

STAFF REPORT



MEETING DATE:	10/25/11
SUBJECT:	2011/12 Overall Work Program (OWP) Amendment #2 and Authorize Request for Proposal for an Integrated Traffic Data Collection and Management Plan
AGENDA ITEM:	4-6
STAFF CONTACT:	Dan Little/Sue Crowe

SUMMARY:

Data regarding vehicle travel behavior and goods movement is used to support long-range planning, project development, monitoring and economic sustainability. The current method of traffic monitoring uses traffic counts and estimates to determine current and future travel behavior. Enhanced technology can provide accurate, real-time information that can be used to define the funding needs of the region.

An Integrated Traffic Data Collection and Management Plan for the Greater Redding Area is proposed to inventory and evaluate existing and new Intelligent Transportation System (ITS) technologies used for automated real-time traffic data collection. The project is grant funded. A request for proposal (RFP) for consultant services must be prepared and circulated (attached scope of work). The 2011/12 OWP must be amended to add grant funds to the budget.

STAFF RECOMMENDATIONS:

It is recommended that the board:

1. Adopt Resolution No. 11-13 approving Amendment #2 to the 2011/12 OWP adding \$60,000 in State Planning and Research (SPR) and \$35,000 in Proposition 84 (Prop 84) funds to the budget;
2. Authorize development and distribution of an RFP for consultant services based on the attached scope of work; and
3. Authorize the executive director to execute funding agreements with Caltrans and the selected consultant.

DISCUSSION:

Federal, state, local, and public entities require real-time traffic data for use in planning, monitoring and project development activities. Caltrans and the RTPA seek to develop an implementation plan for deployment of real-time traffic monitoring in Shasta County. A study on traffic data collection methods and technology is proposed that will compare existing traffic data collection methods to that which is needed for modeling and planning, and to provide recommendations for ITS enhancements.

Information obtained from an enhanced ITS system will serve to inform regional land use efforts to reduce vehicle miles traveled; the development and update of traffic mitigation measures; and economic development planning efforts. Infrastructure recommendations will be incorporated incrementally into projects, as funding is available. Study findings will be referenced by the SCRTPA when pursuing various potential grants sources.

The RTPA will administer the RFP and manage consultant services, with assistance in oversight and project development by Caltrans District 2.

ALTERNATIVES:

The board may choose not to amend the OWP and decline grant funds. The RTPA and Caltrans would continue to rely on current methods and estimates for present and future traffic counts.

OTHER AGENCY INVOLVEMENT:

The RTPA will coordinate the study with Caltrans, the local cities and the county. The Technical Advisory Committee (TAC) concurs with the staff recommendation.

FINANCING:

This amendment adds \$60,000 in SPR, and \$35,000 in Prop 84 funds to the 2011/12 OWP.



Daniel S. Little, AICP, Executive Director

Attachments: Resolution 11-13
Attachment A (Scope of Work)
Financial Summaries

RESOLUTION



RESOLUTION NUMBER:	11-13
SUBJECT:	Amendment #2 to the 2011/12 Overall Work Program (OWP) Integrated Traffic Data Collection and Management Plan for the Greater Redding Area

WHEREAS, the Shasta County Regional Transportation Planning Agency (SCRTPA) and Caltrans have identified a need for enhanced traffic data collection for real-time traffic data;

WHEREAS, the SCRTPA has received grant funding to develop an implementation plan for deployment of real-time traffic monitoring in Shasta County; and

WHEREAS, work elements cannot be added/deleted/changed and funds cannot be added/deleted/redirected until the SCRTPA and Caltrans approve the OWP amendment.

NOW, THEREFORE, BE IT RESOLVED that the SCRTPA:

1. Approves Amendment #2 to the 2011/12 OWP, adding \$60,000 in State Planning and Research funds, and \$35,000 in Proposition 84 funds to develop and prepare an Integrated Traffic Data Collection and Management Plan for the Greater Redding Area;
2. Authorizes staff to distribute a request for proposal for consultant services; and
3. Authorizes the executive director to execute funding agreements with Caltrans and the selected consultant.

NOW, THEREFORE, BE IT FURTHER RESOLVED that Amendment #2 shall be considered final and in full force and effect upon Caltrans acceptance and approval thereof.

PASSED AND ADOPTED this 25th day of October 2011, by the Shasta County Regional Transportation Planning Agency.

Leonard Moty, Chair
Shasta County Regional Transportation Planning Agency

Integrated Traffic Data Collection and Management Plan in the Greater Redding Area

Scope of Work

Task 1: Inventory and evaluate current traffic census data collection processes and system.

Task 1.1:
Confirm study area.

Task 1.2:
Inventory existing census facilities/system.

- Location of each element (within .01 Post Mile)
- Mapping of all elements (preferably on aerial photograph)
- Status of each element (operational, non-operational, remotely accessible, etc.)
- Data produced at each location (including frequency and duration of collection)
- Communication infrastructure

Task 1.3:
Develop description of existing census data collection procedures.

- Interview staff
- Review existing materials/guidance
- Review existing procedures, identifying suspect data and integrity issues

Task 1.4:
Develop description of existing reporting tools for census data.

- Review the data available to Caltrans and the RTPA through existing systems (such as PeMS, TSN and other web-based sources)
- Review the timeliness, completeness and accuracy of this data

Task 2: Identify gaps or deficiencies in current census data collection processes and systems.

Task 2.1:
Establish “best practices” baseline for gap analysis (based on FHWA or other relevant guidance).

Task 2.2:
Conduct gap analysis.

- Identify locations, equipment, frequency, procedures, etc. that deviate from baseline best practices

Task 3: Identify potential changes to existing census data/system/processes to improve coverage/quality/management.

Task 3.1:
Identify capabilities of existing equipment/system that are not fully utilized at present and suggest methods to optimize.

Task 3.2:

Identify specific locations, types of equipment, collection procedures and/or other items/actions that may be taken to enhance/optimize existing system/procedures.

- Location of each new/modified element (within .01 Post Mile)
- Mapping of all new/modified elements (preferably on aerial photograph)
- Data to be produced/collected at each location (including frequency and duration of collection)
- Strategies to deliver new/modified elements
- Changes in the grouping of simultaneous collections

Task 3.3:

Identify deficiencies in current reporting tools and suggest methods to optimize.

- Elements to be addressed, include: availability of data to Caltrans and RTPA; completeness, accuracy, and timeliness of data; ease of use

Task 3.4:

Provide opportunity for RTPA and District 2 staff to review and comment on products of Tasks 1-3. Respond to comments.

Task 4: Develop policy and procedures manual for census program.

Task 4.1:

Develop a “best practices” policy and procedures manual specific to the District 2 census program.

- Elements to be addressed, at a minimum, include: frequency of data collection, placement and set up of equipment, procedures to download and upload data, quick reality checks of data, basic trouble shooting procedures
- The purpose of the manual is to ensure consistent, accurate, timely and reliable data

Task 4.2:

Provide opportunity for District 2 staff to review and comment on draft manual. Respond to comments.

Task 5: Identify potential benefits of real-time data beyond the existing/expanded census program.

Task 5.1:

Identify specific uses and benefits that real-time data will have for the programs and activities of transportation agencies within the study area, taking into account the census program and area specific conditions.

- When/where recurring congestion is happening in study area
 - Such as congestion management, incident response and ramp metering
- Before recurring congestion is happening in study area
 - Such as traveler information, CEQA/NEPA compliance and traffic modeling

Task 6: Review detection technologies for potential applicability in study area.

Task 6.1:

Conduct straightforward analysis of the pros and cons of various technologies/systems.

ATTACHMENT A

- Evaluate the pros and cons of in and out of pavement systems
- Assess availability of infrastructure in study area needed to support technologies/systems
- Consider capability of technology to deliver consistent, accurate, timely and reliable data

Task 7: Quantify up front, maintenance and life-cycle costs of technologies/system alternatives.

Task 7.1:

Provide quantitative and qualitative assessment and comparison of various technologies/systems.

- Assessment to include installation, calibration, maintenance, operation, communication, additional required infrastructure and replacement costs
- Evaluate opportunities/constraints to above within Caltrans environment (including IT and contracting processes, staffing levels, training/expertise, etc.)

Task 7.2:

Provide opportunity for RTPA and District 2 staff to review and comment on products of Tasks 5-7. Respond to comments.

Task 8: Develop implementation plan for real-time detection.

Task 8.1:

Identify specific locations, types of equipment, collection procedures and/or other items/actions that may be taken to implement real-time detection.

- Location of each element (within .001 Post Mile)
- Mapping of all elements (preferably on aerial photograph)
- Type of equipment and support requirements

Task 8.2:

Identify equipment and procedures necessary to incorporate data into the Caltrans Performance Measurement System (PeMS).

Task 8.3:

Research potential formats (in addition to PeMS) that would allow the RTPA, cities, counties, consultants and the public access to real-time information.

- Considerations to include ease of access/use, ability to query, compatibility with RTPA GIS platform, conversion to visual and graphical representation

Task 8.4:

Identify methods to fund and deliver real-time data collection elements.

- Assessment to include, at a minimum: incorporation of elements into other projects, real-time elements as stand-alone projects, and phasing of elements/system.

Task 8.5:

Provide opportunity for RTPA and District 2 staff to review and comment on draft plan. Respond to comments.

ATTACHMENT A

Task 9: Prepare Integrated Traffic Data Collection and Management Plan in the Greater Redding Area.

Task 9.1:

Incorporate prior study elements/recommendations into a comprehensive data collection and management plan that addresses both census and real-time programs.

Task 9.2:

Provide opportunity for RTPA and District 2 staff to review and comment on integrated plan. Respond to comments.

Agency RTPA Total Budget: \$ 95,000 % Federal 0.00%

ESTIMATED EXPENDITURE AND ANTICIPATED REVENUE: FY 2011/12

EXPENDITURES				REVENUE			
Staff Allocations and Funding Requirements				Revenue by Fund Source (\$)			
	Amount (\$)	% of WE		FHWA PL (\$)	TOLL	Prop 84	SPR
Shasta RTPA							
Personnel		0.00%		\$ -	-		
Services & Supplies		0.00%		\$ -	-		
Consultant Fees	\$ 95,000.00	100.00%				\$ 35,000.00	\$ 60,000.00
TOTAL	\$ 95,000.00			\$ -	-		
				Federal	State	Local	Federal

Previous Accomplishments

Objective

Develop real-time traffic data for complete and accurate information for use in planning, monitoring and project development activities.

Discussion

Caltrans District 2 and the RTPA seek to develop an implementation plan for deployment of real-time traffic monitoring in Shasta County. An intelligent transportation system (ITS) study of traffic data collection technology and methods is proposed. Information obtained via the enhanced ITS system will support regional land use efforts to reduce vehicle miles traveled, traffic mitigation measures under CEQA and economic sustainability.

Product 1: Traffic Data Collection and Sharing Feasibility Study

The RTPA will develop a request for quote for a consultant to develop the feasibility study.

Task/Activity

1 Traffic Data Feasibility Study

Schedule

- a. Inventory existing traffic data collection system and its performance.
- b. Identify collection methods and technology for the design of a new or improved collection system.
- c. Identify locations for components along I-5 and focus routes and local roads.
- d. Determine format for access to data.
- e. Quantify and check raw data.
- f. Propose to RTPA staff necessary security solutions.
- g. Quantify maintenance effort and life cycle costs for the system.

Section II. Financial and Staff Requirements Summaries

SHASTA COUNTY REGIONAL TRANSPORTATION PLANNING AGENCY
 2011/12 OVERALL WORK PROGRAM
 Available Revenue by Source (Amendment #2)

Revenue Source	Allocation/Grant	Toll Credits	Carryover	Total Required	% of Budget by Fund Source
Federal Highway Administration PL (FHWA)	\$ 606,958	78,637	\$ 67,960	\$ 674,918	34.90%
Federal Transit Administration (FTA)					
FTA 5303	\$ 66,320	5,772	\$ 26,642	\$ 92,962	4.81%
FTA 5304 (Amendment #1)	\$ 71,001			\$ 71,001	3.67%
FTA 5311 Planning			\$ 10,258	\$ 10,258	0.53%
Prop 84	\$ 359,889			\$ 359,889	18.61%
Grant 1- Sustainable Communities	\$ 191,863				
Grant 2 - Model Improvement Plan	\$ 168,026				
Prop 84- Traffic Data Collection Study (Amendment #2)	\$ 35,000			\$ 35,000	1.81%
State Planning & Research - Economic Study	\$ 225,000			\$ 225,000	11.63%
State Planning & Research - Traffic Data Collection (Amendment #2)	\$ 60,000			\$ 60,000	3.10%
Transportation Development Act Funds (TDA)	\$ 4,114			\$ 4,114	0.21%
Programming, Planning and Monitoring (PPM) *	\$ 365,000		\$ 337,847	\$ 337,847	17.47%
*2009/10 & 2010/11 PPM Allocation					
InKind				\$ 2,820	0.15%
InKind - Amendment #1				\$ 9,199	0.48%
Other Grants	\$ -		\$ 51,000	\$ 51,000	2.64%
Total Resources:	\$ 1,698,282	84,409	\$ 493,707	\$ 1,934,008	100.00%
Less Total Expenses Budgeted in FY 2011/12				\$ (1,934,008)	
Difference between Revenues and Expenses				\$ (0)	

SHASTA COUNTY REGIONAL TRANSPORTATION PLANNING AGENCY
 FINANCIAL SUMMARY BY FUND SOURCE
 2011 - 2012 OVERALL WORK PROGRAM AMENDMENT #2

FUNDING SOURCE

Work Element	Description	FHWA PL	FTA 5303	FTA 5304	TDA	PROP 84	PPM	SPR	Other	INKIND	ELEMENT SUB-TOTALS
701	System Planning	\$ 338,147				\$ 394,889	\$ 110,000	\$ 285,000			\$ 1,128,037
702	Financial Planning and Programming	\$ 105,036									\$ 105,036
703	Non Motorized Network Planning	\$ 65,573									\$ 65,573
704	Public Participation & Partnership Planning	\$ 137,881					\$ 8,806				\$ 146,687
705	Technology Applications	\$ 28,281									\$ 28,281
706	Transit Planning	\$ 71,001	\$ 92,962						\$ 10,258	\$ 12,019	\$ 213,821
707	Special Planning Studies								\$ 11,000		\$ 28,728
708	Management of the Transportation				\$ 4,114		\$ 173,732		\$ 40,000		\$ 217,846
TOTAL FUNDING REQUIREMENTS		\$ 674,918	\$ 92,962	\$ 71,001	\$ 4,114	\$ 394,889	\$ 337,847	\$ 285,000	\$ 61,258	\$ 12,019	\$ 1,934,008
% OF FUNDING REQUIREMENTS BY FUND SOURCE		34.90%	4.81%	3.67%	0.21%	20.42%	17.47%	14.74%	3.17%	0.62%	100%