

# Lake Havasu MPO

METROPOLITAN PLANNING ORGANIZATION

## Technical Advisory Committee (TAC) Meeting Tuesday, March 28, 2023



900 N. London Bridge Rd., Bldg. B  
Lake Havasu, AZ 86404  
(928)-453-2824

Disclaimer: This is not a legal document. Although much care was taken to ensure the accuracy of the information presented in this document, The Lake Havasu Metropolitan Planning Organization does not guarantee the accuracy of this information.

Greg Froslic, Lake Havasu City  
(Chairman)  
Steven Latoski, Mohave County  
(Vice Chairman)  
Will Randolph, ADOT  
Todd Steinberger, ADOT  
Roland Hulse, WACOG  
Jess Knudson, Lake Havasu City  
Jeff Thuneman, Lake Havasu City  
Tim Walsh, Mohave County



900 London Bridge Road, Bldg. B  
Meeting Room-A108  
Lake Havasu City, AZ 86404  
[www.LHMPO.org](http://www.LHMPO.org)

**TECHNICAL ADVISORY COMMITTEE (TAC)  
MEETING**

**Tuesday, March 28, 2023, 10:00 a.m.**

**In-Person Attendance is suspended for this Meeting.  
This meeting will be held through technological means.**

Zoom Meeting ID: **543 061 1521**      Call-in Information: **1-669-900-9128**

**Shaded items are action items**

**1. CALL TO ORDER ( Greg Froslic)**

**2. ROLL CALL (Sarah Lojewski)**

**3. TITLE VI - NOTICE TO THE PUBLIC (Sarah Lojewski)**

**4. Call to the Public ( Greg Froslic)**

This item is to provide an opportunity for citizens wishing to address the TAC on issues within the jurisdiction of the LHMPO planning area that are not on the Agenda.

Comments may be provided in writing via email to [Hembreej@lhcaz.gov](mailto:Hembreej@lhcaz.gov) prior to the meeting by 12:00 pm on the day meeting.

Comments may also be provided verbally during the meeting at the "Call to the Public" either by using the call-in number at 1-669-900-9128 and /or by using the Zoom meeting online ID at 543 061 1521.

Verbal comments SHALL be limited to three (3) minutes or less

**5. Approve the TAC Meeting Minutes of January 24, 2023**

*Greg Froslic, TAC Chairman*

**6. FY2023 TIP Amendment #1**

*Justin Hembree, LHMPO Director*

**7. Draft 2023 TIP Update**

*Justin Hembree, LHMPO Director*

**8. FY2023 Loan**

*Justin Hembree, LHMPO Director*

**9. Scope of Work/RFP - Traffic Signal Optimization & Enhancement Study**

*Justin Hembree, LHMPO Director*

**10. ADOT District Engineer's Report**

*Todd Steinberger, P.E. Northwest Assistant District Engineer*

**11. ADOT Planner's Report**

*Will Randolph, Regional Transportation Planner*

**12. WACOG Transportation Report**

*Roland Hulse, WACOG Transportation Manager*

**13. UPCOMING MEETING SCHEDULE**

- LHMPO Executive Board Meeting: **April 11, 2023, 10:00 AM**
- LHMPO TAC Meeting: **May 23, 2023, 10:00 AM**

**13. ADJOURN**

*Pursuant to Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA), and other nondiscrimination laws and authorities, LHMPO does not discriminate on the basis of race, color, national origin, sex, age, or disability. Persons that require a reasonable accommodation based on language or disability should contact LHMPO's Title VI Coordinator at [hembreej@lhcaz.gov](mailto:hembreej@lhcaz.gov). Requests should be made as early as possible to ensure LHMPO has an opportunity to address the accommodation.*

*De acuerdo con el Título VI de la Ley de Derechos Civiles de 1964, la Ley de Estadounidenses con Discapacidades (ADA por sus siglas en inglés) y otras normas y leyes antidiscriminatorias, la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) no discrimina por motivos de raza, color, origen nacional, sexo, edad o discapacidad. Las personas que requieran asistencia (dentro de lo razonable) ya sea por el idioma o discapacidad deben ponerse en contacto con el Director Ejecutivo de la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) en [hembreej@lhcaz.gov](mailto:hembreej@lhcaz.gov). Las solicitudes deben hacerse lo antes posible para asegurar que la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) tenga la oportunidad de hacer los arreglos necesarios.*

*In an effort to determine who attends our meetings and to improve participation in the planning process, the LHMPO ask that you please fill out the following voluntary survey:*

[https://docs.google.com/forms/d/e/1FAIpQLSfcVaS6fU1kTF\\_So2QoPfosfDZjqlBpbTwqsl6HLwFxL5Xy-Q/viewform](https://docs.google.com/forms/d/e/1FAIpQLSfcVaS6fU1kTF_So2QoPfosfDZjqlBpbTwqsl6HLwFxL5Xy-Q/viewform)

*En un esfuerzo por determinar quién asiste a nuestras reuniones y mejorar la participación en el proceso de planificación, la LHMPO le pide que complete la siguiente encuesta voluntaria:*

<https://docs.google.com/forms/d/e/1FAIpQLSe6I7IM8eKfcf9mxiJcUmuLMBpLfnQ3vWCNKbigDMW4CQXb0q/viewform>

## Item #5

### ***ACTION ITEM***

### ***TAC Meeting Minutes of January 24, 2023***

*TAC Chairman or TAC Vice-Chairman*

Agenda Item # 5

**LAKE HAVASU MPO  
REQUEST FOR ACTION**

**SUBJECT:** Action to Approve the Consent Agenda

**SUBMITTED BY:** Justin Hembree, Director

**AGENDA TYPE:** Recommended Approval

---

**ATTACHMENTS:**

Technical Advisory Committee meeting minutes of January 24, 2023

---

**SUMMARY/BACKGROUND:**

Technical Advisory Committee meeting minutes of January 24, 2023

---

**ACTION OPTION:**

Motion to approve January 24, 2023, Meeting Minutes

**OR**

Motion to approve January 24, 2023, Meeting Minutes, with noted changes.

---

**RECOMMENDATION:**

Motion to approve January 24, 2023, Meeting Minutes

---

Greg Froslic, Lake Havasu City  
(Chairman)  
Steven Latoski, Mohave County  
(Vice Chairman)  
Will Randolph, ADOT  
Todd Steinberger, ADOT  
Roland Hulse, WACOG  
Jess Knudson, Lake Havasu City  
Jeff Thuneman, Lake Havasu City  
Tim Walsh, Mohave County



900 London Bridge Road, Bldg. B  
Meeting Room-A108  
Lake Havasu City, AZ 86404  
[www.LHMPO.org](http://www.LHMPO.org)

**TECHNICAL ADVISORY COMMITTEE (TAC)  
MEETING**

**Tuesday, January 24, 2023, 10:00 a.m.**

**In-Person Attendance is suspended for this Meeting.  
This meeting will be held through technological means.**

Zoom Meeting ID: **543 061 1521**      Call-in Information: **1-669-900-9128**

Shaded items are action items

**1. CALL TO ORDER**

Chairman Greg Froslic called the meeting to order at 10:00 am.

**2. ROLL CALL**

Sarah Lojewski performed the Roll Call

Present: Chairman Greg Froslic, Vice-Chairman Steven Latoski, Members Will Randolph, Jeff Thuneman, and Todd Steinberger Alternates: Mathew Gunderson standing in for Tim Walsh. Jess Knudson joined after the roll call.

**3. TITLE VI - NOTICE TO THE PUBLIC**

Sarah Lojewski performed Title VI Notice to the Public.

**4. Call to the Public**

There was no request from the public to address the TAC.

**5. Approve the TAC Meeting Minutes of November 15, 2022**

Jeff Thuneman motioned to approve November 15, 2022, meeting minutes. Steve Latoski seconded the motion.

**6. FY25/26 HSIP Award Announcements**

Justin Hembree, LHMPO Director updated the TAC on the FY25/26 HSIP awards. The LHMPO was awarded 4 out of the 5 applications that were submitted. As a result, the total awarded funding for the region is roughly \$5.6 Million.

**7. Draft Scope of Work for the proposed Traffic Signal Analysis & Modeling Study**

Justin Hembree, LHMPO Director updated the TAC on the Draft scope of work for the Traffic signal analysis & Modeling study. Through a formal procurement process (RFP) tentatively scheduled for FY 2024, the LHMPO would hire a consultant to develop a plan for the implementation of Adaptive Signal Control Technology (ASCT) or Alternative traffic signal improvements to increase the overall efficiency and operations of the three corridors. Mr. Hembree asked that the TAC review the scope of work and schedule and provide comments or any additional tasks by March 10, 2023.

**8. ADOT District Engineer's Report**

Todd Steinberger, P.E. Northwest Assistant District Engineer advised the TAC on the upcoming projects in the region.

**9. ADOT Planner's Report**

Will Randolph, Regional Transportation Planner updated the TAC with the ADOT MPD report with the following information.

**1. FY24-28 Planning to Programming Cycle:** The final FY24-28 P2P list has moved forward to ADOT Programming five-year construction program. This will proceed forward with upper management review and its typical review for public comments this spring.

**2. The HSIP call for projects for the FY25-26 program:** Eligibility letters should be coming soon, and the HSIP Safety Review Committee meeting recently occurred on Dec. 19th by ADOT Traffic Safety Section.

**3. FY24-25 COG/MPO Work Program:** ADOT staff will be looking forward to the UPWP workshop to discuss the drafting of a simplified work program for the MPO's. Near the end of February ADOT should be receiving a draft of the rural MPO work programs.

**3. ADOT SMART Program:** Awarding the SMART fund program has been placed on hold by the governor's office for the time being but please go ahead and continue to submit applications so ADOT staff can process once provided direction. Please continue to visit the website <https://azdot.gov/planning/grant-coordination/az-smart-fund>. Changes in the administration are occurring and there will be a new ADOT director January 30th.

**Status of ADOT studies:**

**1. Long Range Transportation Plan:** ADOT staff has reviewed the Multimodal Needs Analysis and has provided comment to the consultant, and has now moved onto reviewing the draft Baseline and Projected Multimodal Transportation System Revenues Analysis. The ADOT LRTP Public Survey closed January 4th and was extended past its original date. Over 7800 responses had been received. The Public

Survey Website will continue to serve as a repository for completed LRTP working papers and accompanying summary sheets (2-3 page bullet point reports of said working papers). In-person meetings for the ADOT LRTP will take place in February/March 2023. The city locations for these in-person meetings will be Tucson, Phoenix, and Flagstaff. Nearest in person meetings will be at:

- 2/28/23: LRTP Update Public Meeting - Central Region (5:30 pm to 7:30 pm - Gateway Community College, Copper Room, Phoenix, AZ)
- 3/2/23: LRTP Update Public Meeting - South Region (5:30 pm to 7:30 pm - Pima Community College Downtown, Amethyst Room, Tucson, AZ).
- 3/8/23: LRTP Update Public Meeting - Central Region (5:30 pm to 7:30 pm - Flagstaff Aquaplex, Community Room A, Flagstaff, AZ)
- 3/9/23: LRTP Update Public Virtual Meeting (5:30 pm to 7:30 pm)

If you have any questions or comments regarding the ADOT LRTP, please reach out to Jason James (jjames6@azdot.gov, 602-712-6166).

2. **Statewide Rest Area Study:** The draft Working Paper #3 on Developing Prioritization Criteria and Plan for Improvements was recently under stakeholder review and comments were received. Next will be drafting the final report for stakeholder and public review in late February.

3. **Electric Vehicle Infrastructure Plan:** The EV plan has recently been approved in September, and awaiting the final rule making regards to EV implementation from the joint office of energy and transportation . We will continue to meet with stakeholders, vendors, and have further public involvement meetings. For more information visit our EV plan website, and feel free to sign up to the mailing list to receive study updates by email and opportunities to provide input on the plan. <https://azdot.gov/planning/transportation-studies/arizona-electric-vehicle-program>

4. **Other technical studies** have been completed including the Overhead Traffic Sign Structure Study, with new ones underway with the ADOT ROW Wireless Communications Facilities Program Guidelines Study and the Statewide ITS Architecture Update.

## 10. WACOG Transportation Report

Roland Hulse, WACOG Transportation Manager-Absent

## 11. UPCOMING MEETING SCHEDULE

Lake Havasu Metropolitan Planning Organization  
900 London Bridge Road, Bldg. B  
Lake Havasu City, AZ 86404  
(928) 453-2823

- LHMPO Executive Board Meeting: **February 14, 2023, 10:00 AM**
- LHMPO TAC Meeting: **March 28, 2023, 10:00 AM**

### 13. ADJOURN

Chairman Greg Frosie adjourned the meeting at 10:20 am.

*Pursuant to Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA), and other nondiscrimination laws and authorities, LHMPO does not discriminate on the basis of race, color, national origin, sex, age, or disability. Persons that require a reasonable accommodation based on language or disability should contact LHMPO's Title VI Coordinator at [hembreej@lhcaz.gov](mailto:hembreej@lhcaz.gov). Requests should be made as early as possible to ensure LHMPO has an opportunity to address the accommodation.*

*De acuerdo con el Título VI de la Ley de Derechos Civiles de 1964, la Ley de Estadounidenses con Discapacidades (ADA por sus siglas en inglés) y otras normas y leyes antidiscriminatorias, la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) no discrimina por motivos de raza, color, origen nacional, sexo, edad o discapacidad. Las personas que requieran asistencia (dentro de lo razonable) ya sea por el idioma o discapacidad deben ponerse en contacto con el Director Ejecutivo de la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) en [hembreej@lhcaz.gov](mailto:hembreej@lhcaz.gov). Las solicitudes deben hacerse lo antes posible para asegurar que la Organización de Planificación Metropolitana de Lake Havasu (LHMPO por sus siglas en inglés) tenga la oportunidad de hacer los arreglos necesarios.*

*In an effort to determine who attends our meetings and to improve participation in the planning process, the LHMPO ask that you please fill out the following voluntary survey:*

[https://docs.google.com/forms/d/e/1FAIpQLSfcVaS6fU1kTF\\_So2QoPfOsfDZjqlBpbTwqsl6HLwFxL5Xy-Q/viewform](https://docs.google.com/forms/d/e/1FAIpQLSfcVaS6fU1kTF_So2QoPfOsfDZjqlBpbTwqsl6HLwFxL5Xy-Q/viewform)

*En un esfuerzo por determinar quién asiste a nuestras reuniones y mejorar la participación en el proceso de planificación, la LHMPO le pide que complete la siguiente encuesta voluntaria:*

<https://docs.google.com/forms/d/e/1FAIpQLSe6I7IM8eKfc9mxiJcUmuLmbpLfnQ3vWCNKbigDMW4CQXb0q/viewform>

# Item #6

## **FY2023 TIP Amendment #1**

*Justin Hembree, LHMPO Director*

Agenda Item # 6

**LAKE HAVASU MPO  
REQUEST FOR ACTION**

**SUBJECT:** Discussion and Possible Action to Approve Fiscal Year 2023 TIP Amendment #1

**SUBMITTED BY:** Justin Hembree, MPO Director

**AGENDA TYPE:** Discussion/Action

---

**ATTACHMENTS:**

- Memo/Summary
- FY 2023 TIP Amendment #1

---

**SUMMARY/BACKGROUND:**

See attachments

---

**ACTION OPTION:**

Motion to approve the FY2023 TIP Amendment #1

**OR**

Action as a result of the discussion

---

**RECOMMENDATION:**

Motion to approve the FY2023 TIP Amendment #1



This memo outlines the amendments necessary to the FY2021-2026 LHMPO Transportation Improvement Program (TIP) for **FY2023 – Amendment # 1**

*(Consolidated amendment including formal changes to the TIP - Subsections 1.1 – 1.2)*

**FY2023 – Amendment # 1.1 – Formal.**

The following outlines changes made to the TIP:

**Recommendation:**

Reprogram HURF Exchange Project " [LHM 22-112](#)" from FY23 to FY 26 in the TIP:

Due to high unknown variables between the ADOT and Local Traffic Signal System, Lake Havasu City Staff and the MPO have agreed to postpone the Joint Signal ITS project until in-depth Engineering Analysis/Modeling can be done to determine exactly what improvements need to be made along the Lake Havasu Ave, McCulloch Blvd, and State Route 95 Corridors.

| Description of Change:                                                                | Project Information:                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reprogram Project</b><br>(Reschedule project from<br>FY23 to FY26<br>in LHMPO TIP) | <b>Name:</b> Traffic Signals ITS<br><b>Sponsor:</b> Lake Havasu City<br><b>TIP ID:</b> <a href="#">LHM 22-112</a><br><b>Funding Source:</b> HURF Ex / STBG<br><b>Funding Level:</b> \$1,139,919.38<br>(90% - \$1,025,927.44, 10% Match/ADOT fee - \$113,991.94) |

**FY2023 – Amendment # 1.2 – Formal.**

The following outlines necessary/proposed changes to the TIP:

**Recommendation:**

Add STBG Project " [LHM-24-101](#)" to the TIP in FY24:

Lake Havasu MPO has agreed to hire a consultant to conduct a "Traffic Signal Analysis & Modeling Study," which includes performing engineering analysis & signal modeling.

Through a formal procurement process (RFP) scheduled for FY 2024, the LHMPO would hire a consultant to develop a plan for implementation of Adaptive Signal Control Technology (ASCT) or alternative traffic signal improvements to increase the overall efficiency and operations of three (3) main corridors (McCulloch Blvd, Lake Havasu Ave. & State Route 95). The final plan will include evaluation, analysis, need, and benefit of all existing and all necessary future improvements; including but not limited to, interim improvements, traffic signal timings, ASCT related improvements, hardware, servers, communications equipment, switches, system software and system integration services. The plan will also identify agency roles and responsibilities related to the installation and operation of fully-functioning ASCT or alternative systems for each roadway segment and individual traffic signal locations.

| Description of Change:                         | Project Information:                                                                                                                                                                                                                         |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Add Project</b><br>(Program into LHMPO TIP) | <b>Name:</b> Traffic Signal Analysis & Modeling Study<br><b>Sponsor:</b> MPO<br><b>TIP ID:</b> <a href="#">LHM-24-101</a><br><b>Funding Source:</b> STBG<br><b>Funding Level:</b> \$318,133.62 (\$300,00 Federal, \$18,133.62 In-Kind Match) |

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| Surface Transportaton Block Grant (STBG) Projects |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
|---------------------------------------------------|-----------------------|---------------------|------------------|------------------------------------------|-----------------------------------------------------------------------|--------|-------------------------------|-----------------|----------------|-----------------|----------------------------|-----------------|-----------------|-----------------|--------------------------|----------------------------|----------------------------|
| TIP ID #                                          | ADOT ID #<br>(E-STIP) | Project Phase       | Project Sponsor  | Project Name                             | Project Location                                                      | Length | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Fed Aid<br>Type | Federal<br>Funds<br>Source | Federal Funds   | Other Fed Funds | Local Match     | Other Funds Local        | HURF Exchange              | Total Cost                 |
| 2021                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       | -      | -                             | -               | -              | STBG            | FHWA                       |                 | \$ -            |                 | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -            | \$ -            | \$ -            | \$ -                     | \$ -                       | \$ -                       |
| 2022                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       |        |                               |                 |                | STBG            | FHWA                       | \$ -            | \$ -            | \$ -            | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -            | \$ -            | \$ -            | \$ -                     | \$ -                       | \$ -                       |
| 2023                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
| LHM 22-112                                        | 102318                | Installation        | Lake Havasu City | Traffic Signals ITS                      | Various Intersections -- SR95, Lake Havasu Ave, & Other Intersections | -      | Varies                        | -               | -              | HURF X-STBG     | FHWA                       | <del>\$ -</del> | <del>\$ -</del> | <del>\$ -</del> | <del>\$ 113,991.94</del> | <del>\$ 1,025,927.44</del> | <del>\$ 1,139,919.38</del> |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -            | \$ -            | \$ -            | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |
| 2024                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
| LHM-24-101                                        |                       | Planning & Analysis | LHMPO            | Traffic Signal Analysis & Modeling Study | McCulloch Blvd, Lake Havasu Ave, & State Route 95                     | -      |                               |                 |                | STBG            | FHWA                       | \$ 300,000.00   | \$ -            | \$ 18,133.62    | \$ -                     | \$ -                       | \$ 318,133.62              |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ 300,000.00   | \$ -            | \$ 18,133.62    | \$ -                     | \$ -                       | \$ 318,133.62              |
| 2025                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       |        |                               |                 |                | STBG            | FHWA                       | \$ -            | \$ -            | \$ -            | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -            | \$ -            | \$ -            | \$ -                     | \$ -                       | \$ -                       |
| 2026                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                 |                 |                 |                          |                            |                            |
| LHM 22-112                                        | 102318                | Installation        | Lake Havasu City | Traffic Signals ITS                      | Various Intersections - SR95, Lake Havasu Ave, & Other Intersections  | -      | Varies                        | -               | -              | HURF X-STBG     | FHWA                       | \$ -            | \$ -            | \$ -            | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -            | \$ -            | \$ -            | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |

- Notes:
1. "STBG" funded programs are selected by LHMPPO; projects with other funding sources are required to be included, but are selected through various grant applications

2. Projects labeled with "Not Approved" or "Not Awarded" and highlighted in \*\*Blue\*\* are considered to be in "Parking Lot" status and waiting for eligibility determination from ADOT, FHWA and or approval by LHMPPO TAC & Executive Board. They are included in this summary list because approvals are expected.

3. Projects highlighted in "Yellow" show an amended change in this updated summary

*Note: This is an overall listing of all Lake Havasu MPO projects that have been preliminarily approved by the TAC, by year, for 2021 to 2026. Some projects will need to be moved or reprogrammed due to funding availability.*

Terms: "STBG" : Surface Transportation Block Grant

# Item #7

## **Draft 2023 TIP Update**

*Justin Hembree, LHMPO Director*

Agenda Item # 7

**LAKE HAVASU MPO  
REQUEST FOR ACTION**

**SUBJECT:** Discussion and Possible Action to Approve Fiscal Year 2023 TIP Update

**SUBMITTED BY:** Justin Hembree, MPO Director

**AGENDA TYPE:** Discussion/Action

---

**ATTACHMENTS:**

- Memo/Summary
- FY 2023 TIP Update

---

**SUMMARY/BACKGROUND:**

See attachments, The FY2023 TIP Update includes all formal and administrative amendments made during FY23

---

**ACTION OPTION:**

Motion to approve the FY2023 TIP Update

**OR**

Action as a result of the discussion

---

**RECOMMENDATION:**

Motion to approve the FY2023 TIP Update



The following memos outline the administrative modifications made to the FY2021-2026 LHMPO Transportation Improvement Program (TIP) for **FY2023 – Amendments #2-5 (Administrative)**

### ***FY2023 – Amendment # 2 – Administrative Modification.***

The following outlines changes made to the TIP:

#### ***Action Taken:***

Added HSIP Projects into the TIP:

State HSIP grant applications require that MPOs list the projects on our regional TIPs under a "Parking-Lot" status (indicating unapproved/unawarded) as part of the grant application submittal process. In coordination with Greenlight TE and local agencies, Lake Havasu MPO submitted several competitive HSIP grant applications to ADOT for the FY25/26 Call for Projects. As a result, the LHMPO was awarded four (4) HSIP grants. Therefore, the parking-lot projects listed on the TIP for FY25/26 were revised accordingly with the eligibility award letters.

Competitive HSIP projects have no impact on the LHMPO fiscal constraint or other regional funding; Any changes made to the HSIP section of the TIP are considered Administrative.

The following are HSIP project amendments that have already taken place and are for informational purposes only:

#### **Projects Revised**

##### **1. State Route 95 - Raised Median:**

- TIP ID - [LHM-H25-101](#)
- S. Palo Verde to Industrial Blvd (0.8 miles),
- N. Palo Verde to Price Drive (2.6 miles)
- Total Awarded Funding: \$ 3,704,839
- Design: FY24
- Construction: FY26
- Sponsor: ADOT Northwest District

##### **2. Swanson Ave Intersections (Wing Loop, Mariposa Dr., and Wing Loop):**

- TIP ID - [LHM-H25-102](#)
- Rectangular Rapid Flash Beacons, High Visibility Crosswalks
- Total Awarded Funding: \$ 379,992
- Design: FY24
- Construction: FY26
- Sponsor: Lake Havasu City

##### **3. Horizon 6 – Gold Springs Rd, Blue Canyon Rd:**

- TIP ID - [LHM-H25-103](#)
- Widen 3 Feet, Restripe for 10' Lanes
- Total Awarded Funding: \$ 554,571.
- Design: FY24
- Construction: FY26
- Sponsor: Mohave County

#### 4. Systemic Speed Feedback Signs

- TIP ID - [LHM-H25-104](#)
- LED Speed Feedback signs along Major Routes: SR 95, Acoma Blvd, McCulloch Blvd, Palo Verde Blvd, Lake Havasu Ave, Kiowa Blvd, Jamaica Blvd, Beachcomber Blvd, Mesquite Ave, Swanson Ave - 40 Signs total.
- Total Awarded Funding: \$ 1,014,856
- Design: FY24
- Construction: FY25
- Sponsor: Lake Havasu City

#### ***FY2023 – Amendment # 3 – Administrative Modification***

The following outlines changes made to the TIP:

##### ***Action Taken:***

Non-Profit transit projects (specifically for Seniors or the Disabled) are funded with 5310 FTA federal dollars and must be listed in the LHMPO's TIP. However, these projects have no impact on LHMPO fiscal constraint or other regional funding; Any changes made to the 5310 Transit section of the TIP are considered Administrative.

The following are 5310 Non-Profit Transit project amendments that have already taken place and are for informational purposes only:

##### **Projects Added**

1. [LHM-M22-101](#) - New Horizons Center Inc. - Preventative Maintenance
2. [LHM-M22-102](#) - New Horizons Center Inc. - Cutaway with Lift (9 Passenger)
3. [LHM-M22-103](#) - New Horizons Center Inc. - Maxivan w/ lift Transit Connect
4. [LHM-M22-104](#) - New Horizons Center Inc. - Minivan with Ramp
5. [LHM-M22-105](#) - New Horizons Disability Empowerment Center - Preventative Maintenance
6. [LHM-M22-106](#) - WACOG - Regional Mobility Management

### ***FY2023 – Amendment # 4 – Administrative Modification***

The following outlines changes made to the TIP:

#### ***Action Taken:***

Local public/city transit projects are funded with 5307 FTA federal dollars and must be listed in the LHMPO's TIP. However, these projects have no impact on LHMPO fiscal constraint or other regional funding; Any changes made to the 5307 Transit section of the TIP are considered Administrative.

The following are 5307 Public Transit project amendments that have already taken place and are for informational purposes only:

#### **Projects Removed**

1. ~~LHT-23-304~~; ADOT ID 102380; Transit Building Upgrades
2. ~~LHT-24-306~~; Electric Charging Station

#### **Projects Added**

1. ~~LHT-24-307~~; Maintenance for Vehicle/Building Maintenance FFY2019 Funds of \$42,000 with a match of \$8,400
2. ~~LHT-27-301~~; Operating Expenses \$300,000 with a match of \$300,000
3. ~~LHT-27-302~~; Capital FTA Vehicle \$150,000 with a match of \$26,471
4. ~~LHT-27-303~~; Capital FTA Vehicle \$150,000 with a match of \$26,471
5. ~~LHT-27-304~~; Maintenance for Vehicle/Building Maintenance \$100,000 with a \$20,000 match.

#### **Project Funding Decrease / Increase**

1. LHT-24-304; Capital FTA Vehicle Increase from \$85,000 to \$150,000.

#### **Other / Misc:**

1. LHT22-301D; Revised funding year from FFY2019/FFY2020 to FFY2020/FFY2021 for correct tracking/reporting purposes.

## ***FY2023 – Amendment # 5 – Administrative Modification.***

The following outlines changes made to the TIP:

### ***Action Taken:***

Added Congressionally Directed Spending (CDS) Project into the TIP:

Federal Congressionally-Directed Spending (CDS), also known as Community Project Funding (CPF) in the House or more commonly as "earmarks," was federally reauthorized in 2021.

For local, state, or tribal governments, earmarks are an opportunity to apply for short-term, place-based funding outside of normal channels for federal spending. Eligible organizations and governments submit earmark requests to their Members of Congress (AZ Senators Mark Kelly and Kyrsten Sinema), then individual Members of Congress in the House and Senate make recommendations to each of their chamber's Appropriations Committee. Each committee selects final requests/projects to be included in annual federal spending bills (appropriations).

Awarded Transportation CDS funds will be provided directly to the Arizona Department of Transportation (ADOT). If the local or county level government is requesting the CDS, they will be required to coordinate with the ADOT to receive the funding.

The City of Lake Havasu is submitting a low water crossing bridge project for El Dorado Ave. at the El Dorado Wash crossing to Senator Kelly's Office under one of the CDS programs called "Highway Infrastructure Program (HIP)."

The following CDS project amendment has already taken place and is for informational purposes only:

### **Project Added**

#### **1. El Dorado Ave. Low Water Crossing Improvements:**

- TIP ID - [LHM-CDS24-101](#)
- El Dorado Ave. at the El Dorado Wash Crossing
- Install a six-channel Reinforced Concrete Box Culvert (RCBC) and raise the roadway profile.
- Total Requested Funding: \$ 3,018,633
- Federal CDS portion \$ 2,846,571; Local Match \$ 172,062
- Construction: FY24
- Sponsor: Lake Havasu City



# LAKE HAVASU METROPOLITAN PLANNING ORGANIZATION

---

## Transportation Improvement Program

**Fiscal Year 2021 – 2026**

900 London Bridge Road, Building B  
Lake Havasu City, AZ 86404

Telephone (928) 453-2823

[www.LHMPO.org](http://www.LHMPO.org)

*"This report was funded in part through grant[s] from the Federal Highway Administration and/or Federal Transit Administration, U.S. Department of Transportation. The contents of this report reflect the views and opinions of the author(s) who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily state or reflect the official views or policies of the U.S. Department of Transportation, the Arizona Department of Transportation, or any other State or Federal Agency. This report does not constitute a standard, specification or regulation".*

# TABLE OF CONTENTS\_Toc127192418

|                                                                          |           |
|--------------------------------------------------------------------------|-----------|
| <b>I. INTRODUCTION.....</b>                                              | <b>3</b>  |
| Mission Statement .....                                                  | 3         |
| Executive Board .....                                                    | 3         |
| Technical Advisory Committee (TAC).....                                  | 3         |
| Figure 1: LHMPO Urbanized Area .....                                     | 4         |
| Geographic Area .....                                                    | 5         |
| Requirements.....                                                        | 5         |
| <b>II. PUBLIC INVOLVEMENT PROCESS .....</b>                              | <b>5</b>  |
| Public Process .....                                                     | 6         |
| <b>III. FUNDING SOURCE AND BUDGET .....</b>                              | <b>7</b>  |
| Planning Funds (PL) and State Planning & Research Funds (SPR).....       | 7         |
| Surface Transportation Block Grant Program Funds (STBGP) .....           | 7         |
| Highway Safety Improvement Program Funds (HSIP) .....                    | 8         |
| Federal Transit Administration Funding (FTA) – Section 5305d .....       | 8         |
| Federal Transit Administration Funding (FTA) – Section 5304 & 5305e..... | 9         |
| FTA Section 5307 – Urbanized Areas .....                                 | 10        |
| Highway User Revenue Funds (HURF) Exchange Program .....                 | 10        |
| <b>IV. TRANSIT PROJECTS.....</b>                                         | <b>11</b> |
| <b>V. PERFORMANCE TARGETS .....</b>                                      | <b>12</b> |
| Safety Performance .....                                                 | 12        |
| Bridge Performance .....                                                 | 13        |
| NHS Travel Time Reliability Performance .....                            | 13        |
| Pavement Performance .....                                               | 14        |

## I. INTRODUCTION

In 2010, the United States Census reflected that Lake Havasu City population surpassed the 50,000 threshold; thus, requiring the establishment of a Metropolitan Planning Organization (MPO).

The Lake Havasu Metropolitan Planning Organization (LHMPO) planning area boundary encompasses all areas within the Lake Havasu City limits, the Mohave County area north of the City limits known as Desert Hills, Havasu Gardens, Crystal Beach and the Mohave County area southeast of the City known as Horizon Six. The planning boundary of the LHMPO is approximately 100 square miles.

### **Mission Statement**

The mission of the Lake Havasu Metropolitan Planning Organization (LHMPO) is to provide open leadership and guidance for regional transportation planning through a cooperative effort that will result in a practical and positive growth model beneficial to residents, visitors and businesses.

### **Executive Board**

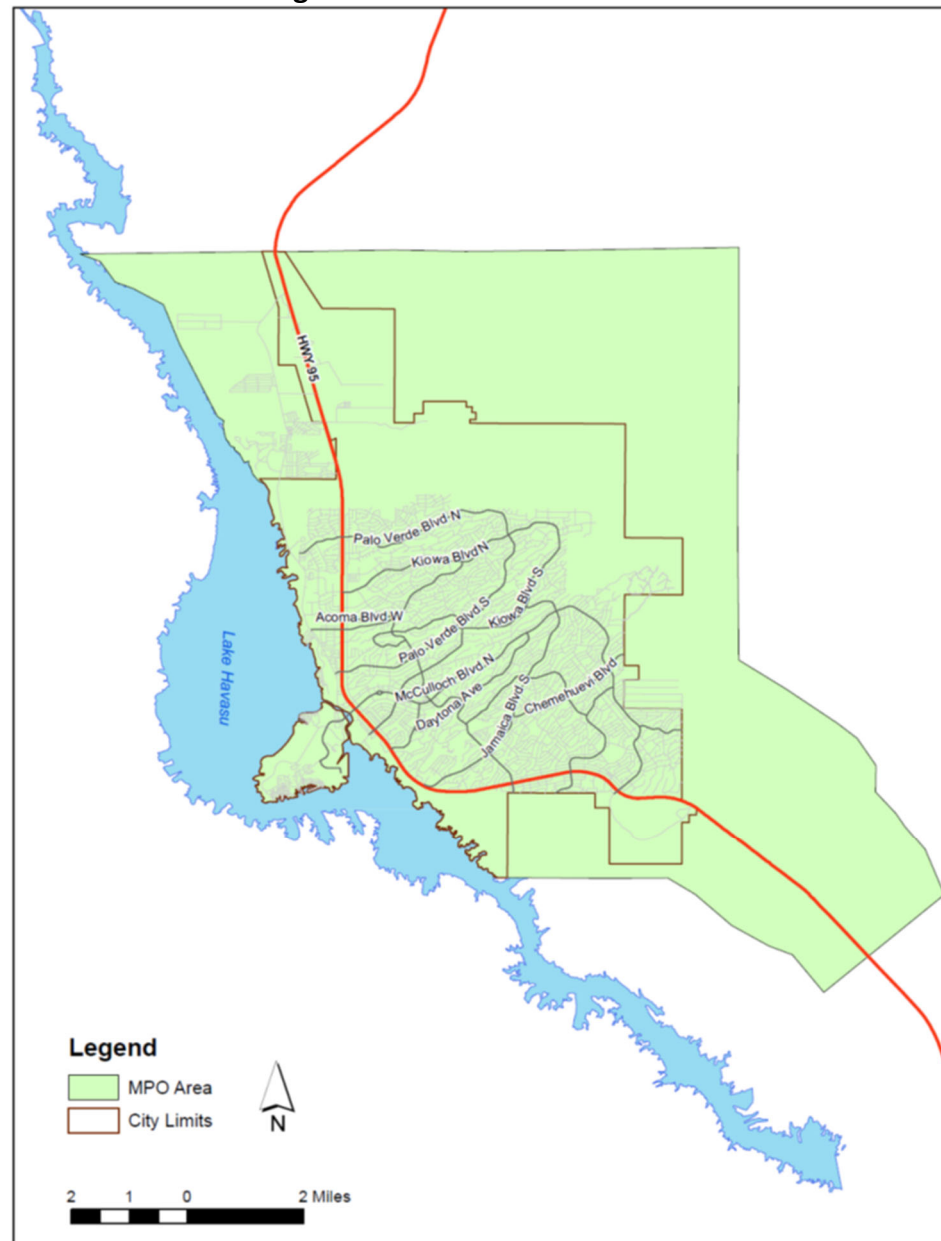
The Executive Board is the policy body of the LHMPO coordinating the transportation planning activities. The Executive Board consists of elected officials from Lake Havasu City, Mohave County; one member from Arizona Department of Transportation State Transportation Board (appointed by the Governor of the State of Arizona).

### **Technical Advisory Committee (TAC)**

The TAC consists of eight (8) technical and managerial representatives from: Lake Havasu City (3); Mohave County (2); Western Arizona Council of Governments (WACOG) (1); the Arizona Department of Transportation (ADOT) (2) as members.

The primary responsibility of the TAC is to perform technical reviews and analysis regarding project related activities of the TIP and make recommendations to the Executive Board.

Figure 1: LHMP Urbanized Area



## Geographic Area

The LHMPO is responsible for the continuous, cooperative and comprehensive transportation planning process for the Lake Havasu Metropolitan Planning Organization Urbanized Area.

## Requirements

The TIP is a multi-year (4 year) program of transportation projects that is consistent with and implements the goals and objectives described in the **2045 Regional Transportation Plan**. The TIP is required to be prepared in complete detail identifying projects, assign projects in appropriate periods, and to identify costs associated with each project as well as funding source. The TIP needs to be reviewed annually and revised as necessary. Years 1 – 4 **must** be fiscally constraint.

## II. PUBLIC INVOLVEMENT PROCESS

Federal legislation requires a public involvement process that provides comprehensive information, timely public notice, and full public access to key decisions and is supportive of early and continuing involvement of the public in all areas of the transportation planning process.

The Public Involvement Plan adopted by the Executive Board July 8, 2014 and last amended on June 7, 2022 contains background material, guidelines, and commitments that LHMPO is undertaking to incorporate an effective public process into future plans, projects, and programs. Specifically, LHMPO is committed to:

- Inclusive and meaningful public involvement.
- Open and honest communications with all individuals and entities.
- Timely public notice.
- Full public access to information and key decisions.
- Creating a sense of shared responsibility and ownership for regional transportation/congestion problems and a shared sense of pride in the development of solutions to those problems.
- Helping form partnerships between member entities, and the private and public sectors to plan and implement transportation/congestion solutions.
- Establishing policies and prioritizing needs based on valid data and using objective, fair and consistent processes.
- Providing information and gathering input so that decision makers will be able to make informed decisions.

## Public Process

The LHMPO will update the TIP on a regular basis and will strive to include as much public input as possible. Annually the TAC will submit projects for inclusion in the TIP. The review of the projects will occur by the TAC in a public meeting; and, each project submitted must be fiscally constrained. The draft document will be available for public comment for not less than 30-days and will be available at the LHMPO Office and LHMPO web site.

After the public comment period has ended the draft document will be presented to the TAC for approval and forwarded to the Executive Board for final approval. The Executive Board has the option of continuing with the approval process or move to a future date to allow for additional comments or discussion.

The LHMPO follows and adheres to the approved Title VI Plan and the Public Involvement Plan (PIP) to ensure the greatest amount of public participation is received during the TIP development process.

The Lake Havasu MPO public participation process for the TIP is being used to satisfy section 5307 Public Outreach requirement for Lake Havasu City Transit.

## The Public Involvement Process:

All Lake Havasu MPO TAC and Executive Board Meetings are open to the public agenda items for public comment. Brown columns highlighted in the table below indicate opportunities for the public to provide comments and feedback.

| Projects Identified & Submitted to the MPO                                                                             | TAC Project Evaluation & Approval                                                                                                                 | Executive Board Draft TIP Approval                                                                                                                                                                                         | Public Comment Period                                                                                                                                                                                                         | TAC Final TIP Approval                                                                                                                                                                        | Executive Board Final TIP Approval                                                                                                                        | Repeat Process |
|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Local agencies identify and submit projects to the MPO that are eligible for federal/state funding provided by the MPO | <p>The MPO Technical Advisory Committee (TAC) evaluates and approves the projects creating a Draft TIP</p> <p><i>*Open for Public Comment</i></p> | <p>The Draft TIP is submitted to the Executive Board for review and approval. Once approved by the Executive Board, the draft TIP is sent out for 30-day public comment period.</p> <p><i>*Open for Public Comment</i></p> | <p>30-Day Public Comment Period. The Public Notice is posted to the Newspaper, Website, &amp; Social Media Sites. The TIP is posted on the LHMPO Website and available in hard-copy.</p> <p><i>*Public Comment Period</i></p> | <p>Public Comments are reviewed and Necessary Changes made to create Final TIP. The TAC reviews and approves the Final TIP to the Executive Board.</p> <p><i>*Open for Public Comment</i></p> | <p>Executive Board Approves Final TIP. Once Approved, the MPO submits the Final TIP and ADOT and the FHWA/FTA.</p> <p><i>*Open for Public Comment</i></p> |                |

### III. FUNDING SOURCE AND BUDGET

The LHMPO is dependent on federal funding for the operation of the MPO; and, to perform planning activities used to deliver a variety of projects in the Urbanized Area. Below is a detailed list of the types of funding the LHMPO receives as well as what the funding is utilized for.

#### Planning Funds (PL) and State Planning & Research Funds (SPR)

**The Arizona Department of Transportation (ADOT)** is the designated recipient of the **Federal-Aid Highway Funds** used for planning and research purposes. ADOT receives State Planning and Research (SPR) funds **from Federal Highways Administration (FHWA)** and utilizes some of these funds with planning agencies to conduct transportation planning activities. Planning Funds (PL) is apportioned to states on the basis of population in urbanized areas and relative to the amount of highway construction funds the state receives.

SPR funds are discretionary and are typically administered by ADOT to carry out specific technical activities. In the LHMPO region SPR funds will be used to conduct transportation planning activities and administration of the program. SPR funds require a 20% local match and PL funds require a 5.7% local match. The below amounts reflect the annual apportionments and not the Obligation Authority amounts, see Unified Planning Work Program (UPWP) for the exact operating budget for the LHMPO.

|                                      |           |
|--------------------------------------|-----------|
| Total Estimated PL Funding Annual    | \$157,477 |
| Total Estimated SPR Funding Annually | \$125,000 |

#### Surface Transportation Block Grant Program Funds (STBGP)

STBGP is a federal-aid highway flexible funding program that funds a broad range of surface transportation capital needs including roads, transit, airport access, vanpool, and bicycle and pedestrian facilities. Transit related planning; research and development activities are also eligible for the use of STBGP funds. These funds require a 5.7% local match. The below amounts reflect the Obligation Authority amounts, not apportionments.

|                                        |           |
|----------------------------------------|-----------|
| Total Estimated STBGP Funding Annually | \$288,529 |
|----------------------------------------|-----------|

### Highway Safety Improvement Program Funds (HSIP)

HSIP funds are a federal funding source dedicated to safety improvements and are distributed within the State on a competitive basis. The main purpose of the HSIP funding is to achieve a reduction in fatalities and serious injuries on public roads.

#### HSIP Match

5.7% match typically provided through the use of in-kind / hard dollars by the MPO member agencies; however, in some projects the match can be as low as 0%.

0.0% match reference, 23 U.S.C. 120(c) and 130 address the local match waiver on HSIP funded projects. Section 120(c) allows certain types of highway safety improvement projects to be funded at 100 percent (i.e., traffic control signalization, traffic circles, safety rest areas, pavement marking, commuter carpooling and vanpooling, rail-highway crossing closure, or installation of traffic signs, traffic lights, guardrails, impact attenuators, concrete barrier end treatments, breakaway utility poles, or priority control systems for emergency vehicles or transit vehicles at signalized intersections).

|                                       |                |
|---------------------------------------|----------------|
| Total Estimated HSIP Funding Annually | \$ Competitive |
|---------------------------------------|----------------|

### Carbon Reduction Program Funding (CRP)

The CRP funding is a federal-aid highway funding program that funds projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. These funds require a 20% local match. The below amounts reflect the Obligation Authority amounts, not apportionments.

|                                      |           |
|--------------------------------------|-----------|
| Total Estimated CRP Funding Annually | \$118,565 |
|--------------------------------------|-----------|

**Transportation Alternatives Funding (TA)**

The Transportation Alternatives (TA) Program is a State competitive grant program that provides funding for a variety of generally smaller-scale transportation projects such as pedestrian and bicycle facilities; construction of turnouts; overlooks, and viewing areas; community improvements such as historic preservation and vegetation management; environmental mitigation related to stormwater and habitat connectivity. These funds require a 5.7% local match.

|                                     |               |
|-------------------------------------|---------------|
| Total Estimated TA Funding Annually | \$Competitive |
|-------------------------------------|---------------|

**Federal Transit Administration Funding (FTA) – Section 5305d**

These funds are utilized for MPO operations, salaries, and transit planning purposes in the LHMPD region. The use of these funds is allowed for planning and technical studies related to transit. FTA provides funding to ADOT for the regional planning agencies with the State. These funds require a 5.7% local match. The below amount reflects the Apportionment.

|                                                    |          |
|----------------------------------------------------|----------|
| Total Estimated FTA Section 5305d Funding Annually | \$64,826 |
|----------------------------------------------------|----------|

**Federal Transit Administration Funding (FTA) – Section 5304 & 5305e**

The FTA Section 5304 & 5305e funding is provided to ADOT via FTA for transit planning. The funding became available with Federal Fiscal Year 2018 and is available on a competitive basis.

|                                                    |                |
|----------------------------------------------------|----------------|
| Total Estimated FTA Section 5305e Funding Annually | \$ Competitive |
|----------------------------------------------------|----------------|

### FTA Section 5307 – Urbanized Areas

The FTA Section 5307 funding is also filtered through the ADOT Multimodal Planning Division (MPD) - Transit Section. This program provides grants to urbanized areas (over 50,000 in population) for public transportation, capital, planning, job access, and reverse commute projects, as well as operation expenses in certain circumstances. These funds require a 20% local match for capital projects

|                                                   |           |
|---------------------------------------------------|-----------|
| Total Estimated FTA Section 5307 Funding Annually | \$800,000 |
|---------------------------------------------------|-----------|

### Highway User Revenue Funds (HURF) Exchange Program

Annually, ADOT provides federal Surface Transportation Block Grant Program (STBGP) funding on a discretionary basis to Arizona Councils of Governments (COG) and Metropolitan Planning Organizations (MPO), which then program the funds for specific local projects in the applicable region. The use of federal funding also requires compliance with certain federal environmental, procurement and other regulations. These requirements typically result in longer project duration and higher costs than if the project were built with non-federal funds. The HURF Exchange program is targeted to cities / towns / counties with population of 200,000 or less. It enables local public agencies (LPAs) to build projects using state funding, avoiding expensive and time-consuming federal regulatory requirements. Because the HURF Exchange results in reduced costs and administrative burden for participating LPAs and transfers that burden to ADOT, the statute allows ADOT to pay \$.90 cents in State Highway Fund (SHF) for each \$1 of federal funding exchanged.

## IV. TRANSIT

### **FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities grant program:**

ADOT refers to this program as the “Coordinated Mobility Program.” The Coordinated Mobility Program, FTA Section 5310, is a grant program that provides funding to assist with costs for mobility management activities, the purchase of capital equipment, and operations to meet the mobility needs of seniors (sixty five years and over) and individuals with disabilities of any age. The goal of the Section 5310 Program is to improve mobility for seniors and individuals with disabilities by removing barriers to transportation services and expanding the transportation mobility options available.

The FTA Section 5310 funding is filtered through ADOT Transit Division to those not for profit and profit human service transit providers who qualify. To qualify for the funding, the organizations must be listed in the Western Arizona Council of Governments (WACOG) Human Service Transportation Coordination Plan prepared and provided by (WACOG). The funding amount available is provided by ADOT at the beginning of the grant cycle. Any Awarded amounts will be included into the LHMPO TIP.

### **FTA 5307 Urbanized Public Transit:**

The Urbanized Area Formula Funding program (49 U.S.C. 5307) makes federal resources available to urbanized areas and to governors for transit capital and operating assistance in urbanized areas and for transportation-related planning. An urbanized area is an incorporated area with a population of 50,000 or more that is designated as such by the U.S. Department of Commerce, Bureau of the Census.

Lake Havasu City Transit is the 5307 Public Transit provider in the Lake Havasu MPO region. The Lake MPO and City Transit coordinate to share data, information, and to establish public transit related performance measures.

## V. PERFORMANCE TARGETS

### Safety Performance

These safety targets are based on the Safety Performance Measures established by the Federal Highway Administration (FHWA) and are indicators of expected crash results based on five year rolling averages.

2022 safety targets established by ADOT and adopted by the LHMPO are as follows:

- Number of fatalities – 1045.5 – 2% increase
- Rate of fatalities – 1.568 – 2% increase
- Number of serious injuries – 3210.7- 7% decrease
- Rate of serious injuries – 4.797 - 8% decrease
- Number of non-motorized fatalities and serious injuries – 736.2 – 1% decrease

The safety targets set by ADOT are data-driven and realistic; and are intended to keep ADOT focused on improving safety while still striving for the goal of the LHMPO Strategic Transportation Safety Plan (STSP) and the State Strategic Highway Safety Plan (SHSP) of reducing the number of fatalities and serious injury crashes in the Lake Havasu MPO region and the state of Arizona.

The STIP contains the following types of projects that support the achievement of the established safety performance targets:

- Installation of speed feedback signs including solar LED enhanced speed limit signs
- Design and installation of traffic signals and adaptive signal controls
- Construction of concrete barriers and raised medians
- Shoulder widening
- Installation of signs, striping, and arrows
- Construction of a pedestrian crosswalks, bike lanes, and traffic calming feature

The Lake Havasu MPO is committed to supporting the established safety targets by doing the following:

- Work with the State and safety stakeholders to address areas of concern for fatalities or serious injuries within the metropolitan planning area.
- Coordinate with the State and include the safety performance measures and HSIP targets for all public roads in the metropolitan area in the RTP (Regional Transportation Plan).
- Integrate into the metropolitan transportation planning process, the safety goals, objectives, performance measures and targets described in the Regional SHSP and other State safety transportation plans and processes.

## Bridge Performance

The Bridge Performance measures cover bridges on the National Highway System. ADOT has adopted the following performance targets for bridges:

- Percent of National Highway System (NHS) Bridges classified in good condition based on deck area: 52%
- Percent of NHS Bridges classified in poor condition based on deck area: 4%

These targets are data-driven and realistic; and intended to keep ADOT focused on maintaining bridges in a state of good repair. The STIP contains the following types of projects that will improve the condition of the bridge system:

- Scour retrofit projects
- Bridge rehabilitation
- Bridge deck rehabilitation
- Bridge deck replacement
- Bridge joint replacement
- Bridge replacement
- Bridge repair
- New bridge construction
- Funding for bridge inspections and emergency repair

## NHS Travel Time Reliability Performance

NHS Travel Time Reliability identifies the percent of person-miles on the Interstate and the non-Interstate NHS that are reliable. Two and four year targets are required for the Interstate and a four-year target is required for the non-Interstate NHS. The NHS Travel Time Reliability targets established for performance are:

- **Freight Reliability on the Interstate (Truck Travel Time Reliability Index): 1.35**
- **Percent of person-miles that have reliable travel times on the Interstate: 85.8%**
- **Percent of person-miles that have reliable travel times on the Non-Interstate NHS: 74.9%**
- **Congestion Mitigation and Air Quality Emissions Reductions (Kilograms per day)**
  - **Volatile Organic Compounds: 385**
  - **Carbon Monoxide : 6,985**
  - **Nitrogen Oxides: 761**
  - **Particulate Matter (< 10 microns): 1,399**
  - **Particulate Matter (< 2.5 microns): 112**

The targets are data-driven and realistic; and intended to keep ADOT focused on improving travel time reliability on the NHS. The following types of projects were included in the STIP to support improved travel time reliability:

- Design and construct Freeway Management System including the installation of Intelligent Transportation Systems such as signals, adaptive ramp meters, connected and automated vehicle equipment, dynamic message signs, CCTV cameras, EVP networking, bike detection and improved signs
- Procurement of travel time data to aid in freeway management
- Roadway widening including the design or construction of general purpose and HOV lanes
- Traffic Incident support and Freeway Service Patrols
- Design and construction of roundabouts
- Design and construction of new roadway
- Intersection improvements

### **Pavement Performance**

The pavement performance measures cover the Interstate and the non-Interstate NHS. ADOT's pavement performance targets are:

- Percent of Interstate Pavements in good condition: 44%
- Percent of Interstate Pavements in poor condition: 2%
- Percent of Non-Interstate NHS Pavements in good condition: 28%
- Percent of Non-Interstate NHS Pavements in poor condition: 6%

These targets are data-driven and realistic; and intended to keep ADOT focused on maintaining pavements in a state of good repair. The STIP contains the following types of projects that will improve the condition of highway pavements:

- Pavement preservation including chip seals, fog coats, micro surface treatments and high friction surface treatments
- Pavement rehabilitation including mill and overlay projects
- Pavement reconstruction

## VI. TIP PROJECTS

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| Surface Transportaton Block Grant (STBG) Projects |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
|---------------------------------------------------|-----------------------|---------------------|------------------|------------------------------------------|-----------------------------------------------------------------------|--------|-------------------------------|-----------------|----------------|-----------------|----------------------------|----------------|-----------------|----------------|--------------------------|----------------------------|----------------------------|
| TIP ID #                                          | ADOT ID #<br>(E-STIP) | Project Phase       | Project Sponsor  | Project Name                             | Project Location                                                      | Length | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Fed Aid<br>Type | Federal<br>Funds<br>Source | Federal Funds  | Other Fed Funds | Local Match    | Other Funds Local        | HURF Exchange              | Total Cost                 |
| 2021                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       | -      | -                             | -               | -              | STBG            | FHWA                       |                | \$ -            |                | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -           | \$ -            | \$ -           | \$ -                     | \$ -                       | \$ -                       |
| 2022                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       |        |                               |                 |                | STBG            | FHWA                       | \$ -           | \$ -            | \$ -           | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -           | \$ -            | \$ -           | \$ -                     | \$ -                       | \$ -                       |
| 2023                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
| LHM 22-112                                        | 102318                | Installation        | Lake Havasu City | Traffic Signals ITS                      | Various Intersections -- SR95, Lake Havasu Ave, & Other Intersections | -      | Varies                        | -               | -              | HURF X-STBG     | FHWA                       | <del>-\$</del> | <del>-\$</del>  | <del>-\$</del> | <del>\$ 113,991.94</del> | <del>\$ 1,025,927.44</del> | <del>\$ 1,139,919.38</del> |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -           | \$ -            | \$ -           | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |
| 2024                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
| LHM-24-101                                        |                       | Planning & Analysis | LHMPO            | Traffic Signal Analysis & Modeling Study | McCulloch Blvd, Lake Havasu Ave, & State Route 95                     | -      |                               |                 |                | STBG            | FHWA                       | \$ 300,000.00  | \$ -            | \$ 18,133.62   | \$ -                     | \$ -                       | \$ 318,133.62              |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ 300,000.00  | \$ -            | \$ 18,133.62   | \$ -                     | \$ -                       | \$ 318,133.62              |
| 2025                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
|                                                   |                       |                     |                  |                                          |                                                                       |        |                               |                 |                | STBG            | FHWA                       | \$ -           | \$ -            | \$ -           | \$ -                     | \$ -                       | \$ -                       |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -           | \$ -            | \$ -           | \$ -                     | \$ -                       | \$ -                       |
| 2026                                              |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            |                |                 |                |                          |                            |                            |
| LHM 22-112                                        | 102318                | Installation        | Lake Havasu City | Traffic Signals ITS                      | Various Intersections - SR95, Lake Havasu Ave, & Other Intersections  | -      | Varies                        | -               | -              | HURF X-STBG     | FHWA                       | \$ -           | \$ -            | \$ -           | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |
| TOTALS                                            |                       |                     |                  |                                          |                                                                       |        |                               |                 |                |                 |                            | \$ -           | \$ -            | \$ -           | \$ 113,991.94            | \$ 1,025,927.44            | \$ 1,139,919.38            |

- Notes:
1. "STBG" funded programs are selected by LHMPPO; projects with other funding sources are required to be included, but are selected through various grant applications

2. Projects labeled with "Not Approved" or "Not Awarded" and highlighted in \*\*Blue\*\* are considered to be in "Parking Lot" status and waiting for eligibility determination from ADOT, FHWA and or approval by LHMPPO TAC & Executive Board. They are included in this summary list because approvals are expected.

3. Projects highlighted in "Yellow" show an amended change in this updated summary

*Note: This is an overall listing of all Lake Havasu MPO projects that have been preliminarily approved by the TAC, by year, for 2021 to 2026. Some projects will need to be moved or reprogrammed due to funding availability.*

Terms: "STBG" : Surface Transportation Block Grant

| Carbon Reduction Program (CRP) Projects |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|-----------------------------------------|-----------------------|---------------|-----------------|--------------|------------------|--------|-------------------------------|-----------------|----------------|-----------------|----------------------------|---------------|-----------------|-------------|-------------------|---------------|------------|
| TIP ID #                                | ADOT ID #<br>(E-STIP) | Project Phase | Project Sponsor | Project Name | Project Location | Length | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Fed Aid<br>Type | Federal<br>Funds<br>Source | Federal Funds | Other Fed Funds | Local Match | Other Funds Local | HURF Exchange | Total Cost |
| 2021                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| 2022                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| 2023                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| 2024                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| 2025                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| 2026                                    |                       |               |                 |              |                  |        |                               |                 |                |                 |                            |               |                 |             |                   |               |            |
|                                         |                       |               |                 |              |                  |        |                               |                 |                | CRP             | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |
| TOTALS                                  |                       |               |                 |              |                  |        |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          | \$ -       |

Notes:

1. "CRP" funded programs are selected by LHMPPO; projects with other funding sources are required to be included, but are selected through various grant applications

2. Projects labeled with "Not Approved" or "Not Awarded" and highlighted in **\*\*Blue\*\*** are considered to be in "Parking Lot" status and waiting for eligibility determination from ADOT, FHWA and or approval by LHMPPO TAC & Executive Board. They are included in this summary list because approvals are expected.

3. Projects highlighted in **"Yellow"** show an amended change in this updated summary

*Note: This is an overall listing of all Lake Havasu MPO projects that have been preliminarily approved by the TAC, by year, for 2021 to 2026. Some projects will need to be moved or reprogrammed due to funding availability.*

Terms:

"CRP" : Carbon Reduction Program

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| Highway Safety Improvement Program (HSIP) Projects |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            |               |                 |             |                   |               |
|----------------------------------------------------|-----------------------|---------------|----------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------|-----------------|----------------|-----------------|----------------------------|---------------|-----------------|-------------|-------------------|---------------|
| TIP ID #                                           | ADOT ID #<br>(E-STIP) | Project Phase | Project Sponsor      | Project Name                                                                                  | Project Location                                                                                                                                             | Length    | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Fed Aid<br>Type | Federal<br>Funds<br>Source | Federal Funds | Other Fed Funds | Local Match | Other Funds Local | Total Cost    |
| 2021                                               |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            |               |                 |             |                   |               |
| -                                                  | -                     | -             | -                    | -                                                                                             | -                                                                                                                                                            | -         | -                             | -               | -              | HSIP            | FHWA                       | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          |
| TOTALS                                             |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            | \$ -          | \$ -            | \$ -        | \$ -              | \$ -          |
| 2022                                               |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            |               |                 |             |                   |               |
| LHM23-104D                                         | 101553                | Design        | Lake Havasu City     | London Bridge Road Safety Improvements                                                        | 255' North of Reimer Dr. to State Route 95 (South)                                                                                                           |           | Urban Major Collector         |                 |                | HSIP            | FHWA                       | \$ 199,500    | \$ -            | \$ -        | \$ -              | \$ 199,500    |
| TOTALS                                             |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            | \$ 199,500.00 | \$ -            | \$ -        | \$ -              | \$ 199,500.00 |
| 2023                                               |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            |               |                 |             |                   |               |
| LHM23-104C                                         | 101553                | Construction  | Lake Havasu City     | London Bridge Road Safety Improvements                                                        | 255' North of Reimer Dr. to State Route 95 (South)                                                                                                           |           | Urban Major Collector         |                 |                | HSIP            | FHWA                       | \$ 406,786    | \$ -            | \$ -        | \$ -              | \$ 406,786    |
| LHM-H23-101                                        | -                     | Design        | Lake Havasu City     | McCulloch Blvd & Jamaica Blvd Traffic Signal                                                  | Improvements at: Acoma Boulevard, Swanson Ave to Wood Ln, McCulloch Blvd at El Dorado Ave, and the intersection of McCulloch Boulevard and Jamaica Boulevard |           | Urban Major Collector         |                 |                | HSIP            | FHWA                       | \$ 244,025    | \$ -            | \$ -        | \$ -              | \$ 244,025    |
| TOTALS                                             |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            | \$406,786     | \$0             | \$0         | \$0               | \$650,811     |
| 2024                                               |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            |               |                 |             |                   |               |
| LHM-H23-101                                        | -                     | Construction  | Lake Havasu City     | McCulloch Blvd & Jamaica Blvd Traffic Signal                                                  | Improvements at: Acoma Boulevard, Swanson Ave to Wood Ln, McCulloch Blvd at El Dorado Ave, and the intersection of McCulloch Boulevard and Jamaica Boulevard |           | Urban Major Collector         |                 |                | HSIP            | FHWA                       | \$ 805,065.00 | \$ -            | \$ -        | \$ -              | \$ 805,065.00 |
| LHM-H25-101                                        |                       | Design        | ADOT Northwest Dist. | State Route 95 - Raised Median                                                                | S. Palo Verde to Industrial Blvd (0.8 miles), N. Palo Verde to North of Chenoweth (2.2 miles), S. Acoma to Oro Grande (1.0 miles)                            | 4 Miles   | Urban Principal Arterial      | 4               | 4              | HSIP            | FHWA                       | \$ 212,884    | \$ -            | \$ 12,868   | \$ -              | \$ 225,752    |
| LHM-H25-102                                        |                       | Design        | Lake Havasu City     | Swanson Ave Intersections Rectangular Rapid Flash Beacons, High Visibility Crosswalks         | Swanson Ave Intersections (Wing Loop, Mariposa Dr, and Wing Loop):                                                                                           | -         | Urban Major Collector         | 2               | 2              | HSIP            | FHWA                       | \$ 192,950    | \$ -            | \$ -        | \$ -              | \$ 192,950    |
| LHM-H25-103                                        |                       | Design        | Mohave County        | Horizon 6 – Gold Springs Rd, Blue Canyon Rd: Widen 3 Feet (Shoulders), Restripe for 10' Lanes | Horizon 6 – Gold Springs Rd, Blue Canyon Rd:                                                                                                                 | 1.1 Miles | Rural Minor Collector         | 2               | 2              | HSIP            | FHWA                       | \$ 235,735    | \$ -            | \$ 14,249   | \$ -              | \$ 249,984    |
| LHM-H25-104                                        |                       | Design        | Lake Havasu City     | Systemic Speed Feedback Signs                                                                 | Various Locations                                                                                                                                            | N/A       | N/A                           |                 |                | HSIP            | FHWA                       | \$ 272,400    | \$ -            | \$ -        | \$ -              | \$ 272,400    |
| TOTALS                                             |                       |               |                      |                                                                                               |                                                                                                                                                              |           |                               |                 |                |                 |                            | \$1,719,034   | \$0             | \$27,117    | \$0               | \$1,746,151   |

| Highway Safety Improvement Program (HSIP) Projects |                       |               |                         |                                                                                               |                                                                                                                                   |           |                               |                 |                |                 |                            |               |                 |             |                   |             |
|----------------------------------------------------|-----------------------|---------------|-------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------|-----------------|----------------|-----------------|----------------------------|---------------|-----------------|-------------|-------------------|-------------|
| TIP ID #                                           | ADOT ID #<br>(E-STIP) | Project Phase | Project Sponsor         | Project Name                                                                                  | Project Location                                                                                                                  | Length    | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Fed Aid<br>Type | Federal<br>Funds<br>Source | Federal Funds | Other Fed Funds | Local Match | Other Funds Local | Total Cost  |
| 2025                                               |                       |               |                         |                                                                                               |                                                                                                                                   |           |                               |                 |                |                 |                            |               |                 |             |                   |             |
| LHM-H25-104                                        |                       | Construction  | Lake Havasu City        | Systemic Speed Feedback Signs                                                                 | Various Locations                                                                                                                 | N/A       | N/A                           |                 |                | HSIP            | FHWA                       | \$ 742,456    | \$ -            | \$ -        | \$ -              | 742,456     |
| TOTALS                                             |                       |               |                         |                                                                                               |                                                                                                                                   |           |                               |                 |                |                 |                            | \$913,969     | \$0             | \$27,117    | \$0               | \$941,086   |
| 2026                                               |                       |               |                         |                                                                                               |                                                                                                                                   |           |                               |                 |                |                 |                            |               |                 |             |                   |             |
| LHM-H25-101                                        |                       | Construction  | ADOT<br>Northwest Dist. | State Route 95 - Raised Median                                                                | S. Palo Verde to Industrial Blvd (0.8 miles), N. Palo Verde to North of Chenoweth (2.2 miles), S. Acoma to Oro Grande (1.0 miles) | 4 Miles   | Urban Principal Arterial      | 4               | 4              | HSIP            | FHWA                       | \$ 3,079,723  | \$ -            | \$ 186,155  | \$ -              | 3,265,878   |
| LHM-H25-102                                        |                       | Construction  | Lake Havasu City        | Swanson Ave Intersections Rectangular Rapid Flash Beacons, High Visibility Crosswalks         | Swanson Ave Intersections (Wing Loop, Mariposa Dr, and Wing Loop):                                                                | -         | Urban Major Collector         | 2               | 2              | HSIP            | FHWA                       | \$ 215,598    | \$ -            | \$ -        | \$ -              | 215,598     |
| LHM-H25-103                                        |                       | Construction  | Mohave County           | Horizon 6 – Gold Springs Rd, Blue Canyon Rd: Widen 3 Feet (Shoulders), Restripe for 10' Lanes | Horizon 6 – Gold Springs Rd, Blue Canyon Rd:                                                                                      | 1.1 Miles | Rural Minor Collector         | 2               | 2              | HSIP            | FHWA                       | \$ 287,226    | \$ -            | \$ 17,361   | \$ -              | 304,587     |
| TOTALS                                             |                       |               |                         |                                                                                               |                                                                                                                                   |           |                               |                 |                |                 |                            | \$3,582,547   | \$0             | \$203,516   | \$0               | \$3,786,063 |

Notes:

1. Only "STBG" funded programs are selected by LHMPPO; projects with other funding sources, such as HSIP, are required to be included, but are selected through various grant applications

2. Projects labeled with "Not Approved" or "Not Awarded" and highlighted in \*\*Blue\*\* are considered to be in "Parking Lot" status and waiting for eligibility determination from ADOT, FHWA and or approval by LHMPPO TAC & Executive Board. They are included in this summary list because approvals are expected.

3. Projects highlighted in "Yellow" show an amended change in this updated summary

*Note: This is an overall listing of all Lake Havasu MPO projects that have been preliminarily approved by the TAC, by year, for 2021 to 2026. Some projects will need to be moved or reprogrammed due to funding availability.*

Terms:

"HSIP" : Highway Safety Improvement Program

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| State Legislative / Congressional Projects |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   |                        |                                         |               |
|--------------------------------------------|-----------------------|-----------------------|------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------|-----------------|----------------|-----------------------------------|------------------------|-----------------------------------------|---------------|
| TIP ID #                                   | ADOT ID #<br>(E-STIP) | Project Phase         | Project Sponsor  | Project Name                                   | Project Location                                                                                                        | Length     | Functional<br>Classifications | Lanes<br>Before | Lanes<br>After | Funds Source                      | State/Federal<br>Funds | Other Funds -<br>Local<br>Contributions | Total Cost    |
| 2022                                       |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   |                        |                                         |               |
| LHM-LS22-101                               |                       | Planning & Analysis   | Lake Havasu City | Second Bridge Impact Study                     | Lake Havasu City - Between the Island and London Bridge Rd.                                                             | -          | -                             | -               | -              | State General Funds - Surplus     | \$ 200,000.00          | \$ -                                    | \$ 200,000.00 |
| 2023                                       |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   |                        |                                         |               |
| LHM-LS23-101                               |                       | Construction          | Lake Havasu City | McCulloch Blvd. Improvements                   | Lake Havasu Ave. to Smoketree Ave.                                                                                      | 0.8 Miles  | Urban Minor Collector         | -               | -              | State General Funds - Surplus     | \$ 1,992,698           | \$ 498,175                              | \$ 2,490,873  |
| LHM-LS23-102                               |                       | Construction          | Lake Havasu City | Lake Havasu Ave. Improvements                  | Mesquite Blvd. to Palo Verde Blvd. S. Acoma Blvd. to Industrial Blvd.                                                   | 0.75 Miles | Urban Minor Collector         | -               | -              | State General Funds - Surplus     | \$ 2,095,644           | \$ 523,911                              | \$ 2,619,555  |
| LHM-LS23-103                               |                       | Construction          | Lake Havasu City | Industrial Ave. Improvements                   | Lake Havasu Ave. to London Bridge Rd.                                                                                   | 0.64 Miles | Urban Major Collector         | -               | -              | State General Funds - Surplus     | \$ 1,690,593           | \$ 422,648                              | \$ 2,113,241  |
| LHM-LS23-104                               |                       | Construction          | Lake Havasu City | Mesquite Ave. Improvements                     | Lake Havasu Ave. to Acoma: (Riviera Blvd. to Capri Blvd), (Del Rio Ln. to Lake Havasu Ave), (Acoma Blvd. to Querio Dr.) | 1.4 Miles  | Urban Major Collector         | -               | -              | State General Funds - Surplus     | \$ 1,768,477           | \$ 442,119                              | \$ 2,210,596  |
| LHM-LS23-105                               |                       | Construction          | Lake Havasu City | Swanson Ave. Improvements                      | State Route 95. to Smoketree Ave.                                                                                       | 0.75 Miles | Urban Major Collector         | -               | -              | State General Funds - Surplus     | \$ 1,585,822           | \$ 396,456                              | \$ 1,982,278  |
| LHM-LS23-106                               |                       | Construction          | Lake Havasu City | Palo Verde (S). Improvements                   | Lake Havasu Ave. to London Bridge Rd.                                                                                   | 0.25 Miles | Urban Major Collector         | -               | -              | State General Funds - Surplus     | \$ 693,418             | \$ 173,355                              | \$ 866,773    |
| LHM-LS23-107                               |                       | Design & Construction | Mohave County    | London Bridge Road Improvements                | Rubber Chip Seal MP 4.5 City Limits to Mile 7.88 City Limits                                                            | 3.38 Miles | Urban Major Collector         | -               | -              | State General Funds - Surplus     | \$ 300,000             | \$ -                                    | \$ 300,000    |
|                                            |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   | \$ 10,126,652          | \$ 2,456,664                            | \$ 12,583,316 |
| 2024                                       |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   |                        |                                         |               |
| LHM-CDS24-101                              |                       | Construction          | Lake Havasu City | El Dorado Ave. Low Water Crossing Improvements | El Dorado Ave. at El Dorado Wash Crossing                                                                               | -          | Urban Major Collector         | 2               | 2              | Congressionally Directed Spending | \$ 2,846,571           | \$ 172,062.00                           | \$3,018,633   |
|                                            |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   | \$2,846,571            | \$172,062                               | \$3,018,633   |
| 2025                                       |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   |                        |                                         |               |
|                                            |                       |                       | Lake Havasu City |                                                |                                                                                                                         |            |                               |                 |                | State General Funds - Surplus     | \$ -                   | \$ -                                    | \$0           |
| TOTALS                                     |                       |                       |                  |                                                |                                                                                                                         |            |                               |                 |                |                                   | \$0                    | \$0                                     | \$0           |

Notes:

Projects highlighted in "BLUE" show UNAWARDED/UNFUNDED Lake Havasu MPO Regional Projects - Proposed State Legislative Appropriations/ or Congressinoally Directed Funds. To ensure regional planning coordination and regional support, these projects have been requested to be placed on the local MPO TIP prior to submission for state legislation or congressional directed spending consideration. If projects are awarded, those highlighted in "BLUE" will be unhighlighted indicating the approval and award of the project. If one of the proposed projects listed is not awarded for the year, it will be removed from the TIP.

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

Lake Havasu City Transit - 5307 / CARES Act / Transit STBG

| TIP ID #    | Project Phase / Description | ADOT ID | Project Sponsor          | Project Name / Location        | Fed Aid Type | Fed Aid Funding Year | Federal Funds Source | Federal Funds | Local Match | Other Funds Local | Total Cost    |
|-------------|-----------------------------|---------|--------------------------|--------------------------------|--------------|----------------------|----------------------|---------------|-------------|-------------------|---------------|
| 2021        |                             |         |                          |                                |              |                      |                      |               |             |                   |               |
| LHT21-301A  | FTA Vehicle                 | 102245  | Lake Havasu City Transit | FTA Vehicle                    | CARES        | FFY2020              | FTA                  | \$ 130,000    | \$ -        | \$ -              | \$ 130,000    |
| LHT-21-307  | FTA Vehicle                 | 102327  | Lake Havasu City Transit | FTA Vehicle                    | 5307         | FFY2019              | FTA                  | \$ 86,000     | \$ 15,176   | \$ -              | \$ 101,176    |
| LHT-21-308  | FTA Vehicle                 | 102328  | Lake Havasu City Transit | FTA Vehicle                    | 5307         | FFY2019              | FTA                  | \$ 86,000     | \$ 15,176   | \$ -              | \$ 101,176    |
| LHT-21-309  | FTA Vehicle                 | 102329  | Lake Havasu City Transit | FTA Vehicle                    | 5307         | FFY2019              | FTA                  | \$ 86,000     | \$ 15,176   | \$ -              | \$ 101,176    |
| TOTALS      |                             |         |                          |                                |              |                      |                      | \$ 258,000    | \$ 45,529   | \$ -              | \$ 303,529.41 |
| 2022        |                             |         |                          |                                |              |                      |                      |               |             |                   |               |
| LHT-22-302  | Capital                     | 102247  | Lake Havasu City Transit | Bus Signage                    | 5307         | FFY2019              | FTA                  | \$ 17,000     | \$ 4,250    | \$ -              | \$ 21,250     |
| LHT-22-303  | Capital                     | 102248  | Lake Havasu City Transit | Bus Shelters                   | 5307         | FFY2019              | FTA                  | \$ 33,000     | \$ 8,250    | \$ -              | \$ 41,250     |
| TOTALS      |                             |         |                          |                                |              |                      |                      | \$ 50,000     | \$ 12,500   | \$ -              | \$ 62,500.00  |
| 2023        |                             |         |                          |                                |              |                      |                      |               |             |                   |               |
| LHT-22-301D | Design                      | 102320  | Lake Havasu City Transit | Transit Hub with ADA Restrooms | STBG         | FFY2020              | FTA                  | \$ 38,896     | \$ 2,351    | \$ -              | \$ 41,247     |
| LHT22-301D  | Design                      | 102320  | Lake Havasu City Transit | Transit Hub with ADA Restrooms | 5307         | FFY2020/FFY 2021     | FTA                  | \$ 125,000    | \$ 31,250   | \$ -              | \$ 156,250    |
| LHT-23-301  | FTA Vehicle                 | 102341  | Lake Havasu City Transit | FTA Vehicle                    | 5307         | FFY2020/FFY 2021     | FTA                  | \$ 150,000    | \$ 26,471   | \$ -              | \$ 176,471    |
| LHT-23-302  | FTA Vehicle                 | 102344  | Lake Havasu City Transit | FTA Vehicle                    | 5307         | FFY2021              | FTA                  | \$ 85,000     | \$ 15,000   | \$ -              | \$ 100,000    |
| TOTALS      |                             |         |                          |                                |              |                      |                      | \$398,896     | \$75,072    | \$0               | \$473,967.67  |

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

Lake Havasu City Transit - 5307 / CARES Act / Transit STBG

| TIP ID #    | Project Phase / Description | ADOT ID | Project Sponsor          | Project Name / Location            | Fed Aid Type | Fed Aid Funding Year | Federal Funds Source | Federal Funds         | Local Match          | Other Funds Local | Total Cost            |
|-------------|-----------------------------|---------|--------------------------|------------------------------------|--------------|----------------------|----------------------|-----------------------|----------------------|-------------------|-----------------------|
| 2024        |                             |         |                          |                                    |              |                      |                      |                       |                      |                   |                       |
| LHT-21-305  | Capital                     | 102325  | Lake Havasu City Transit | Shade Cover Pima Wash for Vehicles | 5307         | FFY2019              | FTA                  | \$ 50,000             | \$ 12,500            | \$ -              | \$ 62,500             |
| LHT-22-301C | Construction                | 102320  | Lake Havasu City Transit | Transit Hub with ADA Restrooms     | 5307         | FFY2021              | FTA                  | \$ 400,000            | \$ 100,000           | \$ 80,000         | \$ 580,000            |
| LHT-23-304  | Capital                     | 102380  | Lake Havasu City Transit | Transit Building Upgrades          | 5307         | FFY2022              | FTA                  | <del>\$ 50,000</del>  | <del>\$ 12,500</del> | <del>\$ -</del>   | <del>\$ 62,500</del>  |
| LHT-24-303  | Capital                     |         | Lake Havasu City Transit | FTA Vehicle                        | 5307         | FFY2022              | FTA                  | \$ 150,000            | \$ 26,471            | \$ -              | \$ 176,471            |
| LHT-24-304  | Capital                     |         | Lake Havasu City Transit | FTA Vehicle                        | 5307         | FFY2022              | FTA                  | \$ 150,000            | \$ 26,471            | \$ -              | \$ 176,471            |
| LHT-23-303  | Capital                     |         | Lake Havasu City Transit | Vehicle Wireless Camera Technology | STBG         | FFY2021 / FFY2022    | FTA                  | \$ 77,792             | \$ 2,351             | \$ -              | \$ 80,143             |
| LHT-24-306  | Capital                     |         | Lake Havasu City Transit | Electric Charging Station          | 5307         | FFY2023              | FTA                  | <del>\$ 150,000</del> | <del>\$ 37,500</del> | <del>\$ -</del>   | <del>\$ 187,500</del> |
| LHT-24-307  | Maintenance                 |         | Lake Havasu City Transit | Vehicle/Building Maintenance       | 5307         | FFY2019              | FTA                  | \$ 42,000             | \$ 8,400             | \$ -              | \$ 50,400             |
| TOTALS      |                             |         |                          |                                    |              |                      |                      | \$1,069,792           | \$226,192            | \$80,000          | \$1,375,984.18        |
| 2025        |                             |         |                          |                                    |              |                      |                      |                       |                      |                   |                       |
| LHT-25-301  | Operating                   |         | Lake Havasu City Transit | Operating Expenses                 | 5307         | FFY2023              | FTA                  | \$ 250,000            | \$ 250,000           | \$ -              | \$500,000             |
| LHT-25-302  | Capital                     |         | Lake Havasu City Transit | Electric Charging Station          | 5307         | FFY2023              | FTA                  | \$ 150,000            | \$ 37,500            | \$ -              | \$187,500             |
| LHT-25-303  | Capital                     |         | Lake Havasu City Transit | FTA Vehicle                        | 5307         | FFY2023              | FTA                  | \$ 150,000            | \$ 26,470.59         | \$ -              | \$176,471             |
| TOTALS      |                             |         |                          |                                    |              |                      |                      | \$550,000             | \$313,971            | \$0               | \$863,970.59          |

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

Lake Havasu City Transit - 5307 / CARES Act / Transit STBG

| TIP ID #   | Project Phase / Description | ADOT ID | Project Sponsor          | Project Name / Location      | Fed Aid Type | Fed Aid Funding Year | Federal Funds Source | Federal Funds | Local Match | Other Funds Local | Total Cost     |
|------------|-----------------------------|---------|--------------------------|------------------------------|--------------|----------------------|----------------------|---------------|-------------|-------------------|----------------|
| 2026       |                             |         |                          |                              |              |                      |                      |               |             |                   |                |
| LHT-26-301 | Operating                   |         | Lake Havasu City Transit | Operating Expenses           | 5307         | FFY2023 / FFY2024    | FTA                  | \$300,000     | \$300,000   | \$ -              | \$600,000      |
| LHT-26-302 | Capital                     |         | Lake Havasu City Transit | Electric Charging Station    | 5307         | FFY2024              | FTA                  | \$150,000     | \$37,500    | \$ -              | \$187,500      |
| TOTALS     |                             |         |                          |                              |              |                      |                      | \$300,000     | \$300,000   | \$0               | \$600,000.00   |
| 2027       |                             |         |                          |                              |              |                      |                      |               |             |                   |                |
| LHT-27-301 | Operating                   |         | Lake Havasu City Transit | Operating Expenses           | 5307         | FFY2023 / FFY2024    | FTA                  | \$300,000     | \$300,000   |                   | \$600,000      |
| LHT-27-302 | Capital                     |         | Lake Havasu City Transit | FTA Vehicle                  | 5307         | FFY2023              | FTA                  | \$150,000     | \$26,471    |                   | \$176,471      |
| LHT-27-303 | Capital                     |         | Lake Havasu City Transit | FTA Vehicle                  | 5307         | FFY2025              | FTA                  | \$150,000     | \$26,471    |                   | \$176,471      |
| LHT-27-304 | Maintenance                 |         | Lake Havasu City Transit | Vehicle/Building Maintenance | 5307         | FFY2023              | FTA                  | \$100,000     | \$20,000    |                   | \$120,000      |
| TOTALS     |                             |         |                          |                              |              |                      |                      | \$700,000     | \$372,941   | \$0               | \$1,072,941.18 |

Notes:

Projects highlighted in "Yellow" show an amended change in this updated summary

Terms:

5307 Funding - Allocated funding for transit  
CARES Act- One time funding source no expiration date  
STBG Funding - Allocated funding for transit

*Note: This is an overall listing of all Lake Havasu Transit projects that have been preliminarily approved by Lake Havasu City, by year, for 2021 to 2026. Some projects will need to be moved or reprogrammed due to funding availability.*

Prepared: 3/8/2022 by Jeanette Buckley, Lake Havasu City Transit

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| 5310 - Mobility Management / Non-Profit Transit |                             |         |                                                                                                               |                                 |              |                      |               |                 |               |                   |               |
|-------------------------------------------------|-----------------------------|---------|---------------------------------------------------------------------------------------------------------------|---------------------------------|--------------|----------------------|---------------|-----------------|---------------|-------------------|---------------|
| TIP ID #                                        | Project Phase / Description | COG/MPO | Project Name / Location                                                                                       | Project Name Description        | Fed Aid Type | Federal Funds Source | Federal Funds | Other Fed Funds | Local Match   | Other Funds Local | Total Cost    |
| 2021                                            |                             |         |                                                                                                               |                                 |              |                      |               |                 |               |                   |               |
| LHM-20-102                                      | Awarded                     | LHMPO   | New Horizons Center for People w/Special Needs - Small Urban Capital per FFY 2020 Section 5310 Awards         | Minivan with Ramp (7 passenger) | 5310         | FTA                  | \$ 49,300     | \$ -            | \$ 8,700      | \$ -              | \$ 58,000     |
| LHM-20-103                                      | Awarded                     | LHMPO   | New Horizons Center for People w/Special Needs - Small Urban Capital per FFY 2020 Section 5310 Awards         | Minivan with Ramp (7 passenger) | 5310         | FTA                  | \$ 49,300     | \$ -            | \$ 8,700      | \$ -              | \$ 58,000     |
| LHM-20-104                                      | Awarded                     | LHMPO   | New Horizons Center for People w/Special Needs - Small Urban Capital per FFY 2020 Section 5310 Awards         | 4x4 SUV                         | 5310         | FTA                  | \$ 38,250     | \$ -            | \$ 6,750      | \$ -              | \$ 45,000     |
| LHM-20-105                                      | Awarded                     | LHMPO   | New Horizons Center for People w/Special Needs - Small Urban Capital per FFY 2020 Section 5310 Awards         | Preventative Maintenance        | 5310         | FTA                  | \$ 20,000     | \$ -            | \$ 5,000      | \$ -              | \$ 25,000     |
| LHM-20-106                                      | Awarded                     | LHMPO   | Rise Inc. - Small Urban Capital per FFY 2020 Section 5310 Awards                                              | Cutaway with Lift (9 passenger) | 5310         | FTA                  | \$ 63,750     | \$ -            | \$ 11,250     | \$ -              | \$ 75,000     |
| LHM-20-107                                      | Awarded                     | LHMPO   | Rise Inc. - Small Urban Capital per FFY 2020 Section 5310 Awards                                              | Cutaway with Lift (9 passenger) | 5310         | FTA                  | \$ 63,750     | \$ -            | \$ 11,250     | \$ -              | \$ 75,000     |
| LHM-20-118                                      | Awarded                     | LHMPO   | Rise Inc. - Small Urban Capital per FFY 2020 Section 5310 Awards                                              | Cutaway with Lift (9 passenger) | 5310         | FTA                  | \$ 63,750     | \$ -            | \$ 11,250     | \$ -              | \$ 75,000     |
| LHM-20/119                                      | Awarded                     | LHMPO   | NAU - Senior Companion Program - Small Urban Operating per FFY 2020 Section 5310 Awards                       | Operating Funds                 | 5310         | FTA                  | \$ 25,000     | \$ -            | \$ 25,000     | \$ -              | \$ 50,000     |
| LHM-20-120                                      | Awarded                     | LHMPO   | New Horizons Disability Empowerment Center - Small Urban Operating per FFY 2020 Section 5310 Awards           | Operating Funds                 | 5310         | FTA                  | \$ 20,000     | \$ -            | \$ 20,000     | \$ -              | \$ 40,000     |
| WACOG-T21-18                                    | Awarded                     | LHMPO   | Town of Quartzsite - Bus Expansion - Section 5339 Awards                                                      | Expansion - Bus <30 FT.         | 5310         | FTA                  | \$ 115,920    | \$ -            | \$ 20,456     | \$ -              | \$ 136,376    |
| TOTALS                                          |                             |         |                                                                                                               |                                 |              |                      | \$ 509,020.00 | \$ -            | \$ 128,356.00 | \$ -              | \$ 637,376.00 |
| 2022                                            |                             |         |                                                                                                               |                                 |              |                      |               |                 |               |                   |               |
| LHM -M21-101                                    | Awarded                     | LHMPO   | New Horizons Center Inc. for People with Special Needs - Small Urban Capital per FFY 2021 Section 5310 Awards | Preventative Maintenance        | 5310         | FTA                  | \$ 20,000     | \$ -            | \$ 5,000      | \$ -              | \$ 25,000     |
| LHM -M21-102                                    | Awarded                     | LHMPO   | New Horizons Center Inc. for People with Special Needs - Small Urban Capital per FFY 2021 Section 5310 Awards | 4x4 SUV                         | 5310         | FTA                  | \$ 38,774     | \$ -            | \$ 10,663     | \$ -              | \$ 49,437     |
| LHM -M21-103                                    | Awarded                     | LHMPO   | New Horizons Center Inc. for People with Special Needs - Small Urban Capital per FFY 2021 Section 5310 Awards | Minivan with Ramp (7 passenger) | 5310         | FTA                  | \$ 51,488     | \$ -            | \$ 5,721      | \$ -              | \$ 57,209     |
| LHM -M21-104                                    | Awarded                     | LHMPO   | New Horizons Center Inc. for People with Special Needs - Small Urban Capital per FFY 2021 Section 5310 Awards | Minivan with Ramp (7 passenger) | 5310         | FTA                  | \$ 51,488     | \$ -            | \$ 5,721      | \$ -              | \$ 57,209     |
| TOTALS                                          |                             |         |                                                                                                               |                                 |              |                      | \$161,750     | \$0             | \$27,105      | \$0               | \$188,855     |

Lake Havasu Metropolitan Planning Organization (MPO)  
FY 2021-2026 Transportation Improvement Program

2023 UPDATE

| 5310 - Mobility Management / Non-Profit Transit |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   |               |
|-------------------------------------------------|-----------------------------|---------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------|----------------------|---------------|-----------------|--------------|-------------------|---------------|
| TIP ID #                                        | Project Phase / Description | COG/MPO       | Project Name / Location                                                                                       | Project Name Description                           | Fed Aid Type | Federal Funds Source | Federal Funds | Other Fed Funds | Local Match  | Other Funds Local | Total Cost    |
| 2023                                            |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   |               |
| LHM-M22-101                                     | Awarded                     | LHMPO         | New Horizons Center Inc. for People with Special Needs - Small Urban Captial per FFY 2022 Section 5310 Awards | Preventative Maintenance                           | 5310         | FTA                  | \$ 20,000     | \$ -            | \$ 5,000.00  | \$ -              | \$ 25,000.00  |
| LHM-M22-102                                     | Awarded                     | LHMPO         | New Horizons Center Inc. for People with Special Needs - Small Urban Captial per FFY 2022 Section 5310 Awards | Cutaway with Lift (9 passenger)                    | 5310         | FTA                  | \$ 116,875    | \$ -            | \$ 20,625.00 | \$ -              | \$ 137,500.00 |
| LHM-M22-103                                     | Awarded                     | LHMPO         | New Horizons Center Inc. for People with Special Needs - Small Urban Captial per FFY 2022 Section 5310 Awards | Maxivan w/ lift Transit Connect - Replacement 2950 | 5310         | FTA                  | \$ 90,695     | \$ -            | \$ 16,005.00 | \$ -              | \$ 106,700.00 |
| LHM-M22-104                                     | Awarded                     | LHMPO         | New Horizons Center Inc. for People with Special Needs - Small Urban Captial per FFY 2022 Section 5310 Awards | Minivan with Ramp - Replacement 3898               | 5310         | FTA                  | \$ 62,645     | \$ -            | \$ 11,055.00 | \$ -              | \$ 73,700.00  |
| LHM-M22-105                                     | Awarded                     | LHMPO         | New Horizons Disability Empowerment Center - Small Urban Captial per FFY 2022 Section 5310 Awards             | Preventative Maintenance                           | 5310         | FTA                  | \$ 20,000     | \$ -            | \$ 5,000.00  | \$ -              | \$ 25,000.00  |
| LHM-M22-106                                     | Awarded                     | WACOG / LHMPO | Regional Mobility Management                                                                                  | Mobility Management - Small Urban                  | 5310         | FTA                  | \$ 57,400     | \$ -            | \$ 14,350.00 | \$ -              | \$ 71,750.00  |
| TOTALS                                          |                             |               |                                                                                                               |                                                    |              |                      | \$367,615     | \$0             | \$72,035     | \$0               | \$439,650     |
| 2024                                            |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   |               |
|                                                 |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   | \$0           |
| TOTALS                                          |                             |               |                                                                                                               |                                                    |              |                      | \$0           | \$0             | \$0          | \$0               | \$0           |
| 2025                                            |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   |               |
|                                                 |                             |               |                                                                                                               |                                                    |              |                      |               |                 |              |                   | \$0           |
| TOTALS                                          |                             |               |                                                                                                               |                                                    |              |                      | \$0           | \$0             | \$0          | \$0               | \$0           |

Notes:

1. Projects labeled with "Not Approved" or "Not Awarded" and highlighted in **\*\*Blue\*\*** are considered to be in "Parking Lot" status and waiting for eligibility determination from ADOT, FTA and or approval by WACOG Coordination Council. They are included in this summary list because approvals are expected.
2. FTA Grant Awards are announced annually. Once grants are awarded, projects highlighted in "BLUE" will be unhighlighted indicating the projects approval and award. If one the proposed projects listed is not awarded for the year it will be removed from the TIP.

Terms:

"FTA": Federal Transit Administration

# Item #8

## **FY2023 Loan**

*Justin Hembree, LHMPO Director*

Agenda Item # 8

**LAKE HAVASU MPO  
REQUEST FOR ACTION**

**SUBJECT:** Discussion and Possible Action to Approve Fiscal Year 2023 Loan #1

**SUBMITTED BY:** Justin Hembree, MPO Director

**AGENDA TYPE:** Discussion/Action

---

**ATTACHMENTS: FY 2023 Loan #1**

---

**SUMMARY/BACKGROUND:**

Surface Transportation Block Grant (STBG), and Carbon Reduction Program (CRP) funds are the federal funds allocated to the LHMPO for transportation-related projects every fiscal year. Any funds not directly tied to a project are considered unencumbered or lapsing if not expended (i.e., STBG/CRP funds are considered “use it, or lose it” each fiscal year). Any lapsing funds at the end of the fiscal year risk being swept by ADOT. In order for the LHMPO to carry forward lapsing or unencumbered federal funds, we must “Loan-Out” the funds to ADOT or another COG/MPO in the fiscal year the funds are scheduled to expire. We then receive “Repayment” in the following fiscal year or future fiscal years.

The following is the proposed loan for FY23:

| <i>Loan #</i> | <i>Loan Description</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23L1          | <b>LHMPO LOAN TO ADOT</b> <ul style="list-style-type: none"><li>• <b>FY2023 LOAN OUT</b> of <b>ALL lapsing funds</b> (expected \$1,167,866 in STBG; \$234,805 in CRP; and \$2,930 in PL; all totaling \$1,405,601 - amounts subject to change before June 30, 2023), with <b>REPAYMENT in FY2024</b> (OA –STBG/CRP/PL) – Loan will aid in maintaining a fiscally constraint TIP and is necessary to fund the, Signal Analysis and Modeling Study, and the Signal ITS HURF Exchange Project.</li></ul> |

---

**ACTION OPTION:**

Motion to approve the FY2023 Loan #1

**OR**

Action as a result of the discussion

---

**RECOMMENDATION:**

Motion to approve the FY2023 Loan #1

**Arizona Department of Transportation**  
**COG/MPO Federal-Aid Funding Transfer or Loan Request Form**

Transferring Agency Lake Havasu MPO

| Funding Type | Federal Fiscal Year | Amount             |                           | Loaned or Transferred To | Project/Purpose                | Transfer or Loan? | Repayment Terms/ Schedule (loans only) |
|--------------|---------------------|--------------------|---------------------------|--------------------------|--------------------------------|-------------------|----------------------------------------|
|              |                     | Apportionments     | Obligation Authority (OA) |                          |                                |                   |                                        |
| STBG         | FY23                | \$1,167,866        | \$1,167,866               | ADOT                     | Traffic Signal ITS - LHM22-112 | Loan              | Loan Out FY23 - Repayment FY24         |
| CRP          | FY23                | \$234,805.37       | \$234,805.37              | ADOT                     | Future CRP Project TBD         | Loan              | Loan Out FY23 - Repayment FY23         |
| PL           | FY23                | \$2,929.56         | \$2,929.56                | ADOT                     | UPWP FY24/25                   | Loan              | Loan Out FY23 - Repayment FY24         |
| <b>TOTAL</b> |                     | <b>\$1,405,601</b> | <b>\$1,405,601</b>        |                          |                                |                   |                                        |

**Transferring Agency Approval:**

The undersigned authorizes the transfer of funds identified above.



Justin Hembree

Printed Name

Executive Director

Title

3/31/2023

Date

**Receiving Agency Approval:**

The undersigned approves the receipt of the funds and agrees to the repayment terms, if any, identified above.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**ADOT Acknowledgement or Approval:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**Email completed form to Arizona Department of Transportation Financial Management Services at [mprogramfinance@azdot.gov](mailto:mprogramfinance@azdot.gov). Approved transfer/loan requests must be received by June 15th each year; allow two weeks for approval. Transfers generally will appear on the next ledger, depending on the date of receipt.**

This request will be processed based on the amount of apportionments and obligation authority available to the loaning/transferring agency at the time of receipt, which may be different than the amount shown on the most recent ledger. Loans are to be repaid; transfers will not be repaid.

**Loans of apportionments and/or obligation authority to ADOT** - these loans are not guaranteed; are capped at a total, maximum of \$10 million annually; are limited to greater Arizona STP projects in a TIP which exceed the region's available STP allocation; will be on a first come, first served basis if available; require advance approval. Every effort should be made to reprogram federal funds on projects ready to authorize by June 30th annually or to loan to other regional entities before approaching ADOT about a loan. Loans to ADOT must be approved and executed by March 31st annually.

Loans/transfers from MAG or PAG to Greater Arizona have certain restrictions, depending on the type of funding and population in the area of the project to which the loan is related. Contact Financial Management Services at 602-712-7441 for further information.

## Item #9

### **Scope of work/RFP-Traffic Signal Optimization & Enhancement Study**

*Justin Hembree, LHMPO Director*

**LAKE HAVASU MPO  
REQUEST FOR ACTION**

**SUBJECT:**                **Discussion and Possible Action to Approve the Final Scope of Work for the proposed Traffic Signal Analysis & Modeling Study**

**SUBMITTED BY:**     Justin Hembree, MPO Director

**AGENDA TYPE:**     Discussion/Action

---

**ATTACHMENTS:**

- Final Scope of Work – Traffic Signal Analysis & Modeling Study
- Tentative schedule for RFP/Procurement

---

**SUMMARY/BACKGROUND:**

Through a formal procurement process (RFP) tentatively scheduled for FY 2024, the LHMPO would hire a consultant to develop a plan for the implementation of Adaptive Signal Control Technology (ASCT) or Alternative traffic signal improvements to increase the overall efficiency and operations of the three (3) corridors (McCulloch Blvd, Lake Havasu Ave. & State Route 95). The final plan would include a comprehensive evaluation and inventory of existing infrastructure and detailed analysis/modeling required for future signal improvements; the plan will also identify agency roles and responsibilities related to installing and operating fully-functioning ASCT or alternative systems for each roadway segment and individual traffic signal locations.

---

**ACTION OPTION:**

Motion to approve the Final Scope of Work for the Traffic Signal and Analysis Study and for the Lake Havasu MPO to begin the RFP solicitation process.

**OR**

Action as a result of the discussion

---

**RECOMMENDATION:**

Motion to approve the the Final Scope of Work for the Traffic Signal and Analysis Study and for the Lake Havasu MPO to begin the RFP solicitation process.

# SCOPE OF WORK

---

The Lake Havasu Metropolitan Planning Organization (LHMPO) **Traffic Signal Analysis and Modeling Study** aims to increase the overall efficiency and operations of three (3) corridors (State Route 95, Lake Havasu Ave., and McCulloch Blvd.) for the safe and efficient movement of people, goods, and services within the LHMPO region. This study will focus on the following:

## **Phase I**

- Conduct an inventory of existing traffic signal equipment and infrastructure.
- Conduct traffic counts and data collection
- Perform signal systems analysis, develop/model a new signal timing plan for existing signals and proposed signal improvements, and perform in-field signal retiming necessary to update the existing system.

## **Phase II**

- Develop an implementation plan (including cost estimates & project priority list) for future installation of **Adaptive Signal Control Technology (ASCT) or Alternative Improvements**

The study shall include an evaluation, analysis, need, and benefit of all existing and future signal improvements. Improvements include but are not limited to interim improvements, traffic signal timings, ASCT or alternative related improvements, hardware, servers, communications equipment, detection equipment, switches, system software, management system, and system integration services, as well as identifying agency roles and responsibilities related to the installation and operation of fully-functioning ASCT systems for each roadway segment and at individual traffic signal locations.

Existing signal retiming and planning of adaptive capability or other identified alternative improvements shall be provided for all the traffic signals (**See Appendix A**) within the three (3) corridors which are currently independently operated by the Arizona Department of Transportation (ADOT), and the City of Lake Havasu

The final implementation plan will provide the planning necessary to install, operate, and program adaptable signal timings or alternative recommended improvements for the regional traffic signals for each participating agency.

The scope of work for the **Traffic Signal Analysis & Modeling Study** includes **Consultant** review and incorporation of all applicable information, data, and provisions of previously completed local and regional planning studies within the LHMPO transportation planning boundaries; or Mohave County and any others that may have an impact on the implementation plan that are outside the LHMPO transportation planning boundaries.

This Scope of Work is a rough guide to the anticipated work involved with this planning project. As part of the RFP response, proposers are encouraged to provide innovative approaches and concepts that could be included as part of the final plan and should keep in mind that the technical considerations listed in the following tasks are not exhaustive and other elements that may be needed can be added to the evaluation and final plan to support a successful project. **Proposers are highly encouraged to offer refinements to this Scope of Work in their proposal, highlighting the suggested refinements.**

The LHMPO Traffic Signal Analysis & Modeling Study shall include the following tasks, each of which shall include the development and provision of a summary working paper with its overview, key points, findings, and recommendations incorporated into final reports and plans.

## Task 1 – Project Management & Coordination

The **Consultant** shall provide project management and coordination with LHMPO staff, the Technical Advisory Committee (TAC), and all Maintaining/Government Agencies (i.e., ADOT and Lake Havasu City). The Prime Consultant shall also manage and coordinate closely with team sub-consultants to ensure on-time delivery and responsive performance.

Upon notice to proceed, the **Consultant** shall develop a refined project scope with input from the LHMPO Project Manager (Director) and the TAC.

The **Consultant** shall prepare a GANTT-type (bar chart) project schedule that includes the following:

- Study milestones
- Deliverables
- Technical Advisory Committee (TAC), Stakeholder, LHMPO Executive Board, and Public Outreach meetings
- Key public outreach points

This task is continuous throughout the length of the Project/Plan development period.

### Deliverable:

The **Consultant** shall prepare and provide the TAC with a Project Management Plan, including a refined scope of work and schedule for the LHMPO Traffic Signal Analysis & Modeling Study. In addition, the Project Management Plan will identify proposed dates of TAC meetings and tentative discussion topics.

## Task 2 – LEP Four-Factor Analysis

The **Consultant** will conduct a Limited English Proficiency (LEP) Four Factor Analysis for the project study area. Section Five of the US Department of Transportation guidance on LEP requires a Four Factor Analysis to determine the need for translation services to ensure LEP populations can receive information about and participate in the planning process in the language they best understand.

The Consultant is encouraged to use American Fact Finder (<https://factfinder.census.gov/>) or the most recently available census data to conduct the Analysis. The Analysis will determine if LEP population(s) exist in the study area and ensure public outreach materials are available to the LEP population(s). The process and results of the Analysis will be documented in the final product.

### Deliverable:

- LEP Four-Factor Analysis
- Documentation of process and results in Final Document (Implementation Plan)

## Task 3 – Public Outreach and Involvement

LHMPO is seeking an **innovative public outreach program** that will be highly effective in gaining public input and acceptance of the final implementation plan. The **Consultant** shall involve the use of web-based tools, social media programs, and traditional public meetings. The **Consultant** is encouraged to propose an outreach program that will increase collaboration and provide better information and input to inform the study team enabling an effective system design and successful result.

The **Consultant** shall use social media and innovative internet-based survey and outreach mechanisms (e.g., MetroQuest, 76 engage, etc.) and strategies to strengthen outreach efforts to reach a larger audience.

The **Consultant** shall conduct at least **one (1) public meeting** or public open house (A virtual meeting is acceptable) to provide an overview and explanation of the system alternatives and gather public comments and other helpful input.

The **Consultant** shall be responsible for the following:

- Preparation of all presentation and informational materials for the LHMPO TAC, LHMPO Executive Board meetings, general public meetings, and stakeholder meetings.
- Preparation of materials and cost of advertisements and outreach activities.
- Preparation of contact lists, public notices, and documentation of the public involvement process and input received in the plan.
- Prepare public meeting notifications through news releases and advertising in the local newspaper. News releases and advertising materials will be provided in all languages identified as necessary as a result of the Four Factor Analysis.
- Draft, design, and place black and white ad (size: 4 col. x 10 in.). In addition, advertising materials will be provided in all languages identified as necessary as a result of the Four Factor Analysis.
- Distribute email invitations to compiled stakeholder list.
- Coordinate public meeting dates, times, and set-up.
- Locate, review and procure meeting facilities; ensure Americans with Disabilities Act (ADA) compliance; provide rider of insurance on client's behalf, if needed.
- Prepare basic logistical meeting materials such as directional signage, sign-in sheets, and comment cards.
- Provide meeting supplies.
- Provide sufficient staff to facilitate a meeting.
- Prepare a summary of the meeting and attach written comments.
- Provide fact sheets, PowerPoint presentations, and displays.
- Provide necessary translation services for all public meetings (with 48 hours advance notice) for any languages identified as necessary as part of the Four Factor Analysis.

The **Consultant** shall also present a Draft Plan and the Final Plan to the LHMPO TAC and LHMPO Executive Board.

### Deliverable:

The **Consultant** shall prepare and provide the following:

- Public Involvement Plan
- 3 Stakeholder/TAC Meetings (milestones)
- Presentations to Executive Board and to Lake Havasu City Council (if necessary)
- Public Open House/Virtual Public Meeting
- Public Survey (if necessary)

# Phase I

---

## Task 4 – Inventory of Existing Equipment and System Infrastructure Assessment

The **Consultant** shall collect, compile, and evaluate information on the current traffic signal systems and existing conditions.

The **Consultant** shall review and document the type, age, condition, and capability of the existing equipment at each intersection along all three corridors (See **Appendix A** for a list of all intersections & corridors).

This task will include but not limited to:

- Review of existing traffic signal plans (to be provided by Maintaining Agency)
- Review of existing signal communications plans (to be provided by Maintaining Agency)
- Review of existing Street name signs, including type (i.e., mast-arm or pole mounted) and illumination type
- Field investigation of existing traffic signal infrastructure, including but not limited to:
  - Controller hardware and firmware, including firmware version numbers
  - Vehicle detection type, including manufacturer name and model
  - Battery backup system type, including manufacturer name, model, and battery expiration dates
  - Signal cabinet type
  - Number and size of vehicle signal heads, including phase and direction
  - Number of pedestrian signal heads, including type, phase, and direction
  - Number of pedestrian push buttons, including type, phase, and direction
  - Safety lights, including type and wattage
  - Photos of the above equipment
- Field investigation of existing intersection signal communications infrastructure, including but not limited to:
  - Communications type and manufacturer (i.e., copper signal interconnect, fiber optic cable, wireless connection, etc.)
    - Include the number of Signal Interconnect (SIC) pairs or Single Mode Fiber Optics (SMFO) strands
  - Fiber distribution unit manufacturer and model, including the number of panels and connector type
  - Ethernet switch manufacturer and model
  - SIC landing type
  - Location of any existing SIC and fiber optic splice kits
  - Wireless connection manufacturer and model
  - Intersection connectivity
  - Photos of the above equipment

The **Consultant** shall provide a comprehensive GIS Database and Inventory Report (Excel and PDF formats) to the Project Manager and Maintaining Agencies.

### **Deliverable:**

The **Consultant** shall provide the existing traffic signal and signal communications infrastructure in a GIS database compatible with Lake Havasu City's current GIS database. The database should be formatted to provide the above-listed information per intersection. Photos should be numbered per the City's traffic signal numbering system and delivered in an electronic format. Additionally, an excel spreadsheet (inventory report), PDF maps, and intersection sketches of lanes & signal configurations showing the various types of communications infrastructure and connectivity shall be provided.

## **Task 5 – Traffic Counts & Data Collection**

The **Consultant** shall collect Traffic, Bicycle & Pedestrian Count Data on each approach to every intersection along all three (3) corridors. In conducting the counts, the **Consultant** shall utilize an automatic traffic counter which produces a written record of the traffic volumes and the time of day.

The count data shall be presented in a form showing 15-minute interval volumes and hourly summaries. The traffic count periods shall not include a holiday unless otherwise directed by the Project Manager.

The **Consultant** may obtain traffic count data from the Maintaining Agencies and/or the Lake Havasu MPO if the data is available and less than 18 months old from the time this "Traffic Signal Analysis & Modeling Study" takes place. If traffic data is not current, the **Consultant** shall be responsible for collecting new data for existing signal retiming purposes and to identify the need for future signal improvements.

### **Deliverable:**

The **Consultant** shall collect and provide the following data at each leg of each intersection:

- Turning Movement Counts
- Bi-Directional Speed & Classification Counts
- Queue Study – One (1) minute increments
- Gap Study (Left Turn Phasing and Pedestrian)

The **Consultant** shall collect and provide data for the following durations:

- 4-Hour – with Hourly Summaries
- 6-Hour – with Hourly Summaries
- 8-Hour – with Hourly Summaries
- 24-Hour – with Hourly Summaries
- 7-Day Continuous Count – with Daily & Hourly Summaries.

The **Consultant** shall collect and provide the following traffic accident/crash data at each leg of each intersection:

- 5-year Fatality Accident Volumes & Rates
- 5-year Serious Injury Accident Volumes & Rates
- 5-year Pedestrian & Bicycle (non-motorized) Accident Volumes & Rates

In addition to Excel and/or PDF formatted reports, and coordination with other tasks, the **Consultant** shall provide traffic counts and other data collected in a GIS database compatible with Lake Havasu City's existing GIS database. The database should be formatted such that the above-listed information will be provided per intersection

**Note:** As of 12/1/2022, the Lake Havasu MPO has 24-Hour Movement, Speed, & Classification Counts; and Queue and Gap Studies for thirteen (13) intersections along Lake Havasu Ave. and State Route 95 in hand and available for use in this study.

## Task 6 – Signal Retiming & Optimization

**Note:** IMSA Level II certification & ADOT certification is required to complete this task.

The **Maintaining Agency** and the **Consultant** are ultimately responsible for approving and implementing all signal timing changes and improvements; the Lake Havasu MPO will not be responsible or liable for approving or implementing signal timing changes, signal modeling, or signal infrastructure improvements.

The **Consultant** shall determine the optimum system timing pattern(s) and signal coordination for the existing & future signal infrastructure and communications equipment for the optimum cycle length during different times of the day/week. When a system analysis (modeling) is performed, the necessary settings to be developed will include but not limited to the following:

- Cycle Length
- Splits
- Offsets
- Force-offs
- Permissives
- Time-of-Day Plan
- Day-of-Week Plan

These parameters will be developed for the following timing plan periods:

- Day Plan: Inbound & Outbound Peak Hour(s) and Off-Peak Hour(s)
- Week Plan: Day plan to be implemented for each day of the week.

For the purpose of this task, the following definitions apply:

- A traffic control timing pattern is a set of cycle length(s), splits, and offsets for a section.
- A section is a portion of a traffic control system that can be controlled by a single set of timing parameters.

An analysis shall consist of at least the following steps:

1. Analyze and design local intersection timings for each intersection. Local timings to include all clearance intervals (yellow, all-red, and pedestrian clearance intervals, etc.).
2. Analyze and design coordinated intersection (system) timings with similar or compatible design tools/software or a format approved by the Maintaining Agency with Existing Phasing.

The **Consultant, in coordination with the Maintaining Agency**, is responsible for selecting all input values required for the analysis.

The **Consultant** must use their own computer for all analyses to be performed under this study (the software or format used must be approved by the Maintaining Agency). The **Consultant** shall submit a USB thumb drive of all input/output timing development runs and data files (i.e., initial and final runs), along with any link/node diagrams to each Maintaining Agency. The format of the timing charts will be approved by Maintaining Agency.

All traffic count data required for this study will either be provided by or obtained by the **Consultant** under additional tasks (i.e., Task 4).

The **Consultant** will obtain existing controller timings from the Maintaining Agency.

### **Deliverable:**

The **Consultant** shall provide the Project Manager and Maintaining Agency two copies of the documentation for each of the timing patterns in an acceptable format. The report shall contain, but not be limited to, the following information:

1. Executive Summary
2. Optimum controller and coordination timing that can be implemented on existing hardware.
3. Master Clock Chart (Hardwire, TBC, UTCS, CLS)
4. Link/node diagrams
5. Data files on a USB thumb drive(s)
6. Corridor analysis and documentation.

After the Maintaining Agency accepts the initial timings and patterns, this task includes the **Consultant** or **Sub-Consultant** entering the intersection, system timings into the controller units, coordination units, and master units by an **IMSA - Level II signal technician**.

The **Consultant** shall notify the Maintaining Agency prior to implementation and request their authorization during the implementation. *Any timing patterns or changes recommended along SR95 **MUST** be approved by ADOT and made by a technician certified to work on ADOT's signals/system (alternatively, Alternatively, ADOT may choose to implement changes with their own in-house technicians).*

The **Consultant** shall also perform fine-tuning of implemented timing(s) for each corridor based on field observation of the traffic operation during all developed peak hour patterns. The traffic engineer shall observe the operation of the corridor for each timing pattern.

*The traffic engineer and signal technician shall be available to investigate and fine-tune any adjustments for a period of 60-90 days after the submittal of the final report and final implemented timing changes.*

Should an existing controller, coordination unit, or master unit be inoperative or additional hardware or cabinet modifications be required at an intersection to maintain current operations, the **Consultant** will notify the Maintaining Agency verbally within the same day. Document in the report the nature, extent, and probable solution(s) to the problem(s) within one week.

As part of additional tasks of this study, the **Consultant** shall document whether signal coordination is possible with the existing signal infrastructure and communications equipment. If additional hardware, software, or communications equipment is needed to coordinate signals, the **Consultant** shall document the recommended intersection/corridor improvements per instructions under Phase II, Tasks 7 & 8 of this study.

The **Consultant** shall provide the Project Manager and Maintaining Agency each two (2) copies of the final documentation for each of the timing patterns in an acceptable format. The report shall contain, but not be limited to, the following information:

- Final Implemented Timings
- Day Plans
- Week Plan

At the completion of the analysis, the **Consultant** shall submit to the Project Manager and Maintaining Agency two (2) copies of a report (in an acceptable format) containing the following information:

1. Analysis/Study Summary
2. Final Intersection and System Timings
3. A table summarizing intersection delay

*A Professional Engineer shall sign, seal, and date all Final Signal Analyses, Timings, & Reports.*

In coordination with other tasks, the **Consultant** shall provide the signal timing plans and reports in a GIS database compatible with Lake Havasu City's existing GIS database. This can be as simple as a link within GIS to the plans and reports. The database should be formatted such that the above-listed information will be provided per intersection

# Phase II – ASCT / Alternatives Implementation Plan

---

## Task 7 – ASCT/Alternative Improvement Analysis

This task includes the identification of adaptive or alternative traffic signal upgrade needs and signal communications gaps and opportunities.

In coordination with analyzing existing traffic signal systems infrastructure (Task 4-6), the **Consultant** shall perform an adaptive/alternative need and benefit analysis.

The improvement analysis shall evaluate the type and level of improvements required for each intersection; this may include, but is not limited to, the need and effectiveness of adaptive/alternative technology – coordination, detection, timings, system management, communications, etc.

Each traffic signal location analysis will identify the resulting benefit of the recommended level of improvements and the impact on travel time, congestion mitigation, overall efficiency of the location, efficiency of the corridor, and cost versus overall benefit.

Several key traffic signal priorities that should be used to help guide the improvement analysis include implementing strategies to reduce collisions where patterns are identified, replacing out-of-date traffic signal controllers, updating signal heads, installing pedestrian signal heads, and replacing any damaged/failed equipment. Other mid- and long-term priorities include updating traffic signal detection systems with camera, radar, or hybrid detection systems, replacing pedestrian push buttons with accessible pedestrian signal (APS) systems, reconstructing aging traffic signal infrastructure such as poles and mast arms, replacing aging traffic signal cabinets, and installing battery backup systems.

Key signal communications priorities include closing gaps in communications infrastructure and connecting traffic signal equipment to the existing and/or recommended communications infrastructure. In addition, mid and long-term signal communications priorities may include replacing and adding fiber optic cables where signal interconnect currently exists, connecting various traffic signal components to the network for remote monitoring, and establishing communications to remote traffic signal locations.

The **Consultant** shall perform a need and benefit analysis that includes, but is not limited to, the following:

### I. System Coordination & Management

Determination of the location and operations of the required ASCT system operations software, potentially either through a partnership or individually by each agency, shall be identified in the final plan as part of the proposed ASCT and other identified solutions. The analysis shall identify and recommend System Coordination & Management solutions to synchronize multiple intersections and enhance overall operations.

**Note:** Each participating agency has existing methods to manage the traffic signals included in this project. Therefore, the current methods shall remain in place if desired. Each agency shall retain the ability to control the signals at their discretion and whether to enable or disable ASCT or other recommended improvements for any reason within their jurisdiction; however, all recommendations shall be made with agency-to-agency coordination in mind.

## **2. Communications**

Any necessary additional system requirements, expansion, or modifications to the existing system shall be identified in the final plan for each corridor by individual traffic signal location and affected controlling agency. Proposed ASCT systems or other identified solutions may utilize the existing communications networks as applicable for each agency if they currently exist.

## **3. Travel Time and Delay**

An evaluation of current and projected travel times, delays, level of service, and frequency of vehicles stopping at red lights shall be identified in the final plan for each corridor. Performance targets for future evaluation of the recommended system improvements shall be developed for review and analysis on a short, medium, and long-term timeframe

## **4. Safety Performance**

The traffic signal improvement analysis shall also include reviewing signalized intersection collision/crash data (Task 5) for the past five years and recommendations to improve safety at each intersection.

## **5. Detection**

An evaluation and development of a plan for each roadway segment and the individual traffic signal locations shall be provided for any modification or additional detection equipment needs and whether any of the existing detection schemes and equipment will work with a proposed ASCT system "as-is" or alternative improvement options, and whether certain additional capabilities or operational advantages can be gained from modification to existing, or addition of detection. The final plan shall clearly identify any system capability limitations, if any, as a consequence of using existing detection and determine whether additional or upgraded detection would be an advantage and why.

## **6. Agency Technical Capacity**

An analysis of local/state public agency technical abilities shall be provided and identify any training needs or technical assistance services that may be required in order to implement the final plan and recommended ASCT/Alternative improvements.

## 7. Specifications and Technical Requirements

Prepare detailed specifications and technical requirements enabling procurement of ASCT hardware, software, network, and communications components as well as installation and training services necessary for full and complete ASCT implementation. The **Consultant** shall provide:

- Mandatory Requirements Defining Overarching System Performance Goals. These include but are not limited to:
  - ASCT shall alter the adaptive operation to achieve required objectives in user-specified conditions. For example, provide smooth flow along coordinated routes, manage queues, and optimize operation by minimizing phase failures.
  - ASCT shall alter the state of signal controllers, preventing queues from exceeding the storage capacity.
  - ASCT shall provide coordination along route/s
  - ASCT shall calculate a cycle length for each cycle based on its optimization objectives.
  - ASCT shall calculate optimum phase lengths, based on current measured traffic conditions.
  - When a large change in traffic demand is detected, the ASCT shall respond more quickly than normal operation, subject to user-specified limits.
  - ASCT shall integrate to user-specified legacy equipment.
- Desired ASCT operating requirements.
  - Cycle, phasing, and timing.
  - Adaptive versus nonadaptive operation.
  - Operation as per user-defined conditions.
  - Local and remote access.
  - Monitoring.
  - Data collection.
  - Access, administration, security.
- Maintenance, Support, and Training
- Good and Services for Implementation

## 8. Cost estimate(s)

Each proposed ASCT or alternative system improvement shall have a cost estimate provided and be identified on a per traffic signal location and totaled for each of the corridors for potential phased implementation indicating required hardware, servers, communications equipment, detection equipment, switches, system software, signal timings, system integration services, training, etc.

The **Consultant** shall provide planning-level budgetary cost estimates for each of the ACST/alternative approaches. The budgetary cost estimates shall include, but not limited to:

- Operating costs
- Capital costs
- Improvement costs – Per location and as a systemic project, must include labor, mobilization, subsurface utility work (trenching/potholing/fiber optic install), and inflation pricing.
- Preventative maintenance costs
- Reasonable and appropriate administrative oversight costs for the sponsoring agency and cosponsor agencies
- All other required costs to implement, operate and maintain the proposed system.

### **Deliverable:**

The findings and conclusions of the ASCT/Alternative Improvement Analysis completed for this task shall be included in the final implementation plan.

ASCT or alternative related improvement recommendations (i.e., hardware, servers, communications equipment, detection equipment, switches, system software, management systems, battery systems, etc.) shall include detailed descriptions/specifications of the make, model, and manufacture.

All signal timing/modeling/design/analysis performed under previous tasks shall be re-evaluated to ensure timing plans are programmable and relevant to the ASCT/Alternative recommendations made in the final implementation plan.

In coordination with deliverables of other tasks, the **Consultant** shall provide the above-listed information in a GIS database compatible with Lake Havasu City's existing GIS database. The database should be formatted to provide the above-listed information per intersection.

## Task 8 – Implementation Plan & Project Prioritization

The **Consultant** shall develop an implementation plan that identifies all the necessary steps to plan, design, equip, install, and maintain needed ASCT/Alternative infrastructure, carry out the plan, continually evaluate, and provide for future extension of services. Information provided shall be in non-technical language whenever possible, and the use of tables, graphs, and pictures in lieu of text is highly encouraged.

This task requires developing an implementation strategy that includes cost, scheduling, timing/modeling, and funding details. The strategy should outline short-term, mid-term, and long-term projects and rank and phase the recommendations. Cost estimates should be provided for each project identified, and potential matching and major funding sources (i.e., MPO funds, City general funds, state and federal grants) should be identified. Based on the information available, a financial plan shall be developed.

The **Consultant** will prepare a draft final implementation plan based on the results of the previous tasks and considerations, balancing the need, cost, and priority with available and anticipated funding. The draft plan will consist of a long-range plan as well as an implementation program that identifies the schedule and responsibilities for implementing the proposed improvements/projects.

### Deliverables:

The **Consultant** shall provide a detailed final Implementation Plan with fundable, priority projects detailed by short-term (1-2 years), mid-term (3-5 years), and long-term (5-10 years) time ranges, including identification of high impact, low-cost projects that the City can immediately accomplish. The Plan should also detail a non-constrained implementation plan for the next 10-15 years following the high-priority projects.

The **Consultant** shall provide a draft final Implementation Plan and Executive Summary for review by the LHMPO Director, LHMPO TAC, and LHMPO Executive Board. In addition, a meeting will be held with the LHMPO TAC and Executive Board to receive input on the draft plan. Finally, the **Consultant** shall incorporate any approved changes by the TAC and Executive Board into the final plan.

**The Consultant shall provide six (6) printed and bound hard copies of the final Implementation Plan, a digital copy, and original program/data files on a USB drive.**

All materials and data used for this study are the property of the Lake Havasu Metropolitan Planning Organization (LHMPO)

# **APPENDIX A**

List of Corridors, Intersections, and Maps

## **Corridor List**

### **1. State Route 95**

- Limits: Industrial Blvd. to Mulberry Ave.

### **2. Lake Havasu Avenue**

- Limits: Industrial Blvd. to Mulberry Ave.

### **3. McCulloch Boulevard (North)**

- Limits: Lake Havasu Ave. to Acoma Blvd (South).

## **Intersection List**

### **State Route 95 at:**

1. Mulberry Ave.
2. Smoketree Ave.
3. Swanson Ave.
4. Mesquite Ave.
5. Palo Verde Blvd.
6. Industrial Blvd.

### **Lake Havasu Avenue at:**

1. Mulberry Ave.
2. Smoketree Ave.
3. Swanson Ave.
4. McCulloch Blvd.
5. Mesquite Ave.
6. Palo Verde Blvd.
7. Industrial Blvd.

### **McCulloch Boulevard (North) at:**

1. Capri Blvd.
2. Riveria Blvd.
3. Smoketree Ave.
4. Acoma Blvd (South).

**\*Seventeen (17) intersections in total**

# Item #10

## **ADOT District Engineer's Report (*Information Only*)**

*Todd Steinberger, ADOT NW District Engineer*



# Item #11

## **ADOT Planner's Report** ***(Information Only)***

*Will Randolph, ADOT MPD Planner*

# Item #12

## **WACOG Transportation Report** ***(Information Only)***

*Roland Hulse, WACOG Transportation Manager*