| Year 8 | 2026 | 2,354,897 |
| Year 9 | 2027 | 2,439,245 |
| Year 10 | 2028 | 2,526,558 |
| 10-Yr Increase | | 749,292 |
| Projected Revenue | | $3,288,409 |

# APPENDIX A: FORECAST OF REVENUES OTHER THAN FEES

# APPENDIX B: PROFESSIONAL SERVICES

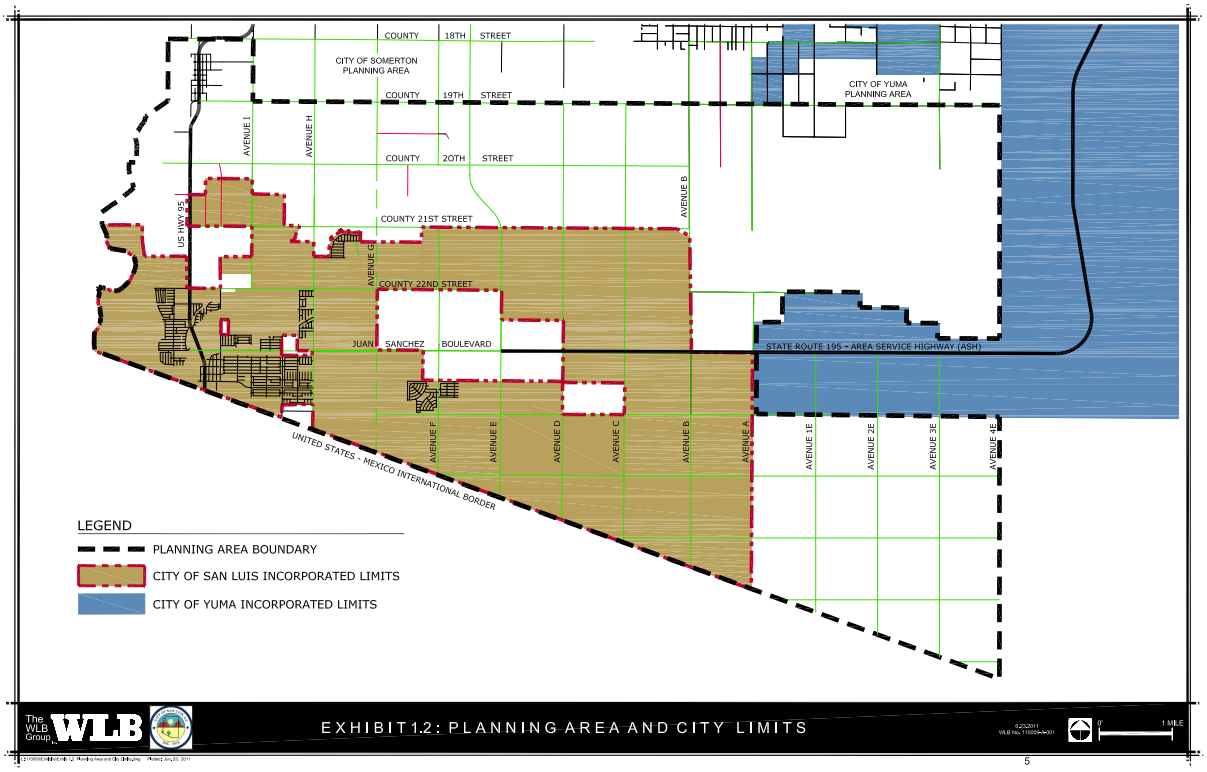
As stated in Arizona's development fee enabling legislation, "a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan" (see ARS § 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience".

**Figure B1: Cost of Professional Services**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

# APPENDIX C: LAND USE ASSUMPTIONS

The estimates and projections of residential and nonresidential development in this *Land Use Assumptions* document are for areas within the boundaries of the City of San Luis. The map below illustrates the area within the City of San Luis Service Area boundaries.




Arizona's Development Fee Act requires the preparation of Land Use Assumptions, which are defined in Arizona Revised Statutes § 9-463.05(T)(6) as:

> *"projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality."*

The City of San Luis, Arizona retained TischlerBise to analyze the impacts of development on its capital facilities and to calculate development fees based on that analysis. TischlerBise prepared current demographic estimates and future development projections for both residential and nonresidential development that will be used in the Infrastructure Improvements Plan (IIP) and calculation of the development fees. Current demographic data estimates for 2018 are used in calculating levels of service (LOS) provided to existing development in the City of San Luis. Although long-range projections are necessary for planning infrastructure systems, a shorter time frame of five to ten years is critical for the development fee analysis.

Arizona's Development Fee Act requires fees to be updated at least every five years and limits the IIP to a maximum of 10 years. Therefore, the use of a very long-range "build-out" analysis is no longer acceptable for deriving development fees in Arizona municipalities.

## SUMMARY OF GROWTH INDICATORS

Key land use assumptions for the City of San Luis development fee study are population, housing units, and employment projections. Based on discussions with staff, TischlerBise projects population using Arizona Department of Administration compound annual growth rates for 2015-2030. TischlerBise derives housing unit estimates by converting annual population increases to housing units using persons per housing unit factors. For nonresidential development, the base year employment estimate is calculated based on 2015 estimates from the U.S. Census Bureau's OnTheMap web application. The 2015 jobs per housing unit ratio is applied to the housing unit projections to project future employment. The employment projections are converted into floor area based on average square feet per job multipliers. The projections contained in this document provide the foundation for the Development Fee Report. These metrics are the service units and demand indicators used in the Development Fee Report.

Development projections and growth rates are summarized in Figure C11. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, development fees methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, San Luis will receive an increase in fee revenue, but will also need to accelerate infrastructure improvements to keep pace with the actual rate of development.

## RESIDENTIAL DEVELOPMENT

Current estimates and future projections of residential development are detailed in this section including population and housing units by type.

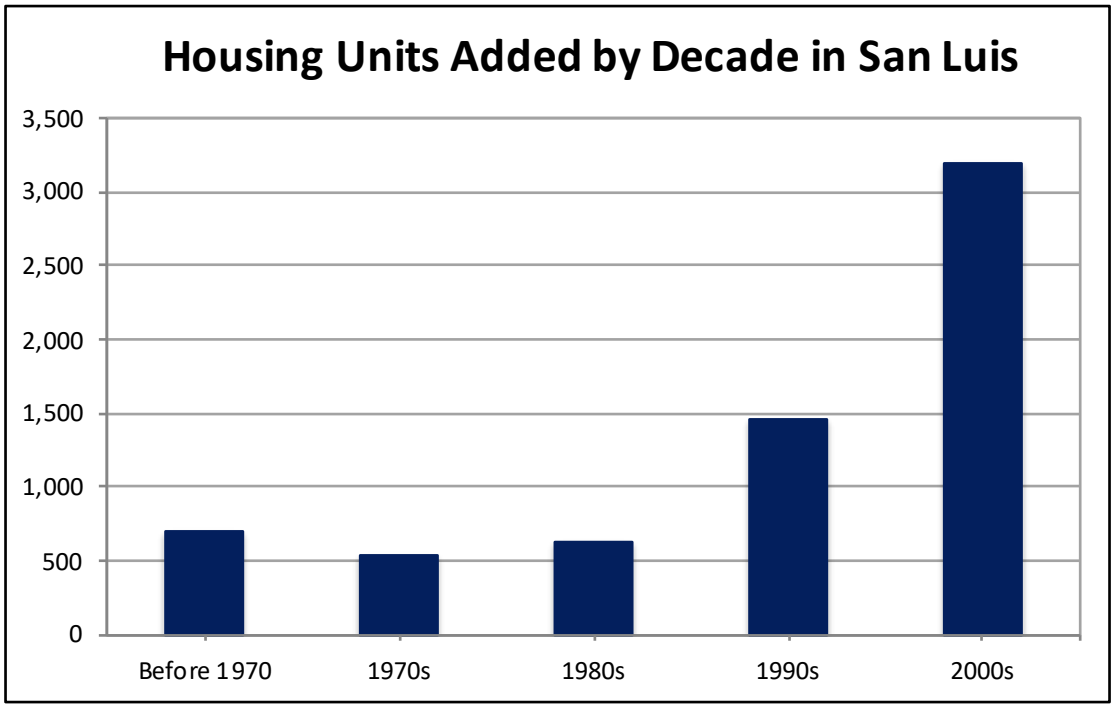
### Recent Residential Construction

Development fees require an analysis of current levels of service. For residential development, current levels of service are determined using estimates of population and housing units. Shown below, Figure C2 indicates the estimated number of housing units added by decade according to data obtained from the U.S. Census Bureau. San Luis experienced strong growth in the 1990s and 2000s. From 2000 to 2010, San Luis' housing inventory increased by an average of 320 units per year.

**Figure C2: Housing Units by Decade**

| | |
|---|---|
| Census 2010 Housing Units | 6,525 |
| Census 2000 Housing Units | 3,325 |
| New Housing Units 2000 to 2010 | 3,200 |

San Luis added an average of 320 housing units per year from 2000 to 2010.




Source: U.S. Census Bureau, Census 2010 Summary File 1, Census 2000 Summary File 1, 2012-2016 5-Year American Community Survey (for 1990s and earlier, adjusted to yield total units in 2000).

## Household Size

According to the U.S. Census Bureau, a household is a housing unit occupied by year-round residents. Development fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the development fee methodology assumes a higher percentage of housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that development fees for residential development in San Luis be imposed according to the number of year-round residents per housing unit. This methodology assumes some portion of the housing stock will be vacant during the course of a year. According to the U.S. Census Bureau American Community Survey, San Luis' vacancy rate was 6.3 percent in 2015.

PPHU calculations require data on population and the types of units by structure. The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For development fees in San Luis, detached stick-built units and attached units (commonly known as townhouses, which share a common sidewall, but are constructed on an individual parcel of land) are included in the "Single-Family Unit" category. The second residential category includes duplexes and all other structures with two or more units on an individual parcel of land. This category is referred to as "Multi-Family Unit." (Note: housing unit estimates from ACS will not equal decennial census counts of units. These data are used only to derive the custom PPHU factors for each type of unit).

Figure C3 below shows the 2011-2015 five-year ACS estimates for San Luis. Single-family units averaged 3.45 persons per housing unit (26,381 persons / 7,657 housing units) and multi-family units averaged 2.23 persons per housing unit (2,522 persons / 1,133 housing units). In 2015, San Luis' housing stock averaged 3.29 persons per housing unit. Including persons in group quarters, the citywide average is 3.54 persons per housing unit.

**Figure C3: Persons per Housing Unit**

| Units in Structure | Persons | Households | Persons per Household | Housing Units | Persons per Housing Unit | Housing Mix | Vacancy Rate |
|---|---|---|---|---|---|---|---|
| Single-Family Units[1] | 26,381 | 7,193 | 3.67 | 7,657 | **3.45** | 87.1% | 6.10% |
| Multi-Family Units[2] | 2,522 | 1,040 | 2.43 | 1,133 | **2.23** | 12.9% | 8.20% |
| Subtotal | 28,903 | 8,233 | 3.51 | 8,790 | **3.29** | 100.0% | 6.30% |
| Group Quarters | 2,215 | | | | | | |
| Total | 31,118 | | | 8,790 | **3.54** | | |

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, Tables B25024, B25032, B25033, B26001

1. Includes detached, attached (i.e. townhouses), and mobile home units.

2. Includes dwellings in structures with two or more units.

## Population and Housing Unit Estimates

To accurately determine current and future population in San Luis, TischlerBise compared population estimates and growth rates from ACS data, Arizona Department of Administration (ADOA) data, and the San Luis General Plan. ADOA released population projections through 2050 for jurisdictions in 2016, along with annual updates of population estimates. TischlerBise uses ADOA's 2017 population estimate of 35,289 and the 2015 to 2030 compound annual growth rate of 3.58 percent to project population to the 2018 base year. For this analysis, the base year total population estimate is 36,552 (including group quarters) and the household population is 33,969.

TischlerBise converts estimated population to housing units using persons per housing unit factors detailed in Figure C3 – 3.54 persons per housing unit. The base year total population of 36,552 divided by 3.54 persons per housing unit results in an estimate of 10,325 housing units.

## Population and Housing Unit Projections

This analysis projects population growth using ADOA's 2015 to 2030 compound annual growth rate of 3.58 percent, and this results in a 2028 total population of 51,961 persons. Converting the total population projections to housing unit projections using 3.54 persons per housing unit results in a 2028 housing unit estimate of 14,678. To estimate household population, this analysis multiplies the housing unit projections by 3.29 persons per housing unit – this excludes group quarters. The 10-year increase in household population results in 14,322 additional persons.

The housing units are distributed by type based on the housing mix detailed in Figure C3. Therefore, 87.1 percent of projected new units are single-family and 12.9 percent are multi-family. For this study, it is assumed that the persons per housing unit ratio will remain constant. TischlerBise projects a 10-year increase of 14,322 persons, or an average of 1,432 persons annually, and a corresponding 10-year increase of 4,353 housing units, or an average of 435 units annually.

Population and housing unit projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease.

**Figure C4: Residential Development Projections**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| **Population** | | | | | | | | |
| Household | 33,969 | 35,187 | 36,447 | 37,753 | 39,102 | 40,503 | 48,291 | **14,322** |
| Group Quarters | 2,583 | 2,674 | 2,769 | 2,867 | 2,972 | 3,078 | 3,670 | **1,087** |
| Total Population | 36,552 | 37,861 | 39,216 | 40,620 | 42,074 | 43,581 | 51,961 | **15,409** |
| **Housing Units** | | | | | | | | |
| Single-Family | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 12,786 | **3,792** |
| Multi-Family | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,892 | **561** |
| Total Housing Units | 10,325 | 10,695 | 11,078 | 11,475 | 11,885 | 12,311 | 14,678 | **4,353** |

## NONRESIDENTIAL DEVELOPMENT

Current estimates and future projections of nonresidential development are detailed in this section including jobs and nonresidential floor area.

### Employment Estimates

In addition to data on residential development, the calculation of development fees requires data on employment (number of jobs) and nonresidential square footage in San Luis. TischlerBise uses the term "jobs" to refer to employment by place of work. TischlerBise analyzed recent employment trends, the U.S. Census Bureau, and had discussions with City staff.

TischlerBise uses a four step process to calculate base year job and nonresidential footage estimates, and projections for 10 years past the base year. First, 2018 employment estimates are derived using 2015 OnTheMap employment estimates. Second, job estimates are organized by type: Industrial, Commercial, Institutional, and Office & Other Service. Third, the 2015 jobs per housing unit ratio of 0.504 is applied to housing unit projections in Figure C4 to project citywide jobs. The last step allocates jobs by type based on the 2015 share of total jobs. This process is detailed below in Figure C5.

**Figure C5: Estimated Employment and Distribution by Industry Type**

| Nonresidential Category | 2018 Jobs[1] | Percent of Total Jobs | Square Feet per Job[2] | 2018 Estimated Floor Area[3] | Jobs per 1,000 Sq. Ft.[2] |
|---|---|---|---|---|---|
| Industrial[4] | 634 | 12% | 615 | 389,910 | 1.63 |
| Commercial[5] | 1,226 | 24% | 427 | 523,502 | 2.34 |
| Institutional[6] | 1,362 | 26% | 1,076 | 1,465,266 | 0.93 |
| Office & Other Service[7] | 1,982 | 38% | 337 | 667,934 | 2.97 |
| Total | 5,204 | 100% | | 3,046,612 | 1.71 |

1. TischlerBise calculation based on 2015 OnTheMap employment estimates.
2. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).
3. TischlerBise calculation (2018 jobs X square feet per job).
4. Major sectors are Agriculture and Warehousing.
5. Major sectors are Retail, Accommodation, and Food Services.
6. Major sectors are Educational Services and Public Administration.
7. Major sectors are Administration & Support, and Health Care.

### Nonresidential Square Footage Estimates

TischlerBise uses 2017 Institute of Transportation Engineers (ITE) data as a proxy for future nonresidential floor area (Figure C6). The prototype for industrial development is light industrial (110) with an average of 615 square feet per employee, institutional development uses an elementary school (ITE 520) with an average of 1,076 square feet per job, office development uses general office (710) that averages 337 square feet per job, and commercial development uses shopping center (820) and averages 427 square feet per job. TischlerBise estimates San Luis has approximately 3.05 million square feet of nonresidential space.

**Figure C6: The Institute of Transportation Engineers, Employee and Building Area Ratios**

| ITE Code | Land Use / Size | Demand Unit | Wkdy Trip Ends Per Dmd Unit[1] | Wkdy Trip Ends Per Employee[1] | Emp Per Dmd Unit | Sq Ft Per Emp |
|---|---|---|---|---|---|---|
| **110** | **Light Industrial** | **1,000 Sq Ft** | **4.96** | **3.05** | **1.63** | **615** |
| 130 | Industrial Park | 1,000 Sq Ft | 3.37 | 2.91 | 1.16 | 864 |
| 140 | Manufacturing | 1,000 Sq Ft | 3.93 | 2.47 | 1.59 | 628 |
| 150 | Warehousing | 1,000 Sq Ft | 1.74 | 5.05 | 0.34 | 2,902 |
| 310 | Hotel | room | 8.36 | 14.34 | 0.58 | na |
| **520** | **Elementary School** | **1,000 Sq Ft** | **19.52** | **21.00** | **0.93** | **1,076** |
| 540 | Community College | student | 1.15 | 14.61 | 0.08 | na |
| 610 | Hospital | 1,000 Sq Ft | 10.72 | 3.79 | 2.83 | 354 |
| 620 | Nursing Home | bed | 3.06 | 2.91 | 1.05 | na |
| **710** | **General Office (average size)** | **1,000 Sq Ft** | **9.74** | **3.28** | **2.97** | **337** |
| 720 | Medical-Dental Office | 1,000 Sq Ft | 34.80 | 8.70 | 4.00 | 250 |
| 750 | Office Park | 1,000 Sq Ft | 11.07 | 3.54 | 3.13 | 320 |
| **820** | **Shopping Center (average size)** | **1,000 Sq Ft** | **37.75** | **16.11** | **2.34** | **427** |

1. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

## Employment and Nonresidential Floor Area Projections

Future employment growth and nonresidential development in San Luis are based on housing unit growth. To project employment, TischlerBise uses the 2015 jobs per housing unit ratio, 0.504, and applies that ratio to the housing unit projections shown in Figure C4. Based on the 2028 housing unit projection of 14,678 units and a jobs per housing unit ratio of 0.504, the 2028 employment projection equals 7,398 jobs.

To project growth in nonresidential square footage, TischlerBise applies the previously discussed square feet per employee factors to the projected increase in employment. The results of these calculations are shown in Figure C7. Over the next 10 years, San Luis is projected to gain 2,194 jobs and add an estimated 1.284 million square feet of nonresidential development.

**Figure C7: Nonresidential Development Projections**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| **Employment** | | | | | | | | |
| Industrial | 634 | 657 | 680 | 704 | 730 | 756 | 901 | **267** |
| Commercial | 1,226 | 1,270 | 1,315 | 1,362 | 1,411 | 1,462 | 1,743 | **517** |
| Institutional | 1,362 | 1,411 | 1,461 | 1,514 | 1,568 | 1,624 | 1,937 | **575** |
| Office & Other Service | 1,982 | 2,052 | 2,127 | 2,203 | 2,281 | 2,363 | 2,817 | **835** |
| Total Employment | 5,204 | 5,390 | 5,583 | 5,783 | 5,990 | 6,205 | 7,398 | **2,194** |
| **Nonresidential Floor Area (x1,000)** | | | | | | | | |
| Industrial | 390 | 404 | 418 | 433 | 449 | 465 | 554 | **164** |
| Commercial | 524 | 542 | 562 | 582 | 602 | 624 | 744 | **220** |
| Institutional | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 2,084 | **619** |
| Office & Other Service | 668 | 692 | 717 | 742 | 769 | 796 | 949 | **281** |
| Total Nonres. Floor Area | 3,047 | 3,156 | 3,269 | 3,386 | 3,507 | 3,632 | 4,331 | **1,284** |

## AVERAGE WEEKDAY VEHICLE TRIPS

Average Weekday Vehicle Trips are used as a measure of demand by land use. Vehicle trips are estimated using average weekday vehicle trip ends from the reference book, *Trip Generation, 10th Edition*, published by the ITE in 2017. A vehicle trip end represents a vehicle entering or exiting a development (as if a traffic counter were placed across a driveway).

### Trip Rate Adjustments

To calculate road development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the development impact fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

### Commuter Trip Adjustment

Residential development has a larger trip adjustment factor of 62 percent to account for commuters leaving San Luis for work. According to the 2009 National Household Travel Survey (see Table 30) weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure C8, the U.S. Census Bureau's OnTheMap web application indicates that 76 percent of resident workers traveled outside of San Luis for work in 2015. In combination, these factors (0.31 x 0.50 x 0.76 = 0.118) support the additional 12 percent allocation of trips to residential development.

**Figure C8: Commuter Trip Adjustment**

| Trip Adjustment Factor for Commuters[1] | |
|---|---|
| Employed Residents | 9,211 |
| Residents Living and Working in San Luis | 2,189 |
| Residents Commuting Outside San Luis for Work | 7,022 |
| **Percent Commuting out of San Luis** | **76%** |
| **Additional Production Trips[2]** | **12%** |
| **Residential Trip Adjustment Factor** | **62%** |

1. U.S. Census Bureau, OnTheMap Application (version 6.1.1) and LEHD Origin-Destination Employment Statistics, 2015.

2. According to the National Household Travel Survey (2009)*, published in December 2011 (see Table 30), home-based work trips are typically 30.99 percent of "production" trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, LED OnTheMap data from 2015 indicate that 76 percent of San Luis' workers travel outside the city for work. In combination, these factors (0.3099 x 0.50 x 0.76 = 0.12) account for 12 percent of additional production trips. The total adjustment factor for residential includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (12 percent of production trips) for a total of 62 percent.
*http://nhts.ornl.gov/publications.shtml ; Summary of Travel Trends - Table "Daily Travel Statistics by Weekday vs. Weekend"

## Adjustment for Pass-By Trips

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

## Estimated Residential Vehicle Trip Rates

As an alternative to simply using the national average trip generation rate for residential development, the ITE publishes regression curve formulas that may be used to derive custom trip generation rates, using local demographic data. Key independent variables needed for the analysis (i.e. vehicles available, housing units, households, and persons) are available from American Community Survey data. Shown in Figure C9, custom trip generation rates for San Luis vary slightly from the national averages. For example, single-family residential development is expected to generate 10.90 average weekday vehicle trip ends per dwelling – compared to the national average of 9.44 (ITE 210). Multi-family residential development is expected to generate 5.10 average weekday vehicle trip ends per dwelling, which is lower than the national average of 5.44 (ITE 221).

**Figure C9: Average Weekday Vehicle Trip Ends by Housing Type**

| | | Households by Structure Type[2] | | | |
|---|---|---|---|---|---|
| Tenure by Units in Structure | Vehicles Available[1] | Single-Family | Multi-Family | Total | Vehicles per HH by |
| Owner-Occupied | 12,533 | 5,873 | 27 | 5,900 | 2.12 |
| Renter-Occupied | 3,163 | 1,320 | 1,013 | 2,333 | 1.36 |
| Total | 15,696 | 7,193 | 1,040 | 8,233 | 1.91 |

| Units in Structure | Persons in Households[3] | Trip Ends[4] | Vehicles by Type of Unit | Trip Ends[5] | Average Trip Ends | Housing Units[6] | Trip Ends per Unit | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | San Luis | ITE[7] |
| Single-Family | 26,381 | 73,429 | 14,265 | 92,967 | 83,198 | 7,657 | 10.90 | 9.44 |
| Multi-Family | 2,522 | 5,694 | 1,431 | 5,931 | 5,813 | 1,133 | 5.10 | 5.44 |
| Total | 28,903 | 79,123 | 15,696 | 98,898 | 89,010 | 8,790 | 10.10 | |

1. Vehicles available by tenure from Table B25046, American Community Survey, 2012-2016 5-Year Estimates.
2. Households by tenure and units in structure from Table B25032, American Community Survey, 2012-2016 5-Year Estimates.
3. Total population in households from Table B25033, American Community Survey, 2012-2016 5-Year Estimates.
4. Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2017). For single-family housing (ITE 210), the fitted curve equation is EXP(0.89*LN(persons)+1.72). To approximate the average population of the ITE studies, persons were divided by 47 and the equation result multiplied by 47. For multi-family housing (ITE 221), the fitted curve equation is (2.29*persons)-81.02.
5. Vehicle trip ends based on vehicles available using formulas from Trip Generation (ITE 2017). For single-family housing (ITE 210), the fitted curve equation is EXP(0.99*LN(vehicles)+1.93). To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 55 and the equation result multiplied by 55. For multi-family housing (ITE 221), the fitted curve equation is (3.94*vehicles)+293.58.
6. Housing units from Table B25024, American Community Survey, 2012-2016 5-Year Estimates.
7. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

## Functional Population

TischlerBise recommends functional population to allocate the cost of certain facilities to residential and nonresidential development. As shown in Figure C10, functional population accounts for people living and working in a jurisdiction. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. It describes geographic patterns of jobs by their employment locations and residential locations as well as the connections between the two locations. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

Residents who do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in San Luis are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside San Luis are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data for San Luis, the cost allocation for residential development is 80 percent while nonresidential development accounts for 20 percent of the demand for municipal facilities.

**Figure C10: Functional Population**

| Demand Units in 2015 | | | | | |
|---|---|---|---|---|---|
| **Residential** | | | | Demand Hours/Day | Person Hours |
| | Population | 29,550 | | | |
| | Residents Not Working | | 20,339 | 20 | 406,780 |
| | Employed Residents | | 9,211 | | |
| | Employed in San Luis | | | 2,189 | 14 | 30,646 |
| | Employed outside San Luis | | | 7,022 | 14 | 98,308 |
| | | | | Residential Subtotal | | 535,734 |
| | | | | **Residential Share** | | **80%** |
| **Nonresidential** | | | | | |
| | Non-working Residents | | 20,339 | | 4 | 81,356 |
| | Jobs Located in San Luis | | 4,844 | | |
| | Residents Employed in San Luis | | | 2,189 | 10 | 21,890 |
| | Non-Resident Workers (inflow commuters) | | | 2,655 | 10 | 26,550 |
| | | | | Nonresidential Subtotal | | 129,796 |
| | | | | **Nonresidential Share** | | **20%** |
| | | | | Total | | 665,530 |

Source: U.S. Census Bureau, OnTheMap 6.5 Application and LEHD Origin-Destination Employment Statistics.

## DEVELOPMENT PROJECTIONS

Provided below is a summary of cumulative development projections used in the development fee study. Base year estimates for 2018 are used in the development impact fee calculations. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands.

**Figure C11: Development Projections Summary**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Increase |
| **Population** | | | | | | | | | | | | |
| Household | 33,969 | 35,187 | 36,447 | 37,753 | 39,102 | 40,503 | 41,954 | 43,454 | 45,010 | 46,623 | 48,291 | **14,322** |
| Group Quarters | 2,583 | 2,674 | 2,769 | 2,867 | 2,972 | 3,078 | 3,187 | 3,303 | 3,421 | 3,542 | 3,670 | **1,087** |
| Total Population | 36,552 | 37,861 | 39,216 | 40,620 | 42,074 | 43,581 | 45,141 | 46,757 | 48,431 | 50,165 | 51,961 | **15,409** |
| **Housing Units** | | | | | | | | | | | | |
| Single-Family | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 11,108 | 11,505 | 11,918 | 12,344 | 12,786 | **3,792** |
| Multi-Family | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,644 | 1,703 | 1,763 | 1,827 | 1,892 | **561** |
| Total Housing Units | 10,325 | 10,695 | 11,078 | 11,475 | 11,885 | 12,311 | 12,752 | 13,208 | 13,681 | 14,171 | 14,678 | **4,353** |

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Increase |
| **Employment** | | | | | | | | | | | | |
| Industrial | 634 | 657 | 680 | 704 | 730 | 756 | 783 | 811 | 840 | 870 | 901 | **267** |
| Commercial | 1,226 | 1,270 | 1,315 | 1,362 | 1,411 | 1,462 | 1,514 | 1,568 | 1,624 | 1,682 | 1,743 | **517** |
| Institutional | 1,362 | 1,411 | 1,461 | 1,514 | 1,568 | 1,624 | 1,682 | 1,743 | 1,805 | 1,870 | 1,937 | **575** |
| Office & Other Service | 1,982 | 2,052 | 2,127 | 2,203 | 2,281 | 2,363 | 2,448 | 2,535 | 2,626 | 2,720 | 2,817 | **835** |
| Total Employment | 5,204 | 5,390 | 5,583 | 5,783 | 5,990 | 6,205 | 6,427 | 6,657 | 6,895 | 7,142 | 7,398 | **2,194** |
| **Nonresidential Floor Area (x1,000)** | | | | | | | | | | | | |
| Industrial | 390 | 404 | 418 | 433 | 449 | 465 | 482 | 499 | 517 | 535 | 554 | **164** |
| Commercial | 524 | 542 | 562 | 582 | 602 | 624 | 646 | 670 | 693 | 718 | 744 | **220** |
| Institutional | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 1,810 | 1,875 | 1,942 | 2,012 | 2,084 | **619** |
| Office & Other Service | 668 | 692 | 717 | 742 | 769 | 796 | 825 | 854 | 885 | 917 | 949 | **281** |
| Total Nonres. Floor Area | 3,047 | 3,156 | 3,269 | 3,386 | 3,507 | 3,632 | 3,763 | 3,898 | 4,037 | 4,182 | 4,331 | **1,284** |

# APPENDIX D: LAND USE DEFINITIONS

## RESIDENTIAL DEVELOPMENT

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. San Luis will collect development fees from all new residential units. One-time development fees are determined by site capacity (i.e. number of residential units).

**Single-Unit:**

1. **Single-family detached** is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. **Single-family attached (townhouse)** is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.
3. **Mobile home** includes both occupied and vacant mobile homes, to which no permanent rooms have been added. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

**2+ Units:**

1. **2+ units (duplexes and apartments)** are units in structures containing two or more housing units, further categorized as units in structures with "2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments."
2. **Boat, RV, Van, Etc.** includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

## NONRESIDENTIAL DEVELOPMENT

The proposed general nonresidential development categories (defined below) can be used for all new construction within San Luis. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

**Commercial:** Establishments primarily selling merchandise, eating/drinking places, and entertainment uses. By way of example, *Commercial / Retail* includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters, hotels, and motels.

**Industrial:** Establishments primarily engaged in the production, transportation, or storage of goods. By way of example, *Industrial* includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.

**Institutional:** Establishments including public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, *Institutional* includes schools, universities, churches, daycare facilities, government buildings, and prisons.

**Office & Other Service:** Establishments providing management, administrative, professional, or business services; personal and health care services. By way of example, *Office and Other Services* includes banks, business offices, assisted living facilities, nursing homes, hospitals, medical offices, and veterinarian clinics.

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.E.**

**Meeting Date:** 07/24/2019

**Department Head:** Kay Macuil, City Attorney, Attorney's Office

**Submitted By:** Kay Macuil, City Attorney, Attorney's Office

Action Requested: Motion
Resolution

**ITEM:**

Discussion and possible action on any and all matters regarding Resolution No. 2086. A Resolution of the Mayor and City Council of the City of San Luis, Arizona, approving and adopting the Infrastructure Improvements Plan of the City of San Luis 2019. **(Jose A. Guzman, Director of Planning and Zoning; Monica Castro, Director of Finance)**

**SUMMARY:**

Under A.R.S. §9-463.05, this item is for City Council to consider approval and adoption or disapproval of the Infrastructure Improvements which are part of the attached Infrastructure Improvements Plan and Development Fee Report.

**RECOMMENDATION / SUGGESTED MOTION:**

**I MOVE TO APPROVE AND ADOPT RESOLUTION NO. 2086.**

N/A

**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | No |
| **CITY/STATE/FEDERAL FUNDS:** | N/A |
| **TOTAL:** | N/A |
| **BUDGETED AMOUNT:** | N/A |
| **AVAILABLE AMOUNT TO TRANSFER:** | N/A |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | N/A |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

There are no costs or revenue associated with this item. This is one of the steps in the process of updating the Development Impact Fees.
Under Arizona Revised Statute Section 9-463.05, no decision can be made on the fees until after the adoption of these Land Use Assumptions as well as the Infrastructure Improvement Plan and a Public Hearing to receive comment on the Development fees (scheduled for August 28, 2019, at 7:00 P.M.).

**Attachments**

Resolution No. 2086

iIIP

OFFICE OF THE
MAYOR
CITY OF SAN LUIS

# Resolution

**No. 2086**

**A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF SAN LUIS, ARIZONA, ADOPTING THE INFRASTRUCTURE IMPROVEMENTS PLAN OF THE CITY OF SAN LUIS 2019**

**BE IT RESOLVED** by the Mayor and City Council of the City of San Luis as follows:

**Section 1.** Pages 9 through 78 of the document titled "Draft Infrastructure Improvement Plan and Development Fee Report" dated December 19, 2018, by TischlerBise three (3) copies of which are on file in the Office of the City Clerk of the City of San Luis, which was made a public record of the City of San Luis, is incorporated by this reference as if fully set out in this resolution as the Infrastructure Improvements Plan of the City of San Luis 2019.

**PASSED, APPROVED and ADOPTED** by the Mayor and City Council of the City of San Luis, Yuma County, Arizona this ____ day of July, 2019.

_____
Gerardo Sanchez, Mayor

**ATTEST:**

_____
Sonia Cornelio, City Clerk

**APPROVED AS TO FORM:**

_____
Kay Marion Macuil, City Attorney

**DRAFT**

# Infrastructure Improvements Plan, and Development Fee Report

**Prepared for:**
**San Luis, Arizona**

**December 19, 2018**


TischlerBise
FISCAL | ECONOMIC | PLANNING

**4701 Sangamore Road**
**Suite S240**
**Bethesda, MD 20816**
**301.320.6900**
**www.TischlerBise.com**

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# EXECUTIVE SUMMARY

The City of San Luis, Arizona, contracted with TischlerBise to document land use assumptions, prepare the Infrastructure Improvements Plan (hereinafter referred to as the "IIP"), and update development fees within the San Luis Service Area pursuant to Arizona Revised Statutes ("ARS") § 9-436.05 (hereafter referred to as the "Enabling Legislation"). Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan and Land Use Assumptions. The IIP for each type of infrastructure is in the middle section of this document. The proposed development fees are displayed in the Development Fee Report in the next section.

Development fees are one-time payments used to construct system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements or debt service for growth-related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement, or correcting existing deficiencies.

This update of San Luis's Infrastructure Improvements Plan and associated update to its development fees includes the following necessary public services:

1. General Government Facilities
2. Fire Facilities
3. Parks Facilities
4. Police Facilities
5. Street Facilities
6. Water Facilities
7. Wastewater Facilities

This plan includes all necessary elements required to be in full compliance with SB 1525.

## ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION

The Enabling Legislation governs how development fees are calculated for municipalities in Arizona.

### Necessary Public Services

Under the requirements of the Enabling Legislation, development fees may only be used for construction, acquisition or expansion of public facilities that are necessary public services. "Necessary public service" means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, library, street, fire, police, and neighborhood parks and recreational. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

1. Development fees were pledged to repay debt service obligations related to the construction of the facility.
2. After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

## Infrastructure Improvements Plan

Development fees must be calculated pursuant to an IIP. For each necessary public service that is the subject of a development fee, by law, the IIP shall include the following seven elements:

1. A description of the existing necessary public services in the service area and the costs to update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.
2. An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
3. A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved Land Use Assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable.
4. A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.
5. The total number of projected service units necessitated by and attributable to new development in the service area based on the approved Land Use Assumptions and calculated pursuant to generally accepted engineering and planning criteria.
6. The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
7. A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved Land Use Assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

## Qualified Professionals

The IIP must be developed by qualified professionals using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education, or experience." TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure financing analyses, user fee/cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

## Conceptual Development Fee Calculation

In contrast to project-level improvements, development fees fund growth-related infrastructure that will benefit multiple development projects, or the entire service area (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the development fee formula is to determine infrastructure improvement units per service unit, typically called level-of-service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acres per thousand people. The third step in the development fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish a cost per acre for land acquisition and/ or park improvements.

## Evaluation of Credits/Offsets

Regardless of the methodology, a consideration of credits/offsets is integral to the development of a legally defensible development fee. There are two types of credits/offsets that should be addressed in development fee studies and ordinances. The first is a revenue credit/offset due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit/offset is integrated into the fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

# DEVELOPMENT FEE REPORT

## METHODOLOGY

Development fees for the necessary public services made necessary by new development must be based on the same level of service ("LOS") provided to existing development in the service area. There are three basic methodologies used to calculate development fees. They examine the past, present, and future status of infrastructure. The objective of evaluating these different methodologies is to determine the best measure of the demand created by new development for additional infrastructure capacity. Each method has advantages and disadvantages in a particular situation and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss basic methods for calculating development fees and how those methods can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion method documents current LOS standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

## DEVELOPMENT FEE COMPONENTS

Figure 1 summarizes service areas, methodology, and infrastructure cost components for each development fee. Because San Luis plans to provide a uniform level of service for all types of infrastructure included in this IIP, the service area for all fee components is the City of San Luis.

**Figure 1: Proposed Development Fee Service Areas, Methods, and Cost Components**

| Necessary Public Service | Service Area | Incremental Expansion | Plan-Based | Cost Recovery | Cost Allocation |
|---|---|---|---|---|---|
| Fire | Citywide | Apparatus, Communications Equipment | Fire Stations, Development Fee Report | N/A | Population, Jobs |
| General Government | Citywide | N/A | N/A | City Hall | Population, Jobs |
| Parks | Citywide | Community Park Land and Amenities, Neighborhood Park Amenities | Development Fee Report | N/A | Population, Jobs |
| Police | Citywide | Stations, Vehicles, Communications Equipment | Development Fee Report | N/A | Population, Vehicle Trips |
| Street | Citywide | Arterials | Development Fee Report | N/A | Vehicle Miles of Travel |
| Water | Citywide | N/A | Water Storage, Development Fee Report | Water Production | Gallons |
| Wastewater | Citywide | N/A | Wastewater Treatment, Development Fee Report | N/A | Gallons |

## PROPOSED DEVELOPMENT FEES

Development fees for residential development will be assessed per dwelling unit, based on the type of unit. Nonresidential development fees will be assessed per square foot of floor area (non-utility) or per meter (utility). Fees shown below represent the maximum allowable fees – development fees fund 100 percent of growth-related infrastructure.

San Luis may adopt fees that are less than the amounts shown; however, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital improvements, and/or a decrease in San Luis' LOS standards. All costs in the Development Fee Report are in current dollars with no assumed inflation rate over time. If cost estimates change significantly over time, development fees should be recalibrated.

**Figure 2: Proposed Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $562 | $308 | $753 | $446 | $1,709 | **$3,778** |
| Multi-Family | $363 | $199 | $487 | $288 | $799 | **$2,136** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $433 | $238 | $127 | $135 | $378 | **$1,311** |
| Commercial | $622 | $341 | $183 | $678 | $1,718 | **$3,542** |
| Institutional | $247 | $136 | $73 | $350 | $982 | **$1,788** |
| Office & Other Services | $789 | $433 | $232 | $265 | $743 | **$2,462** |

**Figure 3: Proposed Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $542 | $912 | **$1,454** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $542 | $912 | **$1,454** |
| 1.00 Displacement | $905 | $1,523 | **$2,428** |
| 1.50 Displacement | $1,804 | $3,036 | **$4,840** |
| 2.00 Compound | $2,888 | $4,860 | **$7,748** |
| 3.00 Compound | $5,781 | $9,729 | **$15,510** |
| 4.00 Compound | $9,031 | $15,200 | **$24,231** |
| 6.00 Compound | $18,058 | $30,391 | **$48,449** |
| 8.00 Compound | $28,893 | $48,628 | **$77,521** |

## CURRENT DEVELOPMENT FEES

San Luis's current development fees are displayed below in Figure 4 and Figure 5.

**Figure 4: Current Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $405 | $476 | $735 | $503 | $943 | **$3,062** |
| Multi-Family | $365 | $428 | $662 | $452 | $801 | **$2,708** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $163 | $461 | $320 | $177 | $336 | **$1,457** |
| Commercial | $659 | $399 | $277 | $716 | $1,231 | **$3,282** |
| Institutional | $238 | $196 | $136 | $259 | $492 | **$1,321** |
| Office & Other Services | $258 | $663 | $461 | $280 | $533 | **$2,195** |

**Figure 5: Current Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $0 | $1,634 | **$1,634** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $0 | $1,634 | **$1,634** |
| 1.00 Displacement | $0 | $2,721 | **$2,721** |
| 1.50 Displacement | $0 | $5,412 | **$5,412** |
| 2.00 Compound | $0 | $8,654 | **$8,654** |
| 3.00 Compound | $0 | $17,311 | **$17,311** |
| 4.00 Compound | $0 | $27,039 | **$27,039** |
| 6.00 Compound | $0 | $54,048 | **$54,048** |
| 8.00 Compound | $0 | $86,472 | **$86,472** |

## Difference Between Proposed and Current Development Fees

The differences between the proposed and current development fees are displayed below in Figure 6 and Figure 7.

**Figure 6: Difference Between Proposed and Current Non-Utility Development Fees**

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Single Family | $157 | ($168) | $18 | ($57) | $766 | **$716** |
| Multi-Family | ($2) | ($229) | ($175) | ($164) | ($2) | **($572)** |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | Fire | General Government | Parks | Police | Streets | Total |
| Industrial | $270 | ($223) | ($193) | ($42) | $42 | **($146)** |
| Commercial | ($37) | ($58) | ($94) | ($38) | $487 | **$260** |
| Institutional | $9 | ($60) | ($63) | $91 | $490 | **$467** |
| Office & Other Services | $531 | ($230) | ($229) | ($15) | $210 | **$267** |

**Figure 7: Difference Between Proposed and Current Utility Development Fees**

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Water | Wastewater | Total |
| Single Family | $542 | ($722) | **($180)** |

| Nonresidential Development | Development Fees per Meter | | |
|---|---|---|---|
| Meter Size (inches) | Water | Wastewater | Total |
| 0.75 Displacement | $542 | ($722) | **($180)** |
| 1.00 Displacement | $905 | ($1,198) | **($293)** |
| 1.50 Displacement | $1,804 | ($2,376) | **($572)** |
| 2.00 Compound | $2,888 | ($3,794) | **($906)** |
| 3.00 Compound | $5,781 | ($7,582) | **($1,801)** |
| 4.00 Compound | $9,031 | ($11,839) | **($2,808)** |
| 6.00 Compound | $18,058 | ($23,657) | **($5,599)** |
| 8.00 Compound | $28,893 | ($37,844) | **($8,951)** |

# FIRE FACILITIES IIP

ARS § 9-463.05 (T)(7)(f) defines the facilities and assets that can be included in the Fire Facilities IIP:

> *"Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training police and firefighters from more than one station or substation."*

The Fire Facilities IIP includes components for fire stations, apparatus, communications equipment, and the cost of preparing the Fire Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the apparatus and communications equipment components of the Fire Facilities IIP and Development Fees. A plan-based methodology is used for fire stations and the Development Fee Report.

## Service Area

San Luis's Fire Department strives to provide a uniform response time citywide, and its fire stations operate as an integrated network. Depending on the number and type of calls, apparatus can be dispatched citywide from any of the stations. As a result, the service area for the Fire Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Fire Facilities IIP and related Development Fee Report will allocate the cost of public services between residential and nonresidential based on functional population.

For certain infrastructure facilities TischlerBise often uses "functional population" to establish the relative demand for infrastructure from both residential and nonresidential development. As shown in the Appendix C, functional population accounts for people living and working in a jurisdiction. Residents who do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in San Luis are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside San Luis are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data, the most recent year available, the resulting proportionate share is 80 percent residential and 20 percent nonresidential.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Shown below, Figure F1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of employees per thousand square feet of floor area.

**Figure F1: Fire Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

### Fire Stations – Plan-Based

The City of San Luis plans to expand its current inventory of fire stations to serve existing and future development. Shown below in Figure F2, San Luis's existing fire station includes 14,466 square feet. To allocate the proportionate share of demand for fire stations to residential and nonresidential development, this analysis uses functional population. San Luis's existing level of service for residential development is 0.34069 square feet per person (14,466 square feet X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.55596 square feet per job (14,466 square feet X 20 percent nonresidential share / 5,204 jobs).

**Figure F2: Existing Fire Stations**

| Description | Square Feet |
|---|---|
| Fire Station #1 | 14,466 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 14,466 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Square Feet per Person | 0.34069 |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Square Feet per Job | 0.55596 |

## Fire Stations Planned Level of Service

San Luis plans to spend $2,500,000 to construct a 15,000-square-foot facility, Fire Station #2, by 2028 to serve all development in 2028. Upon completion of Fire Station #2, San Luis fire stations will include 29,466 square feet of floor area. To allocate the proportionate share of demand for fire stations to residential and nonresidential development, this analysis uses functional population. San Luis's planned (2028) level of service for residential development in 2028 is 0.48814 square feet per person (29,466 square feet X 80 percent residential share / 48,291 persons), and the planned (2028) nonresidential level of service in 2028 is 0.79659 square feet per job (29,466 square feet X 20 percent nonresidential share / 7,398 jobs). Since the planned level of service exceeds the existing level of service, San Luis will need to identify funding from sources other than development fees to pay for existing development's share of Fire Station #2 – a requirement of the Enabling Legislation to ensure future development receives the same level of service as existing development.

Based on San Luis Fire Department estimates for Fire Station #2, the cost is $167 per square foot ($2,500,000 / 15,000 square feet). The residential cost is $81.36 per person (0.48814 square feet per person X $167 per square foot) and the nonresidential cost is $132.77 per job (0.79659 square feet per job X $167 per square foot).

**Figure 8: Planned Fire Station Level of Service**

| Description | Square Feet | Total Cost |
|---|---|---|
| Fire Station #2 | 15,000 | $2,500,000 |

| Cost Allocation Factors | |
|---|---|
| Cost per Square Foot | $167 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 14,466 |
| Additional Square Feet | 15,000 |
| 2028 Square Feet | 29,466 |
| Residential | |
| Residential Share | 80% |
| 2028 Population | 48,291 |
| Square Feet per Person | 0.48814 |
| **Cost per Person** | **$81.36** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2028 Jobs | 7,398 |
| Square Feet per Job | 0.79659 |
| **Cost per Job** | **$132.77** |

Source: City of San Luis Fire Department.

## Fire Apparatus – Incremental Expansion

Development fees will be used to expand San Luis Fire Department's inventory of fire apparatus in order to serve future development. Figure F3 lists the current apparatus used by the San Luis Fire Department, and it includes 5 apparatus with a total replacement cost of approximately $2,865,000. The replacement cost per unit is $573,000 ($2,865,000 / 5 apparatus).

**Figure F3: Existing Fire Apparatus and Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Pumper | 2 | $765,000 | $1,530,000 |
| Ladder Truck | 1 | $1,000,000 | $1,000,000 |
| Rescue Vehicle | 1 | $85,000 | $85,000 |
| Special Ops Truck | 1 | $250,000 | $250,000 |
| Total | 5 | $573,000 | $2,865,000 |

## Fire Apparatus Level of Service

As previously discussed, functional population is used to allocate the proportionate share of demand to residential and nonresidential development. The existing LOS for residential development is 0.00012 apparatus per person (5 apparatus X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.00019 apparatus per job (5 apparatus X 20 percent nonresidential share / 5,204 jobs). For fire apparatus, the residential cost is $67.47 per person (0.00012 apparatus per person X $573,000 per apparatus), and the nonresidential cost is $110.11 (0.00019 units per job X $573,000 per apparatus).

**Figure 9: Existing Fire Apparatus Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Apparatus | 5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Apparatus per Person | 0.00012 |
| **Cost per Person** | **$67.47** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Apparatus per Job | 0.00019 |
| **Cost per Job** | **$110.11** |

Source: City of San Luis Fire Department.

## Communications Equipment – Incremental Expansion

Development fees will be used to expand San Luis Fire Department's inventory of communications equipment in order to serve future development. Figure F4 lists the current communications equipment used by the San Luis Fire Department, and it does not include communications equipment used by the San Luis Police Department. The existing inventory includes 45.5 units of communications equipment with a total replacement cost of $532,000. The replacement cost per unit is $11,692 ($532,000 / 45.5 units).

**Figure F4: Existing Communications Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Mobile Radios | 10.0 | $6,000 | $60,000 |
| Portable Radios | 30.0 | $5,000 | $150,000 |
| Console Radios | 5.0 | $29,000 | $145,000 |
| Communication Equipment | 0.5 | $354,000 | $177,000 |
| Total | 45.5 | $11,692 | $532,000 |

## Communications Equipment Level of Service

As previously discussed, functional population is used to allocate the proportionate share of demand to residential and nonresidential development. The existing LOS for residential development is 0.00107 units per person (45.5 units X 80 percent residential share / 33,969 persons), and the nonresidential level of service is 0.00175 units per job (45.5 units X 20 percent nonresidential share / 5,204 jobs). For communications equipment, the residential cost is $12.53 per person (0.00107 units per person X $11,692 per unit), and the nonresidential cost is $20.45 (0.00175 units per job X $11,692 per unit).

**Figure F5: Existing Communications Equipment Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Units | 45.5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00107 |
| **Cost per Person** | **$12.53** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Jobs | 5,204 |
| Units per Job | 0.00175 |
| **Cost per Job** | **$20.45** |

Source: City of San Luis Fire Department.

### IIP and Development Fee Report – Plan-Based

The cost to prepare the Fire Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $1.41 per person and $2.30 per job.

**Figure F6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The *Land Use Assumptions* document projects an additional 14,322 persons and 2,194 jobs over the next 10 years, as shown in Figure F7.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to construct approximately 8,700 square feet of fire stations, acquire approximately 2 fire apparatus, and acquire approximately 19 units of communications equipment to serve future development.

## Fire Stations

Shown in Figure F7, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the planned (2028) LOS, future development will demand 8,739 additional square feet of fire stations. Based on the average cost of $167 per square foot, the growth-related expenditure on fire stations is $1.5 million (8,739 square feet X $167 per square foot). Based on the planned (2028) LOS, San Luis should have 20,727 square feet of fire stations in the 2018 base year. Since San Luis has only 14,466 square feet of fire facilities, existing development will be required to fund 6,261 square feet of Fire Station #2. Therefore, existing development's share of Fire Station #2 is approximately $1.0 million (6,261 square feet X $167 per square foot).

**Figure F7: Projected Demand for Fire Stations**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Square Foot |
|---|---|---|---|
| Fire Stations | 0.48814 Square Feet | per Person | $167 |
| | 0.79659 Square Feet | per Job | |

| Need for Fire Stations | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Square Feet | Nonresidential Square Feet | Total Square Feet |
| 2018 | 33,969 | 5,204 | 16,582 | 4,145 | 20,727 |
| 2019 | 35,187 | 5,390 | 17,176 | 4,294 | 21,470 |
| 2020 | 36,447 | 5,583 | 17,791 | 4,447 | 22,239 |
| 2021 | 37,753 | 5,783 | 18,429 | 4,607 | 23,035 |
| 2022 | 39,102 | 5,990 | 19,087 | 4,772 | 23,859 |
| 2023 | 40,503 | 6,205 | 19,771 | 4,943 | 24,714 |
| 2024 | 41,954 | 6,427 | 20,479 | 5,120 | 25,599 |
| 2025 | 43,454 | 6,657 | 21,212 | 5,303 | 26,515 |
| 2026 | 45,010 | 6,895 | 21,971 | 5,493 | 27,464 |
| 2027 | 46,623 | 7,142 | 22,759 | 5,689 | 28,448 |
| 2028 | 48,291 | 7,398 | 23,573 | 5,893 | 29,466 |
| 10-Yr Increase | 14,322 | 2,194 | 6,991 | 1,748 | 8,739 |

| Growth-Related Expenditures | $1,165,192 | $291,288 | $1,456,480 |
|---|---|---|---|

## Fire Apparatus

Shown in Figure F8, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the 2018 LOS, future development will demand 2.1 additional apparatus. Based on the average cost of $573,000 per unit, the growth-related expenditure on apparatus is $1.2 million (2.1 units X $573,000).

**Figure F8: Projected Demand for Fire Apparatus**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Fire Apparatus | 0.00012 Apparatus | per Person | $573,000 |
| | 0.00019 Apparatus | per Job | |

| Need for Fire Apparatus | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Apparatus | Nonresidential Apparatus | Total Apparatus |
| 2018 | 33,969 | 5,204 | 4.0 | 1.0 | 5.0 |
| 2019 | 35,187 | 5,390 | 4.1 | 1.0 | 5.2 |
| 2020 | 36,447 | 5,583 | 4.3 | 1.1 | 5.4 |
| 2021 | 37,753 | 5,783 | 4.4 | 1.1 | 5.6 |
| 2022 | 39,102 | 5,990 | 4.6 | 1.2 | 5.8 |
| 2023 | 40,503 | 6,205 | 4.8 | 1.2 | 6.0 |
| 2024 | 41,954 | 6,427 | 4.9 | 1.2 | 6.2 |
| 2025 | 43,454 | 6,657 | 5.1 | 1.3 | 6.4 |
| 2026 | 45,010 | 6,895 | 5.3 | 1.3 | 6.6 |
| 2027 | 46,623 | 7,142 | 5.5 | 1.4 | 6.9 |
| 2028 | 48,291 | 7,398 | 5.7 | 1.4 | 7.1 |
| 10-Yr Increase | 14,322 | 2,194 | 1.7 | 0.4 | 2.1 |
| **Growth-Related Expenditures** | | | **$966,352** | **$241,576** | **$1,207,928** |

## Communications Equipment

Shown in Figure F9, San Luis' population is projected to increase by 14,322 persons by 2028, and employment is projected to increase by 2,194 jobs during the same period. Using the 2018 LOS, future development will demand 19.2 additional units of communications equipment. Based on the average cost of $11,692 per unit, the growth-related expenditure on communications equipment is $224,313 (19.2 units X $11,692).

**Figure F9: Projected Demand for Communications Equipment**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Communications Equipment | 0.00107 Units | per Person | $11,692 |
| | 0.00175 Units | per Job | |

| Need for Communications Equipment | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 5,204 | 36.4 | 9.1 | 45.5 |
| 2019 | 35,187 | 5,390 | 37.7 | 9.4 | 47.1 |
| 2020 | 36,447 | 5,583 | 39.1 | 9.8 | 48.8 |
| 2021 | 37,753 | 5,783 | 40.5 | 10.1 | 50.6 |
| 2022 | 39,102 | 5,990 | 41.9 | 10.5 | 52.4 |
| 2023 | 40,503 | 6,205 | 43.4 | 10.9 | 54.3 |
| 2024 | 41,954 | 6,427 | 45.0 | 11.2 | 56.2 |
| 2025 | 43,454 | 6,657 | 46.6 | 11.6 | 58.2 |
| 2026 | 45,010 | 6,895 | 48.2 | 12.1 | 60.3 |
| 2027 | 46,623 | 7,142 | 50.0 | 12.5 | 62.4 |
| 2028 | 48,291 | 7,398 | 51.7 | 12.9 | 64.7 |
| 10-Yr Increase | 14,322 | 2,194 | 15.4 | 3.8 | 19.2 |
| **Growth-Related Expenditures** | | | **$179,455** | **$44,858** | **$224,313** |

## Fire Facilities Development Fees

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Fire Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Fire Facilities Development Fees

Infrastructure components and cost factors for Fire Facilities are summarized in the upper portion of Figure F10. The cost per service unit is $162.77 per person and $265.62 per job. Figure F10 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Fire Facilities development fees for residential development are assessed according to the number of persons per housing unit. The single-family fee of $562 is calculated using a cost per service unit of $162.77 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are assessed according to the number of jobs per 1,000 square feet of floor area. The fee of $622 per 1,000 square feet of commercial development is derived from a cost per service unit of $265.62 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure F10: Schedule of Fire Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| Fire Station | $81.36 | $132.77 |
| Fire Apparatus | $67.47 | $110.11 |
| Communications Equipment | $12.53 | $20.45 |
| Development Fee Report | $1.41 | $2.30 |
| Total | $162.77 | $265.62 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Single Family | 3.45 | **$562** | $405 | $157 |
| Multi-Family | 2.23 | **$363** | $365 | ($2) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Industrial | 1.63 | **$433** | $163 | $270 |
| Commercial | 2.34 | **$622** | $659 | ($37) |
| Institutional | 0.93 | **$247** | $238 | $9 |
| Office & Other Services | 2.97 | **$789** | $258 | $531 |

1. See Land Use Assumptions
2. Fire share of current Public Safety Fees.

## PROJECTED FIRE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Fire Facilities Development Fee Revenue

Projected fee revenue shown in Figure F11 is based on the development projections in the *Land Use Assumptions* document and the updated Fire Facilities development fees. If development occurs faster than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.899 million over the next 10 years is approximately equal to the projected growth-related cost of fire infrastructure ($2.900 million). Existing development's share of Fire Station #2 is approximately $1.043 million and should be funded with revenue other than development fees.

**Figure F11: Projected Fire Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Fire Station | $1,456,479 | $1,043,521 | $2,500,000 |
| Fire Apparatus | $1,207,928 | $0 | $1,207,928 |
| Communications Equipment | $224,313 | $0 | $224,313 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $2,900,220 | $1,043,521 | $3,943,741 |

| | | Residential Units $536 per unit | Industrial $433 per 1,000 sq. ft. | Commercial $622 per 1,000 sq. ft. | Institutional $247 per 1,000 sq. ft. | Office & Other $789 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $2,320,110 | $70,672 | $136,095 | $152,188 | $220,633 |

| | |
|---|---|
| **Projected Fee Revenue** | **$2,899,697** |
| **Total Expenditures** | **$3,943,741** |
| **Existing Development Share** | **$1,044,044** |

## General Government Facilities IIP

ARS § 9-463.05 (T)(7)(h) defines the facilities and assets that can be included in the General Government Facilities IIP:

> *"any facility that was financed and that meets all of the requirements prescribed in Subsection R of this section."*

ARS § 9-463.05 (R) states:

> *"A municipality may continue to assess a development fee adopted before January 1, 2012 for any facility that was financed before June 1, 2011 if:*
>
> *1. Development fees were pledged to repay debt service obligations related to the construction of the facility.*
>
> *2. After August 1, 2014, any development fees collected under this subsection are used solely for the payment of principal and interest on the portion of the bonds, notes or other debt service obligations issued before June 1, 2011 to finance construction of the facility."*

The General Government Facilities IIP includes a component for facilities financed before June 1, 2011. San Luis issued bonds in 2005 to finance its City Hall and issued a bond in 2014 to refund the 2005 bond. The cost recovery method is used to repay future development's share of the remaining principal and interest.

### Service Area

San Luis provides a uniform level of service and equal access to City Hall within the city limits. As a result, the service area for the General Government Facilities IIP is citywide.

### Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The General Government Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on functional population. As shown in the *Land Use Assumptions* document, residential development generates 80 percent of demand and nonresidential development generates the remaining 20 percent of demand.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure GG1**Error! Reference source not found.** displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of jobs per thousand square feet of floor area.

**Figure GG1: General Government Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

### General Government Facilities – Cost Recovery

San Luis issued bonds to finance its City Hall in 2005 and issued a bond in 2014 to refund the 2005 debt, so the development fees will be used solely for the repayment of principal and interest. San Luis plans to retire the City Hall debt in 2038, and City Hall is projected to serve both existing and future development. Therefore, remaining principal and interest costs are allocated to total projected residential and nonresidential development in 2038. San Luis's population in 2038 is projected to be 68,649 persons of whom 33,969 are from existing development with the remaining 34,680 persons from future development. Total employment in 2038 is projected to be 10,516 jobs. Existing employment is estimated to equal 5,204 jobs, and the projected employment increase equals 5,312 jobs from future development. For both residential and nonresidential development, the growth share (future development's share) equals 50.5 percent of total development in 2038.

Based on remaining principal and interest of $7.67 million, the residential cost is $89.38 per person ($7,672,619 X 80 percent residential share X 50.5 percent growth share / 34,680 population increase) and the nonresidential cost is $145.88 per job ($7,672,619 X 20 percent nonresidential share X 50.5 percent growth share / 5,312 employment increase).

**Figure GG2: Planned Level of Service**

| Description | Year of Debt Obligation[1] | Year of Final Payment | Remaining Principal and Interest |
|---|---|---|---|
| 2014 Series Bond (City Hall Share) | 2014 | 2038 | $ 7,672,619 |

| Development Type | Proportionate Share | Proportionate Cost | Growth Share[2] | Growth Cost | 2018 - 2038 Demand Unit Increase | | Cost per Demand Unit | |
|---|---|---|---|---|---|---|---|---|
| Residential | 80% | $6,138,095 | 50.5% | $3,099,738 | 34,680 | persons | **$89.38** | **per person** |
| Nonresidential | 20% | $1,534,524 | 50.5% | $774,934 | 5,312 | jobs | **$145.88** | **per job** |
| Total | | $7,672,619 | 50.5% | $3,874,672 | | | | |

1. Original debt issued in 2005. Refunding bond issued in 2014.

2. Residential Growth Share (50.5%) is 1 - (33,969 residents in 2018/ 68,649 residents in 2038). Nonresidential Growth Share (50.5%) is 1 - (5,204 jobs in 2018/ 10,516 jobs in 2038).

## PROJECTED DEMAND FOR SERVICES AND COSTS

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

As shown in the *Land Use Assumptions* document, population is expected to increase by an additional 34,680 persons and employment is expected to increase by 5,312 jobs over the next 20 years.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

## General Government Facilities Development Fees

### Revenue Credit/Offset

A revenue credit/offset is not necessary for General Government Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected General Government Facilities Development Fees

Infrastructure components and cost factors for General Government Facilities are summarized in the upper portion of Figure GG3. The cost per service unit for General Government Facilities is $89.38 per person and $145.88 per job. Figure GG3 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

General Government Facilities development fees for residential development are assessed according to the number of persons per housing unit. The single-family fee of $308 is calculated using a cost per service unit of $89.38 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are assessed using jobs as the service unit. The fee of $341 per 1,000 square feet of commercial development is derived from a cost per service unit of $145.88 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure GG3: Schedule of General Government Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| City Hall Debt | $89.38 | $145.88 |
| Total | $89.38 | $145.88 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 3.45 | **$308** | $476 | ($168) |
| Multi-Family | 2.23 | **$199** | $428 | ($229) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 1.63 | **$238** | $461 | ($223) |
| Commercial | 2.34 | **$341** | $399 | ($58) |
| Institutional | 0.93 | **$136** | $196 | ($60) |
| Office & Other Services | 2.97 | **$433** | $663 | ($230) |

1. See Land Use Assumptions

## PROJECTED GENERAL GOVERNMENT FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS § 9-463.05(E)(7)).

In accordance with state law, this report includes an IIP for General Government Facilities needed to accommodate new development. Projected fee revenue shown in Figure GG4 is based on the development projections in the *Land Use Assumptions* document and the updated development fees for General Government Facilities. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease, along with development fee revenue. Anticipated 10-year development fee revenue of $1.60 million is approximately equal to the projected growth-related cost of City Hall debt ($1.60 million) during the next 10 years. Existing development's share will need to be funded with other sources of revenue.

**Figure GG4: Projected General Government Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| City Hall Debt | $3,874,672 | $3,797,947 | $7,672,619 |
| Total | $3,874,672 | $3,797,947 | $7,672,619 |

| Year | | Residential Units $294 per unit | Industrial $238 per 1,000 sq. ft. | Commercial $341 per 1,000 sq. ft. | Institutional $136 per 1,000 sq. ft. | Office & Other $433 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Year Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $1,280,044 | $38,997 | $75,099 | $83,979 | $121,747 |

| | |
|---|---|
| **Projected Fee Revenue** | **$1,599,866** |
| **Total Expenditures** | **$7,672,619** |

# PARKS FACILITIES IIP

ARS § 9-463.05 (T)(7)(g) defines the facilities and assets that can be included in the Parks Facilities IIP:

> *"Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

The Parks Facilities IIP includes components for community park land, community park amenities, neighborhood park amenities, and the cost of preparing the Parks Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the community park land, community park amenities, and neighborhood park amenities components. A plan-based methodology is used for the Development Fee Report.

## Service Area

San Luis plans to provide a uniform level of service and equal access to parks and recreational facilities within the city limits. The parks and recreation programs are structured and provided to make full use of San Luis' total inventory of facilities. As a result, the service area for the Parks Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Parks Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on daytime population. According to the U.S. Census Bureau's OnTheMap web application, there were 2,655 inflow commuters traveling to San Luis for work in 2015. The proportionate share is based on cumulative impact days per year with residents potentially impacting parks and recreational facilities 365 days per year. Inflow commuters potentially impact park and recreational facilities 250 days per year, assuming 5 workdays per week multiplied by 50 weeks per year. For parks and recreational facilities, residential development generates 95 percent of demand and nonresidential development generates the remaining five percent of demand.

**Figure PR1: Daytime Population**

| Land Use | Population / Inflow Commuters[1] | Annual Impact Days per Capita[2] | Cumulative Annual Impact Days | Proportionate Share |
|---|---|---|---|---|
| Residential | 33,969 | 365 | 12,398,685 | 95% |
| Nonresidential | 2,655 | 250 | 663,750 | 5% |

1. Inflow commuters from Inflow/ Outflow Analysis, OnTheMap Web Application 6.5, U.S. Census Bureau.

2. Residential: 365 Days per Year, Nonresidential: 5 Days per Week x 50 Weeks per Year

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure PR2 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of jobs per thousand square feet of floor area.

**Figure PR2: Parks Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Jobs per 1,000 Sq Ft[1]** |
| Industrial | 1.63 |
| Commercial | 2.34 |
| Institutional | 0.93 |
| Office & Other Services | 2.97 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Community Park Land – Incremental Expansion

San Luis plans to maintain its current LOS for community park land over the next 10 years. Shown below in Figure PR3, San Luis' existing community parks include 33.1 acres of land. The definition of necessary public services for parks and recreational facilities includes parks or facilities on real property up to 30 acres in area, or parks and facilities larger than 30 acres if the facilities provide a direct benefit to the development. All of San Luis' community parks are less than 30 acres.

**Figure PR3: Existing Community Park Land**

| Description | Acres |
|---|---|
| Friendship Park | 6.5 |
| Joe Cabello Park | 3.1 |
| Joe Orduño Park | 16.7 |
| Moctezuma Park | 6.8 |
| Total | 33.1 |

## Community Park Land Level of Service

To allocate the proportionate share of demand for developed park land to residential and nonresidential development, this analysis uses daytime population shown in Figure PR1. San Luis' existing LOS for residential development is approximately 0.00092 acres of community park land per person (33.1 acres of community park land X 95 percent residential share / 33,969 persons). For nonresidential development, the existing LOS is approximately 0.00032 acres of community park land per job (33.1 acres of community park land X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR4, San Luis plans to spend $2.2 million to acquire 30 acres of community park land, therefore, this analysis uses $73,333 per acre of community park land. The residential cost of community park land is $67.83 per person (0.00092 acres of community park land per person X $73,333 per acre of community park land) and the nonresidential cost of community park land is $23.70 per job (0.00032 acres of community park land per job X $73,333 per acre of community park land).

**Figure PR4: Existing Community Park Land Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Land Acquisition[1] | $73,333 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Total Acres | 33.1 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Total Acres per Person | 0.00092 |
| **Cost per Person** | **$67.83** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Total Acres per Job | 0.00032 |
| **Cost per Job** | **$23.70** |

| Description | Acres[1] | Cost per Acre | Total Cost[1] |
|---|---|---|---|
| Land | 30 | $73,333 | $2,200,000 |
| Amenities | 30 | $92,167 | $2,765,000 |
| Total | 30 | $165,500 | $4,965,000 |

1. City of San Luis Parks and Recreation Department

## Community Park Amenities – Incremental Expansion

San Luis will use development fees to expand its inventory of community park amenities. The current inventory of community park amenities, shown below in Figure PR5, includes 33.1 acres of amenities.

**Figure PR5: Existing Community Park Amenities**

| Description | Acres |
|---|---|
| Friendship Park | 6.5 |
| Joe Cabello Park | 3.1 |
| Joe Orduño Park | 16.7 |
| Moctezuma Park | 6.8 |
| Total | 33.1 |

## Community Park Amenities Level of Service

As previously discussed, daytime population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing community park amenity level of service for residential development is 0.00092 acres of amenities per person (33.1 acres of amenities X 95 percent residential share / 33,969 persons). The nonresidential level of service is 0.00032 acres of amenities per job (33.1 acres of amenities X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR6, San Luis plans to spend $2.765 million to construct amenities on 30 acres of community park land, therefore, this analysis uses $92,167 per acre of community park amenities. The community park amenities cost for residential development is $85.25 per person (0.00092 acres of amenities per person X $92,167 per acre of amenities). The community park amenities cost for nonresidential development is $29.79 per job (0.00032 acres of amenities per job X $92,167 per amenity).

**Figure PR6: Existing Community Park Amenities Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Amenities[1] | $92,167 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Developed Acres | 33.1 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Developed Acres per Person | 0.00092 |
| **Cost per Person** | **$85.25** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Developed Acres per Job | 0.00032 |
| **Cost per Job** | **$29.79** |

**Cost Basis from Planned Community / Regional Park**

| Description | Acres[1] | Cost per Acre | Total Cost[1] |
|---|---|---|---|
| Land | 30 | $73,333 | $2,200,000 |
| Amenities | 30 | $92,167 | $2,765,000 |
| Total | 30 | $165,500 | $4,965,000 |

1. City of San Luis Parks and Recreation Department

## Neighborhood Park Amenities – Incremental Expansion

San Luis will use development fees to expand its inventory of neighborhood park amenities. Since San Luis receives most land for neighborhood parks through land dedications for storm drainage, this analysis excludes the cost of land acquisition for neighborhood parks. The current inventory of neighborhood park amenities includes 28 amenities with a replacement cost of $2.28 million. Neighborhood park amenities are distributed across 36.4 acres of neighborhood park land; therefore, neighborhood park amenities cost $62,637 per acre ($2,280,000 replacement cost / 36.4 acres of neighborhood park land).

**Figure PR7: Existing Neighborhood Park Amenities**

| Description | Units[1] | Unit Cost | Replacement Cost[1] |
|---|---|---|---|
| Playground | 26 | $80,000 | $2,080,000 |
| Skate Park | 2 | $100,000 | $200,000 |
| Total | 28 | $81,429 | $2,280,000 |

| Cost Allocation Factors | |
|---|---|
| Replacement Cost | $2,280,000 |
| Acres of Amenities[1] | 36.4 |
| Cost per Acre - Amenities | $62,637 |

1. City of San Luis Parks and Recreation Department

## Community Park Amenities Level of Service

As previously discussed, daytime population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing neighborhood park amenity level of service for residential development is 0.00102 acres of amenities per person (36.4 acres of amenities X 95 percent residential share / 33,969 persons). The nonresidential level of service is 0.00036 acres of amenities per job (36.4 acres of amenities X 5 percent nonresidential share / 5,204 jobs).

Shown in Figure PR7, San Luis spends $62,637 per acre for neighborhood park amenities. The neighborhood park amenities cost for residential development is $63.71 per person (0.00102 acres of amenities per person X $62,637 per acre of amenities). The neighborhood park amenities cost for nonresidential development is $22.26 per job (0.00036 acres of amenities per job X $62,637 per amenity).

**Figure PR8: Existing Neighborhood Park Amenities Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Acre - Land Acquisition | $0 |
| Cost per Acre - Amenities[1] | $62,637 |
| Total Cost per Acre | $62,637 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Developed Acres | 36.4 |
| Residential | |
| Residential Share | 95% |
| 2018 Population | 33,969 |
| Developed Acres per Person | 0.00102 |
| **Cost per Person** | **$63.71** |
| Nonresidential | |
| Nonresidential Share | 5% |
| 2018 Jobs | 5,204 |
| Developed Acres per Job | 0.00036 |
| **Cost per Job** | **$22.26** |

1. City of San Luis Parks and Recreation Department

## Development Fee Report – Plan-Based

The cost to prepare the Parks Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new development from the *Land Use Assumptions* document, the cost is $1.41 per person and $2.30 per job.

**Figure PR9: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## PROJECTED DEMAND FOR SERVICES AND COSTS

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The *Land Use Assumptions* document projects an additional 14,322 persons and 2,194 jobs over the next 10 years, as shown in Figure PR10.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to acquire and construct approximately 14 acres of community park land and amenities, and construct approximately 15 acres of neighborhood park amenities to serve future development.

## Community Park Land

San Luis plans to maintain its current community park land level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 13.2 additional acres of community park land (14,322 additional persons X 0.00092 acres per person). Future nonresidential development demands 0.7 additional acres of community park land (2,194 additional jobs X 0.00032 acres per job) over the next 10 years. Future development demands 13.9 additional acres of community park land over the next 10 years at a cost of approximately $1.0 million.

**Figure PR10: Projected Demand for Community Park Land**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Community Park Land | 0.00092 Acres | per Person | $73,333 |
| | 0.00032 Acres | per Job | |

| Need for Community Parks | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 31.4 | 1.7 | 33.1 |
| 2,019 | 35,187 | 5,390 | 32.5 | 1.7 | 34.3 |
| 2,020 | 36,447 | 5,583 | 33.7 | 1.8 | 35.5 |
| 2,021 | 37,753 | 5,783 | 34.9 | 1.9 | 36.8 |
| 2,022 | 39,102 | 5,990 | 36.2 | 1.9 | 38.1 |
| 2,023 | 40,503 | 6,205 | 37.5 | 2.0 | 39.5 |
| 2,024 | 41,954 | 6,427 | 38.8 | 2.1 | 40.9 |
| 2,025 | 43,454 | 6,657 | 40.2 | 2.2 | 42.3 |
| 2,026 | 45,010 | 6,895 | 41.6 | 2.2 | 43.9 |
| 2,027 | 46,623 | 7,142 | 43.1 | 2.3 | 45.4 |
| 2,028 | 48,291 | 7,398 | 44.7 | 2.4 | 47.1 |
| 10-Yr Increase | 14,322 | 2,194 | 13.2 | 0.7 | 13.9 |

| | | | |
|---|---|---|---|
| **Growth-Related Expenditures** | **$971,461** | **$51,998** | **$1,023,459** |

## Community Park Amenities

San Luis also plans to maintain its current community park amenities level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 13.2 additional acres of community park amenities (14,322 additional persons X 0.00092 acres of amenities per person). Future nonresidential development demands 0.7 additional acres of community park amenities (2,194 additional jobs X 0.00032 acres of park amenities per job) over the next 10 years. Future development demands 13.9 additional acres of community park amenities over the next 10 years at a cost of approximately $1.3 million.

**Figure PR11: Projected Demand for Community Park Amenities**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Community Park Amenities | 0.00092 Developed Acres | per Person | $92,167 |
| | 0.00032 Developed Acres | per Job | |

| Need for Community Park Amenities | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 31.4 | 1.7 | 33.1 |
| 2,019 | 35,187 | 5,390 | 32.5 | 1.7 | 34.3 |
| 2,020 | 36,447 | 5,583 | 33.7 | 1.8 | 35.5 |
| 2,021 | 37,753 | 5,783 | 34.9 | 1.9 | 36.8 |
| 2,022 | 39,102 | 5,990 | 36.2 | 1.9 | 38.1 |
| 2,023 | 40,503 | 6,205 | 37.5 | 2.0 | 39.5 |
| 2,024 | 41,954 | 6,427 | 38.8 | 2.1 | 40.9 |
| 2,025 | 43,454 | 6,657 | 40.2 | 2.2 | 42.3 |
| 2,026 | 45,010 | 6,895 | 41.6 | 2.2 | 43.9 |
| 2,027 | 46,623 | 7,142 | 43.1 | 2.3 | 45.4 |
| 2,028 | 48,291 | 7,398 | 44.7 | 2.4 | 47.1 |
| 10-Yr Increase | 14,322 | 2,194 | 13.2 | 0.7 | 13.9 |

| | | | |
|---|---|---|---|
| **Growth-Related Expenditures** | **$1,220,951** | **$65,359** | **$1,286,310** |

## Neighborhood Park Amenities

San Luis also plans to maintain its current neighborhood park amenities level of service over the next 10 years. Based on a projected population increase of 14,322 persons, San Luis's future residential development demands 14.6 additional acres of neighborhood park amenities (14,322 additional persons X 0.00102 acres of amenities per person). Future nonresidential development demands 0.8 additional acres of neighborhood park amenities (2,194 additional jobs X 0.00036 acres of park amenities per job) over the next 10 years. Future development demands 15.4 additional acres of neighborhood park amenities over the next 10 years at a cost of approximately $961,000.

**Figure PR12: Projected Demand for Neighborhood Park Amenities**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Acre |
|---|---|---|---|
| Neighborhood Park Amenities | 0.00102 Developed Acres | per Person | $62,637 |
| | 0.00036 Developed Acres | per Job | |

| Need for Neighborhood Park Amenities | | | | | |
|---|---|---|---|---|---|
| Year | Population | Jobs | Residential Acres | Nonresidential Acres | Total Acres |
| 2,018 | 33,969 | 5,204 | 34.6 | 1.8 | 36.4 |
| 2,019 | 35,187 | 5,390 | 35.8 | 1.9 | 37.7 |
| 2,020 | 36,447 | 5,583 | 37.1 | 2.0 | 39.1 |
| 2,021 | 37,753 | 5,783 | 38.4 | 2.1 | 40.5 |
| 2,022 | 39,102 | 5,990 | 39.8 | 2.1 | 41.9 |
| 2,023 | 40,503 | 6,205 | 41.2 | 2.2 | 43.4 |
| 2,024 | 41,954 | 6,427 | 42.7 | 2.3 | 45.0 |
| 2,025 | 43,454 | 6,657 | 44.2 | 2.4 | 46.6 |
| 2,026 | 45,010 | 6,895 | 45.8 | 2.5 | 48.2 |
| 2,027 | 46,623 | 7,142 | 47.4 | 2.5 | 50.0 |
| 2,028 | 48,291 | 7,398 | 49.1 | 2.6 | 51.7 |
| 10-Yr Increase | 14,322 | 2,194 | 14.6 | 0.8 | 15.4 |
| **Growth-Related Expenditures** | | | **$912,455** | **$48,838** | **$961,293** |

## PARKS FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Parks Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Parks Facilities Development Fees

Infrastructure components and cost factors for Parks Facilities are summarized in the upper portion of Figure PR13. The cost per service unit for Parks Facilities is $218.20 per person and $78.05 per job. Figure PR13 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Parks Facilities development fees for residential development are assessed according to the number of persons per housing unit. For example, the single-family fee of $753 is calculated using a cost per service unit of $218.20 per person multiplied by a demand unit of 3.45 persons per housing unit.

Nonresidential development fees are calculated using jobs as the service unit. The fee of $183 per 1,000 square feet of commercial development is derived from a cost per service unit of $78.05 per job multiplied by a demand unit of 2.34 jobs per 1,000 square feet.

**Figure PR13: Schedule of Parks Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Job |
|---|---|---|
| Community Park Land | $67.83 | $23.70 |
| Community Park Amenities | $85.25 | $29.79 |
| Neighborhood Park Amenities | $63.71 | $22.26 |
| Development Fee Report | $1.41 | $2.30 |
| Total | $218.20 | $78.05 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 3.45 | **$753** | $735 | $18 |
| Multi-Family | 2.23 | **$487** | $662 | ($175) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | |
|---|---|---|---|---|
| Land Use | Jobs per 1,000 Sq Ft[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 1.63 | **$127** | $320 | ($193) |
| Commercial | 2.34 | **$183** | $277 | ($94) |
| Institutional | 0.93 | **$73** | $136 | ($63) |
| Office & Other Service | 2.97 | **$232** | $461 | ($229) |

1. See Land Use Assumptions

## PROJECTED PARKS FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

In accordance with state law, this report includes an IIP for Parks Facilities needed to accommodate new development. Projected fee revenue shown in Figure PR14 is based on the development projections in the *Land Use Assumptions* document and the updated development fees for Parks Facilities. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease, along with development fee revenue. Anticipated development fee revenue of $3.3 million is approximately equal to the projected growth-related cost of parks facilities ($3.3 million).

**Figure PR14: Projected Parks Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Community Park Land | $1,023,459 | $0 | $1,023,459 |
| Community Park Amenities | $1,286,310 | $0 | $1,286,310 |
| Neighborhood Park Amenities | $961,293 | $0 | $961,293 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $3,282,562 | $0 | $3,282,562 |

| | | Residential Units $718 per unit | Industrial $127 per 1,000 sq. ft. | Commercial $183 per 1,000 sq. ft. | Institutional $73 per 1,000 sq. ft. | Office & Other $232 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $3,113,943 | $20,531 | $39,534 | $44,210 | $64,093 |

| | |
|---|---|
| **Projected Fee Revenue** | **$3,282,311** |
| **Total Expenditures** | **$3,282,562** |

# POLICE FACILITIES IIP

ARS § 9-463.05 (T)(7)(f) defines the facilities and assets that can be included in the Police Facilities IIP:

> *"Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training firefighters or officers from more than one station or substation."*

The Police Facilities IIP includes components for police stations, vehicles, communications equipment, and the cost of preparing the Police Facilities IIP and related Development Fee Report. The incremental expansion methodology, based on the current level of service, is used to calculate the components for stations, vehicles, and communications equipment. A plan-based methodology is used for the Development Fee Report.

## Service Area

San Luis's Police Department strives to provide a uniform response time citywide. As a result, the service area for the Police Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Police Facilities IIP and development fees are assessed on both residential and nonresidential development based on functional population shown in the *Land Use Assumptions* document. Based on 2015 functional population data, residential development accounts for approximately 80 percent of demand for police services and nonresidential development is responsible for the remaining 20 percent.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure P1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays the persons per housing unit. For nonresidential development the table displays the number of vehicle trips generated per thousand square feet of floor area.

**Figure P1: Police Facilities Ratio of Service Unit to Development Unit**

| Residential Development | |
|---|---|
| **Land Use** | **Persons per Housing Unit[1]** |
| Single Family | 3.45 |
| Multi-Family | 2.23 |

| Nonresidential Development | |
|---|---|
| **Land Use** | **Avg Wkdy Veh Trips[1]** |
| Industrial | 2.48 |
| Commercial | 12.46 |
| Institutional | 6.44 |
| Office & Other Service | 4.87 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Police Stations – Incremental Expansion

San Luis plans to use development fees to expand its current inventory of police stations to serve future development. Shown below in Figure P2, San Luis' existing police station includes 19,856 square feet. This is San Luis's only police station, and a substation will be needed as the east side of San Luis becomes more developed.

**Figure P2: Existing Police Stations**

| Description | Square Feet |
|---|---|
| Police Station #1 | 19,856 |
| Total | 19,856 |

## Police Station Level of Service

Functional population provides the proportionate share of demand for police stations from residential and nonresidential development. San Luis' existing level of service for residential development is 0.46763 square feet per person (19,856 square feet X 80 percent residential share / 33,696 persons). The nonresidential level of service is 0.19674 square feet per vehicle trip (19,856 square feet X 20 percent nonresidential share / 20,185 vehicle trips). Using estimates for the planned police substation, the cost is $167 per square foot ($1,118,900 / 6,700 square feet). The residential cost is $78.09 per person (0.46763 square feet per person X $167 per square foot), and the nonresidential cost is $32.86 per vehicle trip (0.19674 square feet per vehicle trip X $167 per square foot).

**Figure P3: Existing Police Station Level of Service**

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Square Feet | 19,856 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Square Feet per Person | 0.46763 |
| **Cost per Person** | **$78.09** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Square Feet per Vehicle Trip | 0.19674 |
| **Cost per Vehicle Trip** | **$32.86** |

**Cost Basis from Planned Stations**

| Description | Square Feet[1] | Total Cost[1] |
|---|---|---|
| New Substation | 6,700 | $1,118,900 |

1. City of San Luis Police Department.

## Police Vehicles – Incremental Expansion

Development fees will be used to expand San Luis' inventory of police vehicles. Figure P4 lists the current vehicles used by San Luis's Police Department – 37 vehicles representing a replacement cost of approximately $1.58 million.

**Figure P4: Existing Police Vehicles**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Patrol Vehicles | 25 | $48,000 | $1,200,000 |
| Motor Unit Vehicles | 4 | $32,000 | $128,000 |
| K-9 Vehicles | 2 | $37,000 | $74,000 |
| Detective Vehicles | 4 | $27,000 | $108,000 |
| Command Staff Vehicles | 2 | $37,000 | $74,000 |
| Total | 37 | $42,811 | $1,584,000 |

## Police Vehicle Level of Service

Functional population is used to allocate the proportionate share of demand to residential and nonresidential development. San Luis' existing level of service for residential development is 0.00087 vehicles per person (37 vehicles X 80 percent residential share / 33,969 persons). The nonresidential level of service is 0.00037 vehicles per vehicle trip (37 vehicles X 20 percent nonresidential share / 20,185 vehicle trips). The residential cost is $37.30 per person ($42,811 per vehicle X 0.00087 vehicles per person), and the nonresidential cost is $15.69 per vehicle trip ($42,811 per vehicle X 0.00037 vehicles per vehicle trip).

**Figure P5: Existing Police Vehicle Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Vehicle | $42,811 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Vehicles | 37 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00087 |
| **Cost per Person** | **$37.30** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Units per Vehicle Trip | 0.00037 |
| **Cost per Vehicle Trip** | **$15.69** |

Source: City of San Luis Police Department.

## Communications Equipment – Incremental Expansion

Development fees will be used to expand San Luis' inventory of communications equipment. Figure P6 lists the current communications equipment used by San Luis' Police Department and does not include communications equipment used by San Luis' Fire Department. San Luis currently has 43.5 units of communications equipment representing a replacement cost of $531,000 ($12,207 per unit).

**Figure P6: Existing Communications Equipment**

| Description | Units | Unit Cost | Replacement Cost |
|---|---|---|---|
| Mobile Radios | 12.0 | $5,000 | $60,000 |
| Portable Radios | 25.0 | $5,000 | $125,000 |
| Radio Console 5000 | 2.0 | $29,000 | $58,000 |
| Digital Video Recorders | 3.0 | $23,000 | $69,000 |
| Radio Console 7500 | 1.0 | $42,000 | $42,000 |
| Communication Equipment | 0.5 | $354,000 | $177,000 |
| Total | 43.5 | $12,207 | $531,000 |

## Communications Equipment Level of Service

Communications equipment costs are allocated according to functional population – 80 percent to residential development and 20 percent to nonresidential development. San Luis' existing level of service for residential development is 0.00102 units per person (43.5 units X 80 percent residential share / 33,969 persons). The nonresidential level of service is 0.00043 units per vehicle trip (43.5 units X 20 percent nonresidential share / 20,185 vehicle trips). The residential cost is $12.51 per person ($12,207 per unit X 0.00102 units per person), and the nonresidential cost is $5.26 per vehicle trip ($12,207 per unit X 0.00043 units per vehicle trip).

**Figure P7: Existing Communications Equipment Level of Service**

| Cost Allocation Factors | |
|---|---|
| Cost per Unit | $12,207 |

| Level-of-Service (LOS) Standards | |
|---|---|
| Existing Units | 43.5 |
| Residential | |
| Residential Share | 80% |
| 2018 Population | 33,969 |
| Units per Person | 0.00102 |
| **Cost per Person** | **$12.51** |
| Nonresidential | |
| Nonresidential Share | 20% |
| 2018 Vehicle Trips | 20,185 |
| Units per Vehicle Trip | 0.00043 |
| **Cost per Vehicle Trip** | **$5.26** |

Source: City of San Luis Police Department.

## Development Fee Report – Plan-Based

The cost to prepare the Police Facilities IIP and related Development Fee Report totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $1.41 per person and $0.59 per vehicle trip.

**Figure P8: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

## Projected Service Units and Projected Demand for Services

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

As shown in the *Land Use Assumptions* document, San Luis expects an additional 14,322 persons and 8,503 nonresidential vehicle trips over the next 10 years.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Based on projected residential and nonresidential development over the next 10 years, and the level-of-service analysis discussed in this section, San Luis needs to construct approximately 8,400 square feet of police facilities, acquire approximately 16 additional vehicles, and acquire approximately 18 additional units of communications equipment to serve future development.

## Police Stations

Over the next 10 years, San Luis' population is projected to increase by 14,322 persons and nonresidential vehicle trips are projected to increase by 8,503. Using the 2018 LOS standards shown at the top of Figure P9, future residential development generates demand for 6,697 additional square feet of police stations (0.46763 square feet per person X 14,322 additional persons), and future nonresidential development generates demand for 1,673 additional square feet of police stations (0.19674 square feet per vehicle trip X 8,053 additional vehicle trips). The 10-year demand for additional police stations equals 8,370 square feet at a cost of approximately $1.40 million.

**Figure P9: Projected Demand for Police Stations**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Stations | 0.46763 Units | per Person | $167 |
| | 0.19674 Units | per Vehicle Trip | |

| Need for Police Stations | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Square Feet | Nonresidential Square Feet | Total Square Feet |
| 2018 | 33,969 | 20,185 | 15,885 | 3,971 | 19,856 |
| 2019 | 35,187 | 20,902 | 16,454 | 4,112 | 20,567 |
| 2020 | 36,447 | 21,656 | 17,044 | 4,261 | 21,304 |
| 2021 | 37,753 | 22,431 | 17,654 | 4,413 | 22,067 |
| 2022 | 39,102 | 23,225 | 18,285 | 4,569 | 22,854 |
| 2023 | 40,503 | 24,057 | 18,940 | 4,733 | 23,673 |
| 2024 | 41,954 | 24,920 | 19,619 | 4,903 | 24,522 |
| 2025 | 43,454 | 25,821 | 20,320 | 5,080 | 25,400 |
| 2026 | 45,010 | 26,735 | 21,048 | 5,260 | 26,308 |
| 2027 | 46,623 | 27,698 | 21,802 | 5,449 | 27,251 |
| 2028 | 48,291 | 28,688 | 22,582 | 5,644 | 28,226 |
| 10-Yr Increase | 14,322 | 8,503 | 6,697 | 1,673 | 8,370 |

| | | | |
|---|---|---|---|
| Growth-Related Expenditures | $1,118,405 | $279,415 | $1,397,820 |

## Police Vehicles

Shown in Figure P10, population is projected to increase by 14,322 persons by 2028, and nonresidential trips will increase by 8,503 trips during the same period. Using the 2018 LOS standards shown in Figure P10, future residential development generates demand for 12.5 additional vehicles (0.00087 vehicles per person X 14,322 additional persons), and future nonresidential development generates demand for 3.1 additional vehicles (0.00037 vehicles per vehicle trip X 8,503 additional vehicle trips). The 10-year demand for additional police vehicles equals 15.6 vehicles at a cost of approximately $670,000.

**Figure P10: Projected Demand for Police Vehicles**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Vehicles | 0.00087 Units | per Person | $42,811 |
| | 0.00037 Units | per Vehicle Trip | |

| Need for Police Vehicles | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 20,185 | 29.6 | 7.4 | 37.0 |
| 2019 | 35,187 | 20,902 | 30.7 | 7.7 | 38.3 |
| 2020 | 36,447 | 21,656 | 31.8 | 7.9 | 39.7 |
| 2021 | 37,753 | 22,431 | 32.9 | 8.2 | 41.1 |
| 2022 | 39,102 | 23,225 | 34.1 | 8.5 | 42.6 |
| 2023 | 40,503 | 24,057 | 35.3 | 8.8 | 44.1 |
| 2024 | 41,954 | 24,920 | 36.6 | 9.1 | 45.7 |
| 2025 | 43,454 | 25,821 | 37.9 | 9.5 | 47.3 |
| 2026 | 45,010 | 26,735 | 39.2 | 9.8 | 49.0 |
| 2027 | 46,623 | 27,698 | 40.6 | 10.2 | 50.8 |
| 2028 | 48,291 | 28,688 | 42.1 | 10.5 | 52.6 |
| 10-Yr Increase | 14,322 | 8,503 | 12.5 | 3.1 | 15.6 |
| **Growth-Related Expenditures** | | | **$534,211** | **$133,415** | **$667,626** |

## Communications Equipment

As shown in Figure P11, population and nonresidential trips drive the need for communications equipment. Based on the development projections in the *Land Use Assumptions* document, San Luis will need approximately 18 additional units of communications equipment over the next 10 years [(0.00102 units per person X 14,322 additional persons) + (0.00043 units per vehicle trip X 8,503 additional vehicle trips). The 10-year, growth-related capital cost associated with these additional units of communications equipment is $223,895.

**Figure P11: Projected Demand for Communications Equipment**

| Type of Infrastructure | Level of Service | Demand Unit | Cost per Unit |
|---|---|---|---|
| Police Communications Equipment | 0.00102 Units | per Person | $12,207 |
| | 0.00043 Units | per Vehicle Trip | |

| Need for Police Communications Equipment | | | | | |
|---|---|---|---|---|---|
| Year | Population | Vehicle Trips | Residential Units | Nonresidential Units | Total Units |
| 2018 | 33,969 | 20,185 | 34.8 | 8.7 | 43.5 |
| 2019 | 35,187 | 20,902 | 36.0 | 9.0 | 45.1 |
| 2020 | 36,447 | 21,656 | 37.3 | 9.3 | 46.7 |
| 2021 | 37,753 | 22,431 | 38.7 | 9.7 | 48.3 |
| 2022 | 39,102 | 23,225 | 40.1 | 10.0 | 50.1 |
| 2023 | 40,503 | 24,057 | 41.5 | 10.4 | 51.9 |
| 2024 | 41,954 | 24,920 | 43.0 | 10.7 | 53.7 |
| 2025 | 43,454 | 25,821 | 44.5 | 11.1 | 55.6 |
| 2026 | 45,010 | 26,735 | 46.1 | 11.5 | 57.6 |
| 2027 | 46,623 | 27,698 | 47.8 | 11.9 | 59.7 |
| 2028 | 48,291 | 28,688 | 49.5 | 12.4 | 61.8 |
| 10-Yr Increase | 14,322 | 8,503 | 14.7 | 3.7 | 18.3 |
| **Growth-Related Expenditures** | | | **$179,168** | **$44,727** | **$223,895** |

## POLICE FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for Police Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Police Facilities Development Fees

Figure P12 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. Police Facilities development fees for residential development are assessed according to the number of persons per housing unit. Nonresidential development fees are calculated using vehicle trips as the service unit. The multipliers for each land use, which include average weekday vehicle trips ends per thousand square feet and a trip adjustment factor, are shown below. The cost per service unit for Police Facilities is $129.31 per person and $54.40 per vehicle trip.

Development fees for residential development are determined by type of housing unit. For example, the single-family fee of $446 is calculated using a cost per service unit of $129.31 per person multiplied by the demand unit of 3.45 persons per housing unit.

Nonresidential development fees are calculated using vehicle trips as the service unit. Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 10th Edition 2017). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent.

For commercial development, the trip adjustment factor is less than 50 percent because retail development and some services attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

The fee of $678 per 1,000 square feet of commercial development is derived from a cost per service unit of $54.40 per vehicle trip, ,multiplied by a demand unit of 37.75 average weekday vehicle trip ends per 1,000 square feet, multiplied by a trip rate adjustment factor of 33 percent.

**Figure P12: Schedule of Police Facilities Development Fees**

| Fee Component | Cost per Person | Cost per Vehicle Trip |
|---|---|---|
| Police Station | $78.09 | $32.86 |
| Vehicles | $37.30 | $15.69 |
| Communications Equipment | $12.51 | $5.26 |
| Development Fee Report | $1.41 | $0.59 |
| Total | $129.31 | $54.40 |

| Residential Development | Development Fees per Unit | | | |
|---|---|---|---|---|
| Land Use | Persons per Housing Unit[1] | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Single Family | 3.45 | **$446** | $503 | ($57) |
| Multi-Family | 2.23 | **$288** | $452 | ($164) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | |
|---|---|---|---|---|---|
| Land Use | Avg Wkdy Veh Trip Ends[1] | Trip Rate Adjustment | Proposed Fees | Current Fees[2] | Increase / Decrease |
| Industrial | 4.96 | 50% | **$135** | $177 | ($42) |
| Commercial | 37.75 | 33% | **$678** | $716 | ($38) |
| Institutional | 19.52 | 33% | **$350** | $259 | $91 |
| Office & Other Service | 9.74 | 50% | **$265** | $280 | ($15) |

1. See Land Use Assumptions
2. Police share of current Public Safety Fees.

## PROJECTED POLICE FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains revenue forecasts required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Police Facilities Development Fee Revenue

Projected fee revenue shown in Figure P13 is based on the development projections in the *Land Use Assumptions* document and the updated Police Facilities development fees. If development occurs faster than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.3 million over the next 10 years is approximately equal to the projected growth-related cost of police facilities ($2.3 million).

**Figure P13: Projected Revenue from Police Facilities Development Fees**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Police Station | $1,397,820 | $0 | $1,397,820 |
| Vehicles and Equipment | $667,626 | $0 | $667,626 |
| Communications Equipment | $223,895 | $0 | $223,895 |
| Development Fee Report | $11,500 | $0 | $11,500 |
| Total | $2,300,841 | $0 | $2,300,841 |

| | | Residential Units $425 per unit | Industrial $135 per 1,000 sq. ft. | Commercial $678 per 1,000 sq. ft. | Institutional $350 per 1,000 sq. ft. | Office & Other $265 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| Year | | Hsg Unit | KSF | KSF | | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $1,840,916 | $21,995 | $148,209 | $215,631 | $74,005 |

| | |
|---|---|
| **Projected Fee Revenue** | **$2,300,757** |
| **Total Expenditures** | **$2,300,841** |

# STREET FACILITIES IIP

ARS § 9-463.05 (T)(7)(e) defines the facilities and assets that can be included in the Street Facilities IIP:

> *"Street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon."*

The Street Facilities IIP includes components for arterial improvements and the cost of professional services for preparing the Street Facilities IIP and related Development Fee Report. The incremental expansion methodology is used for arterial improvements, and the plan-based methodology is used for the related Development Fee Report.

## Service Area

San Luis' arterial street network is designed to efficiently move traffic throughout the city; therefore, the service area for the Street Facilities IIP and Development Fees is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. Trip generation rates and trip adjustment factors are used to determine the proportionate impact of residential, commercial, office, and industrial land uses San Luis' street network.

## Ratio of Service Unit to Development Unit

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Figure S1 displays the demand indicators for residential and nonresidential land uses. For residential development the table displays VMT generated per housing unit. For nonresidential development the table displays VMT generated per thousand square feet of floor area.

**Figure S1: Street Facilities Ratio of Service Unit to Development Unit**

| Residential Development | per Unit | | | | |
|---|---|---|---|---|---|
| Land Use | AWVTE per Unit[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Average Miles per Trip | Vehicle Miles of Travel |
| Single Family | 10.90 | 62% | 1.21 | 2.325 | 19.01 |
| Multi-Family | 5.10 | 62% | 1.21 | 2.325 | 8.90 |

| Nonresidential Development | per 1,000 Square Feet | | | | |
|---|---|---|---|---|---|
| Land Use | AWVTE per 1,000 Sq Ft[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Average Miles per Trip | Vehicle Miles of Travel |
| Industrial | 4.96 | 50% | 0.73 | 2.325 | 4.21 |
| Commercial | 37.75 | 33% | 0.66 | 2.325 | 19.12 |
| Institutional | 19.52 | 33% | 0.73 | 2.325 | 10.93 |
| Office & Other Servuces | 9.74 | 50% | 0.73 | 2.325 | 8.27 |

1. See Land Use Assumptions

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

The existing public services included in the Street Facilities IIP are 24 lane miles of arterials.

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

The daily lane capacity used in this analysis is 9,000, which is the roadway capacity of a two-lane rural arterial, found in the City of San Luis Small Area Transportation Study.

## LEVEL OF SERVICE AND RATIO OF SERVICE UNIT TO LAND USE

### Service Units

San Luis will use average weekday vehicle trip ends as the service units for documenting existing level-of-service standards and allocating the costs of future improvements. Components used to determine the service units and input variables are discussed, including trip generation rates, adjustments for commuting patterns and pass-by trips, and trip length weighting factors.

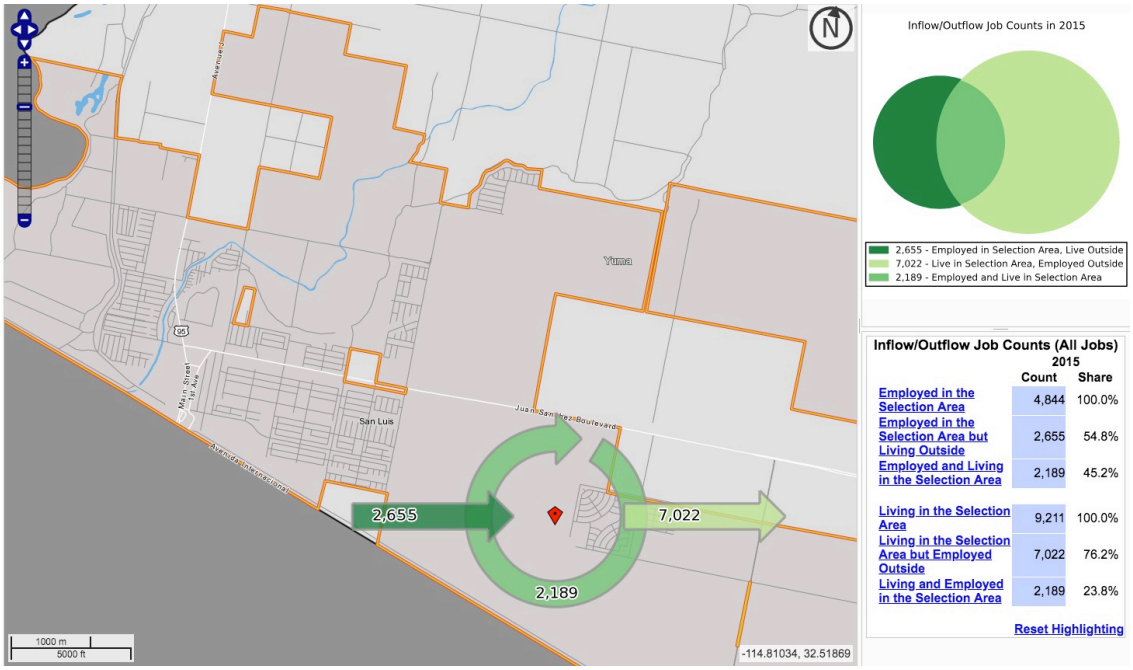
### Trip Rate Adjustments

San Luis's Street Facilities Development Fees use average weekday trip generation rates from the reference book *Trip Generation* published by the Institute of Transportation Engineers (ITE 2017). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate Street Facilities Development Fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the development fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

### Adjustment for Commuting Patterns

Residential development has a trip adjustment factor of 65 percent to account for commuters leaving San Luis for work. According to the 2009 National Household Travel Survey, weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure S2, the Census Bureau's web application OnTheMap indicates 76.2 percent of resident workers traveled outside San Luis for work in 2015. In combination, these factors (0.31 x 0.50 x 0.756 = 0.118) support the additional 12 percent allocation of trips to residential development.

**Figure S2: Inflow / Outflow Analysis**



### Adjustment for Pass-By Trips

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

### Trip Length Weighting Factor by Type of Land Use

The Street Facilities Development Fees methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121 percent of the average trip length. The residential trip length adjustment factor includes data on home-based work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66 percent of the average trip length while other nonresidential development typically accounts for trips that are 73 percent of the average for all trips.

## PROJECTED SERVICE UNITS, DEMAND, AND COSTS FOR SERVICES

TischlerBise created an aggregate travel model to convert development units within San Luis to project vehicle trips and vehicle miles of travel. Figure S3 summarizes the input variables used in the aggregate travel demand model.

**Figure S3: Input Variables for Travel Demand Model**

| Development Type | ITE Code | Weekday VTE | Dev Unit | Trip Adj | Trip Length Wt Factor |
|---|---|---|---|---|---|
| Single Family | 210 | 10.90 | HU | 62% | 121% |
| Multi-Family | 221 | 5.10 | HU | 62% | 121% |
| Industrial | 110 | 4.96 | KSF | 50% | 73% |
| Commercial | 820 | 37.75 | KSF | 33% | 66% |
| Institutional | 520 | 19.52 | KSF | 33% | 73% |
| Office & Other Service | 710 | 9.74 | KSF | 50% | 73% |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |
| Vehicle Capacity Per Lane | 9,000 |

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

Projected development in San Luis over the next 10 years, and the corresponding need for additional lane miles of arterials, are shown in Figure S4. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. As shown in Figure S4, future development in San Luis will generate 35,903 additional vehicle trips.

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

The travel demand model inputs are used to derive level of service in Vehicle Miles of Travel and future needs of lane miles. A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length. Based on estimates shown in Figure S4, existing infrastructure standards using the average trip length of 2.325 miles in San Luis are 1.11 lane miles per 10,000 VMT (24.0 arterial lane miles / (216,030 VMT / 10,000)).

As shown on the lower right side of Figure S4, future development generates an additional 91,070 VMT over the next 10 years. To maintain the existing infrastructure standards, San Luis needs 10.12 additional lane miles of arterials to accommodate projected development over the next 10 years.

**Figure S4: Projected Travel Demand**

| Development Type | ITE Code | Weekday VTE | Dev Unit | Trip Adj | Trip Length Wt Factor |
|---|---|---|---|---|---|
| Single Family | 210 | 10.90 | HU | 62% | 121% |
| Multi-Family | 221 | 5.10 | HU | 62% | 121% |
| Industrial | 110 | 4.96 | KSF | 50% | 73% |
| Commercial | 820 | 37.75 | KSF | 33% | 66% |
| Institutional | 520 | 19.52 | KSF | 33% | 73% |
| Office & Other Service | 710 | 9.74 | KSF | 50% | 73% |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |
| Vehicle Capacity Per Lane | 9,000 |

| | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|
| | | Base | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| Development Base | Single-Family Units | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 12,786 | 3,792 |
| | Multi-Family Units | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,892 | 561 |
| | Industrial KSF | 390 | 404 | 418 | 433 | 449 | 465 | 554 | 164 |
| | Commercial KSF | 524 | 542 | 562 | 582 | 602 | 624 | 744 | 220 |
| | Institutional KSF | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 2,084 | 619 |
| | Office & Other Service KSF | 668 | 692 | 717 | 742 | 769 | 796 | 949 | 281 |
| Average Weekday Vehicle Trips | Single-Family Trips | 60,781 | 62,958 | 65,215 | 67,553 | 69,966 | 72,473 | 86,408 | 25,626 |
| | Multi-Family Trips | 4,209 | 4,360 | 4,515 | 4,677 | 4,844 | 5,018 | 5,983 | 1,774 |
| | Residential Trips | 64,990 | 67,318 | 69,730 | 72,230 | 74,810 | 77,491 | 92,390 | 27,400 |
| | Industrial Trips | 967 | 1,002 | 1,037 | 1,074 | 1,114 | 1,153 | 1,374 | 407 |
| | Commercial Trips | 6,528 | 6,752 | 7,001 | 7,250 | 7,499 | 7,773 | 9,268 | 2,741 |
| | Institutional Trips | 9,437 | 9,778 | 10,126 | 10,493 | 10,867 | 11,253 | 13,424 | 3,987 |
| | Office & Other Service Trips | 3,253 | 3,370 | 3,492 | 3,614 | 3,745 | 3,877 | 4,622 | 1,368 |
| | Nonresidential Trips | 20,185 | 20,902 | 21,656 | 22,431 | 23,225 | 24,057 | 28,688 | 8,503 |
| | Total Vehicle Trips | 85,175 | 88,220 | 91,386 | 94,661 | 98,035 | 101,548 | 121,079 | 35,903 |
| Demand | **Vehicle Miles of Travel (VMT)** | **216,030** | **223,760** | **231,784** | **240,091** | **248,657** | **257,566** | **307,100** | **91,070** |
| | **Arterial Lane Miles Cumulative)** | **24.00** | **24.86** | **25.75** | **26.68** | **27.63** | **28.62** | **34.12** | **10.12** |
| | Annual Lane Miles (Annual) | | 0.86 | 0.89 | 0.93 | 0.95 | 0.99 | 1.18 | |
| | | | | | | | | 10-Year VMT Increase | 42.2% |

ARS § 9-463.05(E)(3) requires:

> *"A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Arterial Improvements – Incremental Expansion

San Luis' current level of service for arterials is 1.11 lane miles per 10,000 VMT (24 lane miles / (216,030 VMT / 10,000)), and San Luis plans to maintain this level of service over the next 10 years. As shown in Figure S4, San Luis needs to construct 10.12 additional lane miles of arterials to maintain this standard over the next 10 years ((91,070 additional VMT / 10,000) X 1.11 lane miles per 10,000 VMT).

Shown below in Figure S5, San Luis' staff identified 23 lane miles of potential arterial improvements with an average cost of $806,087 per lane mile ($18,540,000 / 23 lane miles). San Luis may use development fees to fund 10.12 lane miles of the arterial improvements included in Figure S5. The cost per VMT for arterial improvements is $89.58 ($806,087 per lane mile X 10.12 additional lane miles / 91,070 additional VMT).

**Figure S5: Planned Arterial Improvements**

| Project | Lane Miles | Eligible Cost |
|---|---|---|
| Juan Sanchez Blvd (Ave E to Main St) | 8 | $11,440,000 |
| Juan Sanchez and 4th St Intersection Project | 3 | $1,100,000 |
| Juan Sanchez and 6th St Intersection Project | 1 | $500,000 |
| 10th Ave Widening (Juan Sanchez to Co 22nd) | 3 | $1,500,000 |
| Co 24th St Paving Project | 3 | $1,500,000 |
| Co 22nd St and Sidewinder Rd Intersection | 1 | $500,000 |
| Co 22nd St Widening (Sidewinder Rd to Main St) | 4 | $2,000,000 |
| Total | 23 | $18,540,000 |

Source: City of San Luis Public Works Dept.

| | |
|---|---|
| Cost per Lane Mile | $806,087 |
| 10-Year Demand for Additional Lane Miles | 10.12 |
| 10-Year Cost for Additional Lane Miles | $8,157,600 |
| 10-Year VMT Increase | 91,070 |
| Cost per VMT | $89.58 |

## Development Fee Report – Plan-Based

The cost to prepare the Street Facilities IIP and related Development Fee Report totals $11,960. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new development from the *Land Use Assumptions* document, the cost is $0.29 per VMT.

**Figure S6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

## STREET FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is not necessary for the Street Facilities development fees, because costs generated by projected development exceed revenues generated by projected development. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Street Facilities Development Fees

Infrastructure standards and cost factors for Street Facilities are summarized in the upper portion of Figure S7. The cost per service unit is $89.87 per vehicle mile of travel. Figure S7 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Street Facilities development fees for residential development are assessed according to VMT generated per unit. The single-family fee of $1,709 is calculated using a cost per service unit of $89.87 per VMT multiplied by 10.90 average weekday vehicle trip ends, multiplied by 62 percent trip adjustment factor, multiplied by 2.325 miles per trip, multiplied by 121 percent trip length adjustment.

Nonresidential development fees are calculated using VMT as the service unit. The fee of $1,718 per 1,000 square feet of commercial development is derived from a cost per service unit of $89.87 per VMT multiplied by 37.75 average weekday vehicle trip ends, multiplied by 33 percent trip adjustment factor, multiplied by 2.325 miles per trip, multiplied by 66 percent trip length adjustment.

**Figure S7: Schedule of Street Facilities Development Fees**

| Fee Component | Cost per VMT |
|---|---|
| Arterial Improvements | $89.58 |
| Development Fee Report | $0.29 |
| Total | $89.87 |

| | |
|---|---|
| Avg Trip Length (miles) | 2.325 |

| Residential Development | Development Fees per Unit | | | | | |
|---|---|---|---|---|---|---|
| Land Use | AWVTE per Unit[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | 10.90 | 62% | 1.21 | **$1,709** | $943 | $766 |
| Multi-Family | 5.10 | 62% | 1.21 | **$799** | $801 | ($2) |

| Nonresidential Development | Development Fees per 1,000 Square Feet | | | | | |
|---|---|---|---|---|---|---|
| Land Use | AWVTE per 1,000 Sq Ft[1] | Trip Adj Factor[1] | Trip Length Weight Factor[1] | Proposed Fees | Current Fees | Increase / Decrease |
| Industrial | 4.96 | 50% | 0.73 | **$378** | $336 | $42 |
| Commercial | 37.75 | 33% | 0.66 | **$1,718** | $1,231 | $487 |
| Institutional | 19.52 | 33% | 0.73 | **$982** | $492 | $490 |
| Office & Other Servuces | 9.74 | 50% | 0.73 | **$743** | $533 | $210 |

1. See Land Use Assumptions

## PROJECTED STREET FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Street Facilities Development Fee Revenue

Projected fee revenue shown in Figure S8 is based on the development projections in the *Land Use Assumptions* document and the updated Street Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $8.13 million over the next 10 years is approximately equal to the projected growth-related cost of street facilities ($8.17 million).

**Figure S8: Projected Street Facilities Development Fee Revenue**

| Fee Component | Growth Share | Existing Share | Total |
|---|---|---|---|
| Arterial Improvements | $8,157,600 | $0 | $8,157,600 |
| Development Fee Report | $11,960 | $0 | $11,960 |
| Total | $8,169,560 | $0 | $8,169,560 |

| Year | | Residential Units $1,583 per unit | Industrial $378 per 1,000 sq. ft. | Commercial $1,718 per 1,000 sq. ft. | Institutional $982 per 1,000 sq. ft. | Office & Other $743 per 1,000 sq. ft. |
|---|---|---|---|---|---|---|
| | | Hsg Unit | KSF | KSF | KSF | KSF |
| Base | 2018 | 10,325 | 390 | 524 | 1,465 | 668 |
| Year 1 | 2019 | 10,695 | 404 | 542 | 1,518 | 692 |
| Year 2 | 2020 | 11,078 | 418 | 562 | 1,572 | 717 |
| Year 3 | 2021 | 11,475 | 433 | 582 | 1,629 | 742 |
| Year 4 | 2022 | 11,885 | 449 | 602 | 1,687 | 769 |
| Year 5 | 2023 | 12,311 | 465 | 624 | 1,747 | 796 |
| Year 6 | 2024 | 12,752 | 482 | 646 | 1,810 | 825 |
| Year 7 | 2025 | 13,208 | 499 | 670 | 1,875 | 854 |
| Year 8 | 2026 | 13,681 | 517 | 693 | 1,942 | 885 |
| Year 9 | 2027 | 14,171 | 535 | 718 | 2,012 | 917 |
| Year 10 | 2028 | 14,678 | 554 | 744 | 2,084 | 949 |
| 10-Yr Increase | | 4,353 | 164 | 220 | 619 | 281 |
| Projected Revenue | | $6,879,229 | $61,926 | $377,266 | $607,098 | $208,358 |

| | |
|---|---|
| **Projected Fee Revenue** | **$8,133,877** |
| **Total Expenditures** | **$8,169,560** |

# WATER FACILITIES IIP

ARS § 9-463.05 (T)(7)(a) defines facilities and assets that can be included in the Water Facilities IIP:

> *"Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities."*

The Water Facilities IIP includes components for existing water production, water storage, and the cost of preparing the Wastewater Facilities IIP and development fees. The cost recovery methodology is used for water production. The plan-based methodology is used for water storage and the Development Fee Report.

## Service Area

The service area for the Water Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. The water fees assessed pursuant to the Water Facilities IIP and related Development Fee Report are assessed on both residential and nonresidential development. City staff provided water demand to differentiate demand for water facilities from residential and nonresidential development. In 2018, residential water customers accounted for approximately 94 percent of total customers and 68 percent of max day demand. Nonresidential customers accounted for approximately six percent of total customers and 32 percent of max day demand.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Residential Water Facilities development fees are assessed per meter, based on max day gallons per connection. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use.

For nonresidential Water Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for water facilities. Capacity ratios equate 0.75-inch meters to the max day gallons per average single-family residential unit. Utilizing max day gallons is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Water Facilities development fees are calculated by multiplying the number of gallons per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown in Figure W1.

**Figure W1: Water Facilities Ratio of Service Unit to Development Unit**

| Demand Indicators | |
|---|---|
| Residential Gallons per Max Day | 510 |

| Meter Size (inches) | | Capacity Ratio[1] |
|---|---|---|
| 0.75 | Displacement | 1.00 |
| 1.00 | Displacement | 1.67 |
| 1.50 | Displacement | 3.33 |
| 2.00 | Compound | 5.33 |
| 3.00 | Compound | 10.67 |
| 4.00 | Compound | 16.67 |
| 6.00 | Compound | 33.33 |
| 8.00 | Compound | 53.33 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

## Existing Capacity and Usage

San Luis has seven well sites with a total capacity of 9.94 MGD. Production facilities for the water system should have sufficient capacity to meet the demands of the maximum day of the year. According to the City of San Luis Public Works Department, 2018 average day consumption is approximately 3.22 MGD. Using peaking factors from the San Luis Water System Master Plan (2016), max day demand is 1.5 times greater than average day demand. Applying the max day peaking factor to the average day demand of 3.22 MGD results in max day demand of 4.84 MGD – leaving 5.10 MGD of excess capacity in San Luis' water production facilities to serve future development (9.94 MGD – 4.84 MGD).

**Figure W2: Well Capacity**

| Existing Wells | Capacity (MGD) | Max Day Usage (MGD) | Remaining (MGD) |
|---|---|---|---|
| Well Site 1 | 0.29 | 4.84 | 5.10 |
| Well Site 2 | 0.43 | | |
| Well Site 3 | 1.44 | | |
| Well Site 4 | 1.44 | | |
| Well Site 5 | 0.00 | | |
| Well Site 6 | 3.17 | | |
| Well Site 7 | 3.17 | | |
| **Total** | **9.94** | **4.84** | **5.10** |

Source: City of San Luis Public Works.

## Water Demand

The following factors are used to differentiate the demand for water infrastructure between residential and nonresidential development. In 2018, average day water demand totaled 3.22 MGD. Residential water customers accounted for approximately 2.20 MGD of average day demand, and nonresidential water customers accounted for the remaining 1.03 MGD. Since this analysis uses max day demand to more accurately assess demand for water infrastructure to future development, Figure W3 shows the conversion of average day demand to max day demand using peaking factors from the San Luis Water System Master Plan (2016). Based on the analysis in the master plan, max day demand is 1.5 times greater than average day demand.

The existing level of service for water infrastructure is based on max demand in 2018. The current level of service for residential development for water service is approximately 510 gallons per connection per day. For nonresidential connections, water demand averages 4,029 gallons per connection per day. Each nonresidential connection averages approximately 13.5 jobs, and the projected increase in jobs drives the demand for water capacity from nonresidential development.

**Figure W3: Water Demand Factors**

| Land Use | Avg Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 2,190,620 | 6,443 | 340 |
| Nonresidential | 1,034,110 | 385 | 2,686 |
| Total | 3,224,730 | 6,828 | |

1. Average of water use in 2018, provided by the City of San Luis. Nonresidential includes Commercial, Government, Schools, and City.

| Land Use | Max Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 3,285,930 | 6,443 | **510** |
| Nonresidential | 1,551,165 | 385 | 4,029 |
| Total | 4,837,095 | 6,828 | |

1. Max Day Demand = Average Day Demand X 1.5, San Luis Water System Master Plan 2016.

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Over the next 10 years, it is projected there will be an increase of 2,879 connections. Accordingly, the projected water demand increases by 2,039,311 max day gallons during the same period.

**Figure W4: Projected Water Demand**

| Water Demand Projections | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | | Residential Connections | Nonresidential Connections | Total Connections | Residential Gallons | Nonresidential Gallons | Average Day Gallons | Max Day Gallons |
| Base | 2018 | 6,443 | 385 | 6,828 | 2,190,620 | 1,034,110 | 3,224,730 | 4,837,095 |
| Year 1 | 2019 | 6,674 | 399 | 7,073 | 2,269,122 | 1,071,071 | 3,340,193 | 5,010,289 |
| Year 2 | 2020 | 6,913 | 413 | 7,326 | 2,350,381 | 1,109,423 | 3,459,804 | 5,189,706 |
| Year 3 | 2021 | 7,161 | 428 | 7,588 | 2,434,612 | 1,149,166 | 3,583,777 | 5,375,666 |
| Year 4 | 2022 | 7,416 | 443 | 7,860 | 2,521,600 | 1,190,300 | 3,711,899 | 5,567,849 |
| Year 5 | 2023 | 7,682 | 459 | 8,141 | 2,611,983 | 1,233,023 | 3,845,006 | 5,767,509 |
| Year 6 | 2024 | 7,957 | 475 | 8,433 | 2,705,548 | 1,277,138 | 3,982,686 | 5,974,029 |
| Year 7 | 2025 | 8,242 | 492 | 8,735 | 2,802,296 | 1,322,842 | 4,125,138 | 6,187,708 |
| Year 8 | 2026 | 8,537 | 510 | 9,047 | 2,902,651 | 1,370,136 | 4,272,787 | 6,409,181 |
| Year 9 | 2027 | 8,843 | 528 | 9,371 | 3,006,613 | 1,419,219 | 4,425,831 | 6,638,747 |
| Year 10 | 2028 | 9,159 | 547 | 9,707 | 3,114,181 | 1,470,090 | 4,584,271 | 6,876,406 |
| 10-Yr Increase | | 2,716 | 162 | 2,879 | 923,561 | 435,980 | 1,359,541 | 2,039,311 |

## Water Production – Cost Recovery

As shown in Figure W2, San Luis' water production facilities have 5.10 MGD of available capacity to serve future development. San Luis installed iron and manganese filters to increase water production capacity within the water system by 1.728 MGD, and development fees will be used to pay for future development's share of the production capacity created by the iron and manganese filters. Based on a cost of $2.3 million and additional capacity of 1.728 MGD, the cost of water production is $1.33 per gallon of capacity.

San Luis included $1.0 million of funding for the iron and manganese filters during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $1.0 million of rate revenue to 1,728,000 gallons of capacity provides a credit of $0.58 per gallon.

**Figure W5: Water Production Cost Allocation Factors**

| Project | Total Capacity | Total Cost | Cost per Gallon |
|---|---|---|---|
| Iron and Manganese Filters | 1,728,000 | $2,300,000 | $1.33 |

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $1,000,000 |
| Total Capacity (Gallons) | 1,728,000 |
| Rate Credit per Gallon | ($0.58) |

## Water Storage – Plan-Based

San Luis plans to construct a new water storage tank with 1.0 MG of capacity to serve future development. Shown below in Figure W6, San Luis staff identified a growth-related water storage tank with a cost of $1.3 million. When allocated to the planned capacity of 1.0 MG, the cost is $1.30 per gallon of capacity.

San Luis included $1.0 million of funding for the water storage tank during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $1.0 million of rate revenue to 1,000,000 gallons of capacity provides a credit of $1.00 per gallon.

**Figure W6: Water Storage Cost Allocation Factors**

| Project | Total Capacity | Total Cost | Cost per Gallon |
|---|---|---|---|
| Water Storage Tank | 1,000,000 | $1,300,000 | $1.30 |

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $1,000,000 |
| Total Capacity (Gallons) | 1,000,000 |
| Rate Credit per Gallon | ($1.00) |

### IIP and Development Fee Report – Plan-Based

The cost to prepare the Water Facilities IIP and development fees totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $0.01 per gallon.

**Figure W7: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## WATER FACILITIES DEVELOPMENT FEES

### Revenue Credit/Offset

A revenue credit/offset is necessary for the Water Facilities development fees, because costs include projects funded with water rate revenue. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Water Facilities Development Fees

Infrastructure components and cost factors for Water Facilities are summarized in the upper portion of Figure W8. The cost per service unit is $1.06 per gallon. Figure W8 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Residential Water Facilities development fees are assessed on a per meter basis, based on max day demand – approximately 510 gallons. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use. The single-family fee of $542 is calculated using a cost per service unit of $1.06 per gallon multiplied by max day demand per residential unit of approximately 510 gallons.

For nonresidential Water Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Water Facilities. Capacity ratios equate 0.75-inch meters to the max day demand per residential unit. Utilizing max day demand is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Water Facilities development fees are calculated by multiplying the max day demand per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown below in Figure W8. The fee for a 1.0-inch meter, $905, is calculated using a cost per service unit of $1.06 per gallon multiplied by max day demand per residential unit of approximately 510 gallons, multiplied by the capacity ratio of 1.67.

**Figure W8: Schedule of Water Facilities Development Fees**

| Demand Indicators | |
|---|---|
| Residential Gallons per Max Day | 510 |
| **Cost Factors per Gallon of Capacity** | |
| Water Production | $1.33 |
| Water Production Rate Credit | ($0.58) |
| Water Storage | $1.30 |
| Water Storage Rate Credit | ($1.00) |
| Development Fee Report | $0.01 |
| **Total Cost per Gallon of Capacity** | **$1.06** |

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | **$542** | $0 | $542 |

| Nonresidential Development | | | Development Fees per Meter | | |
|---|---|---|---|---|---|
| Meter Size (inches) | | Capacity Ratio[1] | Proposed Fees | Current Fees | Increase / Decrease |
| 0.75 | Displacement | 1.00 | **$542** | $0 | $542 |
| 1.00 | Displacement | 1.67 | **$905** | $0 | $905 |
| 1.50 | Displacement | 3.33 | **$1,804** | $0 | $1,804 |
| 2.00 | Compound | 5.33 | **$2,888** | $0 | $2,888 |
| 3.00 | Compound | 10.67 | **$5,781** | $0 | $5,781 |
| 4.00 | Compound | 16.67 | **$9,031** | $0 | $9,031 |
| 6.00 | Compound | 33.33 | **$18,058** | $0 | $18,058 |
| 8.00 | Compound | 53.33 | **$28,893** | $0 | $28,893 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## PROJECTED WATER FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Water Facilities Development Fee Revenue

Projected fee revenue shown in Figure W9 is based on the development projections in the *Land Use Assumptions* document and the updated Water Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately $2.16 million over the next 10 years exceeds the projected growth-related cost of water facilities ($1.61 million). San Luis should include additional water facilities or stop collecting Water Facilities development fees when no additional capacity exists in the water production and water storage facilities included in the Water Facilities IIP.

**Figure W9: Projected Water Facilities Development Fee Revenue**

| Fee Component | Growth Share |
|---|---|
| Water Production | $2,300,000 |
| Water Production Credit | ($1,000,000) |
| Water Storage | $1,300,000 |
| Water Storage Credit | ($1,000,000) |
| Development Fee Report | $11,500 |
| Total | $1,611,500 |

| | | $1.06 per gallon |
|---|---|---|
| Year | | Gallons |
| Base | 2018 | 4,837,095 |
| Year 1 | 2019 | 5,010,289 |
| Year 2 | 2020 | 5,189,706 |
| Year 3 | 2021 | 5,375,666 |
| Year 4 | 2022 | 5,567,849 |
| Year 5 | 2023 | 5,767,509 |
| Year 6 | 2024 | 5,974,029 |
| Year 7 | 2025 | 6,187,708 |
| Year 8 | 2026 | 6,409,181 |
| Year 9 | 2027 | 6,638,747 |
| Year 10 | 2028 | 6,876,406 |
| 10-Yr Increase | | 2,039,311 |
| Projected Revenue | | $2,155,301 |

# WASTEWATER FACILITIES IIP

ARS § 9-463.05 (T)(7)(b) defines facilities and assets that can be included in the Wastewater Facilities IIP:

> *"Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities"*

The Wastewater Facilities IIP includes components for treatment and the cost of preparing the Wastewater Facilities IIP and related Development Fee Report. The plan-based methodology is used for the treatment component and the Development Fee Report.

## Service Area

The service area for the Wastewater Facilities IIP is citywide.

## Proportionate Share

ARS § 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. The Wastewater Facilities IIP is based, and development fees are assessed, on both residential and nonresidential development. City staff provided wastewater flows to differentiate demand for wastewater facilities from residential and nonresidential development. In 2018, residential wastewater customers accounted for approximately 96 percent of total customers and 73 percent of average day flows. Nonresidential customers accounted for approximately four percent of total customers and 27 percent of average day flows.

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS § 9-463.05(E)(4) requires:

> *"A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."*

Residential Wastewater Facilities development fees are assessed on a per meter basis, based on average day gallons per connection. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use.

For nonresidential Wastewater Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Wastewater Facilities. Capacity ratios equate 0.75-inch meters to the average day gallons per average single-family residential unit. Utilizing average day gallons is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Wastewater Facilities development fees are calculated by multiplying the number of gallons per single-family unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown below in Figure WW1.

**Figure WW1: Wastewater Facilities Ratio of Service Unit to Development Unit**

| Demand Indicators | |
|---|---|
| Residential Gallons per Average Day | 207 |

| Meter Size (inches) | | Capacity Ratio[1] |
|---|---|---|
| 0.75 | Displacement | 1.00 |
| 1.00 | Displacement | 1.67 |
| 1.50 | Displacement | 3.33 |
| 2.00 | Compound | 5.33 |
| 3.00 | Compound | 10.67 |
| 4.00 | Compound | 16.67 |
| 6.00 | Compound | 33.33 |
| 8.00 | Compound | 53.33 |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## Analysis of Capacity, Usage, and Costs of Existing Public Services

ARS § 9-463.05(E)(1) requires:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

ARS § 9-463.05(E)(2) requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

San Luis has two wastewater treatment plants. The West Wastewater Treatment Plant has a total capacity of 1.50 MGD and generally receives wastewater flows from development on the west side of San Luis. The East Mesa Wastewater Treatment Plant has a total capacity of 1.00 MGD and generally receives wastewater flows from development on the east side of San Luis and any flows the West Wastewater Treatment Plant cannot treat. The total capacity of citywide wastewater treatment is 2.50 MGD, but San Luis can only use 80 percent of the total capacity under existing Arizona law. According to the City of San Luis Public Works Department, current usage is approximately 1.78 MGD, leaving 0.72 MGD of excess capacity to serve growth.

**Figure WW2: Wastewater Treatment Plant Capacity**

| Facility | Capacity (MGD) | Average Day Flows (MGD) | Remaining (MGD) |
|---|---|---|---|
| East Mesa Wastewater Treatment Plant | 1.00 | 0.28 | 0.72 |
| West Wastewater Treatement Plant | 1.50 | 1.50 | 0.00 |
| **Total** | **2.50** | **1.78** | **0.72** |

Source: City of San Luis Public Works Department

### Average Day Flows

The following factors are used to differentiate the demand for wastewater infrastructure between residential and nonresidential development. The existing level of service for wastewater infrastructure is based on average flows in 2018. The current level of service for residential development for wastewater service is 207 average day gallons per connection. For nonresidential connections, wastewater flows average 1,842 average day gallons per connection. Each nonresidential connection averages approximately 20 jobs, and the projected increase in jobs drives the demand for wastewater capacity from nonresidential development.

**Figure WW3: Wastewater Flow Factors**

| Land Use | Avg Gallons per Day[1] | 2018 Connections | Gallons per Day per Connection |
|---|---|---|---|
| Residential | 1,302,030 | 6,290 | 207 |
| Nonresidential | 475,236 | 258 | 1,842 |
| Total | 1,777,266 | 6,548 | |

1. Average Gallons per Day based on approximate usage provided by City of San Luis. Division between residential and nonresidental based on portions of City of San Luis water usage in 2018.

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS § 9-463.05(E)(5) requires:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

ARS § 9-463.05(E)(6) requires:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Over the next 10 years, it is projected there will be an increase of 2,761 connections and 749,292 gallons.

**Figure WW4: Projected Wastewater Flows**

| Wastewater Flow Projections | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year | | Residential Connections | Nonresidential Connections | Total Connections | Residential Gallons | Nonresidential Gallons | Total Gallons |
| Base | 2018 | 6,290 | 258 | 6,548 | 1,302,030 | 475,236 | 1,777,266 |
| Year 1 | 2019 | 6,515 | 267 | 6,783 | 1,348,689 | 492,222 | 1,840,910 |
| Year 2 | 2020 | 6,749 | 277 | 7,026 | 1,396,987 | 509,847 | 1,906,834 |
| Year 3 | 2021 | 6,991 | 287 | 7,277 | 1,447,050 | 528,111 | 1,975,161 |
| Year 4 | 2022 | 7,240 | 297 | 7,537 | 1,498,753 | 547,015 | 2,045,768 |
| Year 5 | 2023 | 7,500 | 308 | 7,807 | 1,552,474 | 566,649 | 2,119,122 |
| Year 6 | 2024 | 7,769 | 319 | 8,087 | 1,608,086 | 586,922 | 2,195,008 |
| Year 7 | 2025 | 8,046 | 330 | 8,376 | 1,665,590 | 607,926 | 2,273,515 |
| Year 8 | 2026 | 8,334 | 342 | 8,676 | 1,725,237 | 629,660 | 2,354,897 |
| Year 9 | 2027 | 8,633 | 354 | 8,987 | 1,787,028 | 652,217 | 2,439,245 |
| Year 10 | 2028 | 8,942 | 367 | 9,309 | 1,850,963 | 675,595 | 2,526,558 |
| 10-Yr Increase | | 2,652 | 109 | 2,761 | 548,933 | 200,359 | 749,292 |

## Wastewater Treatment

San Luis plans to expand its wastewater treatment capacity with 1.60 MGD of capacity to serve future development. Shown below in Figure WW5, San Luis plans to spend $10.0 million on the planned wastewater treatment plant expansion. When allocated to the planned capacity of 1.60 MGD, the cost is $6.25 per gallon of capacity.

San Luis included $3.0 million of funding for the wastewater treatment plant expansion during its most recent rate study, so it is necessary to provide a credit for this potential double payment. Allocating $3.0 million of rate revenue to 1.60 MGD of capacity provides a credit of $1.88 per gallon.

**Figure WW5: Wastewater Treatment Cost Allocation Factors**

| Description | Capacity[1] | Cost | Cost per Gallon |
|---|---|---|---|
| Wastewater Treatment Plant Exansion | 1,600,000 | $10,000,000 | $6.25 |

1. Represents 80 percent of 2.0 MGD capacity.

| Water Rate Revenue Credit | |
|---|---|
| Cost Supported by Rates | $3,000,000 |
| Total Capacity (Gallons) | 1,600,000 |
| Rate Credit per Gallon | ($1.88) |

## IIP and Development Fee Report – Plan-Based

The cost to prepare the Wastewater Facilities IIP and related Development Fee Report totals $11,500. San Luis plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions* document, the cost is $0.03 per gallon.

**Figure WW6: IIP and Development Fee Report**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential<br>Nonresidential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| Water | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| Wastewater | $11,500 | Residential<br>Nonresidential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| Total | $69,460 | | | | | | | |

## WASTEWATER FACILITIES DEVELOPMENT FEES

### Revenue Credit

A revenue credit is necessary for the Wastewater Facilities development fees, because costs include projects funded with sewer rate revenue. Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Proposed Wastewater Facilities Development Fees

Infrastructure components and cost factors for Wastewater Facilities are summarized in the upper portion of Figure WW7. The cost per service unit is $4.41 per gallon. Figure WW7 displays the ratio of a service unit to various types of land uses for residential and nonresidential development.

Residential Wastewater Facilities development fees are assessed on a per meter basis, based on average day flows – approximately 207 gallons. Development fees assume a residential unit in a multi-unit structure with a single meter would be served by a 0.75-inch meter. If not, then the corresponding meter size and capacity ratio shown below would be used to establish a ratio of service unit to land use. The single-family fee of $912 is calculated using a cost per service unit of $4.41 per gallon multiplied by average day flows per residential unit of approximately 207 gallons.

For nonresidential Wastewater Facilities development fees, capacity ratios by meter size are the appropriate demand indicator for Wastewater Facilities. Capacity ratios equate 0.75-inch meters to the average day flows per residential unit. Utilizing average day flows is the most efficient way to show a direct relationship between development units, usage, and system capacity. The nonresidential Wastewater Facilities development fees are calculated by multiplying the average day flows per residential unit by the capacity ratio for the corresponding size and type of water meter, which are provided by the American Water Works Association (2017) and shown in Figure WW7. The fee for a 1.0-inch meter, $1,523, is calculated using a cost per service unit of $4.41 per gallon multiplied by average day flows per residential unit of approximately 207 gallons, multiplied by the capacity ratio of 1.67.

**Figure WW7: Schedule of Wastewater Facilities Development Fees**

| Demand Indicators | |
|---|---|
| Residential Gallons per Average Day | 207 |
| **Cost Factors per Gallon of Capacity** | |
| Wastewater Treatment | $6.25 |
| Wastewater Treatment Rate Credit | ($1.88) |
| Development Fee Report | $0.03 |
| **Total Cost per Gallon of Capacity** | **$4.41** |

| Residential Development | Development Fees per Meter | | |
|---|---|---|---|
| Land Use | Proposed Fees | Current Fees | Increase / Decrease |
| Single Family | **$912** | $1,634 | ($722) |

| Nonresidential | | | Development Fees per Meter | | |
|---|---|---|---|---|---|
| Meter Size (inches) | | Capacity Ratio[1] | Proposed Fees | Current Fees | Increase / Decrease |
| 0.75 | Displacement | 1.00 | **$912** | $1,634 | ($722) |
| 1.00 | Displacement | 1.67 | **$1,523** | $2,721 | ($1,198) |
| 1.50 | Displacement | 3.33 | **$3,036** | $5,412 | ($2,376) |
| 2.00 | Compound | 5.33 | **$4,860** | $8,654 | ($3,794) |
| 3.00 | Compound | 10.67 | **$9,729** | $17,311 | ($7,582) |
| 4.00 | Compound | 16.67 | **$15,200** | $27,039 | ($11,839) |
| 6.00 | Compound | 33.33 | **$30,391** | $54,048 | ($23,657) |
| 8.00 | Compound | 53.33 | **$48,628** | $86,472 | ($37,844) |

1. AWWA, Principles of Water Rates, Fees, and Charges, M1.

## PROJECTED WASTEWATER FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona's Enabling Legislation (ARS § 9-463.05(E)(7)).

### Projected Wastewater Facilities Development Fee Revenue

Projected fee revenue shown in Figure WW8 is based on the development projections in the *Land Use Assumptions* document and the updated Wastewater Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Over the next 10 years, anticipated development fee revenue equals approximately $3.3 million.

**Figure WW8: Projected Wastewater Facilities Development Fee Revenue**

| Fee Component | Growth Share |
|---|---|
| Wastewater Treatment | $10,000,000 |
| Wastewater Treatment Credit | ($3,000,000) |
| Development Fee Report | $11,500 |
| Total | $7,011,500 |

| | | $4.41 per gallon |
|---|---|---|
| Year | | Gallons |
| Base | 2018 | 1,777,266 |
| Year 1 | 2019 | 1,840,910 |
| Year 2 | 2020 | 1,906,834 |
| Year 3 | 2021 | 1,975,161 |
| Year 4 | 2022 | 2,045,768 |
| Year 5 | 2023 | 2,119,122 |
| Year 6 | 2024 | 2,195,008 |
| Year 7 | 2025 | 2,273,515 |
| Year 8 | 2026 | 2,354,897 |
| Year 9 | 2027 | 2,439,245 |
| Year 10 | 2028 | 2,526,558 |
| 10-Yr Increase | | 749,292 |
| Projected Revenue | | $3,288,409 |

# APPENDIX A: FORECAST OF REVENUES OTHER THAN FEES

# APPENDIX B: PROFESSIONAL SERVICES

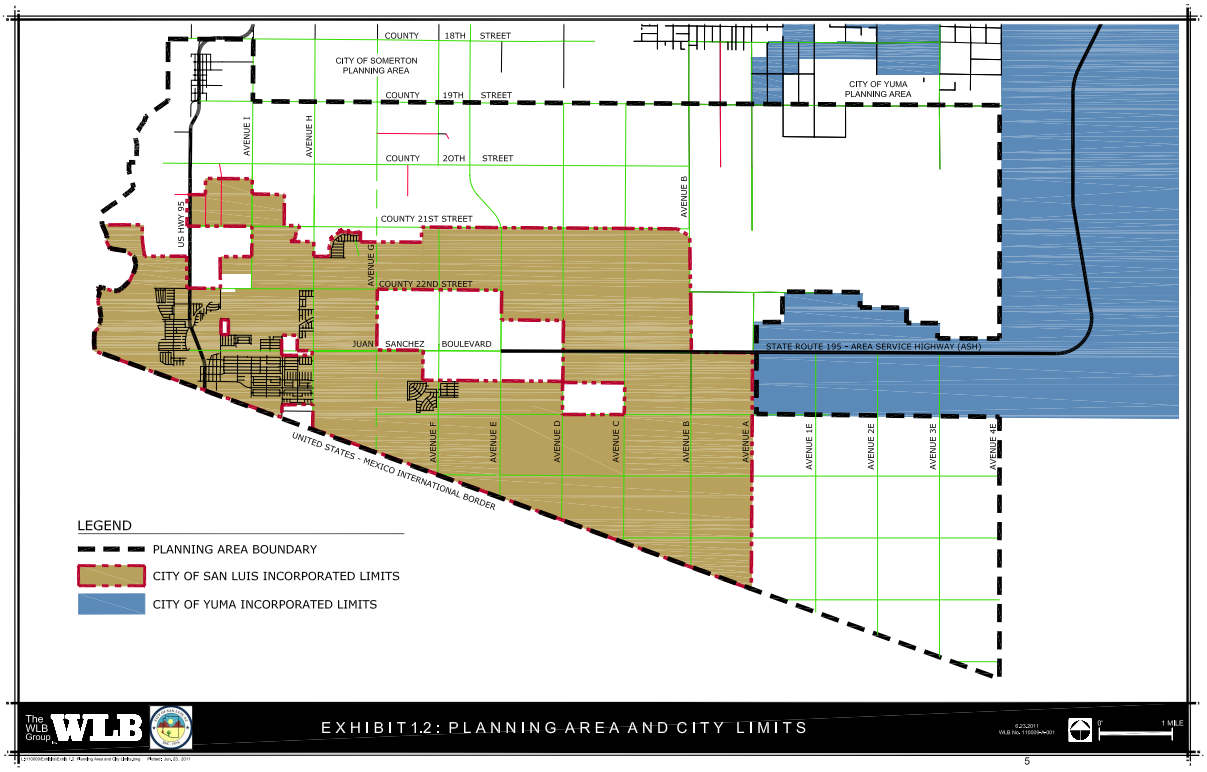
As stated in Arizona's development fee enabling legislation, "a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan" (see ARS § 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience".

**Figure B1: Cost of Professional Services**

| Necessary Public Service | Cost | Assessed Against | Proportionate Share | Demand Unit | 2018 | 2023 | Change | Cost per Demand Unit |
|---|---|---|---|---|---|---|---|---|
| Fire | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Parks | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Jobs | 5,204 | 6,205 | 1,001 | $2.30 |
| Police | $11,500 | Residential | 80% | Population | 33,969 | 40,503 | 6,534 | $1.41 |
| | | Nonresidential | 20% | Vehicle Trips | 20,185 | 24,057 | 3,872 | $0.59 |
| Street | $11,960 | Residential | 100% | VMT | 216,030 | 257,566 | 41,536 | $0.29 |
| | | Nonresidential | | | | | | |
| Water | $11,500 | Residential | 100% | Gallons | 4,837,095 | 5,767,509 | 930,414 | $0.01 |
| | | Nonresidential | | | | | | |
| Wastewater | $11,500 | Residential | 100% | Gallons | 1,777,266 | 2,119,122 | 341,856 | $0.03 |
| | | Nonresidential | | | | | | |
| Total | $69,460 | | | | | | | |

# APPENDIX C: LAND USE ASSUMPTIONS

The estimates and projections of residential and nonresidential development in this *Land Use Assumptions* document are for areas within the boundaries of the City of San Luis. The map below illustrates the area within the City of San Luis Service Area boundaries.




Arizona's Development Fee Act requires the preparation of Land Use Assumptions, which are defined in Arizona Revised Statutes § 9-463.05(T)(6) as:

> *"projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality."*

The City of San Luis, Arizona retained TischlerBise to analyze the impacts of development on its capital facilities and to calculate development fees based on that analysis. TischlerBise prepared current demographic estimates and future development projections for both residential and nonresidential development that will be used in the Infrastructure Improvements Plan (IIP) and calculation of the development fees. Current demographic data estimates for 2018 are used in calculating levels of service (LOS) provided to existing development in the City of San Luis. Although long-range projections are necessary for planning infrastructure systems, a shorter time frame of five to ten years is critical for the development fee analysis.

Arizona's Development Fee Act requires fees to be updated at least every five years and limits the IIP to a maximum of 10 years. Therefore, the use of a very long-range "build-out" analysis is no longer acceptable for deriving development fees in Arizona municipalities.

## SUMMARY OF GROWTH INDICATORS

Key land use assumptions for the City of San Luis development fee study are population, housing units, and employment projections. Based on discussions with staff, TischlerBise projects population using Arizona Department of Administration compound annual growth rates for 2015-2030. TischlerBise derives housing unit estimates by converting annual population increases to housing units using persons per housing unit factors. For nonresidential development, the base year employment estimate is calculated based on 2015 estimates from the U.S. Census Bureau's OnTheMap web application. The 2015 jobs per housing unit ratio is applied to the housing unit projections to project future employment. The employment projections are converted into floor area based on average square feet per job multipliers. The projections contained in this document provide the foundation for the Development Fee Report. These metrics are the service units and demand indicators used in the Development Fee Report.

Development projections and growth rates are summarized in Figure C11. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, development fees methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, San Luis will receive an increase in fee revenue, but will also need to accelerate infrastructure improvements to keep pace with the actual rate of development.

## RESIDENTIAL DEVELOPMENT

Current estimates and future projections of residential development are detailed in this section including population and housing units by type.

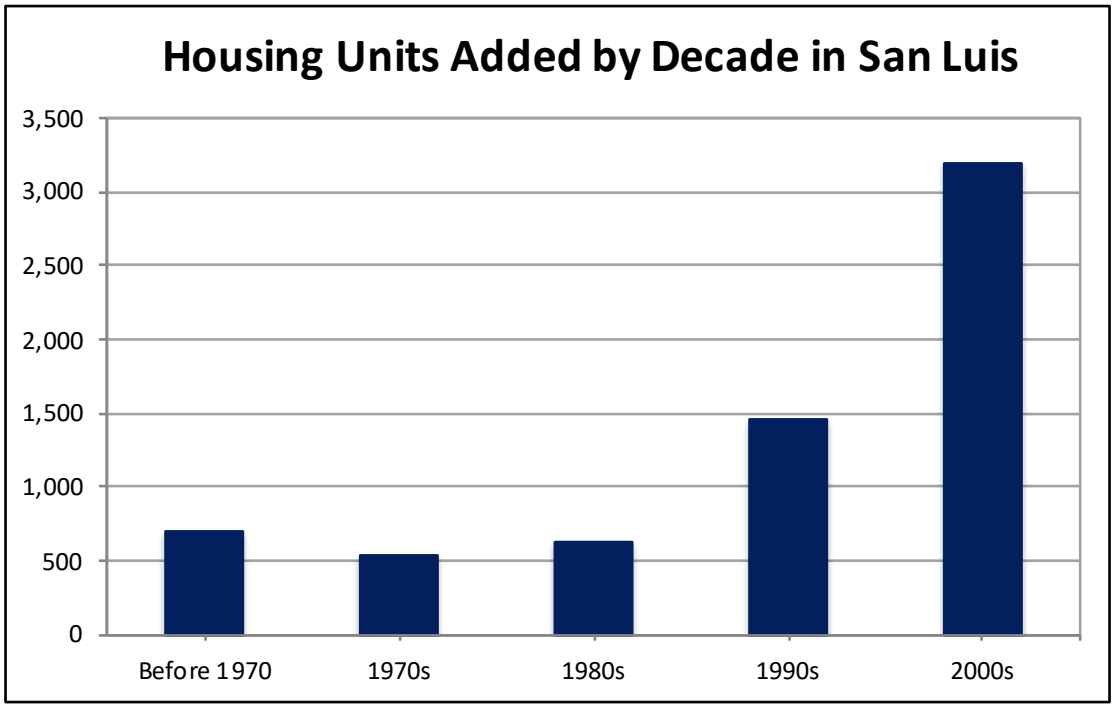
### Recent Residential Construction

Development fees require an analysis of current levels of service. For residential development, current levels of service are determined using estimates of population and housing units. Shown below, Figure C2 indicates the estimated number of housing units added by decade according to data obtained from the U.S. Census Bureau. San Luis experienced strong growth in the 1990s and 2000s. From 2000 to 2010, San Luis' housing inventory increased by an average of 320 units per year.

**Figure C2: Housing Units by Decade**

| | |
|---|---|
| Census 2010 Housing Units | 6,525 |
| Census 2000 Housing Units | 3,325 |
| New Housing Units 2000 to 2010 | 3,200 |

San Luis added an average of 320 housing units per year from 2000 to 2010.




Source: U.S. Census Bureau, Census 2010 Summary File 1, Census 2000 Summary File 1, 2012-2016 5-Year American Community Survey (for 1990s and earlier, adjusted to yield total units in 2000).

## Household Size

According to the U.S. Census Bureau, a household is a housing unit occupied by year-round residents. Development fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the development fee methodology assumes a higher percentage of housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that development fees for residential development in San Luis be imposed according to the number of year-round residents per housing unit. This methodology assumes some portion of the housing stock will be vacant during the course of a year. According to the U.S. Census Bureau American Community Survey, San Luis' vacancy rate was 6.3 percent in 2015.

PPHU calculations require data on population and the types of units by structure. The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For development fees in San Luis, detached stick-built units and attached units (commonly known as townhouses, which share a common sidewall, but are constructed on an individual parcel of land) are included in the "Single-Family Unit" category. The second residential category includes duplexes and all other structures with two or more units on an individual parcel of land. This category is referred to as "Multi-Family Unit." (Note: housing unit estimates from ACS will not equal decennial census counts of units. These data are used only to derive the custom PPHU factors for each type of unit).

Figure C3 below shows the 2011-2015 five-year ACS estimates for San Luis. Single-family units averaged 3.45 persons per housing unit (26,381 persons / 7,657 housing units) and multi-family units averaged 2.23 persons per housing unit (2,522 persons / 1,133 housing units). In 2015, San Luis' housing stock averaged 3.29 persons per housing unit. Including persons in group quarters, the citywide average is 3.54 persons per housing unit.

**Figure C3: Persons per Housing Unit**

| Units in Structure | Persons | Households | Persons per Household | Housing Units | Persons per Housing Unit | Housing Mix | Vacancy Rate |
|---|---|---|---|---|---|---|---|
| Single-Family Units[1] | 26,381 | 7,193 | 3.67 | 7,657 | **3.45** | 87.1% | 6.10% |
| Multi-Family Units[2] | 2,522 | 1,040 | 2.43 | 1,133 | **2.23** | 12.9% | 8.20% |
| Subtotal | 28,903 | 8,233 | 3.51 | 8,790 | **3.29** | 100.0% | 6.30% |
| Group Quarters | 2,215 | | | | | | |
| Total | 31,118 | | | 8,790 | **3.54** | | |

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, Tables B25024, B25032, B25033, B26001

1. Includes detached, attached (i.e. townhouses), and mobile home units.

2. Includes dwellings in structures with two or more units.

## Population and Housing Unit Estimates

To accurately determine current and future population in San Luis, TischlerBise compared population estimates and growth rates from ACS data, Arizona Department of Administration (ADOA) data, and the San Luis General Plan. ADOA released population projections through 2050 for jurisdictions in 2016, along with annual updates of population estimates. TischlerBise uses ADOA's 2017 population estimate of 35,289 and the 2015 to 2030 compound annual growth rate of 3.58 percent to project population to the 2018 base year. For this analysis, the base year total population estimate is 36,552 (including group quarters) and the household population is 33,969.

TischlerBise converts estimated population to housing units using persons per housing unit factors detailed in Figure C3 – 3.54 persons per housing unit. The base year total population of 36,552 divided by 3.54 persons per housing unit results in an estimate of 10,325 housing units.

## Population and Housing Unit Projections

This analysis projects population growth using ADOA's 2015 to 2030 compound annual growth rate of 3.58 percent, and this results in a 2028 total population of 51,961 persons. Converting the total population projections to housing unit projections using 3.54 persons per housing unit results in a 2028 housing unit estimate of 14,678. To estimate household population, this analysis multiplies the housing unit projections by 3.29 persons per housing unit – this excludes group quarters. The 10-year increase in household population results in 14,322 additional persons.

The housing units are distributed by type based on the housing mix detailed in Figure C3. Therefore, 87.1 percent of projected new units are single-family and 12.9 percent are multi-family. For this study, it is assumed that the persons per housing unit ratio will remain constant. TischlerBise projects a 10-year increase of 14,322 persons, or an average of 1,432 persons annually, and a corresponding 10-year increase of 4,353 housing units, or an average of 435 units annually.

Population and housing unit projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease.

**Figure C4: Residential Development Projections**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| **Population** | | | | | | | | |
| Household | 33,969 | 35,187 | 36,447 | 37,753 | 39,102 | 40,503 | 48,291 | **14,322** |
| Group Quarters | 2,583 | 2,674 | 2,769 | 2,867 | 2,972 | 3,078 | 3,670 | **1,087** |
| Total Population | 36,552 | 37,861 | 39,216 | 40,620 | 42,074 | 43,581 | 51,961 | **15,409** |
| **Housing Units** | | | | | | | | |
| Single-Family | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 12,786 | **3,792** |
| Multi-Family | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,892 | **561** |
| Total Housing Units | 10,325 | 10,695 | 11,078 | 11,475 | 11,885 | 12,311 | 14,678 | **4,353** |

## NONRESIDENTIAL DEVELOPMENT

Current estimates and future projections of nonresidential development are detailed in this section including jobs and nonresidential floor area.

### Employment Estimates

In addition to data on residential development, the calculation of development fees requires data on employment (number of jobs) and nonresidential square footage in San Luis. TischlerBise uses the term "jobs" to refer to employment by place of work. TischlerBise analyzed recent employment trends, the U.S. Census Bureau, and had discussions with City staff.

TischlerBise uses a four step process to calculate base year job and nonresidential footage estimates, and projections for 10 years past the base year. First, 2018 employment estimates are derived using 2015 OnTheMap employment estimates. Second, job estimates are organized by type: Industrial, Commercial, Institutional, and Office & Other Service. Third, the 2015 jobs per housing unit ratio of 0.504 is applied to housing unit projections in Figure C4 to project citywide jobs. The last step allocates jobs by type based on the 2015 share of total jobs. This process is detailed below in Figure C5.

**Figure C5: Estimated Employment and Distribution by Industry Type**

| Nonresidential Category | 2018 Jobs[1] | Percent of Total Jobs | Square Feet per Job[2] | 2018 Estimated Floor Area[3] | Jobs per 1,000 Sq. Ft.[2] |
|---|---|---|---|---|---|
| Industrial[4] | 634 | 12% | 615 | 389,910 | 1.63 |
| Commercial[5] | 1,226 | 24% | 427 | 523,502 | 2.34 |
| Institutional[6] | 1,362 | 26% | 1,076 | 1,465,266 | 0.93 |
| Office & Other Service[7] | 1,982 | 38% | 337 | 667,934 | 2.97 |
| Total | 5,204 | 100% | | 3,046,612 | 1.71 |

1. TischlerBise calculation based on 2015 OnTheMap employment estimates.
2. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).
3. TischlerBise calculation (2018 jobs X square feet per job).
4. Major sectors are Agriculture and Warehousing.
5. Major sectors are Retail, Accommodation, and Food Services.
6. Major sectors are Educational Services and Public Administration.
7. Major sectors are Administration & Support, and Health Care.

### Nonresidential Square Footage Estimates

TischlerBise uses 2017 Institute of Transportation Engineers (ITE) data as a proxy for future nonresidential floor area (Figure C6). The prototype for industrial development is light industrial (110) with an average of 615 square feet per employee, institutional development uses an elementary school (ITE 520) with an average of 1,076 square feet per job, office development uses general office (710) that averages 337 square feet per job, and commercial development uses shopping center (820) and averages 427 square feet per job. TischlerBise estimates San Luis has approximately 3.05 million square feet of nonresidential space.

**Figure C6: The Institute of Transportation Engineers, Employee and Building Area Ratios**

| ITE Code | Land Use / Size | Demand Unit | Wkdy Trip Ends Per Dmd Unit[1] | Wkdy Trip Ends Per Employee[1] | Emp Per Dmd Unit | Sq Ft Per Emp |
|---|---|---|---|---|---|---|
| **110** | **Light Industrial** | **1,000 Sq Ft** | **4.96** | **3.05** | **1.63** | **615** |
| 130 | Industrial Park | 1,000 Sq Ft | 3.37 | 2.91 | 1.16 | 864 |
| 140 | Manufacturing | 1,000 Sq Ft | 3.93 | 2.47 | 1.59 | 628 |
| 150 | Warehousing | 1,000 Sq Ft | 1.74 | 5.05 | 0.34 | 2,902 |
| 310 | Hotel | room | 8.36 | 14.34 | 0.58 | na |
| **520** | **Elementary School** | **1,000 Sq Ft** | **19.52** | **21.00** | **0.93** | **1,076** |
| 540 | Community College | student | 1.15 | 14.61 | 0.08 | na |
| 610 | Hospital | 1,000 Sq Ft | 10.72 | 3.79 | 2.83 | 354 |
| 620 | Nursing Home | bed | 3.06 | 2.91 | 1.05 | na |
| **710** | **General Office (average size)** | **1,000 Sq Ft** | **9.74** | **3.28** | **2.97** | **337** |
| 720 | Medical-Dental Office | 1,000 Sq Ft | 34.80 | 8.70 | 4.00 | 250 |
| 750 | Office Park | 1,000 Sq Ft | 11.07 | 3.54 | 3.13 | 320 |
| **820** | **Shopping Center (average size)** | **1,000 Sq Ft** | **37.75** | **16.11** | **2.34** | **427** |

1. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

## Employment and Nonresidential Floor Area Projections

Future employment growth and nonresidential development in San Luis are based on housing unit growth. To project employment, TischlerBise uses the 2015 jobs per housing unit ratio, 0.504, and applies that ratio to the housing unit projections shown in Figure C4. Based on the 2028 housing unit projection of 14,678 units and a jobs per housing unit ratio of 0.504, the 2028 employment projection equals 7,398 jobs.

To project growth in nonresidential square footage, TischlerBise applies the previously discussed square feet per employee factors to the projected increase in employment. The results of these calculations are shown in Figure C7. Over the next 10 years, San Luis is projected to gain 2,194 jobs and add an estimated 1.284 million square feet of nonresidential development.

**Figure C7: Nonresidential Development Projections**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 10 | Increase |
| **Employment** | | | | | | | | |
| Industrial | 634 | 657 | 680 | 704 | 730 | 756 | 901 | **267** |
| Commercial | 1,226 | 1,270 | 1,315 | 1,362 | 1,411 | 1,462 | 1,743 | **517** |
| Institutional | 1,362 | 1,411 | 1,461 | 1,514 | 1,568 | 1,624 | 1,937 | **575** |
| Office & Other Service | 1,982 | 2,052 | 2,127 | 2,203 | 2,281 | 2,363 | 2,817 | **835** |
| Total Employment | 5,204 | 5,390 | 5,583 | 5,783 | 5,990 | 6,205 | 7,398 | **2,194** |
| **Nonresidential Floor Area (x1,000)** | | | | | | | | |
| Industrial | 390 | 404 | 418 | 433 | 449 | 465 | 554 | **164** |
| Commercial | 524 | 542 | 562 | 582 | 602 | 624 | 744 | **220** |
| Institutional | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 2,084 | **619** |
| Office & Other Service | 668 | 692 | 717 | 742 | 769 | 796 | 949 | **281** |
| Total Nonres. Floor Area | 3,047 | 3,156 | 3,269 | 3,386 | 3,507 | 3,632 | 4,331 | **1,284** |

## AVERAGE WEEKDAY VEHICLE TRIPS

Average Weekday Vehicle Trips are used as a measure of demand by land use. Vehicle trips are estimated using average weekday vehicle trip ends from the reference book, *Trip Generation, 10th Edition*, published by the ITE in 2017. A vehicle trip end represents a vehicle entering or exiting a development (as if a traffic counter were placed across a driveway).

### Trip Rate Adjustments

To calculate road development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the development impact fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

### Commuter Trip Adjustment

Residential development has a larger trip adjustment factor of 62 percent to account for commuters leaving San Luis for work. According to the 2009 National Household Travel Survey (see Table 30) weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure C8, the U.S. Census Bureau's OnTheMap web application indicates that 76 percent of resident workers traveled outside of San Luis for work in 2015. In combination, these factors (0.31 x 0.50 x 0.76 = 0.118) support the additional 12 percent allocation of trips to residential development.

**Figure C8: Commuter Trip Adjustment**

| Trip Adjustment Factor for Commuters[1] | |
|---|---|
| Employed Residents | 9,211 |
| Residents Living and Working in San Luis | 2,189 |
| Residents Commuting Outside San Luis for Work | 7,022 |
| **Percent Commuting out of San Luis** | **76%** |
| **Additional Production Trips[2]** | **12%** |
| **Residential Trip Adjustment Factor** | **62%** |

1. U.S. Census Bureau, OnTheMap Application (version 6.1.1) and LEHD Origin-Destination Employment Statistics, 2015.

2. According to the National Household Travel Survey (2009)*, published in December 2011 (see Table 30), home-based work trips are typically 30.99 percent of "production" trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, LED OnTheMap data from 2015 indicate that 76 percent of San Luis' workers travel outside the city for work. In combination, these factors (0.3099 x 0.50 x 0.76 = 0.12) account for 12 percent of additional production trips. The total adjustment factor for residential includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (12 percent of production trips) for a total of 62 percent.
*http://nhts.ornl.gov/publications.shtml ; Summary of Travel Trends - Table "Daily Travel Statistics by Weekday vs. Weekend"

## Adjustment for Pass-By Trips

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

## Estimated Residential Vehicle Trip Rates

As an alternative to simply using the national average trip generation rate for residential development, the ITE publishes regression curve formulas that may be used to derive custom trip generation rates, using local demographic data. Key independent variables needed for the analysis (i.e. vehicles available, housing units, households, and persons) are available from American Community Survey data. Shown in Figure C9, custom trip generation rates for San Luis vary slightly from the national averages. For example, single-family residential development is expected to generate 10.90 average weekday vehicle trip ends per dwelling – compared to the national average of 9.44 (ITE 210). Multi-family residential development is expected to generate 5.10 average weekday vehicle trip ends per dwelling, which is lower than the national average of 5.44 (ITE 221).

**Figure C9: Average Weekday Vehicle Trip Ends by Housing Type**

| | | Households by Structure Type[2] | | | |
|---|---|---|---|---|---|
| Tenure by Units in Structure | Vehicles Available[1] | Single-Family | Multi-Family | Total | Vehicles per HH by |
| Owner-Occupied | 12,533 | 5,873 | 27 | 5,900 | 2.12 |
| Renter-Occupied | 3,163 | 1,320 | 1,013 | 2,333 | 1.36 |
| Total | 15,696 | 7,193 | 1,040 | 8,233 | 1.91 |

| Units in Structure | Persons in Households[3] | Trip Ends[4] | Vehicles by Type of Unit | Trip Ends[5] | Average Trip Ends | Housing Units[6] | Trip Ends per Unit | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | San Luis | ITE[7] |
| Single-Family | 26,381 | 73,429 | 14,265 | 92,967 | 83,198 | 7,657 | 10.90 | 9.44 |
| Multi-Family | 2,522 | 5,694 | 1,431 | 5,931 | 5,813 | 1,133 | 5.10 | 5.44 |
| Total | 28,903 | 79,123 | 15,696 | 98,898 | 89,010 | 8,790 | 10.10 | |

1. Vehicles available by tenure from Table B25046, American Community Survey, 2012-2016 5-Year Estimates.
2. Households by tenure and units in structure from Table B25032, American Community Survey, 2012-2016 5-Year Estimates.
3. Total population in households from Table B25033, American Community Survey, 2012-2016 5-Year Estimates.
4. Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2017). For single-family housing (ITE 210), the fitted curve equation is EXP(0.89*LN(persons)+1.72). To approximate the average population of the ITE studies, persons were divided by 47 and the equation result multiplied by 47. For multi-family housing (ITE 221), the fitted curve equation is (2.29*persons)-81.02.
5. Vehicle trip ends based on vehicles available using formulas from Trip Generation (ITE 2017). For single-family housing (ITE 210), the fitted curve equation is EXP(0.99*LN(vehicles)+1.93). To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 55 and the equation result multiplied by 55. For multi-family housing (ITE 221), the fitted curve equation is (3.94*vehicles)+293.58.
6. Housing units from Table B25024, American Community Survey, 2012-2016 5-Year Estimates.
7. Trip Generation, Institute of Transportation Engineers, 10th Edition (2017).

## Functional Population

TischlerBise recommends functional population to allocate the cost of certain facilities to residential and nonresidential development. As shown in Figure C10, functional population accounts for people living and working in a jurisdiction. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. It describes geographic patterns of jobs by their employment locations and residential locations as well as the connections between the two locations. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

Residents who do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in San Luis are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside San Luis are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data for San Luis, the cost allocation for residential development is 80 percent while nonresidential development accounts for 20 percent of the demand for municipal facilities.

**Figure C10: Functional Population**

| Demand Units in 2015 | | | | | |
|---|---|---|---|---|---|
| **Residential** | | | | Demand Hours/Day | Person Hours |
| | Population | 29,550 | | | |
| | Residents Not Working | | 20,339 | 20 | 406,780 |
| | Employed Residents | | 9,211 | | |
| | Employed in San Luis | | | 2,189 | 14 | 30,646 |
| | Employed outside San Luis | | | 7,022 | 14 | 98,308 |
| | | | | Residential Subtotal | | 535,734 |
| | | | | **Residential Share** | | **80%** |
| **Nonresidential** | | | | | |
| | Non-working Residents | | 20,339 | | 4 | 81,356 |
| | Jobs Located in San Luis | | 4,844 | | |
| | Residents Employed in San Luis | | | 2,189 | 10 | 21,890 |
| | Non-Resident Workers (inflow commuters) | | | 2,655 | 10 | 26,550 |
| | | | | Nonresidential Subtotal | | 129,796 |
| | | | | **Nonresidential Share** | | **20%** |
| | | | | Total | | 665,530 |

Source: U.S. Census Bureau, OnTheMap 6.5 Application and LEHD Origin-Destination Employment Statistics.

## DEVELOPMENT PROJECTIONS

Provided below is a summary of cumulative development projections used in the development fee study. Base year estimates for 2018 are used in the development impact fee calculations. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands.

**Figure C11: Development Projections Summary**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Increase |
| **Population** | | | | | | | | | | | | |
| Household | 33,969 | 35,187 | 36,447 | 37,753 | 39,102 | 40,503 | 41,954 | 43,454 | 45,010 | 46,623 | 48,291 | **14,322** |
| Group Quarters | 2,583 | 2,674 | 2,769 | 2,867 | 2,972 | 3,078 | 3,187 | 3,303 | 3,421 | 3,542 | 3,670 | **1,087** |
| Total Population | 36,552 | 37,861 | 39,216 | 40,620 | 42,074 | 43,581 | 45,141 | 46,757 | 48,431 | 50,165 | 51,961 | **15,409** |
| **Housing Units** | | | | | | | | | | | | |
| Single-Family | 8,994 | 9,316 | 9,650 | 9,996 | 10,353 | 10,724 | 11,108 | 11,505 | 11,918 | 12,344 | 12,786 | **3,792** |
| Multi-Family | 1,331 | 1,379 | 1,428 | 1,479 | 1,532 | 1,587 | 1,644 | 1,703 | 1,763 | 1,827 | 1,892 | **561** |
| Total Housing Units | 10,325 | 10,695 | 11,078 | 11,475 | 11,885 | 12,311 | 12,752 | 13,208 | 13,681 | 14,171 | 14,678 | **4,353** |

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Base Yr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Increase |
| **Employment** | | | | | | | | | | | | |
| Industrial | 634 | 657 | 680 | 704 | 730 | 756 | 783 | 811 | 840 | 870 | 901 | **267** |
| Commercial | 1,226 | 1,270 | 1,315 | 1,362 | 1,411 | 1,462 | 1,514 | 1,568 | 1,624 | 1,682 | 1,743 | **517** |
| Institutional | 1,362 | 1,411 | 1,461 | 1,514 | 1,568 | 1,624 | 1,682 | 1,743 | 1,805 | 1,870 | 1,937 | **575** |
| Office & Other Service | 1,982 | 2,052 | 2,127 | 2,203 | 2,281 | 2,363 | 2,448 | 2,535 | 2,626 | 2,720 | 2,817 | **835** |
| Total Employment | 5,204 | 5,390 | 5,583 | 5,783 | 5,990 | 6,205 | 6,427 | 6,657 | 6,895 | 7,142 | 7,398 | **2,194** |
| **Nonresidential Floor Area (x1,000)** | | | | | | | | | | | | |
| Industrial | 390 | 404 | 418 | 433 | 449 | 465 | 482 | 499 | 517 | 535 | 554 | **164** |
| Commercial | 524 | 542 | 562 | 582 | 602 | 624 | 646 | 670 | 693 | 718 | 744 | **220** |
| Institutional | 1,465 | 1,518 | 1,572 | 1,629 | 1,687 | 1,747 | 1,810 | 1,875 | 1,942 | 2,012 | 2,084 | **619** |
| Office & Other Service | 668 | 692 | 717 | 742 | 769 | 796 | 825 | 854 | 885 | 917 | 949 | **281** |
| Total Nonres. Floor Area | 3,047 | 3,156 | 3,269 | 3,386 | 3,507 | 3,632 | 3,763 | 3,898 | 4,037 | 4,182 | 4,331 | **1,284** |

# APPENDIX D: LAND USE DEFINITIONS

## RESIDENTIAL DEVELOPMENT

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. San Luis will collect development fees from all new residential units. One-time development fees are determined by site capacity (i.e. number of residential units).

**Single-Unit:**

1. **Single-family detached** is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. **Single-family attached (townhouse)** is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.
3. **Mobile home** includes both occupied and vacant mobile homes, to which no permanent rooms have been added. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

**2+ Units:**

1. **2+ units (duplexes and apartments)** are units in structures containing two or more housing units, further categorized as units in structures with "2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments."
2. **Boat, RV, Van, Etc.** includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

## NONRESIDENTIAL DEVELOPMENT

The proposed general nonresidential development categories (defined below) can be used for all new construction within San Luis. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

**Commercial:** Establishments primarily selling merchandise, eating/drinking places, and entertainment uses. By way of example, *Commercial / Retail* includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters, hotels, and motels.

**Industrial:** Establishments primarily engaged in the production, transportation, or storage of goods. By way of example, *Industrial* includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.

**Institutional:** Establishments including public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, *Institutional* includes schools, universities, churches, daycare facilities, government buildings, and prisons.

**Office & Other Service:** Establishments providing management, administrative, professional, or business services; personal and health care services. By way of example, *Office and Other Services* includes banks, business offices, assisted living facilities, nursing homes, hospitals, medical offices, and veterinarian clinics.

# AGENDA ITEM REVIEW FORM

**Regular City Council Meeting** **6.F.**

**Meeting Date:** 07/24/2019

**Department Head:** Kay Macuil, City Attorney, Attorney's Office

**Submitted By:** Kay Macuil, City Attorney, Attorney's Office

Action Requested: Motion
Ordinance

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**ITEM:**

Discussion and possible action on any and all matters regarding Ordinance No. 391. An ordinance of the Mayor and City Council of the City of San Luis, Arizona, amending the San Luis City Code on Building Regulations, Section 150.014 by adding subsection 150.014 (C) Traffic Impact Studies; repealing any conflicting provisions; providing for severability; and declaring an emergency. **(Kay Marion Macuil, City Attorney)**

A. Action on Reading of Ordinance No. 391 by title only.
(City Clerk to read Ordinance No. 391 by title only)
B. Action on Ordinance No. 391.

**SUMMARY:**

**Background**

The City has experienced the development of properties wherein a subdivision is not involved, yet the development generates traffic. These properties cause a need for major infrastructure improvements to accommodate the development and to deal with the new demands created by the increase in traffic due to that development.

**How the Ordinance will fit into the San Luis City Code**

**Public Works Standards**
The city has formally adopted Public Works Standards. Standard Number 2-100 of these Public Works Standards provide guidelines for Traffic Impact Studies. The standard requires a traffic study if the development or modification to development are expected to generate 100 or more additional trips during any hour. The amount of traffic expected to be generated by the development must be determined using the procedures in "Trip Generation," current edition, published by the Institute of Transportation Engineers.

**General Plan**
The Ordinance prohibits school zones and school crossings on existing and future arterial roads. Exhibit 4.1 of the General Plan's Transportation Circulation Plan shows the current arterial roads in the color green on the attachment.

**Building Regulations**
The Ordinance amends the Building Regulations because it deals with developments which are not part of a zoning conditional use permit, subdivision, lot tie or lot split. The purpose of this ordinance is to: (1) augment the adopted public works standards, (2) make it clear when a traffic study will be required and

(3) make it clear that the developer must build appropriate infrastructure at the cost of the developer.

**RECOMMENDATION / SUGGESTED MOTION:**

**A. I MOVE TO APPROVE READING OF ORDINANCE NO. 391 BY TITLE ONLY.**
**(City Clerk to read Ordinance No. 391 by title only)**

**B. I MOVE TO APPROVE ORDINANCE NO. 391 AND DECLARE AN EMERGENCY.**

N/A

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**Fiscal Impact**

| | |
|---|---|
| **IS THERE FISCAL IMPACT ASSOCIATED WITH THIS ITEM:** | N/A |
| **CITY/STATE/FEDERAL FUNDS:** | N/A |
| **TOTAL:** | N/A |
| **BUDGETED AMOUNT:** | N/A |
| **AVAILABLE AMOUNT TO TRANSFER:** | N/A |
| **ACCT NAME & GL#/REMAINING BALANCE BEFORE PURCHASE:** | N/A |

**FISCAL IMPACT STATEMENT (IF THIS IS A BUDGET TRANSFER, YOU MUST ATTACH THE BUDGET ADJUSTMENT FORM):**

There is no discernable fiscal impact to this ordinance.

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**Attachments**

Ordinance 391
Standards for Traffic Studies
Arterial Map in Green

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# Ordinance

OFFICE OF THE
MAYOR
CITY OF SAN LUIS

**No. 391**

**AN ORDINANCE OF THE MAYOR AND CITY COUNCIL OF THE CITY OF SAN LUIS, ARIZONA, AMENDING THE SAN LUIS CITY CODE ON BUILDING REGULATIONS SECTION 150.014 BY ADDING SUBSECTION 150.014(C) TRAFFIC IMPACT STUDIES; REPEALING ANY CONFLICTING PROVISIONS; PROVIDING FOR SEVERABILITY; AND DECLARING AN EMERGENCY.**

**WHEREAS**, development of property is not confined to development of subdivisions;

**WHEREAS**, development of property can impact both the amount as well as the flow of traffic on adjacent and nearby streets and roads;

**WHEREAS**, the City Council finds that the impact of development of property can severely impact both traffic count and traffic flow on arterial roads, truck routes, and roadways of regional significance if appropriate improvements or infrastructure are not constructed contemporaneously with said property development;

**WHEREAS**, the City Council finds that the existence of school zones and school crossings pose a particular significant impediment to both count and flow of traffic on arterial roads, roads of regional significance, and truck routes;

**WHEREAS**, provision for proper infrastructure on streets and roads is necessary to provide for public health and safety;

**WHEREAS**, the City Council finds that the development of property should bear the burden of infrastructure needed or necessary to ameliorate the problems associated with traffic as a result of the aforementioned development of property; and

**WHEREAS**, property is not developed until the issuance of a building permit;

**NOW THEREFORE BE IT ORDAINED** by the Mayor and City Council of the City of San Luis, Arizona, as follows:

**Section 1**. Section 150.014 of the San Luis City Code entitled Additional Regulations is amended to add subsection 150.014 (C) as follows:

(C) *Traffic Impact Studies.* As a building code requirement for the

development of any structure or subdivision, if a proposed development is expected to generate traffic requiring a traffic impact study as provided by the Public Works Standards of the City of San Luis, involves a public or private school or other educational institution, or other institution, such study shall be required. The property owner or the developer shall have such study conducted at their expense in accordance with said Public Works Standards and shall construct or provide for the construction and/or development of all improvements required by the said study as a condition for issuance of any permit authorizing construction or development. Improvements required by such study shall include such improvements as may be needed so that no school zone or school crossing shall be established or otherwise needed on a roadway of regional significance, an existing arterial road, or a future arterial road, as shown on Exhibit 4.1, the Transportation Circulation Plan to City of San Luis General Plan 2020.

Section 2. If a conflict arises between the provisions of this Ordinance and any other ordinance, resolution, regulation, or policy of the City of San Luis, the conflicting provisions are hereby repealed, superseded, and replaced, and the provisions of this ordinance shall govern.

Section 3. If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions thereof.

Section 4. Whereas, it is necessary for the preservation of the peace, health and safety of the City of San Luis, Arizona, an emergency is declared to exist, and this ordinance shall become immediately operative and in force from and after the date of posting hereof.

**PASSED, ADOPTED and APPROVED** by the Mayor and City Council of the City of San Luis, Yuma County, Arizona this ____day of July, 2019.

_____
Gerardo Sanchez, Mayor

**ATTEST:**

_____
Sonia Cornelio, City Clerk

**APPROVED AS TO FORM:**

Kay Marion Macuil
Kay Marion Macuil, City Attorney

# CITY OF YUMA GUIDELINES FOR TRAFFIC IMPACT STUDIES

A traffic impact study may be required for new and expanded or changed developments at the rezoning stage, the platting or lot tie / lot split stage, and for conditional use permits. When state roads are adjacent, such studies must satisfy the requirements of the Arizona Department of Transportation's publication "Traffic Impact Analysis for Proposed Development" (current edition) and to those additional requirements specified in the City Engineering Department "Traffic Impact Study Guidelines". If no State roads are involved, only the City's Engineering Department guidelines need to be satisfied.

Traffic impact studies may be required for all developments and modifications to developments that are expected to generate 100 or more additional trips during any hour. Where staged or phased development is planned, the traffic impact study must include all development phases. If it becomes apparent that a request is being made for a development that is, in fact, an extension of a recent (less than 5 years) development that already exists or is in progress, and no traffic impact study has been accepted for the original development, the traffic impact study must also include the original development.

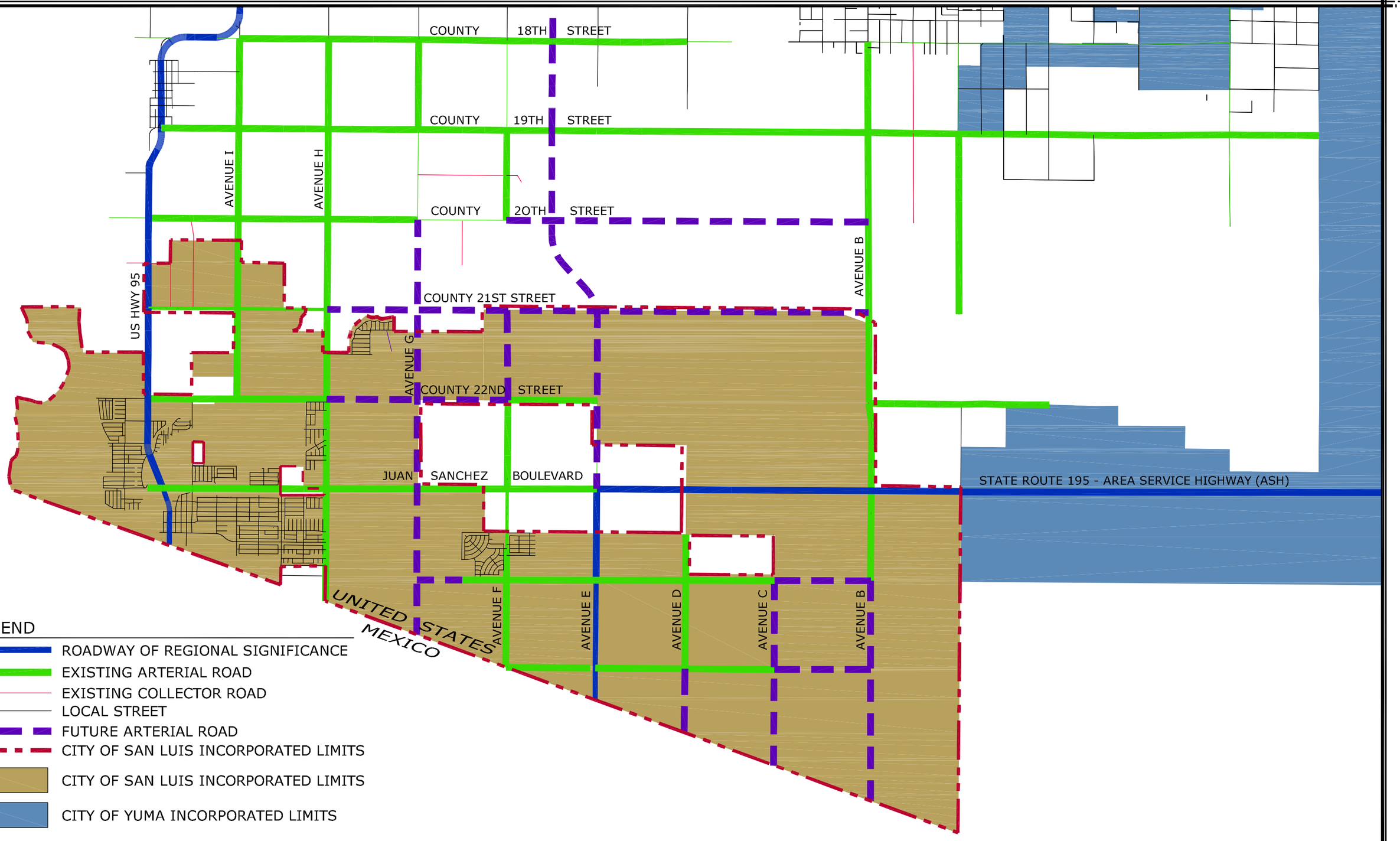
The amount of traffic expected to be generated by the development must be determined using the procedures set forth in "Trip Generation", current edition, published by the Institute of Transportation Engineers. In all cases, the trip data for a given land use must be at least the average rate for that land use as shown in the tables associated with the land use (the fitted curves data may not be used). The City Engineer may require that a value higher than the average rate be used depending on the specific use or business planned for the site. Said higher value, if required, will not exceed the average rate plus fifty percent (50%) of the difference between the average rate and the maximum rate for the range.

Issued: February 2009

CITY OF YUMA
CONSTRUCTION STANDARD DETAIL DRAWINGS

**STANDARD NO. 2-100**

**GUIDELINES FOR TRAFFIC IMPACT STUDIES**




The WLB Group Inc. WLB

# EXHIBIT 4.1: TRANSPORTATION AND CIRCULATION PLAN

6.23.2011
WLB No. 110009-A-001

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L:\110009\Exhibits\Exhib 4.1 Transportation and Circulation Plan.dwg Plotted: Jul 14, 2011