

(Rev. 2/6/2018)

**Consultant Services
Solicitation**
(Electronic Submission Required)

Traffic Signals & Roadway Lighting Design



Project No. 8384XDN2586
Statewide Traffic Signal Operations Support

March 18, 2020

**UTAH DEPARTMENT OF TRANSPORTATION
Solicitation**

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PART ONE

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Consultant Services Solicitation Overview

The Utah Department of Transportation is soliciting services identified in Part Three (Project Information and Evaluation Criteria) of this document. Consultant Services will follow guidelines outlined in the [Consultant Services Manual of Instruction](#) (MOI) and in this Solicitation.

Solicitation is defined as the document used by UDOT to obtain a Consultant's Proposal.

Proposal is defined as a Consultant's response to UDOT's Solicitation.

- 1. Communication:** Pursuant to Utah Code 63G-6a-1503(3), beginning the date that the solicitation is issued until the selection of a Consultant has been made, **Consultants may not contact or communicate with any member or potential member of a Selection Team except through the following official communication process:**

Consultants may contact the UDOT Contract Administrator to schedule one-on-one appointments for project or scope of work discussions with the UDOT Project Manager (PM) (and Local Government Project Manager) regarding this Solicitation. Consultants may only communicate through these official designated appointments for project-related questions. A date has been designated for appointments for these discussions in the Selection Schedule outlined in Part Three (Project Information and Evaluation Criteria). Consultants desiring to meet with the UDOT PM or any UDOT employee must contact the UDOT Contract Administrator via email to request an appointment PRIOR to the deadline identified in the Selection Schedule outlined in Part Three (Project Information and Evaluation Criteria).

UDOT desires to make the most efficient use of resources for all parties involved with the established communication process. The one-on-one meeting with UDOT should not be viewed as a marketing tool and is not part of the Consultant Selection process.

Consultants may contact the UDOT Contract Administrator or other Consultant Services staff with any format or process questions.

- 2. Subscription to the UDOT Consultant Services Update Service:** UDOT recommends Consultants interested in this project subscribe to the [UDOT Consultant Services Update Service](#) on the UDOT website.

If there are any changes affecting the Solicitation, notice will be sent out via an e-mail through the update service.

- 3. Review of the Solicitation documents:** Consultants are responsible for reviewing and understanding the content and requirements of the Solicitation. Read and review each section carefully to ensure proposals meet the outlined requirements. If the Consultant identifies any mistake, error, or ambiguity in the Solicitation during the procurement process, it is the duty of the Consultant to notify the Contract Administrator via email.

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4. **Conflict of Interest:** UDOT expects Consultants to act with integrity and professional ethics. When there is a potential conflict of interest, Consultants are required to either not submit for the project or disclose the potential conflict to the Consultant Services Manager prior to submitting a proposal. The Consultant Services Manager will coordinate with the UDOT Conflict of Interest Review Team for a determination by UDOT. For additional information, refer to the UDOT [Consultant Services Manual of Instruction](#) (MOI). Additional Conflict of Interest requirements may be identified in Part Three of this Solicitation.
5. **Applicable Federal and State Regulations:** The Consultant will conform to all applicable state and federal regulations.
6. **Conditions of Proposal:** All costs related to the preparation of the Proposal and any related activities such as interviews are the sole responsibility of the Consultant. UDOT assumes no liability for any costs incurred by Consultants during the selection and contract negotiation process.
7. **Financial Screening:** Consultants are required to be financially screened at the appropriate level for this Solicitation. For additional information on financial screening requirements, refer to the [Consultant Services Manual of Instruction](#) (MOI). If the selected Consultant is unable to complete the financial screening process within 2 weeks of selection, the Proposal will be determined non-responsive and UDOT may move on to negotiate with the new first-ranked responsive Consultant.
8. **Contract Terms and Conditions:** It is the Consultants' responsibility to review and understand UDOT's Standard Terms and Conditions contained in the UDOT [Contract Terms and Conditions](#). These terms and conditions will apply to any contract resulting from this Solicitation.
9. **Health Reform – Health Insurance Coverage in State Contracts Requirements:** As required by UCA 72-6-107.5, effective March 17, 2016, UDOT will not enter into a contract of \$2,000,000 or more with a prime Consultant or \$1,000,000 or more with a sub-Consultant without demonstration of compliance regarding the offering of "Qualified Health Insurance Coverage" to their employees. Prior to issuing a Notice to Proceed, the Consultant must demonstrate compliance with the provisions of Administrative Rule R-916-5. A Consultant's inability to adequately demonstrate compliance may be grounds for determining a Proposal non-responsive and UDOT moving on to negotiate with the new first-ranked responsive Consultant.
10. **Debarment Certification:** Federal regulations require certification by prospective participants (including contractors, subcontractors, and principals) as to current history regarding debarment, eligibility, indictments, convictions, or civil judgments. The selected Consultant will be required to certify in accordance with contract Standard Terms and Conditions.
11. **Right to Cancel or Reject:** UDOT reserves the right to cancel the Solicitation at any time when it is in UDOT's best interest. UDOT also reserves the right to accept or reject any or all Proposals submitted in response to the Solicitation.
12. **Required Personnel Qualification:** The Consultant will be responsible to ensure all personnel proposed are qualified through training, experience, and appropriate certification for the tasks assigned and will have a working knowledge of UDOT standard practices.

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13. **Proposed Project Staff:** The Consultant is expected to provide a Consultant Proposed Staffing Plan for the project, as outlined in Part Three (Project Information and Evaluation Criteria). The plan should state the certification and education levels of the individuals proposed for use on this contract including sub-Consultants' personnel. The plan must be included in the Proposal but will not count against the maximum allowed pages.

UDOT's requirement for listing current or former UDOT employees as personnel in a Proposal is as follows:

1. If a Consultant lists a former UDOT employee on the Proposal who officially left UDOT employment prior to the submission date of the Proposal, the Consultant will not be disqualified.
 2. If the Consultant lists someone who has not yet left UDOT employment, even if the employee plans to retire or quit soon, the Consultant will be disqualified.
 3. If a Consultant lists a former or current UDOT employee who was involved in the development of the Solicitation for this project, the Consultant will be disqualified.
 4. These requirements apply to prime and sub-Consultants.
14. **Key Personnel:** Key Personnel are those individuals specifically identified in the Proposal as being set forth to effectively manage all aspects of the work in a quality, timely and efficient manner. When Consultants list Key Personnel, the Consultant is agreeing to make the personnel available to complete work on the contract at whatever level the project requires.
15. **Audits:** Prior to final contract award, an audit may be conducted by UDOT of the selected Consultant. This audit will be for the purpose of ensuring the selected Consultant is financially capable of performing the contract, the cost information and prices quoted are reasonable, and the selected Consultant has adequate accounting practices to ensure accurate tracking of contract costs. UDOT reserves the right to inspect Consultant records associated with this project, including financial records, as deemed necessary during the term of the contract.

Prior to final acceptance of the contract work, UDOT may conduct a closing audit of the Consultant. This closeout audit will be performed upon completion of the contract to verify the accuracy of all billings and compliance with the contract provisions.

In the event that a proposing Consultant has failed to pay UDOT monies due to UDOT for over payment on past projects, UDOT has the right to reject and/or disqualify the Consultant's Proposal. Disqualification will be based on audit findings, determinations, and recommendations made by the UDOT Fiscal Audit Division.

16. **Work site Safety:** Utah Code 63G-6a-403 states UDOT may request the Consultant submitting a Proposal to provide information about the Consultant's work site safety program, including any requirement that the person imposes on sub consultants for a work site safety program and any other pertinent information.

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17. **Disposition of Proposals:** Proposals and their content become the property of UDOT and are treated as non-public records until the Contract has been executed by all necessary officials of the Consultant and UDOT. The Proposal of the successful Consultant will be open to public inspection for a period of one year after the Contract has been executed.
18. **Consultant Debriefing:** As part of the Proposal evaluation, UDOT may provide constructive criticism of the Proposals submitted for this project.

Debriefing information may consist of scores of the first-ranked Consultant's proposal/interview and the scores, strengths and weaknesses of the Consultant's own proposal/interview.

The proposal and strengths identified in the selected Consultant's proposal/interview will be available for review in-person at the Consultant Services division, for a period of one year after the Contract has been executed.

Consultants may contact the Contract Administrator for a formal debriefing.

19. **Notice to Proceed (NTP):** NTP will be issued by Consultant Services division after contract execution. Authorization to begin work from any other source is invalid and will result in non-payment for services provided prior to authorized notification to begin work.
20. **Change in Key Personnel During Negotiations or after Notice to Proceed (NTP):** If after entering negotiations with the first-ranked Consultant, the Consultant is unable to provide the Key Personnel (prime or sub-Consultant) identified in the Proposal at the levels determined necessary for the project by the PM, the Consultant will be required to notify the PM and the Consultant Services Contract Administrator. The Consultant will then be offered the opportunity to propose a revised Project Team. The UDOT Selection Team will review the revised Project Team to determine if it is equal to or better than the originally proposed team. If UDOT determines the revised Team is equal to or better than the originally proposed team, negotiations will continue. If UDOT determines the revised team is not equal to or better than the originally proposed team, negotiations will be discontinued and UDOT will move on to the second-ranked Consultant. If the change in Key Personnel is after NTP and UDOT does not approve the change, UDOT reserves the right to cancel the contract and/or reflect the change on the Consultant Project Evaluation.
21. **Protests:** All protests with respect to this Solicitation must be in writing, and will follow the requirements in Utah Code Sections §63G-6a-1602 et seq. Deliver a copy of any protest to:

Executive Director
Utah Department of Transportation
4501 South 2700 West, 1st Floor
P O Box 141245
Salt Lake City, UT 84114-1245

Any protest not set forth in writing within the time limits specified in §63G-6a-1602 is null and void and will not be considered.

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22. **Insurance Certificates:** The Consultant is required to provide UDOT with Certificates of Insurance meeting the current guidelines. Current insurance requirements can be found within the [Consultant Services Manual of Instructions](#) (MOI).
23. **Required Completion and Acceptance Criteria:** Progress payments will be made for work in progress. Final invoice payment will be made after: all of the work has been completed; the final estimate, project records, and documentation have been received and accepted by UDOT as accurate and complete; and a Consultant Evaluation has been performed.
24. **Government Records Access and Management Act (GRAMA):** UDOT will maintain a nonpublic process for the duration of this Solicitation. Pursuant to Subsection §63G-2-305(6) of the GRAMA, all records related to this Solicitation, including, but not limited to Proposals, evaluation, and selection procedures, and any records created during the evaluation and selection process will remain nonpublic records until the Contract has been executed by all necessary officials of the Consultant and UDOT. The GRAMA, Utah Code Ann., §63G-2-101 et seq., provides in part that certain records are protected if properly classified.

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PART TWO

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Solicitation Method and Requirements
Streamlined Solicitation

1. **Solicitation:** This Solicitation follows the Streamlined Solicitation processes and procedures outlined herein.

UDOT Consultant Services staff facilitates Selection Teams through the ranking and selection of Consultants to provide engineering services for transportation related projects. Consultant selection is a Qualification-Based Selection (QBS) process, where the primary factor in selection is the qualification-based criteria outlined by the Selection Team in Part Three (Project Information and Evaluation Criteria), rather than the cost of engineering services. Cost is a secondary factor after a Consultant is selected and the contract negotiation process begins.

2. **Proposal Deadline:** Submit one (1) electronic PDF file of the Proposal by email to the email address specified and prior to 11:00 AM on the submission date identified in the Selection Schedule in Part Three (Project Information and Evaluation Criteria). Proposals will not be accepted after the 11:00 AM deadline.
3. **Qualification Based Selection:** This is a Qualifications Based Selection (QBS) process based on United States Code (USC) Title 40, Chapter 11, Sections 1101 – 1104 (Selection of Architects and Engineers, otherwise known as The Brooks Act). Consultant fees are not a factor in the ranking of Consultants to provide the requested services.
4. **Consultant Fee Discussion:** Consultant fees are not a factor in the selection ranking of a Consultant to provide services. All price/cost related items which include, but are not limited to past, present or future fees associated with Consultant contracts, direct salaries / wage rates, indirect cost rates, and other direct costs are prohibited from being used in Proposals. Consultant fee discussions are not allowed. Do not include any reference to Consultant fees (past, present, or future) in the Proposal.
5. **Financial Screening:** UDOT requires Consultants to be financially screened at the appropriate level for this Solicitation. The time it takes a Consultant to complete the Financial Screening process varies and therefore UDOT encourages Consultants to submit their [Financial Screening Application and Questionnaire](#) as soon as possible.

Consultants may obtain the Financial Screening Application and Questionnaire from the UDOT website. For questions, contact the Consultant Services Financial Screener at (801)965-4138. A Consultant's Financial Screening status is effective for the period of one year from the time the Consultant is approved.

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6. **Guidelines for Preparing Streamlined Proposals:** These guidelines were developed to standardize the preparation of a Proposal by Consultants for engineering services on a UDOT project. Submitting a Proposal is the beginning of the selection process and is used as the basis for selecting or for short-listing Consultants. The purposes of the guidelines are to ensure consistency in format and content in the Proposals prepared by Consultants and submitted to UDOT. It is highly recommended that Proposals are written and presented to UDOT in a clear and concise format which will not distract from the content of the material presented.

The following table outlines the Proposal instructions and guidelines. Any penalty or disqualification actions are clearly identified in the table. Violations that do not result in a penalty or a disqualification action may still affect the Consultant’s overall Proposal score as part of the evaluation process.

Proposal Instructions and Guidelines		
Instruction	Description of Requirement	Violation Penalty or Disqualification
Page Limits	Provide only the allowable number of pages as identified in Part Three (Project Information and Evaluation Criteria)	Additional pages will be removed
Page Sizes	Provide only the allowable page sizes identified in Part Three (Project Information and Evaluation Criteria)	Pages violating size requirement will be removed
Consultant Proposed Staffing Plan	Provide a copy of the Consultant Proposed Staffing Plan with no additional information beyond that which is required, as identified on the sample form	If additional information is provided, the Staffing Plan will be removed
Margins	Provide one-inch (1”) margins throughout the Proposal; Consultant Name/Logo and Page Headers/Footers may be within the margins	Guideline
Font and Line Spacing	Use a 10-point [or greater] Arial or Times New Roman font	Guideline
E-mail	Do NOT send Proposals directly or indirectly to any known or presumed Solicitation Selection Team members or other UDOT personnel outside of the prescribed UDOT email address	Guideline
PDF Submission	Send Proposals via e-mail in PDF format	Guideline
Proposal Deadline	Send Proposals to udotcssoq@utah.gov prior to the 11:00 AM deadline on the date identified in Part Three (Project Information and Evaluation Criteria)	Disqualification
Interviews	If interviews are required, attend the date and time instructed by Consultant Services	Disqualification

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Fee Discussion	Submit a Proposal without any reference to Consultant fees on this project or any past, present or future project	Disqualification
Cover Page	Provide a complete Cover page, including a signed, verbatim Acknowledgement as identified in Part Three (Project Information and Evaluation Criteria)	Disqualification
UDOT Staff	Provide a team that does not include any current UDOT employees or former UDOT employees who were involved in the development of this Solicitation	Disqualification
Financial Screening	Complete the UDOT financial screening process at the appropriate level, identified in Part Two (Solicitation Method and Requirements)	Disqualification

1. **UDOT Right:** UDOT reserves the right to disqualify a Proposal when the intent of the Solicitation process is violated. UDOT Consultant Services staff may utilize the provision of Utah Procurement Code 63G-6a-114 to determine an error is immaterial.

2. **Selection Team:** The Selection Team members will receive copies of each responsive Proposal submitted. They will review and score the Proposals individually based on the evaluation criteria identified in Part Three (Project Information and Evaluation Criteria) and submit their scores and comments to the Contract Administrator. The Contract Administrator will tally and compile the scores and comments.

The Selection Team will then meet to discuss the Proposals and comments from individual Selection Team members and determine whether interviews are necessary or whether the selection may be made based on the averaged scores from the Proposals. Final Proposal score results are the average of voting Selection Team members' scores.

Most Streamlined Solicitation selections will be based on the Proposal scores. However, if the Selection Team determines it is necessary to conduct interviews in order to make a selection, the Selection Team will develop the format of the interviews and provide instructions on the interview format to each Consultant invited to participate.

3. **Selection Interviews:** The Streamlined Solicitation is intended to reduce the level of effort required to compete for and administrate the selection process. Interviews will take place in the event the first-place ranking is a tied score for two or more Consultants, or other extenuating circumstances.

If the Selection Team determines interviews are necessary, project-specific topics will be provided to each team that is invited to participate in the interview process. Proposal scores will be carried over and will be weighted at 30% of the final score. The remaining 70% of the final score will be based on the interview.

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4. **Selecting by Consent (SBC):** The SBC process will be used to score the interview. SBC is a scoring process that aids the Selection Team in developing final ranking through a collaborative process. In this process each segment and question of the interview is weighted in advance during the Selection Team Meeting. After the interviews are conducted, the Selection Team scores each segment and question by “consent”. Consent is defined as the willingness of all Selection Team members to accept a decision reached by a collaborative process.

5. **Qualitative Assessment Guidelines:** Throughout the scoring process (for Proposals and interviews) the Selection Team will use the following Qualitative Assessment Guidelines when scoring. These guidelines are used to help ensure consistency in scoring.

Qualitative Assessment Guidelines	
9 – 10	The Proposal demonstrates a complete understanding of the subject and qualifications that significantly exceed expectations and the stated requirements. Proposal contains many strengths and minor weaknesses, if any.
6 – 8	The Proposal demonstrates a strong understanding of the subject and qualifications that exceed expectations and the stated requirements. Weaknesses, if any, are minor. Proposal contains strengths that outweigh the weaknesses.
3 – 5	The Proposal demonstrates an adequate understanding of the subject and qualifications that meet expectations and the stated requirements. Proposal contains strengths that are offset by the weaknesses.
1 – 2	The Proposal demonstrates a vague understanding of the subject and qualifications that fall below expectations and the stated requirements. Proposal contains weaknesses that outweigh the strengths.
0	The Proposal is unacceptable. The Proposal fails to meet expectations and the stated requirements. Proposal contains many weaknesses and only minor strengths, if any.

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PART THREE

Rev. 11/15/16

**Project Information & Evaluation Criteria
Streamlined Solicitation**

Project Information	
Project Number	8384XDN2586
Project Name	Statewide Traffic Signal Operations and Support
PIN Number	18521
Requested Services	Traffic Signals & Roadway Lighting Design
Source of Funding	State
Contact Information	
UDOT Contract Administrator	Carlie Torres UDOT Consultant Services Box 148490 4501 South 2700 West Salt Lake City, Utah 84129-5998 catorres@utah.gov (801) 965-4387
UDOT Project Management	Mark Taylor TMD Statewide Standards Engineer Utah Department of Transportation Traffic Management Division

Consultant Selection Schedule

Date	Action
Wednesday, March 18, 2020	Posting of Solicitation on UDOT Consultant Services Project Advertisement website
Wednesday, March 25, 2020	Deadline to request a one-on-one discussion meeting
Thursday, March 26, 2020	Appointments to discuss the project
Monday, April 06, 2020	Proposals are due electronically by 11:00 AM.
Tuesday, April 21, 2020	Selection Team Meeting
Wednesday, April 29, 2020	Consultant Selection Interviews (if necessary)
Wednesday, April 29, 2020	Consultant Selection
Thursday, May 07, 2020	Pre-Negotiation Meeting with Selected Consultant

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Contract Goals:

It is UDOT's desire to operate and maintain its traffic signals at a world-class level and to work together with our signal partners from other agencies in providing seamless transportation through signals for all modes of travel (transit, vehicles, cyclists, pedestrians, commercial vehicles, etc.) with the primary operational objective being smooth and equitable flow of traffic.

Background and History:

The Traffic Management Division (TMD), in cooperation with each of the four regions of the Utah Department of Transportation (UDOT), is responsible for the operations and maintenance of approximately 1300 of the 2200 traffic signals statewide. The majority of these signals are connected by fiber or high-speed internet to a central traffic management system that is shared by all of the signal operators in Utah. This central system, along with shared communications infrastructure and Advanced Traffic Management Systems (ATMS) allow all agencies in Utah to work together in collaboration to better meet the needs of the traveling public.

The TMD is seeking consultant(s) with traffic signal timing and signal operations experience, and with previous experience utilizing Automated Traffic Signal Performance Measures (ATSPMs - <https://udottraffic.utah.gov/atspm>), to assist UDOT with its traffic signal operations support statewide.

Consultants hired under this contract will be expected to work closely with UDOT signal engineers and staff. The consultants will report directly to the Statewide Signal Engineers who will manage most of the task items. Consultants may be asked to perform work throughout the State, however it is anticipated that the majority of tasks will be for the Wasatch Front area between the cities of Spanish Fork and Logan.

This will be a multi-award selection where (2) separate firm teams will be selected to perform the work. It is anticipated that work will be divided between Regions, where firm team (A) will be performing work for Region One and Region Three and firm team (B) will be performing work for Region Two and Region Four. If the selection team cannot identify at least two qualified firm teams to do the work, the Department may ask the one qualified firm team to perform all work or re-advertise the Solicitation.

Each contract will be for a one (1) year period with the option to extend annually for up to four additional years. It is estimated that each contract will provide approximately 1200 to 1800 hours of support per year per firm team. All work must be supervised by a Professional Engineer licensed in the State of Utah.

This is not an exclusive selection for all work. No minimum amount of work is guaranteed by this selection. Work will be determined based on available funding, consultant performance and the needs of the Department.

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Scope of Work:

Most of the assignments will be focused on improving traffic signal operations by using traffic models and ATSPM data to develop, implement, and evaluate new signal coordination plans for normal time-of-day operations and to support incident management, special events, and construction projects. Other tasks may be assigned depending on UDOT's needs and may include assistance implementing and troubleshooting with ATSPMs; assistance with innovative signal phasing operations using Peer-to-Peer (P2P) and custom logic; traffic adaptive technologies; special event field support; installing and fine-tuning timing plans that have been submitted to UDOT by our Artificial Intelligence / Machine Learning vendor(s); troubleshooting complaints; plan reviews; training; and other assignments as requested by the project manager. Because timelines are variable due to the complexity of timing projects, it is expected that the Statewide Signal Engineer and Consultant will work together to establish appropriate timelines for work to be completed. All tasks items will only be performed as requested by the Statewide Signal Engineer and may include the following:

1. Data Collection & Report Generation

- a. UDOT has a wide variety of data sources including but not limited to ATSPM's, Travel Time Data, Bluetooth Data, etc. It is expected that the consultant utilizes this data in work performed. Manual counts, floating car studies, other legacy methods of data collection will not be required. Instead, ATSPM data will be heavily used to generate signal timing plans (See Figure 1) and data from ATSPM and probe sources may be used in generating reports.
 - (a) Deliverables: A brief analysis report delivered within 4 weeks of completion of signal fine-tuning that includes the following information for retiming projects:
 - (i) A brief description of the scope/objectives of the project, the approach taken, and any further comments or observations necessary for someone to understand the project.
 - (ii) Existing conditions prompting retiming effort.
 - (iii) Before-and-after arrivals on green for the mainline directions (on approaches where the Purdue Coordination Diagram is available).
 - (iv) Before-and-after split failures (on approaches where the Purdue Split Failure metric is available).
 - (v) Before-and-after mainline travel time from start to end of corridor using UDOT's HERE data set.
 - (vi) Before-and-after pedestrian delay where applicable
 - (vii) Estimated delay time cost savings using the value of delay time published by the Texas A&M Institute (<https://tti.tamu.edu/tti-publication/value-of-delay-time-for-use-in-mobility-monitoring-efforts/>). Volumes can be measured using ATSPM or UDOT AADT (<https://www.udot.utah.gov/main/f?p=100:pg:0:::V,T:,528>)

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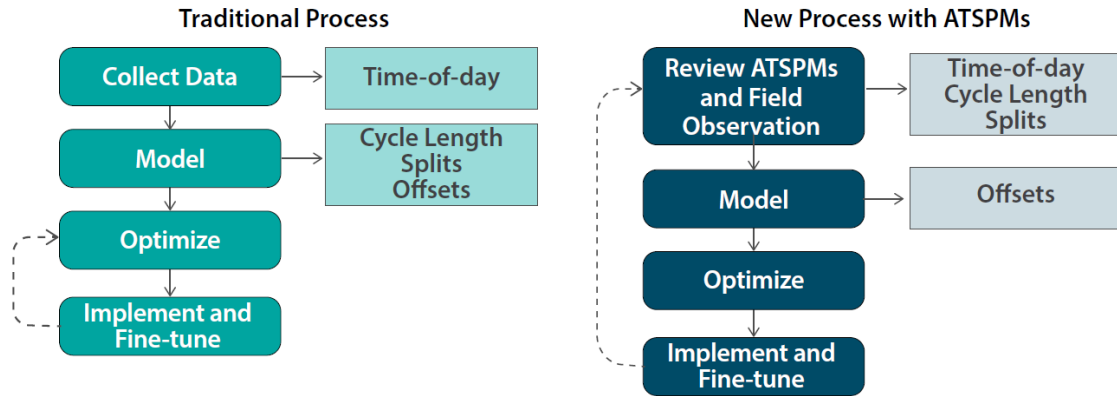


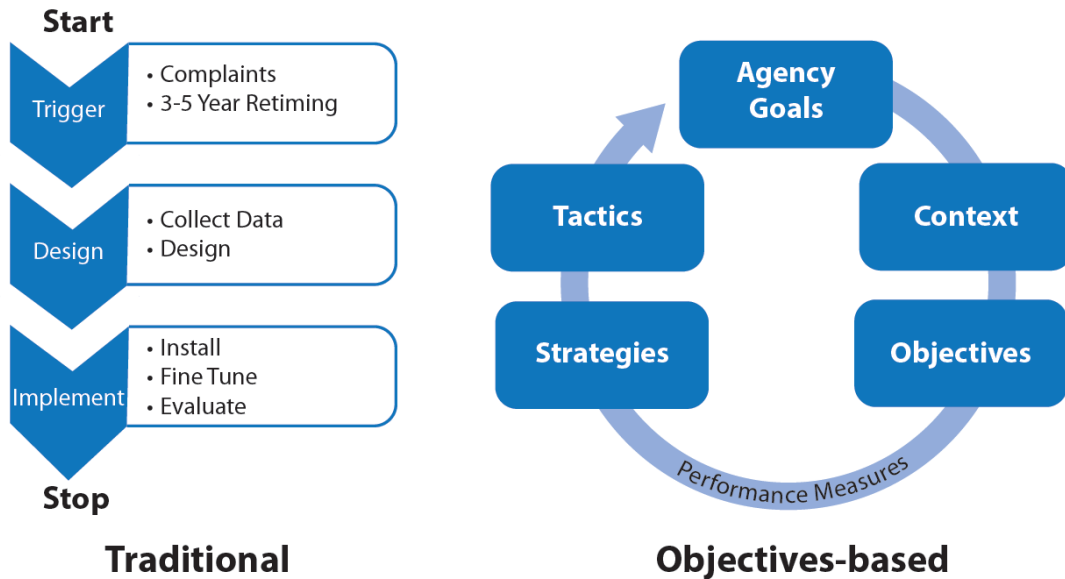
Figure 1: Using ATSPMs for Signal timing as opposed to the Traditional Process

2. Signal Timing Plans

- a. Objectives-based timing plans (See Figure 2) will be developed at the direction of the Statewide Signal Engineer and may include: Time-of-Day (TOD) plans, incident management plans, Holiday plans, late night and weekend plans, special event plans, snow / inclement weather plans, construction plans, or other plans.

All signal timing plans will be reviewed and approved by the Statewide Signal Engineer prior to progressing to steps 2b-2c. ATSPMs are used mostly for signal timing plan development (See Figure 1) where models are sometimes used for only time-space diagrams. UDOT currently utilizes various versions of Synchro for timing plan generation. Other programs are acceptable for use (even encouraged) but must be approved by UDOT prior to work performed. In general, the model is used only to visualize the time-space diagram. Volumes, built in optimization, Capacity, and other unrelated parameters should not be utilized. The consultant is encouraged to work closely with the UDOT Statewide Signal Engineer during plan development to ensure project efficiency and compliance with UDOT guidelines and standards.

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Traditional vs. Objectives-based Solutions
Source: FHWA

Figure 2: Objectives-Based Signal Timing as Opposed to Traditional Based

Deliverables:

- 1) Brief memo or email describing scope and goals of the project within 1 week of the request. For example, some corridors require focus on mainline vehicle travel, while others may require focus on pedestrian delay. Establishing goals of the particular project in advance ensures that subsequent work is designed to meet those goals.
- 2) Proposed coordination plans for review within:
 - < 5 signals – 3 weeks of request
 - 5 to 10 signals – 5 weeks of request
 - 11 to 20 signals – 7 weeks of request
 - 20+ signals – as agreed upon between both parties
- b. All signal timing plans will be reviewed and approved by the Statewide Signal Engineer prior to any field implementation or controller programming. Models should be delivered to the Manager in a timeframe that allows a full and appropriate review. Specific timeframes shall be established at timing project onset if required.
 - a. Deliverable(s): Proposed signal timing models for review
- c. The consultant will be expected to program signal coordination plans into the traffic signal controllers either in the field or (preferably) through UDOT’s central system. The new plans must follow UDOT’s plan number convention which will be provided. Removal of old plans may also be requested by the Statewide Signal Engineer.
 - a. Deliverable(s): Plans installed in controllers

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- d. Coordination Plan Field Fine-Tuning – Fine-tune the new signal timing plans in the field and use real-time performance measures, such as the Purdue Coordination Diagrams, Split Monitor, Purdue Split Failure or other real-time metrics for fine-tuning assistance. Fine-tuning should begin as soon as possible after the plans are activated in the controllers.
 - a. Deliverable(s):
 - i. 1-20 signals – Signals fine-tuned within 3 weeks of plan implementation.
 - ii. 20+ signals – completion date as agreed upon by both parties.
 - iii. Final Report
 - e. Special Event Field Support / Fine-Tuning – As needed, provide field support for special events to optimize traffic flow.
 - a. Deliverable(s):
 - i. Provide field support as requested by the Statewide Signal Engineer within one weeks’ notice
 - ii. Email or memo to Statewide Signal Engineer describing event traffic issues and signal operation. If the event is a recurring event, this documentation should provide enough information to utilize the same response for the next recurrence of the event.

- 3. Signal Timing Optimization
As requested by the Statewide Signal Engineer, optimize the signal timing parameters for efficiency and safety. This may include evaluating and optimizing: pedestrian timing, yellows and red clearance intervals, vehicle extension / passage time, minimum / maximum greens, volume density, actuated / coordinated, etc. to the Utah Signal Timing Guidelines standard <https://www.udot.utah.gov/main/uconowner.gf?n=36717410886689998>.
 - a. Deliverable(s): Email or memo summarizing changes made

- 4. Construction Timing Field Support / Fine-Tuning
As needed, provide field support construction timing to optimize traffic flow.
 - a. Deliverable(s):
 - i. Provide field support as requested by the Statewide Signal Engineer within 3 days’ notice.
 - ii. Email or memo to Statewide Signal Engineer describing construction traffic issues and signal operation

- 5. Integrating Communications to Traffic Signal Controllers and Detection
Install and integrate the necessary communication devices to controllers and detection. This assignment will also involve working collaboratively with the network administrator and others at UDOT to obtain channel/IP information and update network documentation.
 - a. Deliverable(s): Email summarizing actions taken

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6. Setup, Configure and Calibrate ATSPM's

UDOT is working diligently to integrate ATSPMs. This work may involve setting up and assigning the detection correctly for the various performance measures, upgrading detector firmware, troubleshooting / integrating the performance measures on the system, and fine-tuning / quality control.

- a. Deliverable(s): Completion date and documentation as agreed upon by both parties

7. Complaint Response and Resolution

Investigate and Troubleshoot Complaints

- a. Deliverable(s): Respond to traffic signal timing / coordination complaints and provide feedback / resolution to the Statewide Signal Engineer within 5 working days.

8. Innovative Traffic Signal Phasing Support

Unique signal configurations, such as Continuous Flow Intersections (CFI's); Diverging Diamond Interchanges (DDI's); Single Point Urban Interchanges (SPUI's); Thru-Turn Intersections; traditional diamonds; and other intersections with non-standard phasing require innovative phasing and timing sequences for efficient and safe operation. Such support may include development, testing, implementation, visualization, and / or monitoring / assessment of special signal control strategies.

- a. Deliverable(s): Completion date and documentation as agreed upon by both parties.

9. Upgrade Traffic Signal Controllers in the field (hardware and / or firmware)

As requested by the Statewide Signal Engineer, this work may involve upgrading controller firmware or replacing controller hardware (including programming the controller).

- a. Deliverable(s): Completion date and documentation as agreed upon by both parties

10. Peer to Peer (P2P) and Custom Logic Support

UDOT is using P2P and custom controller logic at many locations to improve operations. Depending on the capability of the consultant, assistance may be requested to support UDOT with these innovative signals and P2P logic.

- a. Deliverable(s): Consultant will be expected to be able to learn and apply these logic applications over the course of the contract.

11. Data Analysis and Reporting

As requested by the Statewide Signal Engineer, this work may involve data analysis using data sources including ATSPM, Connected Vehicle, transit priority, probe vehicle data, and other sources.

- a. Deliverable(s): Completion date and documentation as agreed upon by both parties

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12. Training

Provide one-on-one training with others as requested and more formal training requests as needed.

a. Deliverables:

- i. Provide one-on-one informal training within 2 weeks of the request.
- ii. Provide more formal classroom training within 4 weeks of the request.

13. Work Schedule

Work will be performed as needed from Notice-to-Proceed until the contract expiration. Some of tasks may involve late nights and weekends as needed for special event or construction support. The UDOT Statewide Signal Engineer will provide advance notice when such support is required.

14. Policy Guidelines

This contract shall adhere to the policies / guidelines below, including but not limited to the following:

- a. Conform to all relevant State of Utah personnel policies related to use of State buildings; use of State computer equipment; use of State office equipment; access to confidential state records; substance abuse; safety regulations; and sexual and racial harassment.
- b. Conform to all policies applicable to all employees of the UDOT Traffic Operations Center including access to the building and building security, dress code policies, parking, and use of closed-circuit television images.
- c. Conform to all UDOT guidelines and policies relating to the timing, coordination, and maintenance of traffic signals.
- d. Conform to all UDOT policies related to Personal Protective Clothing (PPE) when in the field.
- e. Conform to all UDOT guidelines related to CyberKeys and completion of the electronic logbook <https://udottraffic.utah.gov/logbook>.
- f. Conform to UDOT guidelines related to bringing a traffic signal out of flashing mode into normal operating mode.
- g. Invoicing will be completed monthly to the UDOT Project Manager. The consultant will keep track of a cost build up and number of hours worked for each task and each signal timing project.

15. Work Quality

The consultants shall perform training and skills assessment for staff assigned to this project, and shall establish and follow appropriate Quality Control / Quality Assurance procedures. Overall performance will be evaluated quarterly with the UDOT Statewide Signal Engineer based on performance measures established at the beginning of the contract.

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1. **Contract Completion:** Approximately **12 - 60** months from Notice to Proceed if all years of the selection are contracted.
2. **Required Percentage of Work for Prime Consultant:** The Consultant must perform work valued at not less than **60%**

3. **Proposal Organization:**

Technical PDF

- Cover Page
- Project Team
- Approach to the Project
- Consultant Proposed Staffing Plan
- Form BC (Business Confidentiality), if applicable

4. **Proposal Section Requirements:**

Cover Page: The Cover Page is one page. It may be on the Prime Consultant's letterhead and will consist of the following with no additional information:

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Cover Page	
Date	
PIN No., Project Name and Description	
Prime Consultant	
Prime Consultant's Federal ID#	
Sub-Consultants (if any)	
Primary Contact	
Primary Contact Name (Prime)	
Address	
City, State, Zip	
Email	
Office Phone	
Cell Phone	
Secondary Contact	
Secondary Contact Name (Prime)	
Address	
City, State, Zip	
Email	
Office Phone	
Cell Phone	
Acknowledgement	
<p><i>I understand the acceptance and completion criteria, submittal, financial screening requirements, contract selection types and contract caps. My firm will comply with all state and federal contracting requirements applicable to the project. I understand UDOT policies, procedures and processes may change during the duration of the project and will comply with any changes required by UDOT. I have fully and accurately disclosed any debarment, license issues, and/or investigations being performed by any governmental entity. Employees listed on the staffing plan are current bona fide employees of the Consultant. As authorized to sign for my organization, I certify the content of this proposal to be true, accurate and all matters fully disclosed as requested in the Solicitation. I understand any misrepresentations or failure to disclose matters in the proposal is immediate grounds for disqualification.</i></p>	
Signature	
Name	
Title	

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The information is not required to be in this exact format, as long as each item of requested information is presented, with no additional information. Proposals will be considered non-responsive and will be disqualified if the Cover Page is not attached to the Proposal; if the Acknowledgement is not included on the Cover Page; and/or if there is additional information included on the Cover Page.

No evaluation points are assigned to this section and the Cover Page will not count as one of the allowed pages.

Project Team: The Selection Team will evaluate how well the qualifications and experience of the proposed project team members relate to the specific project. The Selection Team will score Proposals based upon the following criteria:	
% of Section Total	Project Team Section Criteria
5	Project Team organizational charts including sub-Consultants (see sample Project Team Organizational Chart available on the UDOT website). Identify Consultants and individuals that will be providing key services on the project (including all technical expertise necessary to perform the outlined Scope of Work).
50	Describe the qualifications, experience, and availability of Key Personnel on your proposed project team. Correlate the qualifications and past experience with the Contract Goals and the outlined Scope of Work.
25	Provide a table of projects related to the scope of work that are completed or in progress by team members during the last five years. The table must include at least one (1) signal timing project. The table headings should include the following items. (See sample Project Related Experience Chart available on the UDOT website). Columns may be combined in order to consolidate information. <ul style="list-style-type: none"> - Name of Project Manager / Team member(s) - Year - Type of Project - Project Name - Project Location - Project Description - Services Performed / Specific Project Role - Client - Reference Contact and Telephone Number
20	Choose a signal timing project identified in the table of projects and discuss in detail what the project team did to make that project a success.
70	Maximum points available for this section of the Proposal (out of 100).

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Approach to the Project: The Selection Team will evaluate how well you have planned a basic course of action, what alternatives and/or preliminary approaches are proposed, and what provisions are identified for dealing with potential impacts. The Selection Team will score Proposals based upon the following criteria:	
% of Section Total	Approach to the Project Section Criteria
40	Describe the course of action proposed to meet the Contract Goals and Scope of Work. Include a discussion of the logistics relating to how the firm’s project teams will provide the services requested. Be realistic, clear and concise.
30	Discuss your project team firms’ collaboration efforts and how you plan to work together and with UDOT for a successful project.
30	Identify risks, challenges, conflicts and potential mitigation.
30	Maximum points available for this section of the Proposal (out of 100).

A maximum total of 100 points is available for the Technical Proposal.

- Consultant Proposed Staffing Plan:** The Consultant is expected to provide a [Consultant Proposed Staffing Plan](#). Consultants are not required to use this example form, as long as all necessary information is included. The Staffing Plan must identify the certification and education levels of the individuals proposed for use on the contract, including sub-Consultants’ personnel. When Consultants list personnel on the Proposed Staffing Plan, the Consultant is agreeing to make the personnel available to complete the services in the contract at whatever level the project requires.

The Consultant Proposed Staffing Plan must be included in the Proposal, but will not count as one of the allowed pages. No other information is allowed on these pages. If additional information is provided, the Staffing Plan will be removed. No evaluation points are assigned to this section.

- Claim of Business Confidentiality:** The GRAMA, Utah Code Ann., §63G-2-101 et seq., provides in part that certain records are protected if properly classified. Consultants are responsible for determining which information, if any, they wish to be protected under a Claim of Business Confidentiality, and are responsible for taking appropriate action to do so. An entire Proposal may not be protected under a Claim of Business Confidentiality. To protect information under a Claim of Business Confidentiality, the Consultant must, at the time the information is provided to UDOT, include a [Form BC - Claim of Business Confidentiality](#). It is the responsibility of the Consultant to complete Form BC in accordance with Subsection §63G-2-309 and submit to UDOT as an attachment to the Proposal. If nothing in the Proposal is being protected under a Claim of Business Confidentiality, a Form BC is not required.
- Four (4) Page Maximum:** Pages exceeding the maximum limit will be removed from the Proposal prior to distribution to the Selection Team. The Cover Page, Consultant Proposed Staffing Plan and Form BC (if applicable) do not count towards the page maximum.

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A page is defined as a single-sided 8.5" x 11" sized page that contains text, pictures, tables, graphs, charts, plan sheets, or any other graphics.

Do not include a reference or link to additional information. If Proposals contain references or links, UDOT Consultant Services will remove them from the Proposal.

8. UDOT Reference Items:

- UDOT Consultant Services Manual of Instruction is available online at the UDOT website www.udot.utah.gov/go/CSManuals.
- [Guidelines for Traffic Signal Timing in Utah](#)
- [Traffic Signal and Lighting Design](#)
- Other UDOT manuals are available online from the UDOT website at www.udot.utah.gov/go/Manuals.
- UDOT Reference Material is available online from the UDOT website at www.udot.utah.gov/go/StandardsReferences.
- UDOT Standards are available online from the UDOT website at www.udot.utah.gov/go/2017Standards.
- UDOT 2020 Strategic Direction & Performance Measures are available online from the UDOT website at www.udot.utah.gov/go/StrategicDirection.
- UDOT Structures Design and Detailing Manual and the Bridge Management Manual are available online from the UDOT website at www.udot.utah.gov/go/STRManuals).
- UDOT Construction Manual of Instruction is available online at the UDOT website www.udot.utah.gov/go/Manuals.
- UDOT Traffic and Safety Highway Sign Policies and Manuals are available online from the UDOT website at www.udot.utah.gov/go/HighwaySignPolicy.