

STAFF REPORT

SOUND TRANSIT MOTION NO. M2001-57

University of Washington Agreement for Research Assistance

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	6/7/01	Deferred	Paul Matsuoka, Director,	(206) 398-5070
Finance Committee	6/21/01	Discussion/Possible Action	Policy and Planning Barbara Gilliland, Program Manager, Systems Integration	(206) 398-5051

PROPOSED ACTION

The Finance Committee will be asked to authorize the Executive Director to execute an agreement with the University of Washington through its Washington State Transportation Center (TRAC) to provide for transit research in support of Sound Transit programs for a total authorized amount not to exceed \$2,000,000 through December 31, 2006. The agreement will provide for on-call expertise research work that will help Sound Transit achieve its mission of providing a cost-effective and balanced approach to regional high capacity transit services.

KEY FEATURES

Highlights of Proposed Action:

- ◆ Proposed agreement will provide greater access to the Washington State Transportation Center (TRAC), the University of Washington and the Washington State University for research and project evaluation services that may be needed to support projects funded through Sound Transit's Research and Technology program.
- ◆ Sound Transit's lines of business and functional departments may also use the Agreement to more efficiently enter into research activities to examine ways to improve the function, performance, and/or reduce costs of Sound Move facilities and services.
- ◆ Prior to execution of any Task Order under contract, the Executive Director will inform the Finance Committee of projected work and anticipated costs.

DISCUSSION OF PROPOSED ACTION:

The Sound Move plan called for Sound Transit to consider new ideas, services and technology innovations. To accomplish this direction, the Innovation Fund (now referred to as the Research and Technology fund) was identified in the plan to "fund innovative ways to provide transit service, reduce dependency on single occupancy vehicles, improve public transportation cost-effectiveness, and better respond to customer needs."

New transit technology applications, such as Intelligent Transportation Systems (ITS) and advanced vehicle systems, are emerging in many areas, including but not limited to, the private sector, the federal government, and the broader University community. These applications have shown in test environments to have the potential to more cost-effectively improve transit

vehicle speed and reliability, improve the customer services, and reduce energy consumption and vehicle emissions. Sound Transit's Research and Technology fund can be used to bring these advances from the research "lab" and apply them in a more limited real-world environment to determine if these strategies are ready for large scale deployment within the Puget Sound region.

The agreement with the University of Washington will create a mechanism to more efficiently facilitate research that will be of benefit to Sound Transit, its partner transit agencies, and the University itself. The research will include, but not necessarily be limited to investigations with respect to administration and management; design and construction; operations and maintenance; planning and programming; and the social and economic impacts of transit systems. The objective of this research is to provide for effective, efficient, safe, and energy-conserving transit systems. This Agreement is modeled after a very successful Agreement that the Washington State Department of Transportation has with TRAC, the University of Washington, and the Washington State University for conducting research activities.

The arrangement with TRAC provides for a number of benefits to Sound Transit:

1. This agreement will allow Sound Transit to contract out specific research tasks on a simplified task order basis. Without the Agreement, each piece of work (if contracted to the TRAC or the University) would require an interagency agreement to be developed and agreed to by both parties. This will be both expensive and time consuming for both parties.
2. Research conducted by TRAC and/or the University, which are both public agencies of the State of Washington, in most cases would be less expensive than if Sound Transit contracted it out to a private company.
3. Because TRAC and the University are conducting research work that is on the "cutting-edge" of technology, this Agreement will provide greater access to that research. Finally, the Agreement can help Sound Transit to leverage its funds with TRAC and the University in new funding areas such as the National Academies of Science, the Transportation Research Board and others. This arrangement will make limited Sound Transit funds go farther.

Based on the parameters defined in the agreement, the individual task orders will not exceed \$200,000, and total cost of the aggregate task orders shall not exceed \$2,000,000. The agreement will be in effect until December 31, 2006. Funding for the research tasks will come from each line of business or line department's existing project budgets. It is also anticipated that a good portion of funds for research activities will come from Sound Transit's Research and Technology fund.

Board Process

Prior to execution of any Task Order under contract, the Executive Director will inform the Finance Committee of projected work and anticipated costs.

BUDGET

The table on the following page shows the available budget for the Research & Technology project as it relates to expenditures, commitments and the impact of this action. Funding for the research tasks will also come from each line of business or line department's existing project budgets. The 2001 Adopted Budget includes sufficient budget for this effort and committing

these funds will not endanger any other project elements that are to be funded out of the respective elements of the budget.

Total Project Budget	Budget for Research & Technology⁽¹⁾ (A)	Expenditures to Date⁽²⁾ (B)	Total Amount Requested (C)	Budget Remaining (A-[B+C])
\$37,608,000	\$21,213,000	\$439,000	\$2,000,000	\$18,774,000

All figures shown are in year-of-expenditure (YOES\$).

- (1) Lifetime budget amount for Research and Technology phase in accordance with the Adopted 2001 Budget. Reference page 226 of the 2001 Proposed Budget document, project number 410.
- (2) Life-to-date expenditures and outstanding commitments for research and technology, through April 30, 2001, excluding this proposed action.

ALTERNATIVES

The Finance Committee may choose to keep solicitation for all research work open to competitive bidding for TRAC and the private sector. Staff feels that the benefits expressed above make it more advantageous to Sound Transit than continuing with current practice.

CONSEQUENCES OF DELAY

Two projects that are ready to proceed require evaluation services from TRAC. Delay may impact the quality of the evaluation for one project and delay project start date for another.

REGIONAL PARTNERSHIP AND COOPERATION

Much of the work that TRAC performs will be in the form of Sound Transit’s funded project evaluations. Since Sound Transit and its regional partner transit agencies actively engage in dialogue about technology costs and benefits, the activity provided by this agreement will help to encourage greater learning and cooperation among the region’s transit agencies.

PUBLIC INVOLVEMENT

No public involvement is necessary for this action.

LEGAL REVIEW

MLB 5/24/01

SOUND TRANSIT

MOTION NO. M2001-57

A motion of the Finance Committee of the Regional Transit Authority authorizing the Executive Director to execute an agreement with the University of Washington through its Washington State Transportation Center to provide for transit research in support of Sound Transit programs for a total authorized amount not to exceed \$2,000,000 through December 31, 2006.

Background:

The agreement with the University of Washington, through its Washington State Transportation Center (TRAC) will create a mechanism to more efficiently facilitate research that will be of benefit to Sound Transit, its partner transit agencies, and the University itself. The research will include, but not necessarily be limited to investigations with respect to administration and management; design and construction; operations and maintenance; planning and programming; and the social and economic impacts of transit systems. The objective of this research is to provide for effective, efficient, safe and energy-conserving transit systems.

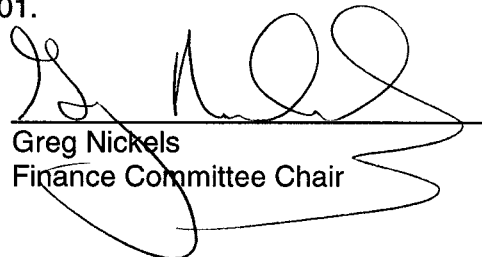
The term of the agreement will be in effect until December 31, 2006. Based on the parameters defined in the agreement, the individual task orders will not exceed \$200,000, and total cost of the aggregate task orders shall not exceed \$2,000,000 through this term. Funding for the research tasks will come from each line of business or line department's existing project budgets. It is also anticipated that a good portion of funds for research activities will come from Sound Transit's Research and Technology fund.

Prior to execution of any Task Order under contract, the Executive Director will inform the Finance Committee of projected work and anticipated costs.

Motion:

It is hereby moved by the Finance Committee of the Central Puget Sound Regional Transit Authority that the Executive Director is authorized to enter an agreement with the University of Washington through its Washington State Transportation Center to provide transit research work in support of Sound Transit programs for an amount not to exceed \$2,000,000 through December 31, 2006.

Approved by the Finance Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof on the 21st day of June, 2001.



Greg Nickels
Finance Committee Chair

ATTEST:



Marcia Walker
Board Administrator



MEMO

May 19, 2015

TO: Finance Committee

FROM: Barbara Gilliland, Program Manager Systems Integration

SUBJECT: University of Washington Agreement for Research Assistance

Motion No. M2001-57 asked the Finance Committee to authorize the Executive Director to execute an agreement with the University of Washington through its Washington State Transportation Center (TRAC). The agreement provides for transit research in support of Sound Transit programs for a total authorized amount not to exceed \$2,000,000 through December 31, 2006.

On June 7, 2001 the Finance Committee requested Sound Transit staff provide a more detailed background regarding TRAC and its accomplishments. This memorandum addresses this request.

TRAC was created in 1983. It is a non-profit, cooperative transportation research agency. Its members, the University of Washington, Washington State University, and Washington State Department of Transportation, support TRAC to coordinate both state and commercial transportation research efforts and to develop research opportunities both nationally and locally. TRAC investigators conduct research on numerous transportation-related topics. TRAC management and engineers help with proposal and research development.

TRAC conducts research in the areas of bridges, construction management, environment, ferry systems, freeway and arterial management, freight travel, geotechnical engineering, highway design, intelligent transportation systems, multi-modal travel, pavements, technology transfer, traffic engineering, transportation planning, and vehicle design and operation. Faculty from numerous university departments and specialties conduct most research. Access to all UW and WSU faculty is available.

Nationally, TRAC has prepared proposals for and conducted research with USDOT, Federal Highway Administration, Federal Transit Administration, National Cooperative Highway Research Program, National Science Foundation, National Highway Institute, National Traffic Safety Administration, Transportation Research Board IDEA program, Strategic Highway Research Program and US Forest Service.

Within Washington State, TRAC has worked with WSDOT, Puget Sound Regional Council, Washington State Energy Office, Washington State Patrol, Washington Traffic Safety Commission, King County Metro, Snohomish County Public Works, and City of Seattle.

Recent examples of TRAC research include:

- **Evaluation of Puget Sound Emergency Response** (October 1997)
Evaluated the performance, acceptance, and marketability of a regional mayday system for emergency response vehicles.
- **Travel Demand Forecasting Manual** (October 1998)
Produced a training manual in travel demand forecasting for use in graduate level and executive short courses at the University of Washington.
- **ATIS Business Plan for the Northwest Region** (July 1999)
Developed recommendations for the continued operation of WSDOT's advanced traveler information system services in partnership with the private sector.
- **BusView/Graphical Display of Transit Coach Locations** (July 2000)
Deployed an advanced public transit information system that provides location of transit vehicles in real time on a variety of computers and operating systems.
- **ITS Network and Data Fusion** (January 2001)
Created a standardized means of integrating data and technologies of multiple types and sources into an intelligent transportation system network.
- **Update of FHWA Traffic Monitoring Guide** (July 2001)
Developed recommendations for revising the Traffic Monitoring Guide developed in the 1980s, a mechanism for improving the quality of traffic data at the state and federal levels.
- **In-Vehicle Signing/Variable Speed Limit Evaluation** (January 2002)
Evaluating the variable message signs, variable speed limit and in-vehicle systems deployed through Travel Aid, a traveler information system on I-90 at Snoqualmie Pass.

Sound Transit plans for TRAC to work on two current projects. One is the Mobile Data Communications for Bus and Rail Automatic Vehicle Location (AVL) Demonstration Project. This project will test the ability of wireless telecommunication systems now emerging on the market to provide reliable Global Positioning System-based information for transit AVL purposes. TRAC will evaluate how reliable real-time location of select vehicles proved and identify cost implications of possible implementation.

A second project is the evaluation of the Smart Bus Demonstration Project. This project will procure and demonstrate the next generation of propulsion system technologies for vehicles and advanced on-board bus electronics and data systems. TRAC will evaluate how well the technologies – destination sign, stop announcement, automatic passenger counter – performed and provided reliable customer service and maintenance information.

More information on TRAC is available on its Web site at <http://depts.washington.edu/trac/>.