



## REQUEST for PROPOSALS

### Traffic Signal Optimization

**Deadline:**

**5 copies and one digital pdf of proposal due  
April 14, 2026 at 4:00 PM MST**

**Correspondence shall be addressed to:**

Matthew Layman  
Traffic Engineering and Operations Division  
300 Sixth Street  
Rapid City, SD 57701  
605-394-4118

**Proposals shall be addressed to:**

Kelly Brennan  
Community Development Department  
300 Sixth Street  
Rapid City, SD 57701  
605-394-4120

Any technical questions regarding this document or processes should be directed to Matthew Layman at 605-394-4118 or [matt.layman@rcgov.org](mailto:matt.layman@rcgov.org).

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## Overview

The Rapid City Area Metropolitan Planning Organization (RCMPO) in conjunction with the South Dakota Department of Transportation (SDDOT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA), seeks proposals from qualified consultants to prepare optimized traffic signal timings on signalized corridors and to produce before and after measures of effectiveness to quantify the changes in traffic operations. The corridors selected are:

- Omaha Street (SD Hwy 44) from Cambell Street to Deadwood Avenue
- Mountain View Road (SD Hwy 44) from Omaha Street to Jackson Boulevard
- La Crosse Street from Mall Drive to Omaha Street
- East North Street (East Boulevard) from Mall Drive to Omaha Street

A list of the study intersections along these corridors is to be provided on page 13 of this RFP. It is the RCMPO's intention to select one qualified consultant to prepare the study. The City of Rapid City Traffic Engineering and Operations Division will be managing this project.

## Background

The Rapid City Area Metropolitan Planning Organization (RCMPO) includes the City of Rapid City, the City of Box Elder, the City of Summerset, the City of Piedmont, Ellsworth Air Force Base, the unincorporated areas of Black Hawk and the developing areas of Pennington County and Meade County. This includes the existing urbanized area and the area which is projected to become urbanized within the twenty-five year horizon of the Long Range Transportation Plan.

Within the RCMPO boundary there are one hundred twenty-six (126) signalized intersections with one hundred twenty-four (124) of the signalized intersections currently maintained by the City of Rapid City. Historically, individual segments have been reviewed for signal optimization with a focus on State roadways, not studying the impacts to the local system. To date the RCMPO has not completed a project to develop signal timings on intersecting corridors.

Due to the geographic issues within the RCMPO boundary vehicle traffic is directed to four (4) East-West corridors and three (3) North-South corridors; US I-90, Omaha St (Hwy 44), Catron Blvd (US 16B), Main Street, Jackson Boulevard (Hwy 44), Mount Rushmore Rd (US 16), and Haines Ave/5<sup>th</sup> Street. The four main corridors intersect within one thousand five hundred (1,500) feet of each other; Main Street, Omaha St (Hwy 44), Mount Rushmore Road (US 16), and 5<sup>th</sup> Street. This has caused delay issues due to the individual corridors not synchronized to effectively handle the traffic.

## Project Summary

The proposed project involves collection of traffic data, signal timing analysis, and "before" and "after" Measures of Effectiveness (MOE's). Respondents are invited to recommend any alternative approaches to this project, and/or rectification that will result in a better product and/or cost savings to the RCMPO.

The primary goal of the project is the creation of time of day coordinated signal timing plans (AM, Midday, PM, and Off-peak) for the selected intersecting signalized corridors

### Scope of Services

#### 1) Project Management

- a) Project management and technical oversight of the CONSULTANT will be provided throughout the duration of the contract. This task includes necessary modifications to the project work plan and schedule based on discussion with City staff and on-going project needs. The CONSULTANT project manager will serve as the point of contact, maintain the project schedule and budget, and be responsible for coordinating the work of subconsultants.
- b) The CONSULTANT project manager will maintain frequent and effective communication with the City of Rapid City project manager. Monthly progress reports and invoices will be prepared documenting project progress, issues encountered, corrective strategies and planned work for the next month.

#### 2) Project Meetings

- a) The Consultant will schedule, coordinate, and attend a kick-off with City staff and partner organizations.
- b) The CONSULTANT will participate in up to five (5) progress/review meetings. The CONSULTANT will develop and distribute meeting agendas at least 48 hours prior to all progress/review meetings. The CONSULTANT will prepare and distribute meeting minutes within seven (7) days of the meeting.

#### 3) Data Collection/Review

- a) The CONSULTANT will obtain and review the current signal timing plans including, but not limited to, the signal timing sheets and City Synchro files. The CONSULTANT will also obtain and review the signal timing plans of signals immediately upstream/adjacent to the project corridor signals to assure continued progression along a given corridor. Upstream/adjacent signals will include the nearest signalized intersection along a study corridor and the nearest signals on coordinated cross corridors as listed on page 13.
- b) The CONSULTANT will perform field inventory activities to collect/confirm the following information:
  - i) Intersection lane configurations, utilizing RapidMap
  - ii) Posted speed limits
  - iii) Intersection pedestrian crossing distances (i.e., crosswalk lengths)
  - iv) Intersection vehicle crossing distances (i.e., distance from approach stop bar to far side of cross street through lane)
  - v) Distance between signalized intersections
  - vi) Turn restrictions
  - vii) Turn lane storage lengths

This data will be used, in part, to verify Synchro file inputs.

- c) Turning movement count (TMC) data is available for the study intersections

#### 4) Traffic Engineering/ Signal Timing Analysis

##### a) Traffic Operations Analysis

- i) The CONSULTANT will identify deficiencies in the existing signal equipment, lane assignment and configurations, and roadway geometry or signal phasing that would provide better safety and/or operational characteristics, if corrected. This will include identifying locations that should be considered for flashing yellow arrow implementation. This evaluation will be based on the existing data review, field inventory and observations, and count data provided as part of scope item 3.
- ii) The CONSULTANT will evaluate and analyze individual intersections to identify the existence of any potential locations for signal removal. This scope assumes two (2) intersections to be evaluated for potential signal removal. The intersections to be evaluated will be determined with input from City staff.

- iii) The deficiencies identified and results of the signal review analysis will be documented in a technical memorandum and submitted for review, comment and approval.
- b) Update Synchro Files
  - i) The CONSULTANT will review City-provided Synchro files and update information along study corridors, as necessary, to reflect field inventory and observations conducted as part of scope item 3. Synchro (version 12) will be used for all Synchro related efforts on this project. The review and update of Synchro files will consist of four (4) models per study corridor:
    - (1) AM
    - (2) Midday
    - (3) PM
    - (4) Off-peak
  - ii) Synchro files will be updated by the CONSULTANT with the count data supplied by the City. The updated AM, Midday and PM Synchro files will include peak hour volumes during those portions of the day. The traffic volumes for the updated Off-peak Synchro file will be derived from eight-hour turning movement counts and 24-hour counts, as available. The CONSULTANT will develop Off-peak traffic volumes based on existing count data and discussion with City staff. The CONSULTANT will provide updated Synchro files to the City. The CONSULTANT will use the updated Synchro files as the base for developing coordinated timing plans.
- c) Coordinated Timing Plan
  - i) The CONSULTANT will develop the following coordinated timing plans for the study corridors:
    - (1) AM
    - (2) Midday
    - (3) PM
    - (4) Off-peak
  - ii) Prior to developing detailed timing plans, the CONSULTANT will use provided templates to calculate vehicle and pedestrian clearance intervals at each signalized intersection in accordance with the latest MUTCD requirements. Calculation of clearance intervals will use measurements of vehicle and pedestrian crossing distances collected in Scope Item 3. Calculated values will be submitted to City staff for review and approval.
  - iii) Coordinated timing plans will be developed to optimize traffic signal operations to improve traffic flow and reduce delay at each study intersection. The nearest adjacent signalized intersections to a study corridor, as identified in the overview map on page 5 of this RFP will be included in the Synchro files. Side-street and left-turn operations (delays and queues) will be reviewed to ensure that side street operations remain acceptable. Proposed optimized signal timing plans will be simulated in the SimTraffic (version 12) software to identify refinements to signal timings. Refinements to timing plans will be made based on findings from “before” and “after” studies conducted in Task 4g.
  - iv) Based on timing plans and review of 24-hour volumes, the CONSULTANT will recommend time of day to begin and end each timing plan.
- d) Create Signal Timing Sheets
  - i) The CONSULTANT will provide implementation-ready timing sheets on signal timing report forms provided by the City. The dates that new parameters are implemented will be recorded and updated on the timing sheets, so that an accurate record of traffic signal timing parameter changes are accurately documented should there be a need to recall the operational settings of a traffic signal operation. These timing sheets will include all basic timing revisions and new coordination timing, as approved by the City, and time-of-day settings. The initial submittal of the timing

forms will be reviewed by City staff for review, comment and approval. The CONSULTANT will revise the timings plans, as needed, City staff's comments.

- e) Implementation
  - i) The CONSULTANT team will work with City staff to implement the new timing plans directly at the controller or system level in the field.
- f) Field Adjustments
  - i) CONSULTANT staff will conduct thorough field reviews after the deployment of the timing plans. The corridors will be driven to ensure that signals are serving all movements, sequences match the model, and no major queues/delays have developed from the implementation of each plan. If necessary, the CONSULTANT team will make adjustments to the timings to address issues noted during field observations. Special attention will be given to left-turn movements, the interaction of cross-corridors, and existing coordinated crossing arterials. Revised timing plans will be submitted, as needed, based on changes made during the field review and adjustment task.
- g) Performance Management
  - i) The CONSULTANT will compile a summary of corridor and MOE's and a cost-benefit analysis for each corridor. MOEs and cost-benefit methodology will be determined during the project and standardized for use by the CONSULTANT.
  - ii) The CONSULTANT will perform "before" and "after" analysis using actual travel-time runs and prepare a brief summary outlining the benefits derived from this project. Three (3) travel time runs will be collected in each direction for each study corridor during each study period (AM, Midday, and PM). Video of all travel time runs will be collected. The before and after studies will be performed in a two-tiered process, as follows:
    - (1) "Before" travel time runs will be conducted to assess existing conditions (i.e., existing signal timing plans and existing signal equipment, even though detection is faulty in some locations). Prior to the collection of "Before (1)" data, and in order to confirm and document baseline conditions, detector conditions will be supplied by City staff.
    - (2) "After" travel time runs will be conducted, to assess the conditions after the implementation of revised traffic signal timings
  - iii) Travel time runs will be collected during the three (3) peak periods that timing plans will be developed for each of the study corridors. It is anticipated that the CONSULTANT will collect travel time data during the following time periods for each of the peak periods:
    - (1) AM (7:00am-8:30am)
    - (2) Midday (11:15am-1:00pm)
    - (3) PM (4:00pm-6:00pm)
  - iv) Within a day of collecting travel time data, the CONSULTANT will coordinate with the City to identify incidents or events that may have had an impact on travel time runs that would require travel time data to be recollected.
  - v) The CONSULTANT will perform Synchro/SimTraffic analyses for each of the conditions coinciding with travel time runs ("Before" and "After"). The results of these analysis will be used in calculating MOEs in the MOE templates.
    - (1) "Before" condition will be based on the Synchro files from Scope Item 4b.
    - (2) "After" condition will be based on the Synchro files from Scope Item 4c with the incorporation of field adjustments in Scope Item 4f.
- 5) Documentation
  - a) The CONSULTANT will prepare a Project Report summarizing the findings and recommendations from all project tasks. This final report will summarize project tasks at an appropriate level of detail based on discussion with City staff. Text from technical memoranda prepared to document individual project tasks, or portions thereof, will be included, as appropriate, as final report appendices.

- b) A draft of the Final Report will be prepared for review by City staff and other stakeholders. Based on comments received, the CONSULTANT will prepare a final version of the Final Project Report. The final report will include an executive summary for ease of review by City Management, elected officials and other non-technical stakeholders.
  - c) All submissions and work product shall be submitted in electronic format. Submissions shall include, but are not limited to meeting minutes, database and spreadsheet files created for this project, GIS files if used, reports, etc.
- 6) Signal Timing and Measures of Effectiveness
- a) Create Signal Timing Templates
    - i) The City will supply current templates used to determine signal timing parameters for reference. The CONSULTANT will update the existing signal timing templates for controller parameters typically defined as “basic timing parameters” (e.g., minimum green times, yellow and all red clearance times, pedestrian walk and don’t walk times, vehicle extension/gap times).
  - b) Create Templates for MOEs
    - i) The CONSULTANT will create templates for calculating and summarizing MOEs to capture the changes in operations between “Before” and “After” conditions. It is expected that MOEs will be derived solely from Synchro/SimTraffic output and travel time run data. The CONSULTANT will develop a list of MOEs to include in the template and methodology for calculating MOEs. Industry standards will be used to monetize Synchro/SimTraffic and travel time results for use in benefit/cost calculations within the MOE templates. Templates will be set up in Excel spreadsheet format to calculate and summarize MOEs based on results from Synchro/SimTraffic analysis and travel time runs. Templates will be provided to the City for review and comment. The CONSULTANT will address one (1) round of comments on the revised templates.

#### City Responsibilities

The City of Rapid City will supply the following information:

- Most recent Synchro files (AM, Midday, PM)
- Most current intersection turning movement volumes
- Signal timing Templates
- Summary of existing detection functionality

#### Instructions to Proposers

##### **Solicitation**

The RCMPO will negotiate a professional services agreement with the successful respondent. All respondents are responsible for the costs incurred in responding to this proposal.

##### **Submission of Proposals**

It is intended that each respondent furnish all information requested in this document. Unless specifically requested, promotional literature is not desired and will not be considered to meet any of the requirements.

Each respondent shall be required to include the following items in their proposal. These items should be used as the format around which the proposal is organized. Exclusion of any of these items could be grounds for proposal rejection by the RCMPO.

1. Transmittal Letter. A letter of transmittal, not to exceed two pages in length, which bears the signature of an authorized representative of the respondent and designates by name not

more than two individuals authorized to negotiate and sign an agreement with the RCMPO on behalf of the respondent.

2. Organizational Description. A description of your organization, including qualifications addressing your organization's capability to provide the services requested. This must also include a description of subcontractors and associations with other firms you wish to utilize in the performance of the tasks, including the intended working relationships and responsibilities of each. Also include a description of your understanding of the RCMPO's needs in the proposed project and your staffing commitments to assure your ability to meet the RCMPO's time frame. Please describe past client projects you have completed that are similar in nature to that proposed in this document.

3. Proposed Project Team Members. Provide a written description of the consultant team composition, including disciplines, primary role in regards to the project, and relevant experience. The information provided must clearly indicate the consultant team's point of contact, the team leader for the project (if different) and the responsible party in each firm who will be providing the required professional experience.

Provide a table showing the number of person-hours (not percentages of time) that will be devoted to each task by consultant team members. List the names of principal investigators and other key professionals who will be involved. Support personnel may be identified by classification. If subcontracting is necessary, include subcontractors' key personnel and support staff in a separate table. Clearly identify subcontractors' involvement.

Describe current commitments to other work in sufficient detail to permit assessment of each consultant team member's ability to meet the proposal's commitments. Include a statement that the level of effort proposed for principal and professional members of the study team will not be changed without written consent of RCMPO.

4. Product Procedures. Describe how you will produce each of the products requested in this RFP. This must include the methods used and the quality control/quality assurance procedures that will be observed. The minimum data product specifications described under each work component must be met. Subcontractors or other firms that will work on any part of the project must also be identified, including the general nature and scope of work that will be undertaken by these firms, along with each firm's work location. The vendor shall retain full responsibility for all work completed or uncompleted by any subcontractor.

5. Project Schedule. Include a schedule for completing the work specified in this request, including a progress reporting strategy.

6. RCMPO Obligations. Provide a list of all items to be provided by the RCMPO to assist you in completing the requested work. This should include any data (i.e. turning movement counts) and/or proposed use of staff, office space, and any equipment or materials/supplies that will be expected from the RCMPO. This component should also describe a strategy for project management indicating the mechanisms intended to be used to coordinate the proposed work with the RCMPO.

7. References. Each proposal must provide the name, address and phone number for five (5) individuals from organizations that have procured similar services to act as references for the respondent. The individuals identified must at least hold a position of project management or other contract authority.

8. Budget. Show the estimated cost for the entire project by RCMPO fiscal year. RCMPO's fiscal years run from January 1 through December 31. 10% retainage will be held until final QA/QC is completed.

**The proposed budget shall be submitted in a sealed envelope, and shall be opened only if the proposer is selected to perform the project by the Study Advisory Team. Unopened envelopes will be returned to the unselected proposers.**

If the proposal includes effort by subcontractors, a similar budget table should be included for each subcontractor.

Out-of-state travel, which is defined as travel between the consultant's base and destinations other than South Dakota, must be identified separately. All travel between the consultant's home base and South Dakota should be recorded as in-state travel.

Indirect costs listed in the budget must be substantiated if and when the proposal is selected. Prior to the first contract payment, the successful proposer must submit documentation supporting the bases and rates used to calculate indirect costs by the prime contractor and each of the subcontractors. Examples of indirect cost schedule formats can be found in Chapter 9 of the *AASHTO Uniform Audit & Accounting Guide* located at: <http://audit.transportation.org/>.

9. Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion – Lower Tier Covered Transactions. By signing and submitting this proposal, the respondent certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation, by any Federal department or agency, from transactions involving the use of Federal funds. Where the offeror is unable to certify to any of the statements in this certification, the bidder shall attach an explanation to their offer.

10. Non-Discrimination Statement. The RCMPO, in conjunction with the State of South Dakota, requires that all contractors, vendors, and suppliers doing business with any State agency, department, institution or recipient of pass-through grants, provide a statement of non-discrimination. By signing and submitting their proposal, the offeror certifies they do not discriminate in their employment practices with regard to race, color, creed, religion, age, sex, ancestry, national origin or disability.

11. Modification or Withdrawal of Proposals. Proposals may be modified or withdrawn by the offeror prior to the established due date and time. No oral, telephonic or facsimile responses or modifications to informal, formal bids, or Request for Proposals will be considered.

12. Proprietary Information. The proposal of the successful offeror(s) becomes public information. Proprietary information can be protected under limited circumstances such as client lists and non-public financial statements. Pricing and service elements are not considered proprietary. An entire proposal may not be marked as proprietary. Offerors must clearly identify in the Executive Summary and mark in the body of the proposal any specific proprietary information they are requesting to be protected. The Executive Summary must contain specific justification explaining why the information is to be protected. Proposals may be reviewed and evaluated by any person at the discretion of the RCMPO. All materials

submitted become the property of the RCMPO and may be returned only at the RCMPO's option.

13. Governing Law. Venue for any and all legal action regarding or arising out of the transaction covered herein shall be solely in the State of South Dakota. The laws of South Dakota shall govern this transaction.

14. Discussions with Respondents (Oral Presentation/Negotiations). An oral presentation by a respondent to clarify a proposal may be required at the sole discretion of the RCMPO. However, the RCMPO may award a contract based on the initial proposals received without discussion with the respondent. If oral presentations are required, they will be scheduled after the submission of proposals. Oral presentations will be made at the respondent's expense.

One (1) original and four (4) copies of the proposal document should be submitted. The Proposer's response should contain only the information requested. All cost proposals shall be valid for a period of not less than ninety (90) days from the date of receipt. Articles should be submitted to the following address by the proposal receipt date and time specified:

Attention: Kelly Brennan  
Community Development Department  
300 Sixth Street  
Rapid City, SD 57701

**Respondent proposals shall be received no later than 4:00 P.M., MST, on April 14, 2026**

**Clarification and/or revisions to the specifications and requirements.**

Respondents are expected to raise any questions, exceptions, or additions they have concerning the RFP document. If a respondent discovers any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in this RFP, they should immediately contact Matthew Layman at [matt.layman@rcgov.org](mailto:matt.layman@rcgov.org) and request modification or clarification of the RFP document.

In the event that it becomes necessary to provide additional clarifying data or information, or to revise any part of this RFP, revisions/amendments and/or supplements will be posted to the City of Rapid City web site. It is the responsibility of the respondent to check the web page for change documents.

Questions and/or clarifications will be accepted by the RCMPO until **March 27, 2026**. Responses will be posted by **April 2, 2026**.

**Time Line**

The proposed schedule for the RFP process is as follows:

04/14/2026	Proposals due
5/1/2026	Anticipated award decision/contract negotiations

The above dates are subject to change at the option of the RCMPO and negotiations with the selected firm.

## **Basis of Award**

The award resulting from this request for services will be made to one firm submitting a response that best serves the needs of the RCMPO. Proposals will be evaluated on criteria that include:

- The extent the proposed approach to services meets the RCMPO's needs.
- Demonstrated competence to meet quality requirements based on QA/QC procedures and overall approach to project management.
- Proven experience of the firm to provide similar products to similar clients, including recommendations from those clients, and/or previous experience with the RCMPO.
- Ability to deliver products within proposed time frame.

This list of criteria is meant for informational purposes only. The RCMPO reserves the right to make its selection on any subjective criteria it deems appropriate.

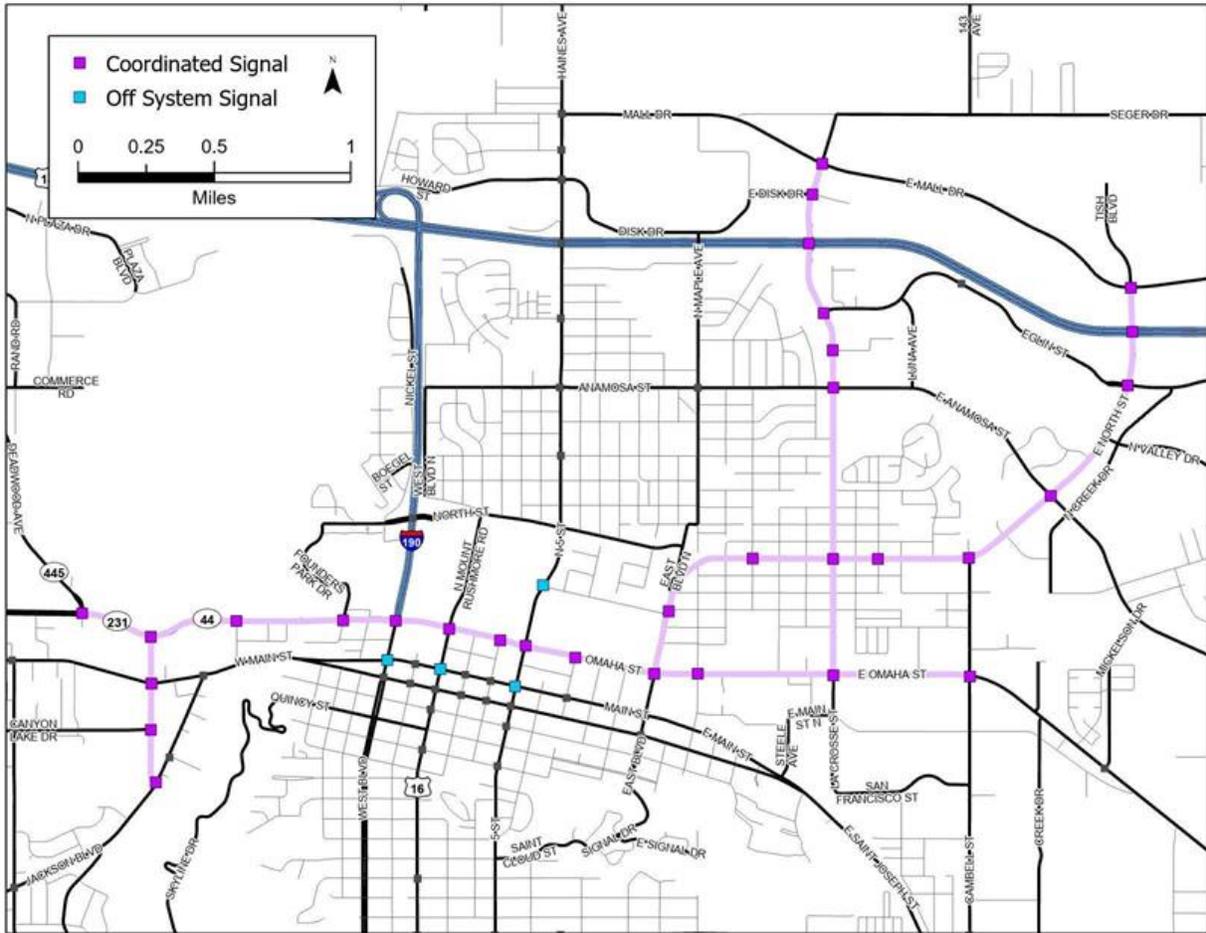
A short list of firms will be developed from a review of written responses. These firms may be required to make a presentation by phone to supplement their proposals if requested by the RCMPO. The RCMPO will make every reasonable attempt to schedule presentation times convenient for the short-listed respondents. Failure of a respondent to conduct a requested presentation to the RCMPO on the date scheduled may result in rejection of their proposal.

The RCMPO reserves the right to reject any and all proposals and to negotiate the terms of the contract, including the award amount, with one or more, or none of the respondents prior to entering into a contract. Omissions, alterations, or irregularities of any kind shall constitute sufficient cause for rejection of a proposal. However, the RCMPO reserves the right to waive irregularities in the proposals. The RCMPO reserves the right to advertise for new proposals if, in its judgment, the best interest of the RCMPO will be served. Non-disclosure cannot be guaranteed after the selection stage of this procurement due to public record laws.

## **Ownership of Completed Products**

All documents, reports, and digital data prepared or completed during the performance of services specified in this RFP shall become the property of the RCMPO and shall not be copyrighted by the proposer. Also, the same materials shall not be released or made available to any third party or used for other purposes at any time without the written approval of the RCMPO.

# Overview Map of Selected Corridors



## List of Signalized Intersections

Number	Main Street	Cross Street
<b>Main Corridor Intersections</b>		
1	Omaha Street/Highway 44	North Cambell Street
2	Omaha Street/Highway 44	North La Crosse Street
3	Omaha Street/Highway 44	North Maple Avenue
4	Omaha Street/Highway 44	East Boulevard
5	Omaha Street/Highway 44	3rd Street
6	Omaha Street/Highway 44	5th Street
7	Omaha Street/Highway 44	6th Street
8	Omaha Street/Highway 44	Mt Rushmore Road
9	Omaha Street/Highway 44	West Boulevard
10	Omaha Street/Highway 44	12th Street
11	Omaha Street/Highway 44	Cross Street
12	Omaha Street/Highway 44	Mountain View Road/Hwy 44
13	Omaha Street/Highway 44	Deadwood Avenue
14	Mountain View Road/Hwy 44	West Main Street
15	Mountain View Road/Hwy 44	Canyon Lake Drive
16	Mountain View Road/Hwy 44	Jackson Boulevard/Hwy 44
17	La Crosse Street	East Mall Drive
18	La Crosse Street	East Disk Drive
19	La Crosse Street	I-90 Interchange
20	La Crosse Street	Eglin Street
21	La Crosse Street	Meridian Lane
22	La Crosse Street	East Anamosa Street
23	East North Street	East Mall Drive
24	East North Street	I-90 Interchange
25	East North Street	Eglin Street
26	East North Street	East Anamosa Street
27	East North Street	North Cambell Street
28	East North Street	Spruce Street
29	East North Street	North La Crosse Street
30	East North Street	Milwaukee Street
31	East North Street	New York Street
<b>Adjacent Intersections</b>		
32	5th Street	Main Street
33	Mount Rushmore Road	Main Street
34	West Boulevard	Main Street