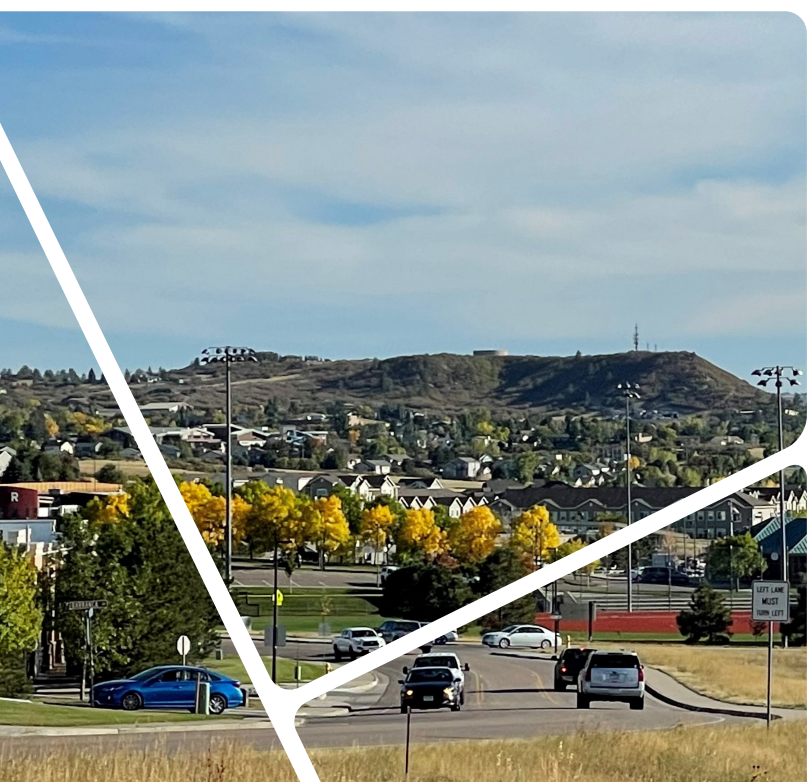October 8, 2021

Proposal for the Town of Castle Rock

Castle Rock and CDOT Region 1 ATSPM Upgrades, ATSPM Dashboard Development, Corridor Signal Timing, and CDOT ADAP Integration

CDOT Project #M185-015 | RFP 2021-04

TOWN OF **CASTLE ROCK** COLORADO PUBLIC WORKS

TOWN OF **CASTLE ROCK** COLORADO

Kimley»Horn
Expect More. Experience Better.

A. Introduction Material and Executive Summary

Title Page:

Subject

Proposal for Castle Rock and CDOT Region 1 ATSPM Upgrades, ATSPM Dashboard Development, Corridor Signal Timing, and CDOT ADAP Integration

Project Number

M185-015

Name of Proposer

Kimley-Horn and Associates, Inc.

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Date

October 8th, 2021

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Executive Summary

Automated traffic signal performance measures (ATSPMs) provide agencies valuable insights into the performance of their traffic signal controllers. The high-resolution data that is generated from the ATSPM system includes a wealth of useful information that can be used to troubleshoot issues, optimize detection, improve traffic signal timings, and make informed decisions with regards to Intelligent Transportation System (ITS) infrastructure.

In 2018, the Town of Castle Rock (ToCR) implemented the open-source Federal Highway Administration (FHWA) ATSPM software to generate signal performance measures for a small corridor. This proof of concept included installation of the ATSPM software on ToCR servers, configuration of four intersections in the ATSPM software, re-timing for the corridor, and ATSPM training for ToCR staff. This project was very successful and the ToCR has now received funding to expand this proof of concept to additional regional Colorado Department of Transportation (CDOT) and ToCR corridors.

This project identifies valuable upgrades to the existing ATSPM system. These upgrades will help ToCR staff use the ATSPM system more effectively while also giving staff better insight into what is happening in neighboring jurisdictions. The desired outcomes of this project include benefits for the traveling public such as reduced congestion and travel time and improved coordination across jurisdictions; operators becoming better informed on system health; and the ability to share traffic signal data across jurisdictions through a regional data repository.
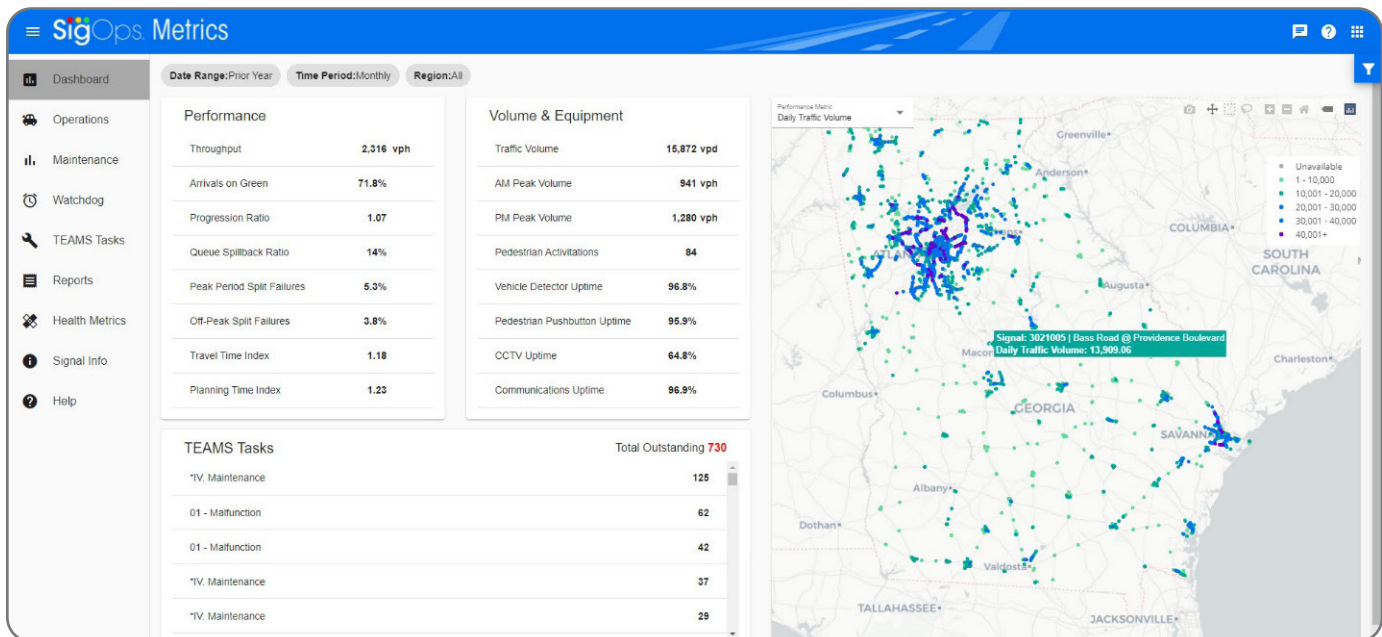
Kimley-Horn understands that as part of this project, the ToCR is soliciting a qualified contractor to perform the following tasks:

- Upgrade the existing ToCR ATSPM system to the latest version (4.2.5 or later).
- Configure signals, detection, and controllers in the ToCR ATSPM system.

- Implement and configure a custom ATSPM dashboard interface that can integrate other ITS technologies and will better inform operators on system health and provide valuable insights into problem areas.
- Re-time four regional corridors using ATSPM metrics.
- Implement a regional data sharing repository.
- Provide system training and documentation.
- Provide system licenses, warranty, and support.

Kimley-Horn has extensive experience deploying, upgrading, configuring, and customizing the open source FHWA ATSPM system across the country for numerous clients. **We have also contributed more source code to the open source ATSPM system than any other company** and have made numerous enhancements to the software including the Left Turn Gap Analysis report, the Wait Time report (upcoming), Parquet storage support, and support for Trafficware controllers. We have directly integrated the open source ATSPM system into our KITS AuATMS software, allowing users to view each of the ATSPM charts natively through the KITS user interface. This ATSPM integration also extends to our Kadence Time-Of-Day (TOD) Tuner module where Kadence can run in a 'slow' adaptive mode using ATSPM data instead of the second-by-second real-time polling data. Since ToCR will already have access to KITS/Kadence as part of the Founders Parkway adaptive project, these integrations will be available at no additional cost.

We have also worked with the Georgia Department of Transportation (GDOT) to build a comprehensive corridor-based ATSPM dashboard called SigOps Metrics. This dashboard is also open source and directly leverages the FHWA open source ATSPM software that ToCR already has installed. It is web-based and allows users to view aggregate ATSPM data across corridors over longer periods of time, such as monthly or quarterly. This dashboard contains much of the functionality that ToCR has listed in this Request for Proposals (RFP) and can easily be customized to add the necessary functionality that is not currently present.

*SigOps Metrics Dashboard*

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Included on our team are our in-house signal timing experts. Our signal timing team has extensive experience re-timing signals throughout Colorado and will leverage ATSPM metrics and other travel time data to evaluate and optimize the signal timing for these corridors. After the signal timings have been implemented, Kimley-Horn will work with ToCR staff to monitor signal performance and fine tune the timings until satisfactory performance is achieved. Kimley-Horn will also configure the Kadence TOD Tuner to run on these signals to allow for continuous automatic timing adjustments based on ATSPM data.

All of our software solutions are integrated into Traction, our cloud-hosted, web-based platform. Traction provides crowdsourced travel time data, allowing users to collect travel time information for any user-defined route without requiring any physical infrastructure in the field. The travel time data available through Traction is supplemented by data from a variety of additional sources such as Waze, KITS, and open-source ATSPM systems. This data is integrated into Traction through our proprietary data exchange service, which is installed on any server residing on any network. This allows Traction to be used as a regional data repository, providing agencies a dedicated platform to view real-time signal data, signal performance measures, travel time data, and incident data for not only their own signals, but also for any signals from any agencies connected to the Traction platform. Users also have access to the Traction mobile app where they can conduct their own travel time runs, view crowdsourced travel time data, see real-time signal status information, and view any active signal alerts. It should be noted that ToCR will already have access to Traction travel time routes as part of the CDOT/Castle Rock Kadence adaptive project and some travel time routes and user trips have already been collected.
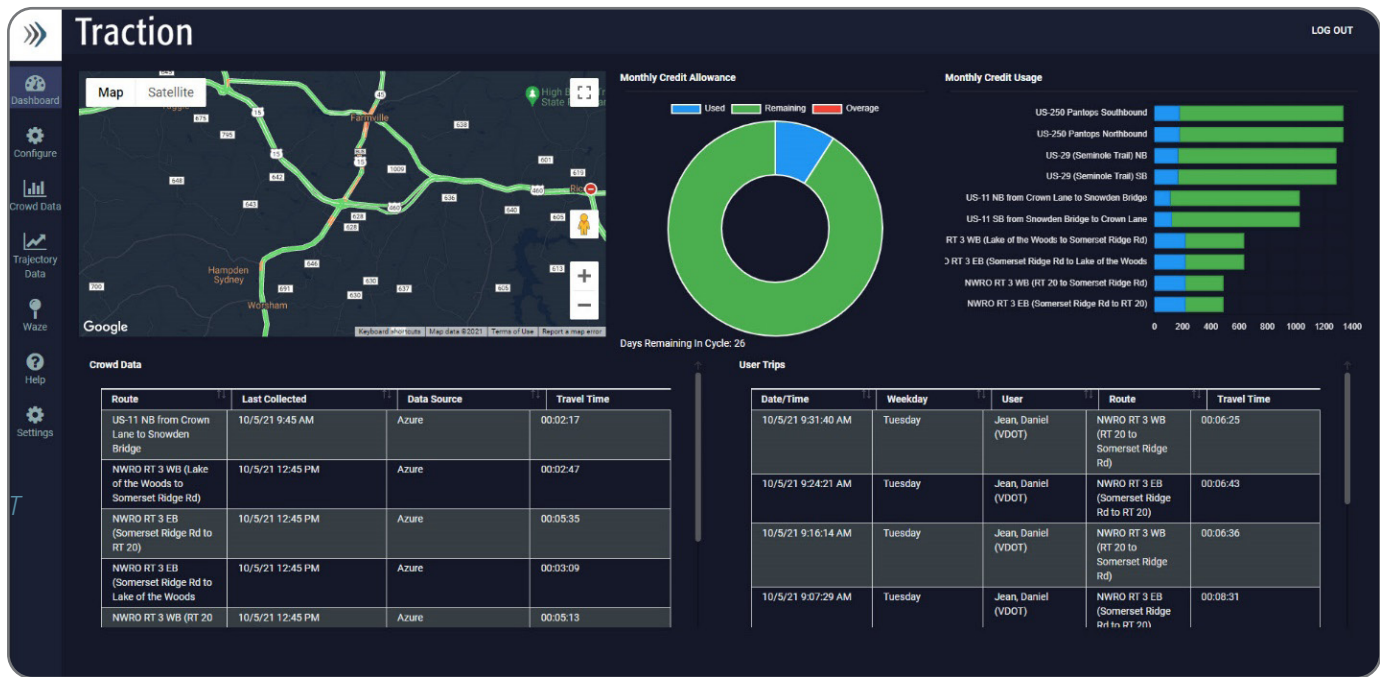
Traction Dashboard

Once these tasks have been completed, Kimley-Horn will produce system documentation and conduct multiple training sessions to ensure ToCR staff (and all collaborating users, including CDOT) are able to maximize the benefits from their ATSPM system. Kimley-Horn will also provide three years of warranty and support for all aspects of this system.

Kimley-Horn is in a unique position to provide all aspects of this project in-house, without requiring any additional subcontractors or outside help. Selecting Kimley-Horn for this project will provide you with a team of experts that will work together to ensure that you have a software solution customized to your needs and improvements to your signal operations that make life better for the traveling public.

We are incredibly excited about this opportunity to bring your vision to fruition. Should you require additional information or have questions please contact me at 303.228.2300or seth.searle@kimley-horn.com.

Sincerely,
KIMLEY-HORN

Seth Searle
Project Manager

Brian Smalkoski, P.E., AICP, PTP, PTOE
Vice President/Associate/Authorized Signer

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B. Company Background

Company Information

Name: Kimley-Horn and Associates, Inc.

Corporate headquarters: 421 Fayetteville Street Suite 600, Raleigh, NC 27601

Nearest office to Castle Rock: 4582 South Ulster Street, Suite 1500, Denver, CO 80237

Number of years in business

Kimley-Horn: 54 years

KITS software: 32 years

Kadence software: 10 years

ATSPM software: 6 years

Traction software: 3 years

Customer base (software services):

Number of public sector clients: 200+

Number of local government clients: 150+

Number of Colorado public sector clients: five

Other industries served:

- Aviation Consulting
- Community/Infrastructure Resilience
- Community Planning
- Development Services
- Energy Consulting
- Environmental Engineering/Planning
- Forensics
- Landscape Architecture
- Parking Consulting
- Pavement/Asset Management
- Roadway/Bridge
- Streetscape/Landscape/Irrigation
- Structural Engineering
- Surface Water
- Transit Consulting
- Transportation Planning
- Water/Wastewater/Utilities

Organizational characteristics

Number of employees: 5,400 (250 intelligent transportation engineers, 40 software services engineers)

Company ownership: Kimley-Horn is a privately owned company. We currently have over 500 employee-owners. Kimley-Horn and Associates, Inc. is wholly owned by Associates Group Services, Inc. Associates Group Services, Inc. is wholly owned by APHC, Inc. APHC, Inc. is owned by over 500 individual Kimley-Horn employees. No one individual has 5% or more ownership.

Capacity to complete project

The Kimley-Horn software team is available to start on this project right away and can complete all aspects of this project, including all software customizations, within nine months of notice to proceed.

Subconsultants

We will not be requiring subconsultants for this project.

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Kimley-Horn is a full-service consulting firm offering comprehensive engineering services. Founded in 1967, the firm has grown to 107 offices nationwide, with six locations in Colorado. Our headquarters is in Raleigh, North Carolina, and our Colorado offices are in Denver, Colorado Springs, Fort Collins, Aspen, and Broomfield.

Today, Kimley-Horn has more than 5,400 professional, technical, and support staff who perform a wide spectrum of services for technology-based projects including ITS, transit management systems, adaptive control systems, real-time traffic and transit information systems, communication network designs, and systems engineering. Our continued growth and stability over the past 54 years is the direct result of our commitment to integrity and dedication to providing quality services. Our clients receive the local knowledge and responsiveness of a small firm, backed by the depth of resources only a national firm can provide, and benefit from our long record of technical achievements and effective project management. Much of our growth extends from the confidence and trust that repeat clients have in us. Kimley-Horn is committed to client care and customer service. We have successfully developed and implemented a support model where we use our experienced IT and traffic engineering professionals who offer responsive customer care. This on-site service is supplemented by our software development and integration team to provide more specialized support.
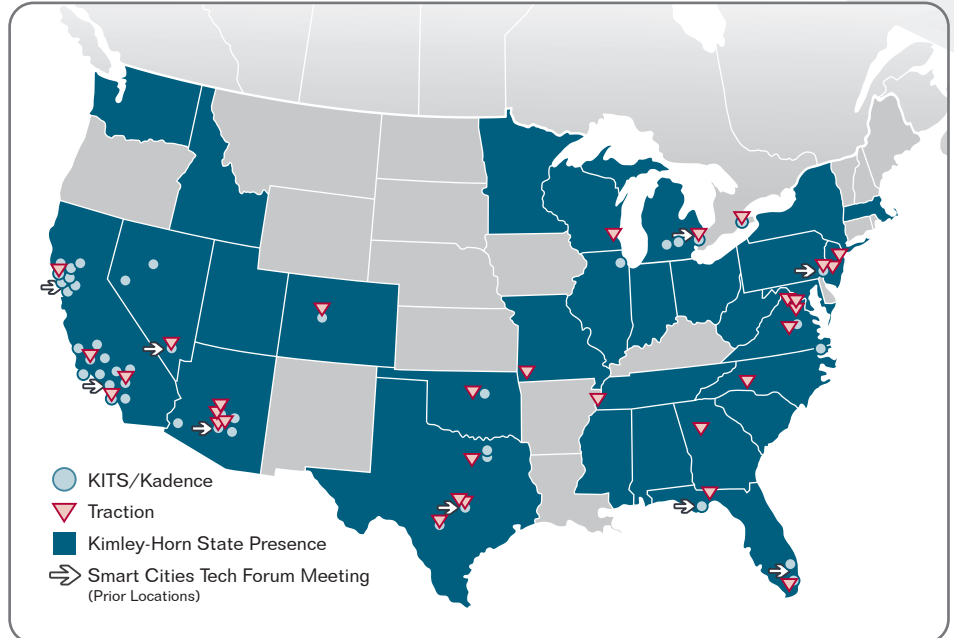
Others can claim the scalability and stability of their systems; we demonstrate it. To date, Kimley-Horn has deployed our KITS ATMS and ATSPM systems to manage over 10,000 signals and devices with more than 50 agencies. With our software team now having a local presence in Colorado, we are eager to work with local agencies to implement our software solutions and do our part to improve life for the traveling public. Within Colorado, we are currently in the process of deploying our Kadence adaptive control solution for CDOT and the ToCR for adaptive operation along the Founders Parkway corridor. Kimley-Horn currently has over 250 practicing ITS engineers with 40+ software engineers and computer scientists working exclusively on software applications, KITS, Kadence, Traction, and ATSPMs. Kimley-Horn and our technology team are proud of our growth over the years and the reputation we have built for delivering high-quality software solutions and meeting challenging project needs. Since 1992, we have not only expanded our client base, but we also have experienced substantial growth in both project complexity and use of new technologies.

Seth Searle will serve as the project manager for this project and will work closely with ToCR staff on all aspects of the project. **Seth is local to Castle Rock and is already leading the Founders Parkway adaptive project,** where we will be deploying our Kadence ASCT software to provide adaptive control for a number of Castle Rock and CDOT signals. Seth has extensive experience working with Kimley-Horn's software products (KITS, Kadence, and Traction) and has performed duties such as system testing, system deployments, help file creation, software architecture, software development, and software acceptance testing. Seth has also been the project manager for many successful KITS and Kadence deployments around the country and has been able to leverage his software expertise to ensure all aspects of each project proceed smoothly.

Mark Wood will serve as the lead software developer and will work closely with Seth to deploy the ATSPM upgrades and dashboard, configure the ATSPM system, integrate the regional data sharing repository, and provide training to ToCR staff. Mark is one of the nation's leading ATSPM experts and has helped many agencies implement, configure, and customize their ATSPM systems over the last five years. Mark has also led development efforts on the open source SigOps Metrics dashboard for the Georgia Department of Transportation, which will be a key component of this project. With his extensive knowledge of all things ATSPM, you can rest assured that your ATSPM system will run efficiently and will contain the functionality you need to achieve maximum benefits.

Supporting Seth and Mark will be a team of engineers with years of experience in various areas of intelligent transportation systems. Douglas Gettman, a leading industry expert in adaptive and ATSPM systems, will provide general oversight on the project. Bill Hange and Andy King will lead the signal re-timing efforts. Our larger team of software developers will be on-hand to ensure we have the resources necessary to complete all software customization tasks on time and under budget.

Legend:
- ○ KITS/Kadence
- ▽ Traction
- ■ Kimley-Horn State Presence
- ⇨ Smart Cities Tech Forum Meeting (Prior Locations)

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C. Scope of Services

Successful implementation of this project will require effective coordination between Kimley-Horn and ToCR staff. We have extensive experience helping agencies around the country with similar efforts and we will leverage that experience to ensure each of these tasks is well defined and produces the desired results. As we understand it, this project can be broken down into seven major components:

1. Coordinating with ToCR staff to ensure each task and desired outcome are well defined.

2. Customizing the ATSPM dashboard.

3. Upgrading the ATSPM software to the latest version and implementing the ATSPM dashboard.

4. Implementing the regional data sharing repository.

5. Configuring all elements of each software component.

6. Re-timing the signals along four regional corridors.

7. Providing comprehensive training to ToCR staff.

The two most important factors for a successful outcome will be the quality of detection and communication. Since those are not currently components of this project, **we recommend that a detection and communication review be conducted prior to the deployment and configuration of the ATSPM system.** We understand that additional detection will be procured separately by others and going through a formal process to analyze detection at each location prior to this procurement will help ensure an optimal detector set up at each location.

There are two components of this RFP that we feel warrant additional planning and design to ensure the overall ATSPM system provides maximum value and functionality. Those two components are (1) the ATSPM dashboard and (2) the regional data sharing repository. The dashboard features listed in the RFP are a great starting point and a design review with ToCR staff should provide any additional detail that might be needed to clarify how exactly the dashboard should function. The regional data sharing repository would benefit greatly from a concept of operations (ConOps) review so that the Kimley-Horn team can have a clear picture of how the end users will interact with the data repository and how data pulled from the repository should be visualized. The tasks proposed by ToCR in this RFP indicate that end users will use the data repository to retrieve data from neighboring jurisdictions so that they can analyze the performance of those signals through their ATSPM system. We would like to explore this workflow and other potential use cases for the data repository through a formalized ConOps review.

The tasks proposed in the RFP effectively cover the majority of the work that will be necessary for successful completion of this project. Our approach to completing each project task, as well as our recommended modifications to these tasks, are detailed under each task heading as follows.

1.0 Project Management

Seth Searle will be the dedicated project manager and will oversee all aspects of this project. With Seth already serving as project manager for the CDOT/Castle Rock Founders Parkway adaptive project, this will provide ToCR with a project manager who is already familiar with ToCR operations, is already working with ToCR staff, and who is local to Castle Rock (Seth lives right off of Founders Parkway). Seth will develop and maintain a project schedule, conduct bi-weekly progress meetings, and handle all coordination between ToCR and other involved parties. Seth will also handle all contract administration responsibilities and will maintain a project team that remains dedicated to this project.

Since we are able to complete all aspects of this project in-house, we do not anticipate having any sub-contractors on this project. As such, the only change we recommend to the Project Management task (Task 1.0) is to remove the following bullet under task 1.1:

~~If applicable, manage all sub-contractors and act as point of contact between Town and CDOT staff and the overall project.~~

2.0 ATSPM Configuration

The ATSPM Configuration task (Task 2.0) will be led by Mark Wood, our resident expert in ATSPM systems. We will start by completing the work items identified under Task 2.1. This will entail coordinating with the ToCR to identify the latest version of the ATSPM system (version 4.2.5 or newer) and proceeding with an update of the ToCR system to that version. Once the update has been completed, a database storage strategy will be implemented (e.g., Parquet or SQL table partitioning) to allow the system to scale while maintaining good performance. After the software upgrade and storage optimization has been completed, documentation will be provided to equip ToCR staff with the information that is needed to maintain the system and all backend components. Since the ATSPM software, dashboard, and data repository are all browser based, we don't anticipate needing to install software on any additional workstations and tablets. Instead, we will work with ToCR IT staff to ensure any workstations, tablets, and mobile devices that will be used to access the ATSPM system are set up with the necessary firewall rules or security configuration. To reflect this approach, we propose modifying Task 2.1.3 as follows:

2.1.3 Access Configuration – Vendor shall assist ToCR IT personnel with configuration of authorized workstations, tablets, and/or mobile devices to ensure that all software components are functional on each device.

Prior to configuration of intersections and detectors in the ATSPM system, we recommend that a full detection and communication review be conducted for each intersection. This will provide ToCR with a clear blueprint to follow for all detection upgrades and will ensure that detection and communication are optimized to produce reliable data. We recommend this task be conducted after Task 2.1, ensuring we have access to the latest ATSPM system to help determine the quality of existing detection and communication. This new task is defined as follows:

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2.2 Detection and Communication Review – The Vendor shall conduct a detection and communication review for all 43 ToCR intersections and summarize the results in a report. This report will document existing conditions and will provide recommended modifications to detection and communication to achieve optimal results from the ATSPM system.

After the detection and communication review has been completed, we will proceed with configuring all proposed ToCR and CDOT signals in the ATSPM system. This will involve configuration of controllers for optimum ATSPM performance, followed by the configuration of intersections in the ATSPM system. The proposed Task 2.2 (Installation, Integration, and Deployment) in the RFP adequately captures the necessary work to configure all locations in the ATSPM system for optimal performance.

Finally, once all previous configuration tasks have been completed, we will compile a report summarizing the outcomes of Task 2.0 (ATSPM Configuration). We will then provide a presentation to ToCR and CDOT staff summarizing the results of the report.

3.0 Corridor Retiming

The Corridor Retiming task (Task 3.0) will be led by Bill Hange and Andy King, both of whom have extensive experience analyzing signal performance and optimizing signal timings. This task will involve first collecting data from the ATSPM system and from BlueToad travel time devices over several weeks for four regional corridors while the traffic signals run their existing timings. Kimley-Horn's Traction software is already available to ToCR as part of the adaptive project mentioned previously, and we recommend supplementing the ATSPM and BlueToad data with the crowdsourced data and user-generated trip data available through Traction. This will result in a more robust data set without requiring any additional field infrastructure. Traction will also allow for collection of travel time data in locations where BlueToad devices may not be available.

Once the existing data has been collected, the signal timing analysis will begin. Current geometric and operational conditions as well as existing volumes will be used in the base Synchro model. Then, incorporating ToCR timing preferences and objectives along with our team's operational experience, each peak's cycle length, splits and offsets will be determined. When applicable, coordination of the new timings with adjacent signal systems is desired in an effort to provide vehicular progression across multiple corridors. Our thorough timing and modeling files allow for these types of additional analyses to be performed.

After the new corridor timings have been accepted and implemented, Kimley-Horn will work with ToCR staff to evaluate the performance of the new timings using ATSPM, BlueToad, and Traction data. These metrics will be used to fine tune the signal timings until satisfactory performance is achieved.

As an optional part of the corridor retiming task, Kimley-Horn will provide the ATSPM TOD Tuner module. This module uses ATSPM data as an input to the Kadence adaptive algorithm to automatically adjust signal timings based on current traffic conditions. If these automatic timing adjustments are deemed appropriate, the TOD Tuner module

will be configured to update signal timings at a frequency determined by ToCR (i.e., hourly, daily, weekly, monthly).

As defined in the RFP, the Corridor Retiming task (Task 3.0) only requires minimal modifications to capture the work described above. Tasks 3.1 and 3.3 should be modified to include Traction travel times as a key performance measure (only relevant task language is provided below). A Task 3.4 should also be added if ToCR opts to implement automatic timing adjustments using the ATSPM TOD Tuner.

3.1 Existing Condition Data Collection – Baseline measurements will include Traction crowdsourced and user-generated travel times, travel time index generated by ToCR's existing BlueToad Travel Time devices and associated platform, arrivals on green, and vehicle delay.

3.3 Evaluate Results and Fine Tune – Following an adjustment period, the Vendor shall work with ToCR to use the BlueToad Travel Time infrastructure and Traction Travel Times to evaluate the new timing plans.

3.4 (Optional) Implement TOD Tuner – The Vendor shall configure the ATSPM TOD Tuner to automatically adjust corridor timings at a frequency determined by ToCR.

4.0 ATSPM Software Dashboard Development

The ATSPM Software Dashboard Development task (Task 4.0) will involve the following series of steps:

1. Review existing functionality available through the SigOps Metrics open source ATSPM dashboard.

2. Collaborate with ToCR to design and create prototypes for new functionality to be added to SigOps Metrics.

3. Make necessary modifications to the SigOps Metrics dashboard through software development to implement new functionality into the dashboard.

4. Integrate and configure updated SigOps Metrics dashboard on-site.

5. Provide a technical report summarizing the final SigOps Metrics dashboard, network configuration details, and system components (server details, data storage format, etc.)

Kimley-Horn was selected by GDOT to take the lead role on development of the newly released SigOps Metrics ATSPM dashboard. This dashboard was developed as part of the SigOps program with Mark Wood leading the development effort. This dashboard serves as an excellent starting point for the ATSPM Dashboard described in the RFP. **By leveraging the SigOps Metrics platform, we will be able to provide more robust functionality at a much lower cost than it would take to develop an ATSPM dashboard from scratch.** Our familiarity with the codebase of this dashboard coupled with our over 30 years of experience developing custom software solutions ensures that the ToCR will receive an ATSPM dashboard that provides maximum value.

Since we are proposing the existing SigOps Metrics dashboard as a starting point for the ToCR ATSPM dashboard, Task 4.0 should

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be amended to include a review of the existing SigOps Metrics functionality before any software development commences. As an additional optional task, Kimley-Horn will provide software development to integrate additional ToCR technologies, such as BlueToad travel time devices or smart locks, into the ATSPM dashboard. Modifications to Task 4.0 are as follows:

4.1 Review SigOps Metrics ATSPM Dashboard Functionality – Vendor shall provide an overview of the SigOps Metrics ATSPM dashboard to ToCR staff. Vendor shall work with ToCR to identify desired improvements to the dashboard.

4.4 (Optional) Integrate Additional ToCR Technologies – Vendor shall work with ToCR to identify additional ToCR technologies, such as BlueToad travel time devices or cabinet smart locks to be integrated into the ATSPM dashboard. A design review will be conducted to determine how these technologies should be integrated into the dashboard after which, software development will commence. After development is completed, the Vendor will install the updated ATSPM dashboard on-site and work with ToCR to integrate the desired devices into the system.

5.0 Regional Data Share Integration

Sharing important traffic signal data between other regional partners is a common challenge that is faced by many agencies. To facilitate this type of data transfer between ToCR and CDOT, a regional data sharing repository will be required. Kimley-Horn proposes that ToCR implement the Traction ITS software platform for this purpose.

Traction is a cloud-hosted software platform that brings together a variety of ITS data, from crowdsourced and user-generated travel times to ATMS and ATSPM data generated from traffic signal controllers and other ITS devices. This data aggregation is done by ingesting data from a variety of sources using a Traction Data Exchange service. The Traction Data Exchange connects to a data source such as an ATSPM or ATMS database and transmits data from user-specified tables and datasets into the cloud-hosted Traction ecosystem or vice versa. For the regional data-sharing repository described in this RFP, Kimley-Horn will deploy a Traction Data Exchange process on the ATMS or ATSPM server at each location where data sharing is desired. Once these processes are in place, Kimley-Horn will work with ToCR and CDOT to configure the datasets that should be stored in the Traction Data Repository and determine how frequently data should be sent to the repository.

The retrieval of data from the Traction Data Repository can be done in a variety of ways, and the mechanics of this retrieval will depend on how ToCR and CDOT intend to use the shared ATSPM data. Kimley-Horn will coordinate with ToCR and CDOT to identify specific use cases for this data. For example, additional corridors could be displayed in SigOps Metrics for Lone Tree, Aurora, or other agencies in the Denver Regional Council of Governments (DRCOG) region by adding the data exchange services to extract ATSPMs from capable signal controllers in those jurisdictions. Once these use cases are identified, Kimley-Horn will design and implement the necessary features in the ATSPM dashboard and/or Traction platform, allowing ToCR and CDOT to leverage these shared datasets in a meaningful way.

If ToCR and other project stakeholders desire to also view data from other agencies in the base ATSPM system, we propose either migrating the existing ToCR ATSPM system to the cloud and using it as a regional ATSPM system managed by ToCR or making modifications to the open source ATSPM system to support signals from different agency IDs (since it is likely that intersection IDs in each agency ATSPM system will conflict with IDs from neighboring agencies).

Traction uses a single sign-in login process, making it easy to add ToCR, CDOT, and DRCOG staff to the system as needed. Kimley-Horn will work with each agency to configure logins for staff and to ensure that Traction and the ATSPM dashboard are available for any of these users to perform ATSPM analytics and reporting.

The Regional Data Share Integration (Task 5.0) task is relatively well defined in the RFP. We do not recommend any immediate modifications to these tasks at this time. However, once the use cases for the data-sharing repository are well defined, we do anticipate some modifications to these tasks to better capture the work that will be required.

6.0 System Testing, Verification, and Acceptance

After the ATSPM system and all components have been implemented, Kimley-Horn will coordinate with ToCR and CDOT to develop an acceptance test procedure and execute an acceptance test. The acceptance test procedure will be developed to test each system requirement with each having a dedicated procedure to demonstrate compliance. In addition to the tests and procedures for each requirement, the acceptance test procedure will contain all parameters necessary to conduct a comprehensive test. These parameters include any hardware that is required for the test, what constitutes success or failure for a given test, network requirements, and any personnel that will be required to facilitate completion of each test procedure.

The System Testing, Verification, and Acceptance (Task 6.0) task defined in the RFP adequately captures all necessary tasks for a successful acceptance test, and we do not recommend any further modifications.

7.0 System Training

Kimley-Horn will provide training on all aspects of the ATSPM system, including the base ATSPM system, the ATSPM dashboard, Traction, and the Data Repository. We have conducted many training sessions on all of our software components to a variety of audiences and will leverage that experience to ensure that these training sessions are tailored to the experience levels of those in attendance.

Prior to any training sessions, Kimley-Horn will develop a training plan and other training materials detailing how the training will be conducted and what topics will be covered. An emphasis will be placed on hands-on interaction being a key component of the training. The training plan and all associated materials will be submitted to ToCR fo review at least 30 days prior to the training session. And per the RFP, two training sessions will be held, one after initial deployment and one 6-12 months later at the ToCR's discretion.

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The System Training (Task 7.0) task defined in the RFP adequately captures all tasks related to system training, and we do not propose any modifications to those tasks.

8.0 System Documentation

After deployment of the system has concluded, documentation will be provided to ToCR and CDOT for all software and hardware components of the system. This documentation will contain all of the content necessary to facilitate use and configuration of the system by new or inexperienced users. Our philosophy is that training should not be a prerequisite to be able to use our software products. Occasional staffing changes are inevitable in any industry, and new users should be able to access and use the ATSPM software without needing to receive extensive training. The documentation developed under this task will contain the following information:

- System configuration details
- How to use each software component
- How to interpret results and take action

The System Documentation (Task 8.0) task defined in the RFP adequately captures the work that will be necessary to produce the desired system documentation. We do not recommend any modifications to this task.

9.0 System License, Warranty, and Support

Since the ATSPM software components are open source, there are no license fees associated with this project. The Traction Data Repository and SigOps Metrics dashboard will require an annual hosting fee to cover the cloud hosting and data storage costs, and this fee will be included in the annual maintenance agreement.

Kimley-Horn's software products typically include warranty and support for three-five years, depending on the project needs and requirements. Our support agreement is included at the end of this section. We recommend modifying the System License, Warranty, and Support (Task 9.0) task defined in the RFP to consolidate maintenance, warranty, and support into a single task since the activities performed under these tasks are similar in nature. As such, we recommend consolidating tasks 9.2, 9.3, and 9.4 into a new task 9.2 with the following language:

9.2 Warranty, Support, and Maintenance – Vendor shall provide three years of warranty, support, and maintenance. During this period, the Vendor will include any bug fixes, patches, software updates, and additional features at no additional cost. Vendor shall coordinate with ToCR and CDOT staff in advance of any software patches or updates and will notify staff if any impending updates will result in the software being inaccessible. In the event of a hardware failure, the Vendor will coordinate with ToCR and CDOT staff to repair/replace the equipment in a timely manner. Technical support will also be provided during the Warranty, Support, and Maintenance period and will include the following tasks:

- **Ensuring system requirements are met**
- **Troubleshooting the system**

- **Routine questions**
- **Configuration questions or changes**

Standard Warranty and Maintenance Agreement

After the system is operating, Kimley-Horn will provide support via on-site visits, webinar, phone, remote login, and email. Remote login capability via secure remote desktop or virtual private network (VPN) is critical for providing rapid response support from our software and traffic engineering support team in Denver, CO and Phoenix, AZ. During the three year maintenance period of the project, Kimley-Horn will provide necessary updates to services and support ToCR and CDOT staff with operational questions when they arise. Kimley-Horn will correct reported operational issues of the ATSPM system or its components to remedy deficiencies so that the system operates in accordance with the requirements as outlined in the ToCR requirements.

The ToCR will notify Kimley-Horn of the need for corrective actions for malfunctions at a particular "Problem Severity Level." Failure modes will be classified into one of these categories:

- Critical
- Major
- Minor
- Cosmetic

Kimley-Horn will review appropriate information related to the problem which may include screen captures, screen movies, and associated diagnostic actions to accurately diagnose the root cause of the problem. Any user can contact Kimley-Horn with questions or the need for potential corrective action. Kimley-Horn and the ToCR will agree on the appropriate corrective actions. Support for "critical" issues is provided 24x7x365. Support for all other issues is provided M-F, 7am-7pm MST.

Our team continually enhances our innovative automated testing processes and stands behind the quality of our software. As part of this selection process, we recommend that you contact our existing clients to understand our proven ability to deliver functional, secure, stable systems. We acknowledge that it is not always possible to identify bugs within testing when new software is being developed. We will track reported issues and provide timely patches to identified software bugs.

We expect high availability of your new system since the software has already been developed and deployed. We anticipate over 99.9 percent availability. The limiting factor for uptime in most ATSPM systems is the reliability of field communication and physical server infrastructure.

We will coordinate with Town staff and IT groups on outages. Our software updates can usually be achieved in less than 20 minutes. Maximum scheduled down time will not exceed one hour per quarter. Our team will coordinate at least two weeks in advance of planned software maintenance. Patches to address highest priority items will have at least five days' notice in advance of installation.

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D. Implementation/Project Plan

We anticipate completing all aspects of this project within nine months of notice to proceed. We will start by conducting a series of meetings with ToCR and CDOT staff to identify what version of open source ATSPM system the existing system should be updated to and to identify the specific features and use cases for the custom ATSPM dashboard. As part of these discussions, we will present our out-of-the-box solutions to give project stakeholders a better understanding of what the software can currently do and what customizations will be necessary. After we have received adequate direction from ToCR and CDOT staff, we will commence with the subsequent project tasks.

Bi-weekly progress meetings will be conducted so that all project stakeholders remain apprised of progress on each task. Kimley-Horn will facilitate these discussions and will take the lead on each task, with ToCR and CDOT personnel being responsible for facilitating access to the system for Kimley-Horn staff and assisting with data collection as needed for timing and performance analysis. Project tasks will be completed in parallel where possible to ensure timely completion of all objectives. Coordination between Kimley-Horn staff and project stakeholders will be ongoing, with the bi-weekly progress meetings facilitating much of this coordination. If any difficulty arises with coordination, Seth Searle (local to Castle Rock) will be available to conduct in-person meetings to ensure any mis-communication is resolved. Our project schedule along with key deliverables is provided below.

months from NTP	0	1	2	3	4	5	6	7	8	9	10	11	12	Year 2	Year 3	Year 4
Task 1: Project Management																
Progress meetings and project coordination	█	█	█	█	█	█	█	█	█	█						
Task 2: ATSPM Configuration																
Upgrade ATSPM system		★														
Detection and communication review		★														
Configuration of ATSPM system			█													
Summary report			★													
Task 3: Corridor Retiming																
Existing data collection				█												
Timing assessment and optimization					★											
Evaluate and fine tune						█	█									
Task 4: ATSPM Software Dashboard Development																
Review existing dashboard	█															
Build customizations and deploy dashboard		█	█	█	█	█	★									
Provide technical evaluation and analysis								★								
Provide technical report documentation								★								
Task 5: Regional Data Share Integration																
Build data repository		█	█	█	█											
Customize and implement data retrieval processes		█	█	█	█	█										
Deploy data repository and configure regional client login								★								
Task 6: System Testing, Verification, and Acceptance																
Acceptance test procedure and review								★								
Acceptance test									█							
Issue correction and final acceptance										█						
Task 7: System Training																
Training plan							★									
Training session 1									█							
Training session 2															█	
Task 8: System Documentation																
Documentation for software/hardware components								★								
Documentation for standard operating procedures								★								
Task 9: System License, Warranty, and Support																
Licenses							★	█	█	█	█	█	█	█	█	█
Warranty, support, and maintenance														█	█	█

★ Project Deliverable

Operational Strategies and Innovative Solutions

If the ATSPM system does not perform as expected, Kimley-Horn will conduct an analysis to determine the cause of any adverse performance. In most cases, adverse performance is caused by communication or detection issues, both of which should be mitigated substantially by conducting a detection and communication review and documenting any potential issues prior to implementation of the system. In cases where adverse performance is not due to detection or communication issues, Kimley-Horn will work with ToCR and CDOT staff to identify improvements to the underlying signal timing or to configuration of ATSPM elements.

Our innovative solutions to accomplishing the scope listed in this RFP are highlighted throughout Section A: Executive Summary, Section C: Scope of Services, and Section H: Value added services. Having all of the disciplines necessary for completion of this project within Kimley-Horn, having the resources needed to complete many of these tasks in parallel, and having industry leading expertise with ATSPM solutions will ensure that we accomplish the scope listed in this RFP in an efficient and innovative way.

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Key Staff

Resumes for key staff are provided below.

SETH SEARLE
Project Manager

Years with Kimley-Horn: 12 | **Primary Office Location:** Denver, CO
Education: Bachelor of Science, Electrical Engineering, University of Arizona

Seth is a software development lead with experience in software development, software verification and validation, and integration and testing. His experience includes designing and developing many key KITS features, conducting manual and automated software test procedures, creation of software installation packages, creating help file documentation, and generating and exercising acceptance test procedures. He is also the project manager for multiple Kadence deployments in the San Francisco Bay Area. Seth applies his role on all software projects for the ITS technology team including: City of Austin KITS, Miami-Dade County KITS, Philadelphia KITS, Los Angeles County KITS, San Mateo Smart Corridor KITS, Maricopa County Department of Transportation (MCDOT) KITS, City of Glendale KITS, City of Surprise KITS, City of Mesa Kadence, and City of San Jose Kadence. His specific project experience includes testing a wide array of software packages; building software installation files for large and small-scale applications; merging, testing, and verifying new software builds; conducting on-site acceptance tests; and compiling integrated help files. He has worked closely with end users to configure and optimize their KITS and Kadence installations and has served as the development lead for many key KITS features such as the center-to-center (C2C) interface and the controller database interface for various controller firmware.

Project Experience

- CDOT/Castle Rock, Founders Parkway Adaptive, Castle Rock, CO – Project Manager
- City of Rohnert Park, ATMS Deployment, Rohnert Park, CA – Project Manager
- City of Menlo Park, Sand Hill Road Kadence ATCS Deployment, Menlo Park, CA – Systems Analyst
- City of San Jose, ATCS (Kadence), Kadence Adaptive System, San Jose, Ca – Project Advisor
- Bell Road ASCT Deployment, Surprise, AZ – Development Lead

MARK WOOD
Lead Software Developer/Integration Expert

Years with Kimley-Horn: 9 | **Primary Office Location:** Phoenix, AZ
Education: Bachelor of Science, Mathematics and Computer Science, Oklahoma Christian University

Mark is a lead software developer and project manager with experience in managing, developing, deploying, and maintaining intelligent transportation and signal performance systems. He is experienced in desktop and web, and cloud-based application development, IT software and hardware, and database development and management. His software skills include proficiency in C#, C++, XAML, JavaScript, XML, CSS, PHP, HTML, ASP. NET, Visual Basic, AngularJS, Python, SQL Server, and Windows Azure Cloud-Based Solutions. His relevant project experience includes installing, customizing, and upgrading the FHWA ATSPM system for the City of Austin, GDOT, City of Rohnert Park, MCDOT, and WisDOT. Mark's experience also includes creating and maintaining schedules in Microsoft Project, staff planning, and coordinating and leading stakeholder and project meetings.

Project Experience

- MCDOT, MARK 1 ATSPM Integration, Phoenix, AZ – Project Manager
- GDOT Regional Traffic Operations Program ATSPM, Statewide, GA – Lead Software Developer
- Wisconsin Department of Transportation (WisDOT) System Management ATSPM, Statewide, WI – Integration Expert
- City of Mesa, Kadence Adaptive System, Mesa, AZ – Lead Software Developer

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DOUGLAS GETTMAN, PH.D.
Quality Assurance/Quality Control (QA/QC) and Project Advisor

Years with Kimley-Horn: 14 | **Primary Office Location:** Phoenix, AZ
Education: Doctor of Philosophy, Systems and Industrial Engineering, University of Arizona; Master of Science, Systems Engineering, University of Arizona; Bachelor of Science, Systems Engineering, University of Arizona

Dr. Gettman is the principal inventor of Kadence. He has more than 27 years of experience developing and integrating adaptive traffic control software systems including RHODES, ACSLITE, and Kadence. Over the past 12 years, he has developed and deployed Kadence for agencies in California, Arizona, Texas, Pennsylvania, and Florida. Dr. Gettman is author or co-author of more than 40 peer-reviewed research papers and FHWA reports. He is a member of the Transportation Research Board (TRB) Automated Vehicle Highway Systems and Automated Transit committees and a member of the Cooperative Automated Transportation (CAT) Coalition. With a background in artificial intelligence, systems engineering, and optimization of nonlinear systems, these technical underpinnings allow Dr. Gettman to understand the technical challenges of adaptive traffic control systems. With experience in deploying software and technologies in the real world of transportation agencies, Dr. Gettman understands the implications and non-technical hurdles to adoption and successful operation, including working with teams of contractors, designers, and system owners to deploy successful projects.

Project Experience

- Caltrans District 4 Kadence, San Francisco Bay Area, CA – Project Manager
- City of San Jose, Kadence Adaptive Traffic Control System, San Jose, CA – Project Manager
- City of Mesa, Kadence Adaptive System, Mesa, CA – Project Manager
- City of Surprise, Kadence Adaptive System, Surprise, AZ – Project Manager
- City of Austin KITS ATMS and Kadence, Austin, TX – Kadence Project Manager
- FHWA Adaptive Control to Balance Safety and Efficiency: Phase II Kadence – Principal Investigator
- City of Windsor KITS ATMS Oversaturated Intersection Management Software Deployment, Windsor, ON – Project Manager

BILL HANGE, P.E., PTOE
Signal Timing Expert

Years with Kimley-Horn: 2 | **Primary Office Location:** Fort Collins, CO
Education: Bachelor of Science, Civil Engineering, Transportation, University of Wyoming

Bill has more than 42 years of experience in traffic and transportation engineering. He is passionate about improving transportation system safety and efficiency and maintains extensive knowledge in all things transportation. Bill's first experience with signal system design and operations was with the City of Greeley starting in 1980. Serving as the City Traffic Engineer for over 11 years, Bill worked at 1300 A Street establishing a Greeley Traffic Operations Center with a new, mini-computer for a central signal computer using telephone lines for interconnection. After obtaining federal funding he led the installation of this new ATMS "Computran type mini-computer based" central signal system using telephone and fiber optics lines for communications. This was perhaps the first system in the country to centrally control both NEMA and 170 Type traffic signal controllers. Bill's article on the system was published in the ITE Journal. He went on to complete, operate, and maintain two more central software systems and new controller projects in Loveland. Bill recently joined Kimley-Horn after 24 years serving as the Loveland City Traffic Engineer over that time. There too he was project manager for two different central traffic control systems with fiber optics communications and installing the Loveland Traffic Operations Center.

Project Experience

- ATMS Central Traffic Signal Systems, Loveland, CO — City Traffic Engineer*
- ATMS Central Signal System, Mini-Computer, Greeley, CO — City Traffic Engineer*
- City of Greeley Controller and Signal Replacement Programs, Greeley, CO — City Traffic Engineer*
- Traffic Operations Center Upgrades Phases I, II, and III, Loveland CO — City Traffic Engineer*

*Project completed prior to joining Kimley-Horn

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E. Technical Requirements/Security

Technical Requirements/Security	Kimley-Horn's Approach
Detail training provided for users of the ATSPM system including experience and system familiarity of the instructors, how training will be delivered, number of training sessions required to deliver each training component and training materials provided.	Training will be provided by our resident ATSPM expert, Mark Wood (five+ years of deploying, configuring, and developing the ATSPM platform). Additional training support will also be provided by Doug Gettman (27+ years of experience in adaptive and ATSPM systems). Training will be delivered either in person, or through a virtual format depending on the preferences of ToCR and CDOT. We anticipate two comprehensive training sessions, one after initial deployment and one after system acceptance as desired by ToCR. Training materials will be provided in advance of these sessions and will be supplemented with configuration guides and other documentation that explain how to use and configure the system.
Detail ATSPM and dashboard maintenance program including keeping the ATSPM version current.	Mark Wood, our lead software developer and integrator for this project, has contributed substantial amounts of source code to the FHWA open source ATSPM system. When new versions of the software are released, Mark will be notified immediately and will review the changes. Likewise, Mark is one of the lead developers on the SigOps Metrics dashboard and will either be responsible for new development that leads to a new version of the dashboard or will be notified as soon as the new version is made available so he can review the new additions. If we determine that the new updates warrant a system update, we will coordinate with ToCR and CDOT to schedule an update to the latest version. Through our support and maintenance agreement, we will also conduct frequent check-ins to verify that all system components are functioning.
Detail product support for any software.	We pride ourselves on providing the very best customer care. This project includes three years of maintenance and support, the details of which are provided in Section C: Scope of Services. This is an important project for us and Seth will be on-hand to provide direct, in-person support whenever it is needed. We will also maintain a dedicated support team led by Mark Wood who will monitor the system on a monthly basis and bring any issues to ToCR and CDOT's attention
Describe how hardware and software updates are incorporated, the typical frequency of these updates, the impact to system operations required to perform hardware and software updates, and any associated costs to fully perform updates that are not included in the Proposer's cost.	We typically update our software products one to two times per year, depending on the features and functionality in the new version. Hardware updates are uncommon, and typically only occur when hardware reaches end of life, in which case we coordinate with agency IT groups to migrate to new hardware. While hardware migrations typically require configuration changes and take more effort, software updates are generally more streamlined. The impact to system operations typically results in about 1 hour of downtime as each software component is updated and restarted. We are including at least 1 update to ATSPM software components per year as part of our three-year support and maintenance. The cost to provide software updates outside of this agreement will vary depending on what changes are present in the new version. This can sometimes be done in as little as a few hours for simple updates and can take several days for more complex updates.
Describe how the team proposes data sharing between ToCR and CDOT. How will security between the two systems be addressed.	We propose using Kimley-Horn's Traction platform for the data repository and data sharing between ToCR and CDOT. This will entail installing the Traction Data Exchange service at each location where data sharing is desired. The Traction Data Exchange will then synchronize desired data from the on-premise system to the Traction cloud-hosted database, where it will become available to any other agencies connected to the data repository. Security will be addressed by leveraging single sign-on for agency accounts, ensuring only approved users can access the system, and by coordinating with IT to implement the appropriate firewall exceptions to allow traffic to leave and enter the network. This process is deployed in multiple other locations and has been deemed to be compliant with modern IT policies.

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Technical Requirements/Security	Kimley-Horn's Approach
Describe data management including servers and data storage for long-term continuation of the system.	Kimley-Horn's software solutions, and the open source ATSPM system, use a Microsoft SQL Server database for data storage, which can be hosted on premise or in the cloud. Over the long-term, especially with ATSPM data, these databases can grow quite large. To mitigate this, we typically leverage Parquet storage to archive older data and keep the live database running more efficiently. Parquet is an effective storage format and the speed of data retrieval is very favorable. We can also leverage techniques such as column stores and table partitioning to maintain good, consistent performance as the datasets grow.
Detail product warranty.	Our product warranty (along with maintenance and support) is outlined in Section C: Scope of Services. To summarize, we will correct any issues or defects with any Kimley-Horn provided software products at no additional cost throughout the three-year warranty and maintenance period. We are heavily invested in the success of this project and will ensure that your system maintains good performance and is free of defects.

F. Client References

GDOT, Regional Traffic Operations Program 2 (RTOP) and ATSPM Deployment, Atlanta, GA

Kimley-Horn is providing data analysis and software development services to support corridors under GDOT's RTOP program. This analysis uses ATSPM data to measure the quality of service on RTOP corridors. GDOT is using high-resolution ATSPM event data from 4,000+ traffic signal controllers in Metro Atlanta to report performance measures that include: throughput, arrivals on green (%), split failures, and queue spillback rates. Kimley-Horn created interactive, browser-based reporting tools that aggregate the ATSPM metrics at a corridor and system level. The data is provided for broad use by both engineers and senior leadership. These reporting tools have now been fully integrated into our Traction ATSPM platform. In this multi-year effort, Kimley-Horn has also contributed new performance measures and additional visualizations to the open source codebase maintained by Utah Department of Transportation (UDOT). The SigOps Metrics dashboard is publicly available and can be accessed at http://new.sigopsmetrics.com.

The biggest challenge with this project was the condensed timeline of the SigOps Metrics dashboard development. GDOT needed a very quick turnaround and significant software development was required to get the desired result. We overcame this challenge by coordinating with many other Kimley-Horn offices and personnel around the country and building a team of developers to work under Mark Wood to complete each component of the dashboard.

- Project dates: Jan 2016 – Current
- Project owner: GDOT, Kate Shearin, 404.635.2842, kdambrosio@dot.ga.gov

MCDOT, Traction ATSPM Deployment, Maricopa County, AZ

MCDOT selected Kimley-Horn to update the SigOps Metrics (formerly known as GDOT MARK 1) and FHWA ATSPM system for collecting ATSPM data for MCDOT. Kimley-Horn completed these updates in 2020. Support and maintenance for the ATSPM system was provided on a time and materials basis for enhancements to reports/features and malfunction repairs. Kimley-Horn upgraded the MCDOT ATSPM deployment to the newest version of the open-source software. The ATSPM server is hosted on-site at the MCDOT TMC. Kimley-Horn deployed the SigOps Metrics software for five corridors and is currently hosting and maintaining the site. Kimley-Horn will provide ongoing support and maintenance for the ATSPM solution on a time and materials basis.

The biggest challenge with this project was the general coordination with the IT department and the transfer of knowledge to IT personnel so that they could take a more active role in maintaining the system. This challenge was overcome by having good, consistent communication and making multiple on-site visits to ensure that IT had all of the knowledge and resources they needed.

- Project dates: Jan 2020 – May 2020
- Project owner: MCDOT, April Wire, 602.506.7174, April.Wire@Maricopa.Gov

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KITS ATMS, Kadence ATCS, Traction ATSPM, and Traction Smart Priority Deployment, City of Austin, TX

In 2011, the City of Austin selected Kimley-Horn to provide its new ATMS. KITS is used to manage 1,100 signals and interchanges throughout the city running D4 on 2070 controllers over a variety of fiber, copper, and wireless interconnect. The KITS deployment included integration of the Kadence adaptive control system for 70 intersections along I-35, C2C transit priority for the CapMetro BRT system, a public information web page for status and performance monitoring, Closed Circuit Television (CCTV) integration, performance monitoring tools, and on-site integration and project management support. We also developed a connected traveler bicycle detection application. The smartphone app for iOS and Android devices allows cyclists to receive service at a traffic signal through their Global Positioning System (GPS) location and geo-reference technology. The application debuted at ITS World Congress 2014 in Detroit and underwent pilot deployment in Austin in 2015. Kimley-Horn has also deployed and maintained the City of Austin's ATSPM system since 2018 with over 200 signals being configured in the ATSPM system.

The biggest challenge with this project was the integration of deprecated controller firmware (Siemen's Nextphase) into the KITS ATMS and the subsequent migration from Nextphase to D4. Kimley-Horn overcame this challenge by leveraging our 30+ years of firmware integration experience to find creative ways to work with the challenging Nextphase firmware (e.g., strategic pausing of second-by-second polling during controller database uploads and downloads to keep the ftp process on the controller alive). We also implemented a firmware converter tool into our KITS ATMS to allow for easy conversion of Nextphase to D4 timings as the City migrated to the new D4 controller firmware.

- Project dates: Oct 2011 – Current
- Project owner: City of Austin, Brian Craig, 512.974.4061, Brian.Craig@austintexas.gov

G. Exceptions to the RFP

Kimley-Horn has no exceptions to the RFP.

H. Value Added Services

Additional software services Kimley-Horn can provide that would extend and enhance the functionality in this project could include:

Traction Workflow – This module of Traction provides work-order tracking and maintenance ticketing for signal and ITS device-related maintenance for agencies that need a streamlined solution, tailored to signal operations.

Traction Smart Priority – This module of Traction provides cloud-based transit signal priority, emergency vehicle preemption, freight signal priority, and bicycle/scooter priority operations for traffic signals through existing AVL feeds from each vehicle type. No additional hardware is needed in the traffic signal cabinet or on the service vehicle. In the case of bike/scooter priority, a free white-label app can be supplied.

ITS FIRST – This module of Traction provides ITS inventory tracking for multi-jurisdictional regions and MPOs. MPOs are able to track allocation of TIP dollars and projects with deployed ITS equipment, CCTV, Dynamic Message Signs (DMS), signals, cabling, communication media (wireless, fiber, etc.).

ITS Architecture tracker – This cloud-based solution allows MPOs to manage regional and project ITS architectures, including CVRIA components, and update architectures as regional projects are deployed and implemented. ITS FIRST and Architecture Tracker are complementary.

KHAMS – This asset management solution provides cloud-based capital project improvement tracking of a variety of public-works related asset types (culverts, pavement, etc.) for short- and long-term planning of asset sustainability.

Enhanced KITS/Kadence Integration – As part of the Traction Data Exchange integration, we can configure the Traction Data Repository to support showing real-time signal status from your KITS/Kadence system. This will enhance your overall ATSPM system, giving you real-time signal status and traffic signal alerts (stuck detectors, cabinet alarms, etc.) from second-by-second polling information in the same system you use to access ATSPM data.

I. Letter of Indemnification for Withholding Confidential Information

We have included the Letter of Indemnification for Withholding Confidential Information at the end of this proposal.

J. Addendum Acknowledgment

We have included the Addendum Acknowledgment Form at the end of this submittal.

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**LETTER OF INDEMNIFICATION
FOR WITHHOLDING CONFIDENTIAL INFORMATION**

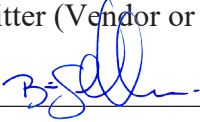Re: Request under the Colorado Open Records Act

Invitation to Bid Number: RFP 2021-04 / CDOT #M185-015

Proposals submitted by consultants in response to the Town of Castle Rock's Request for Proposal are subject to the Colorado Open Records Act. Should the Town receive a request for the release of any information in the Submitter's proposal in accordance with the Open Records Law, the Town will review the Submitter's proposal, giving consideration to the portions that the Submitter indicated contained trade secrets, privileged information, or confidential commercial, financial, geological, or geophysical data, and may release only that information which has not been identified as confidential and/or proprietary in your proposal pursuant to C.R.S. 24-72-201. If in the opinion of the Town's legal counsel, the Town is nonetheless compelled to disclose any portion of such information to anyone or else stand liable for contempt or suffer censure or penalty, the Town may disclose such information without liability.

By having an authorized officer of the company sign below, Submitter agrees to the aforementioned waiver of liability and to indemnify the Town of Castle Rock for any and all attorney fees that the Town may incur in defending the withholding of such information.

Kimley-Horn and Associates, Inc.
_____
Submitter (Vendor or Business Name)

By:_____
Signature

Brian Smalkoski, P.E., AICP, PTP, PTOE
_____
Name (*please print)*

Vice President/Associate
_____
Title

10/8/2021
_____
Date

Addendum Acknowledgement RFP #M185-015

ADDENDUM #	SIGNATURE
Addendum No. 1.	

I have examined and carefully prepared the submittal documentation in detail before submitting my response to ToCR.

Submittal Number:	M185-015
Company Name:	Kimley-Horn and Associates, Inc.
Authorized Representative Signature:	
Authorized Representative Name:	Brian Smalkoski, P.E., AICP, PTP, PTOE
Date:	10/8/2021

It is the contractor's responsibility to check for addendums, posted on BidNet Direct prior to the submittal date. No notification will be sent when addendums are posted unless there is an addendum within three business days of the submittal due date.

If the submittal has already been received by ToCR, vendors are required to acknowledge receipt of addendum via email to csobie@crgov.com prior to the due date.

Submittals that do not acknowledge addendums may be rejected.

All responses are to be submitted securely on BidNet.