



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

January 15, 2021

AGENDA ITEM 3.16

TO: Regional Transportation Commission

FROM: Blaine Petersen
Engineer II

Bill Thomas, AICP
Executive Director

SUBJECT: UNR Transportation Research Agreement 2021 - 2022

RECOMMENDATION

Approve a two-year interlocal cooperative agreement in the amount of \$150,000 with the Center for Advanced Transportation Education and Research (CATER), UNR Civil Engineering Department; authorize the RTC Executive Director to execute the agreement.

SUMMARY

This cooperative agreement (see Attachment A) provides funding for CATER to perform technical services needed to supplement those of the RTC for the purpose of improving design, research of current traffic engineering practices, traffic signal equipment testing, and other traffic engineering related studies in Washoe County.

UNR has been conducting research and preparing studies and reports for the RTC through cooperative research agreements since 2007. This is the sixth two-year agreement. The work conducted through this program has found its way into RTC projects and specifications and has helped the RTC to continually to improve traffic operations in the region.

Past work performed by UNR under Cooperative Agreements included preparation of a Complete Streets - Guide to Road Conversions and Lane Widths, Kietzke Lane Incident Response Plan, a Flashing Yellow Arrow Study, controller simulation for California/Keystone/Booth Street intersection, and other research supporting complex traffic signal timing.

FISCAL IMPACT

This agreement is funded through the Fuel Tax Program’s “UNR Transportation Research” operating budget and included in the FY 21 approved budget.

PREVIOUS ACTIONS BY BOARD

October 19, 2019 Approved the fifth two-year cooperative agreement for the UNR Transportation Research Program Attachment

Attachment

INTERLOCAL COOPERATIVE AGREEMENT

This Agreement is dated and effective as of January 22, 2021, by and between the Regional Transportation Commission of Washoe County, Nevada, hereinafter called the RTC, and the Board of Regents, Nevada System of Higher Education, on behalf of the University of Nevada, Reno, hereinafter called the UNIVERSITY,

WITNESSETH:

WHEREAS, the parties to this Agreement are public agencies and authorized to enter into agreements in accordance with NRS 277.080 through 277.180; and

WHEREAS, NRS 277.110 authorizes any two or more public agencies to enter into agreements for the “joint exercise of powers, privileges and authority”; and

WHEREAS, pursuant to NRS 277.180, if it is reasonably foreseeable that a public agency will be required to expend more than \$25,000 to carry out such an agreement, the agreement must set forth fully the purposes, powers, rights, objectives and responsibilities of the parties, be ratified by appropriate official action of the governing body of each party, and be in writing; and

WHEREAS, the purpose of this Agreement is for the RTC to provide funding to the UNIVERSITY to perform certain research and engineering support activities to achieve increased safety and efficiency of traffic operations of regional streets and highways in Washoe County, Nevada; and

WHEREAS, the RTC and the UNIVERSITY have been entering into substantially similar biennial agreements since 2013.

NOW, THEREFORE, in consideration of the promises and mutual covenants herein contained, it is agreed as follows:

ARTICLE I - UNIVERSITY AGREES:

1. To perform the tasks, and provide the deliverables, identified in Exhibit A.
2. To invoice the RTC for each task after completing the task and providing the deliverable(s) reasonably in accordance with the Task description. The UNIVERSITY will not be entitled to any agreed upon funding for the task unless and until it completes the task and provides the agreed upon deliverable(s).

3. To complete all tasks, and provide all deliverables, pursuant to schedules agreed to by the RTC, but no later than December 31, 2022.

ARTICLE II - RTC AGREES:

1. To provide funding to the UNIVERSITY upon completion of each task in the amounts identified in Exhibit A. The total amount to be provided to the UNIVERSITY shall not exceed \$150,000.

2. To allow the UNIVERSITY to observe, review, and inspect associated traffic engineering related projects with the understanding that the UNIVERSITY will report all items of concern to the RTC's Project Manager.

ARTICLE III - IT IS MUTUALLY AGREED

1. The term of this Agreement shall be from the date first written above through and including December 31, 2022.

2. This Agreement may be terminated at any time by either party without cause, provided that a termination shall not be effective until thirty (30) days after a party has served written notice upon the other party. The parties expressly agree that this Agreement shall be terminated immediately if, for any reason, RTC's funding ability to satisfy this Agreement is withdrawn, limited, or impaired. If this agreement is terminated pursuant to the foregoing, the UNIVERSITY shall be paid for services provided prior to termination in an amount equal to the percentage of the task and deliverable completed prior to termination.

3. All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by telephonic facsimile or electronic mail with simultaneous regular mail, or mailed certified mail, return receipt requested, postage prepaid on the date posted, and addressed to the other party at the address set forth below:

FOR RTC:

Brian Stewart, P.E., Engineering Director
Attn.: Blaine Petersen, P.E., Traffic Engineer
Regional Transportation Commission
1105 Terminal Way, Suite 108
Reno, NV 89502
Phone: (775) 335-1897
Fax: (775) 348-0170
E-mail: bpetersen@rtcwashoe.com

FOR UNIVERSITY:

TECHNICAL MATTERS:

Dr. Zong Tian
Department of Civil and Environmental Engineering
University of Nevada, Reno
Reno, NV 89557-0152
Phone: (775) 784-1232
Fax: (775) 784-1390
E-mail: zongt@unr.edu

CONTRACTUAL MATTERS:

Thomas Landis
Grants and Contracts Manager
Office of Sponsored Projects/325
University of Nevada, Reno
Phone: (775) 784-4040
Fax: (775) 784-6680
E-mail:

4. Reserved.
5. Any and all completed reports, materials, studies, photographs, negatives, drawings or other documents prepared in the performance obligations under this Agreement shall be deemed public information unless specifically and lawfully classified confidential. Both parties shall ensure no such documents are used for commercial purposes other than performance of obligations under this Agreement.
6. To the fullest extent of NRS Chapter 41 liability limitations, each party agrees to indemnify, hold harmless and defend the other from and against all liability, claims, actions, damages, losses, and expenses, including but not limited to reasonable attorneys' fees and costs, caused by the negligence, errors, omissions, recklessness or intentional misconduct of the party, its officers, employees and agents. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described herein. This indemnification obligation is conditioned upon the performance of the duty of the party seeking indemnification (indemnified party), to serve the other party (indemnifying party) with written notice of actual or pending claim, within 30 days of the indemnified party's notice of actual or pending claim or cause of action. The indemnifying party shall not be liable for reimbursement of any attorney's fees and costs incurred by the indemnified party due to said party exercising its right to participate with legal counsel.
7. The parties do not waive and intend to assert available NRS Chapter 41 liability limitations in all cases. Agreement liability of both parties shall not be subject to punitive damages.

Actual damages for any RTC breach shall never exceed the amount of funds which have been appropriated for payment under this Agreement, but not yet paid, for the fiscal year budget in existence at the time of the breach.

8. Failure to declare a breach or the actual waiver of any particular breach of the Agreement or its material or nonmaterial terms by either party shall not operate as a waiver by such party of any of its rights or remedies as to any other breach.

9. An alteration ordered by the RTC which substantially changes the services provided for by the expressed intent of this Agreement will be considered extra work, and shall be specified in an Amendment which will set forth the nature and estimated scope thereof. The method of payment for extra work shall be specified at the time the amendment is written.

10. This Agreement and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Nevada. The parties consent to the jurisdiction of the Nevada district courts for enforcement of this Agreement.

11. The illegality or invalidity of any provision or portion of this Agreement shall not affect the validity of the remainder of the Agreement and this Agreement shall be construed as if such provision did not exist. The unenforceability of such provision shall not be held to render any other provision or provisions of this Agreement unenforceable.

12. All or any property presently owned by either party shall remain in such possession upon termination of this Agreement, and there shall be no transfer of property between the parties during the course of this Agreement.

13. It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof a third party beneficiary status hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

14. Each party agrees to keep and maintain under generally accepted accounting principles full, true and complete records and documents pertaining to this Agreement and present, at any reasonable time, such information for inspection, examination, review, audit and copying at any office where such records and documentation is maintained. Such records and documentation shall be maintained for three (3) years after final payment is made.

15. The parties are associated with each other only for the purposes and to the extent set forth in this Agreement. Each party is and shall be a public agency separate and distinct from

the other party and each party only has the right to supervise, manage, operate, control and direct performance of the details incident to its respective duties under this Agreement. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for one agency whatsoever with respect to the indebtedness, liabilities, and obligations of the other agency or any other party.

16. Neither party shall assign, transfer, subcontract, or delegate any rights, obligations or duties under this Agreement without the prior written consent of the other party.

17. The parties hereto represent and warrant that the person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement and that the parties are authorized by law to engage in the cooperative action set forth herein.

18. Pursuant to NRS 239.010, information or documents may be open to public inspection and copying. The parties will have the duty to disclose unless a particular record is confidential by law or a common law balancing of interests.

19. Each party shall keep confidential all information, in whatever form, produced, prepared, observed or received by that party to the extent that such information is confidential by law or otherwise required by this Agreement.

20. This Agreement shall not become effective until and unless approved by appropriate official action of the governing body of each party.

21. This Agreement, including the program elements to be incorporated herein per Article I, paragraph 3, constitutes the entire agreement of the parties and such is intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other agreements that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Agreement specifically displays a mutual intent to amend a particular part of this Agreement, general conflicts in language between any such attachment and this Agreement shall be construed consistent with the terms of this Agreement. Unless otherwise expressly authorized by the terms of this Agreement, no modification or amendment to this Agreement shall be binding upon the parties unless the same is in writing and signed by the respective parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

Bill Thomas, AICP
Executive Director

BOARD OF REGENTS,
NEVADA SYSTEM OF HIGHER EDUCATION
on behalf of the University of Nevada, Reno

Charlene Hart
Associate Vice President for Research Administration

SAMPLE



RTC Traffic Engineering Support

Scope of Work

Submitted to

Regional Transportation Commission of Washoe County

Submitted by

**Center for Advanced Transportation Education and Research
Department of Civil & Environmental Engineering
University of Nevada, Reno
Reno, NV 89557
Email: zongt@unr.edu
Tel: (775)784-1232
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September 20, 2020

PROJECT BACKGROUND

Since 2013, the Regional Transportation Commission of Washoe County (RTC) and the Center for Advanced Transportation Education and Research (CATER) at the University of Nevada, Reno, has been initiating a biannual agreement at the amount of \$150,000. Under this agreement, CATER staff conducts various research and engineering support activities to promote safe and efficient traffic operations in the region. RTC as well as other local agencies come up with the project needs and develop appropriate task orders. UNR CATER completes the tasks according to the scope, budget, and schedule agreed upon by both parties.

This proposal is developed for fiscal years of 2021 and 2022. Several research tasks have been identified and are described below.

PROPOSED RESEARCH TASKS

Task 1: Signal Coordination Accommodating Bicycle Traffic

In order to improve mobility for all road users, RTC plans to implement bike path at several locations in the region. One of the locations is Center Street, connecting Downtown Reno and the UNR campus. A two-way bike path will be designed on the west side of Center Street. The objective of this research is to develop and implement strategies for accommodating the bike path and its bike traffic in the signal timing plan, which has been traditionally focused on serving automobile traffic. The research should also look at other locations where bike path will be implemented, so that a balanced good quality of service can be provided to both vehicular traffic and bike traffic. The outcome of the research can not only improve the transportation systems in the region, but also serve a good reference for other agencies in the nation that engage in similar initiatives.

Task 2: Night-time Signal Coordination

Similar to many other jurisdictions, the signal coordination in the Reno-Sparks region is generally turned off at night times when traffic demand level is not high enough. The justification of such an operation is that running coordination, when traffic volume level is low, can result in minor street vehicles unnecessarily waiting for the main street to terminate while seeing no vehicles on the main street. This is one of the common driver complaints about signal timing. On the other hand, vehicles generally experience more stops on the main street if signal coordination is turned off, which is another source of driver complaints. One possible strategy that can address both issues is to run coordination but with a shorter cycle length. This research will investigate if such a strategy is applicable at selected arterials in the region. Any transition issues due to shorter cycle not accommodating pedestrian timings must also be investigated.

Task 3: Preemption and Pedestrian Timing

Preemption by emergency vehicles is one of the major disruptions to a coordinated signal system. Preemption causes traffic signals going out of coordination. The transition time for getting back to coordination depends on many factors, among which selecting appropriate transition method and its related parameters can play a major role. There are also safety concerns regarding pedestrians crossing signalized intersections during the transition period. This research task will investigate the impact of emergency vehicle preemption and develop strategies for minimizing the transition impact. Several traffic scenarios will be designed and analyzed in the lab first, using the hardware-in-the-loop simulation technology. A case study will also be included by selecting one representative arterial to demonstrate the effectiveness of the recommended strategies.

Task 4: Signal Cycle and Split Estimation

Based on the experience of the regional signal re-timing project sponsored by the RTC, it has been proven that signal re-timing can be accomplished more cost-effectively without conducting comprehensive turning volume counts. By directly using cycle and phase splits obtained through various sources, signal timing process can be expedited and with a much lower cost. The objective of this research task is to develop a formal procedure for estimating cycle and phase splits. One approach is to use the split history logged by signal controllers. The other approach is to estimate such parameters based on volume counts, but with a simplified methodology. For example, the methodology would yield a recommended set of cycle length and phase splits with a targeted volume-to-capacity ratio. The successful completion of this task will result in a documentation of cycle and split estimation, which not only needed by RTC, but also by agencies across the country.

BUDGET

The proposed tasks and the related costs are shown in Table 1. The total budget and cost of the tasks is \$150,000, thus only up to four tasks would be accomplished. A final selection of the tasks will be decided at the project kick-off meeting.

Table 1. Project Tasks and Costs

Tasks	Estimated Cost
Task 1 – Signal Coordination Accommodating Bicycle Traffic	\$40,000
Task 2 – Night-time Coordination	\$40,000
Task 3 – Preemption and Pedestrian Timing	\$40,000
Task 4 – Signal Cycle Length and Split Estimation	\$30,000
Total Project Cost	\$150,000