



January 8, 2010

The Honorable Mary Margaret Haugen
Washington State Senator
Chair, Senate Transportation Committee

The Honorable Judy Clibborn
Washington State Representative
Chair, House Transportation Committee

Dear Senator Haugen and Representative Clibborn;

The members and staff of the Washington State County Road Administration Board are pleased to submit to you and to the legislature the annual report of activity of the road departments of the thirty-nine counties of the State of Washington for the year 2009. We believe this report demonstrates the counties' effective and efficient use of the resources available to them for the construction, maintenance, and operation of that portion of the surface transportation system which lies within their several jurisdictions.

2009 presented many challenges to the counties, construction costs not being the least among them, however we think you will agree that the accompanying data of this report indicate the various county road departments met those challenges with a level of skill and innovation which speak well of their ability to also meet and address the challenges which the future is sure to bring to us all.

Respectfully submitted:

A handwritten signature in black ink, appearing to read "Dean D. Burton".

Commissioner Dean Burton, CRABoard Chairman

A handwritten signature in black ink, appearing to read "Jay P. Weber".

Jay P. Weber, Executive Director

County Road Administration Board

<u>CRABoard Members</u>	<u>Term Expires</u>
Chairman Dean Burton, Garfield County Commissioner	2010
Vice-Chairman Jim Whitbread, P.E., Stevens County Engineer	2010
Second Vice-Chair Doug Mattoon, Asotin County Commissioner	2012
Dale Snyder, Douglas County Commissioner	2010
Ray Thayer, Klickitat County Commissioner	2011
Marc Boldt, Clark County Commissioner	2011
Andrew Woods, P.E., Columbia County Engineer	2011
John Koster, Snohomish County Council Member	2012
Brian Stacy, P.E., Pierce County Engineer	2012

County Road Administration Board Staff

Executive Director	Jay Weber
Executive Assistant Administration	Karen Pendleton Toni Cox, Engineering Technician Rhonda Mayner, Secretary
Deputy Director Engineering	Walter Olsen, P.E. Jeff Monsen, P.E., Intergovernmental Policy Manager Randy Hart, P.E., Grant Programs Manager Don Zimmer, Road Systems Inventory Manager Larry Pearson, P.E., Maintenance Programs Manager Bob Moorhead, P.E., Compliance & Data Analysis Manager
Assistant Director Technology	Steven Hillesland Bob Davis, IT Systems Manager Jim Ayres, P.E., Design Systems Engineer Jim Oyler, Support Specialist Kathy O'Shea, Database Development Specialist Eric Hagenlock, Applications Specialist

Table of Contents

From the Executive Director	1
Engineering Services	2-3
Information Services	4-5
Grant Programs.....	6-10
2008/2009 Grant Program Projects.....	11-16
Tables.....	17
A: County Bridge Data	18
B: Actual County Road Related Expenditures	19
C: Anticipated County Road Fund Revenue	20
D: Anticipated County Road Fund Expenditures.....	21
E: County Road Levy Summary.....	22
F: County Road Mileage	23
G: County Arterial Preservation Program.....	24
H: County Freight and Goods System.....	25
Maintenance Management Program	27-32

From the Executive Director

Professional management of County Road Departments across the state continues to be enhanced by the programs and services provided by the staff at CRAB. The engineering services and information technology assistance provided by this agency to the counties not only augments their efforts, but while doing so, helps to insure the counties continue to provide one of the most basic of public services while remaining in compliance with the statutes and rules which govern the way they do business. This issue of compliance is no small matter.

The county road departments are funded from a variety of sources which include Motor Vehicle Fuel Tax, local property taxes, and state and federal timber taxes. While there are other sources of revenue, these are the main ones, and in that their origins are local, state and federal, it is extremely important that the use of these funds, and the decision process which directs their use, are transparent to all three levels of review. It is also important to remember that while these funds are spent locally by each of the counties, there is also an effect of that use which is felt across the 40,000 miles of the county road system in the state. The reporting of road department activities from the counties to CRAB makes it possible for the impact of those activities to be measured and evaluated on a statewide basis. This allows CRAB to assess road department activity at the macro level; statewide trends are more quickly identified; and credible data is then offered from this resource back to the counties and to the legislature.

The report mechanism from the counties to CRAB provides more than data for good decision making. It is also the way in which CRAB monitors compliance by the counties with existing laws and rules which govern the expenditure of county road fund dollars. Over the years, CRAB has found that most instances of non-compliance have been due to actions taken by county personnel who were unaware of a particular state statute, administrative code rule, or a Standard of Good Practice. In recent years, we have also seen a faster rate of turnover in county road department staff, including the office of the county engineer.

With shorter tenure in staff positions, and given the learning curve required of these positions, the chances of inadvertent noncompliance are greater than they have ever been before. To deal with this trend, CRAB has redesigned the structure of our Engineer and Public Works Director training courses, and have made them available to more of their junior staff levels than we have done in the past. The results of more and earlier training for county road department employees are measurable in that the rate of noncompliance has not risen along with the rise in the turnover rate. While this puts a strain on CRAB resources and staff, the value of the result has shown the effort to be more than worthwhile. It shows that it has become a necessity.

The success of the training course redesign is due, in large part, to the efforts of Mr. Jeff Monsen, P.E., Intergovernmental Policy Manager and Mr. Walt Olsen, P.E., Deputy Director here at CRAB. Their long history in county road department administration and their personal knowledge of what it means to hold the appointment of county engineer have proven invaluable to this aspect of engineering services which CRAB provides. I mention their names specifically because the accountability and transparency of county road operations, on a statewide basis, rest primarily and, if I might venture to say, successfully upon them. They deserve our thanks. They certainly have mine.

Engineering Services

The Engineering Services Division, under the direction of Deputy Director Walt Olsen, includes Intergovernmental Policy Manager Jeff Monsen, Compliance and Data Analysis Manager Bob Moorhead, Maintenance Programs Manager Larry Pearson, Grant Programs Manager Randy Hart, and Road Systems Inventory Manager Don Zimmer. This small staff, most of whom hold Professional Engineer licenses, is directly responsible for the following functions:

- Functions related to the administration of the Rural Arterial Program, the County Arterial Preservation Program, and the County Ferry Capital Improvement Program;
- Functions related to the maintenance of the County Road Log and the computations and updates to the distribution of the counties' share of the motor vehicle fuel tax;
- Management of the reports and other information necessary for recommendations related to the Annual Certificate of Good Practice for each county;
- Guidance and research on statutory and regulatory issues affecting county road and public works departments;
- Assistance in representation of county engineer interests on a variety of state-level committees and task forces;
- Design and traffic engineering assistance to counties, as requested, including consultant selection assistance;
- Liaison services on behalf of county engineers with various state agencies, especially the H&LP Division of WSDOT.

CRAB acts as a clearinghouse for information requests, questions, and the exchange of ideas. With an emphasis on good communication, Engineering Services staff has worked with state transportation officials, resource agencies personnel, and public works departments as they strive to meet the transportation needs of their counties.

A final responsibility of the Engineering Services Division is the maintenance and updating of summary reports, guidance materials, and model documents, and the provision of training to County Engineers and their staffs.

Areas the Engineering Staff worked on extensively in 2009:

- With the addition of the Maintenance Management certification in 2008 and the associated required reporting to the Office of Financial Management, CRAB has been asked to provide data never before available. The Digital Data Submittal project was completed in 2008, allowing archiving and filing of automated reports, thus making the records available more quickly and reducing the amount of time to develop reports and requests. As a continuation of this project, during 2009 CRAB undertook a Data Collection and Reporting Project to review all the available

data sets that are included in CRAB's Annual Reporting Requirements. Seventeen reports are currently due to CRAB and the project completed ten tasks in three phases:

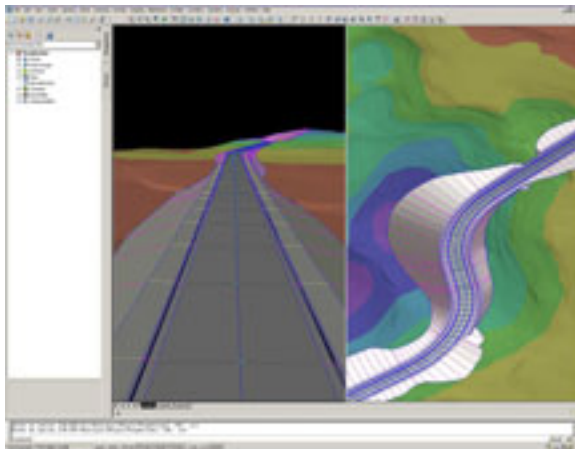
- Phase One: Review of Current Practices
 - Review current CRAB reporting to DOT, WTC and the Legislature.
 - Review current county reporting to CRAB.
 - Review current WACs and forms.
 - Review current data collections and data uses.
- Phase Two: Review Potential Changes for Consideration
 - Review data interests of counties and others.
 - Review data effectiveness and potential for improvements.
 - Review data compilation needs and issues.
- Phase Three: Make Revisions Approved by CRABoard & Executive Director
 - Revise WACs to correct/add guidance and rules.
 - Revise forms to meet new WAC requirements on a prioritized basis.
 - Develop online training and guidance for all forms to add to website.

Engineering CRAB staff met on May 18, 2009 to assess the workload and schedule tasks and met five additional times to complete all phases of the project before the December 31, 2009 submittal date.

- CRAB updated the County Engineer/Public Works Director training sessions this year and conducted a training session November 3-5, 2009, at the CRAB office totaling over 200 person hours. This training was revised to reflect the ever-changing climate of engineering, social, political, and environmental concerns. These intense sessions review the duties and responsibilities of the counties and the County Engineer. Another aspect of this training has been developed to allow modules of this training package be provided directly to a county or gathering of multiple counties at their site. "Module" sessions can be customized for their specific needs.
- Engineering staff reviewed the use of grant funding on over 150 completed Rural Arterial Projects in the field to verify and substantiate contract specifications and requirements on these county projects and to ensure proper administration and construction.
- CRAB established the Standard of Good Practice for Maintenance Management (WAC 136-11) as required in RCW 36.78.121, and continues to assist counties in meeting the intent of the law passed by the Legislature in 2006. In passing the law, the legislature intended to create stronger accountability to ensure that cost-effective maintenance and preservation is provided for transportation facilities. Under the law, Counties are to annually submit their maintenance plans to CRAB and CRAB is to compile county data regarding maintenance management. (Note: A more detailed summary of progress on the Standard of Good Practice for Maintenance Management is included as a separate item in this report.)

Information Services

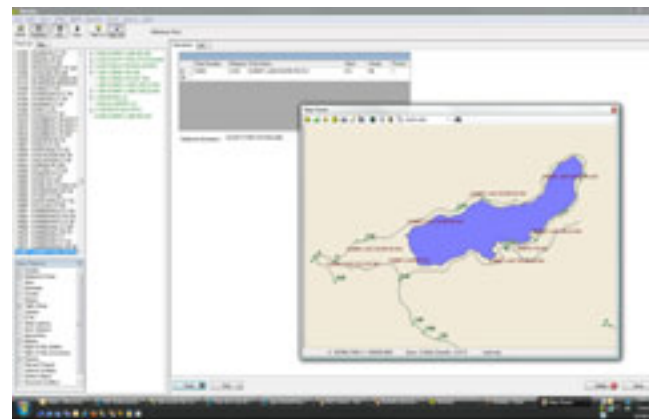
The Information Services Division at CRAB is a team of IT professionals dedicated to programs and initiatives, both at CRAB and in our counties, which improve and protect the public's investment in our transportation infrastructure. Two primary goals of the IT team are the continued smooth and efficient operation of this agency and ensuring that Washington's counties continue to effectively apply current and emerging technology. The first goal was accomplished by providing a progressive, stable and secure computing environment for agency staff. Developing and providing systems, training and consulting services specific to the needs of county road departments in Washington accomplished the second goal. In 2009 the Information Services team again made significant, unique and creative contributions to the initiatives of CRAB staff and to the design and management efforts of Washington counties.



The CRAB Design Systems Program has consistently provided Washington county personnel with state-of-the-art engineering road design software, including support and training, since 1985. This program has enabled county design staff to effectively collect, develop and manipulate the geometric information necessary for site design and construction planning, which has contained costs and improved productivity throughout the life of road projects. Currently CRAB provides road design software named *Eagle Point*, free of charge, to Washington counties. CRAB also provides world-class consultation, support and training for both *Eagle Point* and another industry

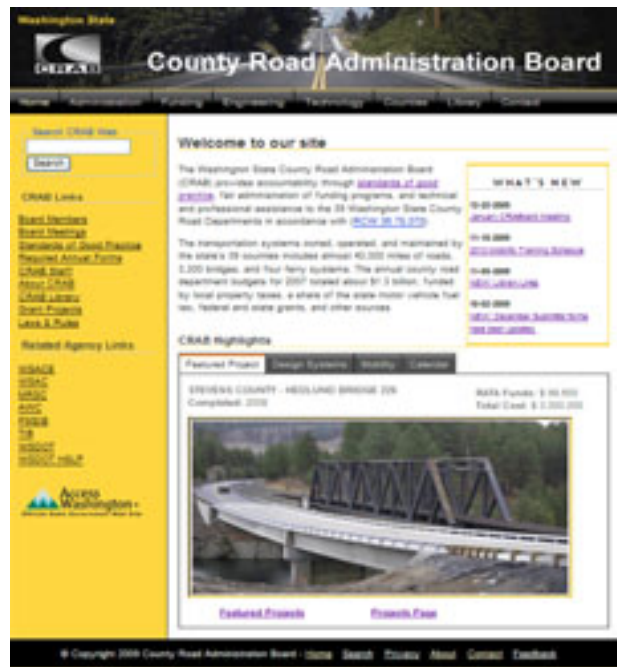
leader named *AutoDesk Civil 3D*. In addition to improved design and project savings, the savings to counties for user licensing, support, and training in design software by CRAB is hundreds of thousands of dollars each year.

CRAB Information Services developed and provides Washington counties with a comprehensive road inventory and management system named *Mobility*, which enhances a county's ability to make quality decisions through consistent, equitable, and defensible management plans and operations. The systematic application of sound business logic, embedded in *Mobility*, ensures accountability in county road departments and assists county personnel in their compliance with reporting requirements to CRAB, the State Legislature, and federal entities. *Mobility* is a prime example of the economy-of-scale for which CRAB is well known, saving the counties from spending millions on management systems that are neither as responsive, nor as specific, to their needs as *Mobility*. Each year CRAB IT staff is able to enhance the functionality and usability of *Mobility* for the benefit of Washington county staff. Improvements to *Mobility* in 2009 include further functionality in Maintenance Management, a bridge inventory, and the near completion of a mapping system that allows users to navigate through, analyze and report on the wealth of road information in the system.



Another highlight of 2009 was the restructuring and renewal of the CRAB website. A website is a particular challenge in that it is constantly evolving and changing. The structure of the data that supports a website's operation must be well defined and stable and yet flexible and dynamic enough to support the evolution of the website's information and services. The Information Services team at CRAB was gratified to find that balance this year, thanks in great part to participation by all staff in the effort.

The new website effectively responds to citizens and government, informing and educating users in the initiatives of CRAB and the Counties. County personnel can find critical assistance for the effective operation and management of their road systems and assistance in compliance with law and regulation, along with schedules and forms necessary to that compliance.



Citizens can find great detail on their county's road system, its road department, that department's funding, operations, construction and maintenance. Legislators can observe the breadth and detail of the accountability imposed on Counties by CRAB, as well as the good road work being done in their district. Please take time to visit this site at <http://www.crab.wa.gov> where you can learn much more about CRAB and the counties. After touring the general site you may want to spend some time perusing the massive amount of information under the Reference tab in the Library section.



Grant Programs

Rural Arterial Program and County Arterial Preservation Program

The RAP and CAPP (\$19 million and \$16 million per year respectively) made significant contributions to the health of county arterial roads in 2008. Utilizing 1.03 cents of the total 37.5 cents per gallon state gas tax, these CRAB managed programs were effective in improving freight haul and overall access to agricultural markets serving local economies. When projects are funded by these programs, mobility and safety needs are also addressed. The two programs complement each other with their unique focus on different road deficiencies.

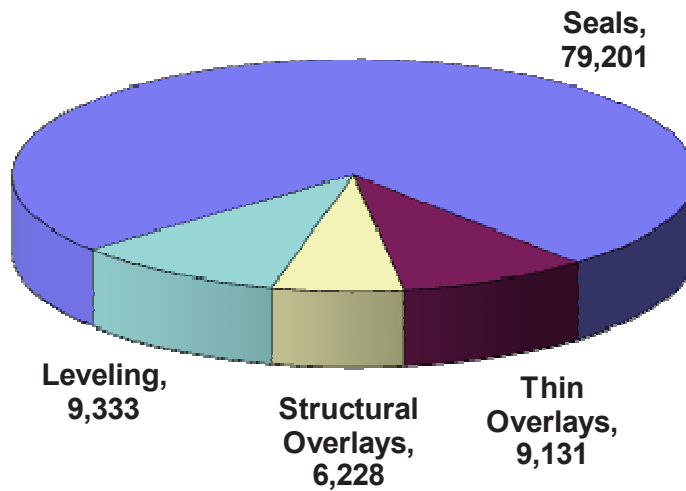
RURAL ARTERIAL PROGRAM EXPENDITURES BY COUNTY AND LEGISLATIVE DISTRICT IN 2008

<u>COUNTY</u>	<u>LEG. DIST.</u>	<u>RATA \$'s RECEIVED</u>	<u>COUNTY</u>	<u>LEG. DIST.</u>	<u>RATA \$'s RECEIVED</u>
ADAMS	9	639,011	LINCOLN	7	75,705
ASOTIN	9	91,303	MASON	35	1,520,157
BENTON	8	39,681	OKANOGAN	12	78,630
BENTON	16	608,943	PACIFIC	19	1,379,680
CHELAN	12	2,169,117	PEND OREILLE	7	9,824
CLALLAM	24	179,404	PIERCE	26	82,188
COLUMBIA	16	74,878	SNOHOMISH	38	295,892
COWLITZ	18	234,752	SNOHOMISH	39	161,685
COWLITZ	19	41,995	SPOKANE	4	425,459
DOUGLAS	12	3,929,821	SPOKANE	7	555,316
FRANKLIN	16	846,908	SPOKANE	9	168,945
GARFIELD	9	123,738	STEVENS	7	1,237,473
GRANT	13	2,883,000	THURSTON	2	5,031
GRAYS HARBOR	24	23,771	THURSTON	20	102,109
ISLAND	10	99,711	THURSTON	22	11,456
JEFFERSON	24	128,691	WAHKIAKUM	19	85,910
KING	5	1,038,790	WALLA WALLA	16	94,256
KITSAP	35	30,150	WHITMAN	9	18,347
KITTITAS	13	50,270	YAKIMA	13	156,807
KLICKITAT	15	19,104	YAKIMA	14	133,469
LEWIS	20	237,590	YAKIMA	15	230,129
			TOTAL		20,319,098

County Arterial Preservation Program (CAPP)

The focus of the CAPP is preservation of county arterial roadway surfaces and structure. Without this assistance, the repair costs to the roadway system would be astronomical. With timely application of needed repair and resurfacing, however, CAPP funds help Washington State's county arterials stay healthier longer, and offer great savings "down the road". CRAB uses less than 3% of the CAPP account to manage the program and assure the counties are programming the funds efficiently.

**LANE MILES ACCOMPLISHED TO DATE,
ALL FUNDS 1990 - 2008**



Rural Arterial Program (RAP)

The RAP is used by counties to correct much more than surface and structural problems on county arterial roads. The counties submit RAP projects based on safety, geometry, capacity *and* structural deficiencies. RATA (Rural Arterial Trust Account) funds are then awarded to the highest ranked (worst condition) project submittals in each region.

RAP normally funds about 1/4 of the worst roads as demonstrated by the request list.

- ▶ Structural ability to support loaded trucks
- ▶ Ability to move traffic at reasonable speeds
- ▶ Adequacy of alignment and related geometry
- ▶ Accident and fatal accident experience
- ▶ Local significance

RURAL ARTERIAL PROGRAM BIENNIUM CYCLE



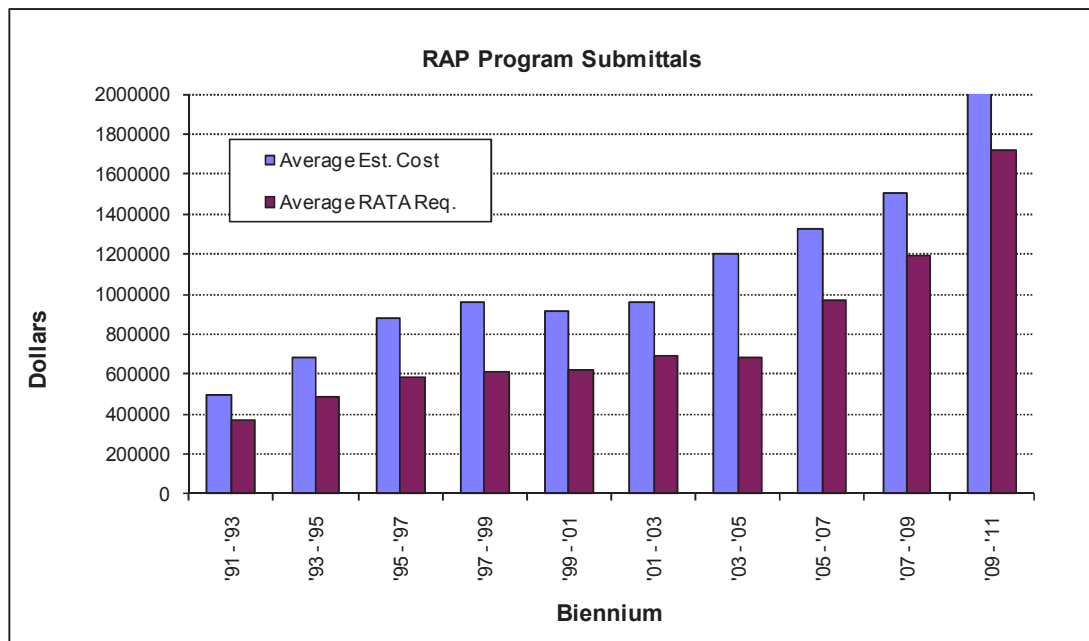
History of Rural Arterial Trust Account Funds per County

<u>REGION</u>	<u>COUNTY</u>	<u>TOTAL RATA</u> <u>APPROVED</u>	<u>TOTAL RATA</u> <u>SPENT</u>	<u>%</u> <u>SPENT</u>
	NE ADAMS	18,947,884	13,054,760	69%
	NE CHELAN	19,132,474	13,676,966	71%
	NE DOUGLAS	21,083,535	18,331,786	87%
	NE FERRY	16,786,230	11,158,085	66%
	NE GRANT	23,235,368	20,237,996	87%
	NE LINCOLN	21,653,720	15,275,722	71%
	NE OKANOGAN	17,958,682	11,199,508	62%
	NE PEND OREILLE	14,556,578	12,242,508	84%
	NE SPOKANE	27,966,191	20,651,639	74%
	NE STEVENS	23,543,585	16,534,404	70%
	NE WHITMAN	<u>21,249,612</u>	<u>15,075,165</u>	<u>71%</u>
NE REGION TOTALS		226,113,859	167,438,539	74%
	NW CLALLAM	8,025,076	6,273,779	78%
	NW ISLAND	14,555,700	7,418,510	51%
	NW JEFFERSON	6,282,088	2,953,171	47%
	NW KITSAP	8,387,270	6,597,203	79%
	NW SANJUAN	5,916,508	3,361,423	57%
	NW SKAGIT	7,438,733	4,879,896	66%
	NW WHATCOM	<u>10,932,182</u>	<u>7,282,182</u>	<u>67%</u>
NW REGION TOTALS		61,537,557	38,766,165	63%
	PS KING	12,459,705	9,765,326	78%
	PS PIERCE	13,662,994	9,065,211	66%
	PS SNOHOMISH	<u>10,931,971</u>	<u>8,837,610</u>	<u>81%</u>
PS REGION TOTALS		37,054,670	27,668,148	75%
	SE ASOTIN	11,028,911	8,808,870	80%
	SE BENTON	15,151,493	9,462,269	62%
	SE COLUMBIA	11,190,271	7,369,746	66%
	SE FRANKLIN	11,561,886	7,985,052	69%
	SE GARFIELD	10,697,743	9,204,227	86%
	SE KITTITAS	14,837,770	10,344,068	70%
	SE KLINKITAT	16,020,513	13,410,624	84%
	SE WALLA WALLA	14,867,590	11,481,693	77%
	SE YAKIMA	<u>19,690,812</u>	<u>11,981,685</u>	<u>61%</u>
SE REGION TOTALS		125,046,989	90,048,234	72%
	SW CLARK	9,013,718	7,988,361	89%
	SW COWLITZ	10,778,406	7,740,173	72%
	SW GRAYS HARBOR	12,159,248	9,490,544	78%
	SW LEWIS	8,185,605	5,143,636	63%
	SW MASON	13,382,059	7,530,552	56%
	SW PACIFIC	8,622,465	6,832,587	79%
	SW SKAMANIA	1,818,968	1,465,223	81%
	SW THURSTON	12,429,268	8,399,139	68%
	SW WAHKIAKUM	<u>5,244,856</u>	<u>2,994,141</u>	<u>57%</u>
SW REGION TOTALS		81,634,593	57,584,358	71%
	STATEWIDE TOTAL	531,387,668	381,505,444	72%

Grant Programs Meet County Road Needs from Many Angles

The growing needs of county roads over the last twenty-six years of CRABoard funding are clearly depicted by the County Arterial Preservation Program (CAPP) and the Rural Arterial Program (RAP). Whether the emphasis is applying new surfacing for important gravel roads, strengthening roads already surfaced, combining surfacing improvements with realignment and grading, access for pedestrians, bicycles, buses, agriculture and still addressing a host of environmental issues, the CAPP and RAP programs have remained flexible and focused enough to keep up with changing needs.

The RAP funded smaller reconstruction projects (around \$300,000 average funding) and some widening type projects in the early years, 1983 - 1994. With a relatively small statewide revenue stream, many projects gained only partial funding. Counties often had to decide whether to provide for the entire funding shortfall, or withdraw the project entirely. In any event, project scopes were kept constrained or lengths shorter than desired so that at least some roads could be “safely” RATA funded, and the shortfall could be minimized. The CRABoard relaxed funding options in 1995 after legislature increased the RATA funding so that projects were guaranteed eventual full funding and counties were able to apply RAP to larger scale reconstruction projects. Rural Arterial Trust Account (RATA) funds are now contributing approximately \$1,500,000 per project (see attached graphs). Counties are now matching RAP funds with many other sources to provide the larger scale solutions needed due to Growth Management and Endangered Species Acts, new permitting requirements, larger sized trucks and increasing traffic volumes. Many of the projects featured in this report bear this out.



CAPP funds, on the other hand, have been a continuous resource in assisting county efforts to stay ahead of major road surfacing failures. One of the requirements for use of CAPP funds is that counties use a Pavement Management System to prioritize the surfacing needs of their entire road network. The counties then consider the timing for road resurfacing work, helping them allocate CAPP and other county funds to projects in the most cost effective manner. While CAPP funds have been used to pay for about 30% of the statewide surfacing costs in counties, 70% of the funds have been focused on freight and goods haul routes, where structural damage is the greatest and most frequent. This clearly demonstrates the value Pavement Management Systems have for the effective use of CAPP and all county road funds.

2008/2009 Grant Program Projects

Cowlitz County Rebuilds Todd Road



Poor sight distance near beginning of project.

Todd Road serves as a rural major collector, providing a link between Interstate 5 and the rapidly developing areas in the southern portion of Cowlitz County. Prior to the project, Todd Road was a narrow, winding road with limited sight distance. The posted speed limit was 30 mph, and had multiple 25 mph advisory speed signs for the multitude of reverse curves located along the corridor. There was inadequate clear zone along the majority of the road corridor with little room available to avoid oncoming vehicles that might wander across the center line.

The goals of the project were to widen the road to meet County standards and improve the horizontal and vertical alignments, while minimizing impacts to private property. This would prove to be a challenge with the existence of many homes and other structures located close to the road. After a review of several alignment options, the County chose an alignment that satisfied the goals of the project, while impacting only a single structure located along the corridor. This was the County's first project designed completely within the Autodesk Civil 3D platform.

The change in alignment resulted in significant impacts to existing underground utilities. The County coordinated with the affected utilities and established a utility relocation window within the project construction schedule. This provided the utilities unimpeded access to the project site, following the completion of the clearing and grubbing and roadway excavation phase. This approach resulted in lower relocation costs and lessened the impact to the utilities as well as the project contractor.



The new roadway is wide open.

Construction of the roadway improvements was completed by Rotschy, Inc. based in Yacolt, Washington. The total cost for the project including engineering, right-of-way acquisition and construction was approximately \$860,000. The Rural Arterial Program provided \$702,000 towards the project while the remainder came from the County Road Fund.

Douglas County's Coulee Meadows Road gets Major Rebuild

Coulee Meadows Road is located in the south-central portion of Douglas County between Road 24 NW and State Route 2. As a Major Collector, it provides a regionally important connection between farm areas on the Columbia Plateau and transportation and storage facilities along the Columbia River. The road has a rolling profile and a narrow, meandering alignment. The roadway had an inadequate road section of approximately 1 inch of asphalt pavement over several inches of base material.



Failing surface conditions on Coulee Meadows.



Improved alignment, width and pavement structure.

In 2005, use of Coulee Meadows Road by heavy agricultural equipment and grain trucks caused the roadway to disintegrate. Loose asphalt was graded to the shoulder, and the failing sub-grade was regularly covered with crushed rock. Eventually the road was closed to truck traffic. Use of the roadway by local residents and farmers could not be restored until the roadway could be reconstructed to Douglas County standards. Repair of Coulee Meadows Road became the top engineering and construction priority in the County.

Major Improvements included widening to 28 feet, paving with 2.5 inches of HMA over 12 inches of crushed surfacing and removing several fixed object hazards along the roadway. Side-slopes were flattened and drainage systems were improved along the length of the corridor to keep the base secure year-round, eliminating the need to close the road regularly. Coulee Meadows Road is now a much safer and reliable farm-to-market road.

Total Cost:	\$1,632,516
RAP Funds:	\$1,458,000
County Funds:	\$174,516
Contractor:	Hurst Construction, LLC

Grant County Repairs E-NW Road and Remodels Homes for Burrowing Owls

The E-NW road project is located southwest of Ephrata, WA. The project started at SR28 and ended at the North Frontage Road and was 10.36 miles long. The project reconstructed and widened the existing roadway from 22 feet to a new finished width of 34 feet.

The project included clearing and grubbing, roadway excavation, embankment, drainage items, crushed surfacing base and top course and a Class "A" BST surface. Two shots of HFE-150 were used for the Class "A" BST surface, the application rates were 0.55 gal/sy for the first shot and 0.40 gal/sy for the second shot.



Before – Middle of Project



After – Middle of Project

In a couple of the existing culvert pipes that were mostly filled in with dirt, Burrowing Owls were using them as habitat for nesting and raising their young. Working with Washington State Department of Fish & Wildlife, Grant County Public Works mitigated this by installing wooden boxes below the ground with 4" diam. pipe coming to the surface so the culvert pipes could be removed for the road widening. The day the wooden boxes were installed the Owls started using them.



Burrowing Owls awaiting new digs .



Burrowing Owl Box installed prior to Backfilling.

Constructed by North Central Construction, Inc., the total cost came to \$2,570,000 with RAP contributing \$1,665,000 and the county paying \$905,000.

King County Uses RAP Funds to Replace the 1914 Mount Si Bridge with Nationally Award Winning Pratt Truss Bridge

The SE Mount Si Road is a lifeline route offering sole access for close to 400 residents and visitors traveling in the area. Popular recreational use trailheads are located here within close proximity of Seattle, including Little Si and Mount Si trails into the Mount Si Natural Resource Conservation Area. The Mount Si Bridge was originally built in 1914 and spanned the Green River but in 1955 was relocated to the SE Mount Si Road, crossing the Snoqualmie River. The bridge was designated as a County landmark and listed on the National Register of Historical Places for its engineering and architectural significance.



Original Bridge Built in 1914.



The existing bridge and roadway was approximately 20-feet wide and did not accommodate pedestrians or bicyclists. Its overhead clearance and roadway width did not meet current standards for rural collector arterials. Because of these deficiencies – including rotting timber supports – the bridge was load limited and subject to structural failure.

The new bridge crosses the Middle Fork of the Snoqualmie River approximately 100-feet downstream of the old bridge location. The new 360-foot long bridge has two eleven-foot travel lanes, one eight-foot shoulder on the west side

and a four-foot shoulder with six-foot sidewalk on the east side making travel for pedestrians and bicyclists safer and easier. Artwork was incorporated into many elements of the bridge including ornamental panels on the approach railings, landscaping elements, decorative bronze plates attached to the structure, bridge and railing paint colors and special finish and color applied to the bridge's sidewalk.

The new Pratt Truss replacement bridge won an award from the National Steel Bridge Alliance as the best medium size, steel bridge in the nation for 2009.

A Community Advisory Group met periodically to provide input during the concept and design phases. Public support for the project was high.

Designer:	Andersen Bjornstad Kane Jacobs, Inc.
General Contractor:	Mowat Construction Company
Total Project Cost:	\$21.0 million
RAP Funds:	\$2.8 million

San Juan County – Fisherman Bay Road Improvements

Fisherman Bay Road is the main road from the Washington State Ferry landing at the north end of Lopez Island to Lopez Village, located mid-island. The road is a major collector road and is heavily used by bicyclists in the summer.

Ideas and suggestions from the public and property owners guided the roadway design, minimizing impacts to property and the environment. Participants were presented choices and decisions were made by consensus.



Original Alignment of Fisherman Bay Road.



New Alignment.

The roadway width was improved from 20 feet to 28 feet. Two back-to-back 90-degree curves were widened for safety. Numerous hazard trees were removed from the clear zone and wetland was constructed as mitigation for impacts to Category 3 and 4 wetlands. Over six hundred plants were used in the wetland with monitoring required for seven years.



Wetland constructed as mitigation for wetland impacts.

The PS&E was completed with in-house staff supported by specialty consultants. Island Excavating, Inc. of Orcas Island was the contractor with RAMO Construction of Arlington, Washington the contractor for the separate chipseal application and fencing contract. Gray & Osborne, Inc., Consulting Engineers, of Seattle did the construction administration.

Construction funding sources:

RAP Funds:	\$750,000
Federal STP Funds:	\$600,000
Federal Enhancement Funds:	\$156,000
Federal ARRA:	\$416,600
San Juan County Road Fund:	\$419,700

Wahkiakum County Gains CRABoard Emergency Funding for Repair of A.G. Hanson Bridge



The storm that hit Washington in November of 2006 left the upstream girder of Wahkiakum County's A.G. Hanson Bridge severely damaged. It was determined that repair of the girder was possible, and both the Federal Highway Administration (FHWA) and CRAB offered to assist hard hit Wahkiakum County with the cost of the repair. While out to bid in late 2007, another flood event occurred. This time damage was so significant that the girder was considered beyond repair. A much more substantial repair would be necessary. FHWA was approached with the idea of raising the bridge, since the back to back events demonstrated the clearance above the flood level was inadequate.

Besides replacing the girder and raising the bridge by 1.5 ft, the project replaced substandard bridge rails with new, standard rails. An old plaque which commemorated former County Engineer A.G. Hanson is being replaced through the efforts of local Boy Scout Shay Bingham in efforts to earn his Eagle Scout rank.



The fix required significant demolition.



Construction crew jack the bridge to new elevation.

Designer:	Sargent Engineers of Olympia, Washington
Contractor:	Five Rivers Construction, Inc. of Longview, Washington
Cost:	\$376,856
RAP Funds:	\$96,525

Tables

A: County Bridge Data	18
B: Actual County Road Related Expenditures	19
C: Anticipated County Road Fund Revenue	20
D: Anticipated County Road Fund Expenditures.....	21
E: County Road Levy Summary.....	22
F: County Road Mileage	23
G: County Arterial Preservation Program.....	24
H: County Freight and Goods System.....	25

Table A

COUNTY BRIDGE DATA - NOVEMBER 2009

Washington State Bridge Inventory System

Bridges 20 Feet or Greater in Length on Federal Aid (FAR) and Non Federal Aid (NFAR) Routes
 Posting Consideration Based on HS-20 Design Load, less than 28 Tons at Operating Rating

COUNTY	County Owned Bridges	Bridges Posted or May Consider Posting				Bridges With Posting Not Required				Deficient Bridges**
		FAR	Square Feet	NFAR	Square Feet	FAR	Square Feet	NFAR	Square Feet	
ADAMS	123	2	2,594	10	12,411	34	67,446	77	91,567	23
ASOTIN	18	0	0	0	0	14	143,738	4	4,321	3
BENTON	50	0	0	2	2,041	17	63,141	31	30,422	10
CHELAN	48	1	10,060	7	9,151	17	82,700	23	60,828	13
CLALLAM	28	2	12,412	3	7,436	9	51,790	14	40,219	7
CLARK	57	4	12,502	2	2,950	23	90,506	28	44,906	21
COLUMBIA	65	1	1,209	3	2,740	19	29,587	42	68,352	7
COWLITZ	63	2	7,546	5	23,224	21	86,144	35	77,624	16
DOUGLAS	24	2	11,224	3	2,041	11	19,055	8	7,735	2
FERRY	21	0	0	2	3,518	5	8,494	14	21,651	6
FRANKLIN	83	0	0	3	2,223	17	35,001	63	89,174	5
GARFIELD	35	2	2,579	0	0	14	12,486	19	18,147	7
GRANT	192	2	1,058	7	9,255	51	135,946	132	221,012	12
GRAYS HARBOR	158	3	2,480	5	12,803	65	306,692	85	208,851	27
ISLAND	0	0	0	0	0	0	0	0	0	0
JEFFERSON	26	1	1,078	0	0	7	15,092	18	60,512	4
KING	142	1	1,470	12	21,530	75	409,688	54	137,183	59
KITSAP	27	0	0	2	2,793	14	65,545	11	24,135	6
KITTITAS	114	5	5,130	14	12,045	26	79,857	69	140,063	4
KLICKITAT	56	1	522	6	9,205	12	36,001	37	72,524	15
LEWIS	193	7	10,044	4	5,444	39	146,623	143	264,557	25
LINCOLN	122	0	0	8	5,111	31	48,525	83	114,267	13
MASON	49	0	0	2	3,767	12	74,833	35	62,481	13
OKANOGAN	51	0	0	1	931	13	63,016	37	53,878	9
PACIFIC	61	2	4,296	3	2,990	7	24,648	49	128,391	12
PEND OREILLE	22	2	22,672	0	0	8	77,417	12	12,389	7
PIERCE	105	5	58,708	0	0	62	228,785	38	54,364	44
SAN JUAN	3	0	0	0	0	0	0	3	2,321	2
SKAGIT	99	0	0	11	14,777	41	190,557	47	98,420	25
SKAMANIA	26	0	0	2	3,570	5	30,218	19	53,272	7
SNOHOMISH	168	7	14,072	10	10,068	82	423,163	69	217,397	48
SPOKANE	103	8	24,899	8	8,865	28	177,601	59	122,960	27
STEVENS	51	0	0	0	0	7	24,864	44	74,245	7
THURSTON	92	0	0	0	0	25	120,613	67	184,854	26
WAHIAKUM	20	1	2,419	0	0	8	24,306	11	19,028	3
WALLA WALLA	104	2	4,980	1	886	44	114,229	57	119,329	15
WHATCOM	138	3	5,188	8	19,874	33	111,251	94	142,686	20
WHITMAN	248	4	14,123	14	11,564	48	91,439	182	280,737	56
YAKIMA	322	7	25,398	10	10,078	83	220,587	222	388,007	54
TOTAL	3,307	77	258,663	168	233,291	1,027	3,931,584	2,035	3,812,809	660
Total Replacement Cost* (\$ Million):			\$149		\$134		\$2,261		\$2,192	

*At \$575 per Square Foot

** Deficient Bridges are listed as Structurally Deficient (SD) or Functionally Obsolete (FO).

Table B

ACTUAL COUNTY ROAD RELATED EXPENDITURES

Including RAP and CAPP

2008

(thousands of dollars)

COUNTY	CONST	MAINT	ADMIN & OPER	FACIL	FERRY	REIMB	BOND WARRANT RETT	TRAFFIC POLICING **	OTHER ***	TOTAL INCLUDES RAP & CAPP	RAP	CAPP
ADAMS	2,484	4,523	1,217	0	0	114	0	0	78	8,416	639	649
ASOTIN	595	1,845	955	0	0	0	0	0	0	3,395	91	122
BENTON	8,451	4,879	1,421	0	0	386	93	0 *	218	15,448	649	363
CHELAN	2,499	6,306	1,550	0	0	0	0	0	125	10,480	2,169	283
CLALLAM	10,730	5,207	2,375	0	0	164	0	299	474	19,249	179	154
CLARK	35,083	17,586	1,661	0	0	0	8	0 *	20,084	74,422	0	589
COLUMBIA	329	1,377	322	0	0	0	0	0	197	2,225	75	168
COWLITZ	3,693	8,004	2,206	1,256	0	0	0	0 *	121	15,280	277	266
DOUGLAS	9,542	4,562	2,029	0	0	151	576	0	271	17,131	3,930	327
FERRY	48	1,877	506	0	0	0	14	0	998	3,443	0	37
FRANKLIN	5,379	3,420	957	0	0	392	158	0	406	10,712	847	413
GARFIELD	554	1,609	538	0	0	6	0	0	0	2,707	124	150
GRANT	7,212	9,494	1,494	1,867	0	85	2	215	1,269	21,638	2,883	999
GRAYS HARBOR	1,911	7,648	2,437	0	0	633	0	0	3,201	15,830	24	291
ISLAND	6,418	6,278	2,838	0	0	178	178	0	2,232	18,122	100	258
JEFFERSON	587	3,597	1,369	0	0	11	40	0 *	979	6,583	129	108
KING	22,746	66,207	19,975	1,541	0	14,608	3,915	3,641	39,689	172,322	1,039	688
KITSAP	12,314	11,705	9,268	0	0	698	85	0 *	828	34,898	30	378
KITTITAS	2,379	4,096	1,244	3	0	121	133	84	279	8,339	50	159
KLICKITAT	4,672	4,595	639	0	0	108	1	0	354	10,369	19	401
LEWIS	5,921	12,280	3,838	0	0	0	2	734	1,933	24,708	238	348
LINCOLN	1,982	3,962	989	0	0	242	0	0 *	390	7,565	76	451
MASON	5,211	4,496	2,097	0	0	0	1,668	0 *	1,619	15,091	1,520	0
OKANOGAN	440	7,250	1,707	1,623	0	58	385	133	2,034	13,630	79	486
PACIFIC	1,473	5,223	578	0	0	213	0	299	0	7,786	1,380	171
PEND OREILLE	351	2,854	705	0	0	373	0	0	223	4,506	10	118
PIERCE	32,641	24,989	27,099	4,933	4,730	42	152	2,000	22,682	119,268	82	846
SAN JUAN	1,269	3,602	1,731	2,900	0	8	213	0 *	698	10,421	0	103
SKAGIT	972	8,109	5,836	1,389	1,943	191	0	0	898	19,338	0	423
SKAMANIA	704	2,525	1,626	0	0	0	0	0	0	4,855	0	257
SNOHOMISH	54,912	26,515	20,437	1,149	0	13,205	528	0	9,396	126,142	458	597
SPOKANE	17,302	17,345	8,773	0	0	3,038	1,127	0 *	1,521	49,106	1,150	873
STEVENS	5,244	6,593	913	254	0	42	0	0	15	13,061	1,237	553
THURSTON	9,123	12,735	7,276	0	0	0	0	1,260	1,589	31,983	119	422
WAHKIAKUM	690	985	273	0	717	18	0	0	183	2,866	86	106
WALLA WALLA	13,022	4,818	1,873	50	0	119	0	0	18	19,900	94	462
WHATCOM	5,470	10,645	6,005	0	2,139	334	0	0 *	986	25,579	0	432
WHITMAN	2,421	4,915	1,188	0	0	0	0	102	1	8,627	18	498
YAKIMA	10,975	9,066	3,760	0	0	241	1,035	162	57	25,296	520	883
TOTAL	307,749	343,722	151,705	16,965	9,529	35,779	10,313	8,929	116,046	1,000,737	20,319	14,829

% OF TOTAL 30.8% 34.3% 15.2% 1.7% 1.0% 3.6% 1.0% 0.9% 11.6%

Construction expenditure amounts do not include State ad & award Federal Aid participation.

Source: County Reports to D.O.T. Secretary of Transportation

* Traffic Policing funds paid from diverted road levy

** Road Fund portion only

*** "Other" includes facilities, operations and transfers

Table C

ANTICIPATED COUNTY ROAD FUND REVENUE 2009 BUDGETS

(thousands of dollars)

COUNTY	BEGIN FUND BAL	MOTOR VEHICLE FUEL TAX					TAXES			MISC				TOTAL
		COUNTY REGULAR	TIB	RAP	CAPP	MVFT TOTAL	PROP- ERTY	FOREST HARVEST	OTHER TAXES	FED GRANTS	FED LANDS	REIMB	OTHER	
ADAMS	1,330	4,050	0	1,361	720	6,131	1,273	0	8	1,404	1	14	80	10,241
ASOTIN	600	1,613	965	1,060	130	3,768	856	0	0	2,060	66	0	277	7,627
BENTON	1,155	3,184	305	1,960	381	5,830	5,264	0	135	3,317	0	125	2,725	18,551
CHELAN	542	2,097	0	2,025	298	4,420	6,646	10	40	2,558	990	6	473	15,685
CLALLAM	7,256	1,900	0	98	150	2,148	6,032	404	10	4,842	1,584	30	1,175	23,481
CLARK	5,500	6,294	4,549	0	576	11,419	31,470	200	20	4,633	7	0	34,009	87,258
COLUMBIA	1,031	1,387	0	174	185	1,746	685	10	0	585	0	0	244	4,301
COWLITZ	6,250	2,282	0	2,595	283	5,160	8,606	700	60	2,834	151	330	1,446	25,537
DOUGLAS	1,416	14,847	1,018	1,576	239	17,680	3,650	0	115	1,138	0	55	1,078	25,132
FERRY	524	1,747	0	950	223	2,920	950	0	0	150	421	0	137	5,102
FRANKLIN	300	2,770	0	3,372	438	6,580	2,700	0	11	4,422	71	349	80	14,513
GARFIELD	1,255	1,150	0	3,718	150	5,018	220	7	2	442	0	0	330	7,274
GRANT	9,979	6,228	0	1,862	1,056	9,146	8,000	0	100	80	132	50	225	27,712
GRAYS HARBOR	2,383	2,291	0	1,370	309	3,970	4,840	840	20	4,940	251	76	961	18,281
ISLAND	442	2,274	0	355	274	2,903	7,360	0	2	140	0	0	5,594	16,441
JEFFERSON	5,231	1,396	0	628	165	2,189	3,580	346	0	1,780	1,289	66	139	14,620
KING	(448)	15,875	0	0	0	15,875	83,207	317	315	10,592	0	12,399	68,070	190,327
KITSAP	17,695	5,323	0	958	400	6,681	24,479	0	50	4,007	0	40	2,510	55,462
KITTITAS	7,715	1,755	0	2,839	309	4,903	4,630	10	17	2,559	200	167	1,249	21,450
KLICKITAT	1,254	2,684	0	3,915	427	7,026	2,921	100	8	2,044	79	10	4,231	17,673
LEWIS	11,633	3,321	64	901	361	4,647	8,655	1,500	5	8,981	2,000	70	2,995	40,486
LINCOLN	200	4,117	0	1,640	479	6,236	1,378	0	8	1,535	0	0	520	9,877
MASON	2,437	2,000	0	671	325	2,996	8,227	650	30	4,629	285	805	960	21,019
OKANOGAN	1,000	3,363	0	2,556	513	6,432	3,784	869	46	250	0	83	10	12,474
PACIFIC	2,158	1,359	0	1,197	151	2,707	2,466	583	7	105	13	73	553	8,665
PEND OREILLE	900	1,500	0	1,200	200	2,900	1,060	200	1	3,300	460	355	39	9,215
PIERCE	21,279	11,000	6,301	569	900	18,770	46,125	400	28,912	2,614	300	2,693	3,320	124,413
SAN JUAN	3,500	893	0	750	109	1,752	3,488	0	3	914	0	18	2,813	12,488
SKAGIT	7,393	3,241	0	200	448	3,889	11,467	150	35	2,502	462	4,211	1,794	31,903
SKAMANIA	3,378	850	0	550	109	1,509	1,312	135	8	900	1,003	32	90	8,367
SNOHOMISH	40,920	10,376	3,557	285	720	14,938	50,572	300	250	2,094	0	16,880	34,242	160,196
SPOKANE	6,799	9,299	0	1,803	936	12,038	15,129	23	40	6,482	15	1,795	11,726	54,047
STEVENS	3,000	3,573	0	1,101	573	5,247	4,422	350	2	150	0	40	69	13,280
THURSTON	16,873	5,083	2,135	1,796	446	9,460	16,371	400	16	5,094	200	300	3,371	52,085
WAHIAKUM	706	779	0	840	99	1,718	375	200	4	3,601	0	45	1,440	8,089
WALLA WALLA	3,400	2,900	0	1,852	490	5,242	4,500	0	0	2,672	0	0	279	16,093
WHATCOM	4,040	3,914	0	0	457	4,371	16,343	100	25	10,973	400	1,079	2,459	39,790
WHITMAN	2,983	4,143	0	2,898	529	7,570	1,935	0	20	1,588	0	55	16	14,167
YAKIMA	2,710	5,851	0	2,276	929	9,056	11,884	1,376	0	2,158	0	0	862	28,046
TOTAL	206,719	158,709	18,894	53,901	15,487	246,991	416,862	10,180	30,325	115,069	10,380	42,251	192,591	1,271,368

% OF TOTAL 16.3% 12.5% 1.5% 4.2% 1.2% 19.4% 32.8% 0.8% 2.4% 9.1% 0.8% 3.3% 15.1%

Table D

ANTICIPATED COUNTY ROAD FUND EXPENDITURES

2009 BUDGETS

(thousands of dollars)

COUNTY	CONST	MAINT	ADMIN & OPER	FACIL	FERRY	REIMB	BOND WARR RETT	TRAFFIC POLICING	OTHER	TOTAL	END FUND BAL	GRAND TOTAL
ADAMS	3,147	4,874	1,087	0	0	64	0		65	9,237	1,004	10,241
ASOTIN	4,579	2,078	687	0	0	0	0		0	7,344	283	7,627
BENTON	8,059	5,576	1,980	0	0	2,256	207	471	2	18,551	0	18,551
CHELAN	5,773	6,814	1,618	0	0	0	0	0	194	14,399	1,286	15,685
CLALLAM	6,192	5,462	2,517	28	0	240	0	300	369	15,108	8,373	23,481
CLARK	31,826	14,004	7,596	655	0	0	0	3	15,978	70,062	17,196	87,258
COLUMBIA	654	2,152	321	50	0	0	133	7	6	3,323	978	4,301
COWLITZ	7,690	10,464	2,310	796	0	497	0	837	543	23,137	2,400	25,537
DOUGLAS	16,006	5,029	2,044	0	0	55	768	135	309	24,346	786	25,132
FERRY	1,276	2,644	482	0	0	100	0	0	168	4,670	432	5,102
FRANKLIN	9,260	3,675	1,184	75	0	115	204	0	0	14,513	0	14,513
GARFIELD	4,088	1,360	508	0	0	10	0	0	85	6,051	1,223	7,274
GRANT	5,850	11,648	1,479	1,755	0	50	2	195	612	21,591	6,121	27,712
GRAYS HARBOR	8,600	7,345	1,550	0	0	500	0	0	250	18,245	36	18,281
ISLAND	5,277	6,341	2,592	0	0	170	180	0	1,881	16,441	0	16,441
JEFFERSON	2,531	3,795	1,320	100	0	46	41	678	1,279	9,790	4,830	14,620
KING	38,778	54,791	26,937	4,374	0	12,106	4,276	5,703	42,610	189,575	752	190,327
KITSAP	16,470	14,881	10,106	294	0	85	586	1,426	126	43,974	11,488	55,462
KITTITAS	7,084	6,178	1,358	0	0	178	0	85	16	14,899	6,551	21,450
KLICKITAT	12,305	4,585	700	0	0	10	0	0	17	17,617	56	17,673
LEWIS	12,971	11,831	3,367	150	0	1	0	0	1,139	29,459	11,027	40,486
LINCOLN	3,192	4,713	971	85	0	166	0	250	0	9,377	500	9,877
MASON	7,855	5,338	2,839	500	0	1,743	1,162	0	1,277	20,714	305	21,019
OKANOGAN	2,829	4,577	2,599	262	0	0	338	0	869	11,474	1,000	12,474
PACIFIC	1,985	4,208	793	0	0	80	0	332	403	7,801	864	8,665
PEND OREILLE	4,404	3,018	754	65	0	415	0	0	51	8,707	508	9,215
PIERCE	55,870	27,735	29,933	0	172 *	0	0	2,500	3,203	119,413	5,000	124,413
SAN JUAN	3,454	4,250	2,083	0	0	18	441	546	615	11,407	1,081	12,488
SKAGIT	9,537	9,277	6,278	328	1,906	151	0	1,200	237	28,914	2,989	31,903
SKAMANIA	1,674	3,522	0	40	0	0	0	0	0	5,236	3,131	8,367
SNOHOMISH	69,223	27,683	24,912	21,874	0	9,012	529	0	6,963	160,196	0	160,196
SPOKANE	20,671	17,588	6,748	151	0	2,315	1,002	0	1,691	50,166	3,881	54,047
STEVENS	2,852	6,366	971	556	0	35	0	0	0	10,780	2,500	13,280
THURSTON	14,795	15,713	7,165	0	0	0	0	0	4,701	42,374	9,711	52,085
WAHIAKUM	4,739	778	248	31	740	27	0	0	826	7,389	700	8,089
WALLA WALLA	7,364	5,063	2,020	0	0	75	0	0	20	14,542	1,551	16,093
WHATCOM	14,499	12,387	5,419	0	0 *	300	0	707	1,234	34,546	5,244	39,790
WHITMAN	6,803	6,007	1,274	0	0	0	0	83	0	14,167	0	14,167
YAKIMA	10,821	10,193	3,438	0	0	0	1,027	0	0	25,479	2,567	28,046
TOTAL	450,983	353,943	170,188	32,169	2,818	30,820	10,896	15,458	87,739	1,155,014	116,354	1,271,368

% OF TOTAL 35.5% 27.8% 13.4% 2.5% 0.2% 2.4% 0.9% 1.2% 6.9% 90.8% 9.2%

* Ferry accounted for in separate fund

Table E

COUNTY ROAD LEVY SUMMARY

As shown in 2009 Budgets

(thousands of dollars)

COUNTY	Unincorp Valuation	County Road Property Tax Levy Rate	County Road Property Tax Revenue Produced	Operating Transfer	Payment for Services	(RCW 36.33.220)		Revenue Remaining in Road Fund	Levy Shift from Road to Current Exp. (RCW 84.52.043)
						Diversion from Road To Current Expense	County Road Property Tax Exp. for Other Purposes		
						Traffic Policing expense paid by:			
ADAMS	907,064	2,041	1,286					1,286	0
ASOTIN	869,382	1,956	856					856	600
BENTON	2,763,524	6,218	5,281			461		4,821	0
CHELAN	5,173,055	11,639	6,246					6,246	400
CLALLAM	5,535,036	12,454	6,213		290			5,923	0
CLARK	23,197,692	52,195	34,766			4,480		30,286	0
COLUMBIA	402,429	905	854				Divert - Current Expense 95	759	0
COWLITZ	4,871,414	10,961	8,572			837		7,735	1,266
DOUGLAS	2,414,565	5,433	3,885		133			3,752	0
FERRY	491,434	1,106	1,106					1,106	0
FRANKLIN	1,539,117	3,463	2,750					2,750	0
GARFIELD	139,420	314	220					220	0
GRANT	3,599,285	8,098	7,566		195			7,371	0
GRAYS HARBOR	2,649,778	5,962	4,930		150			4,780	0
ISLAND	12,466,185	28,049	7,362	516			Transfer -Trails/Pub. Wks. 1,159	5,687	0
JEFFERSON	3,914,603	8,808	3,574			678		2,895	0
KING	52,536,647	118,207	83,470	5,703				77,767	0
KITSAP	20,485,434	46,092	24,262			1,438		22,823	0
KITTITAS	4,273,617	9,616	4,714			85		4,629	0
KLICKITAT	2,098,161	4,721	2,969					2,969	0
LEWIS	5,352,106	12,042	9,367			787		8,580	17
LINCOLN	797,198	1,794	1,586			250		1,336	0
MASON	6,415,246	14,434	9,162			966		8,196	0
OKANOGAN	2,585,587	5,818	3,807					3,807	0
PACIFIC	1,849,728	4,162	2,709		332			2,377	0
PEND OREILLE	1,042,632	2,346	1,117	69				1,047	550
PIERCE	40,512,254	91,153	46,127	3,000 *			Divert - Traffic and Courts 11,230	31,897	0
SAN JUAN	7,428,430	16,714	3,108			546		2,562	412
SKAGIT	8,366,672	18,825	11,646			1,200		10,446	700
SKAMANIA	1,039,682	2,339	1,312					1,312	0
SNOHOMISH	45,449,133	102,261	51,316	2,941				48,375	0
SPOKANE	13,073,250	29,415	16,463			1,326		15,138	0
STEVENS	2,604,091	5,859	4,033					4,033	292
THURSTON	15,815,948	35,586	18,727			2,500		16,227	0
WAHIAKUM	390,352	878	510				Divert - General Govt 100	410	0
WALLA WALLA	2,210,232	4,973	4,614					4,614	0
WHATCOM	12,525,102	28,181	16,806			707		16,100	0
WHITMAN	1,002,067	2,255	1,938		83			1,854	317
YAKIMA	6,020,091	13,545	12,291					12,291	0
TOTALS	324,807,642	730,817	427,520	12,230	1,183	16,261	12,584	385,262	4,554

* Increased by voter approval (RCW 84.55.050)

Table F

COUNTY ROAD MILEAGE - 1/1/09

COUNTY	URBAN ROADS			RURAL ROADS			SYSTEM CENTERLINE TOTAL	PAVED ARTERIAL C/L MILES	PAVED ARTERIAL LANE-MILES	UNPAVED C/L MILES
	ACCESS	ARTERIAL	TOTAL	ACCESS	ARTERIAL	TOTAL				
ADAMS			0.00	1,107.36	668.29	1,775.66	1,775.66	545.10	1,087.31	1,127.01
ASOTIN	61.28	21.04	82.31	165.99	151.90	317.89	400.21	100.35	206.16	234.13
BENTON	81.99	35.88	117.87	429.51	313.31	742.82	860.69	301.57	603.14	260.00
CHELAN	36.69	18.26	54.95	377.92	219.96	597.88	652.83	237.19	475.89	118.52
CLALLAM	17.58	6.78	24.36	337.82	122.80	460.62	484.98	129.58	259.02	2.96
CLARK	396.04	182.64	578.68	280.68	256.91	537.59	1,116.27	439.55	950.46	11.63
COLUMBIA			0.00	273.47	229.87	503.34	503.34	141.26	282.53	356.65
COWLITZ	53.41	28.95	82.36	257.61	193.85	451.46	533.82	224.80	445.60	9.24
DOUGLAS	55.45	36.51	91.96	1,136.82	401.20	1,538.02	1,629.98	293.92	592.58	1,196.08
FERRY			0.00	507.68	231.26	738.94	738.94	176.75	353.88	537.53
FRANKLIN	24.00	12.36	36.36	612.33	340.48	952.81	989.17	344.24	688.23	403.51
GARFIELD			0.00	234.08	213.03	447.10	447.10	127.51	255.01	314.35
GRANT	26.51	17.84	44.35	1,582.63	899.98	2,482.61	2,526.96	834.39	1,679.71	1,099.44
GRAYS HARBOR	9.99	7.57	17.56	291.73	254.04	545.77	563.33	244.82	489.59	52.04
ISLAND	50.26	22.54	72.80	317.37	193.22	510.59	583.38	215.76	434.39	7.38
JEFFERSON	8.88	1.54	10.42	249.66	136.34	386.00	396.41	129.74	260.10	73.12
KING	836.62	244.99	1,081.61	403.52	272.98	676.50	1,758.11	517.97	1,096.63	51.03
KITSAP	365.39	148.28	513.67	263.62	164.75	428.37	942.03	313.03	634.10	11.22
KITTITAS	1.45	3.87	5.32	252.15	306.08	558.23	563.55	305.89	612.51	67.93
KLICKITAT			0.00	708.73	375.70	1,084.43	1,084.43	338.25	676.60	560.79
LEWIS	34.18	17.87	52.05	724.12	273.97	998.08	1,050.13	287.54	573.73	49.09
LINCOLN			0.00	1,342.79	658.49	2,001.28	2,001.28	380.19	760.39	1,548.81
MASON	3.45	1.77	5.22	341.47	271.04	612.52	617.73	263.20	526.53	45.92
OKANOGAN			0.00	870.95	513.18	1,384.13	1,384.13	406.72	813.56	705.70
PACIFIC			0.00	220.46	130.12	350.58	350.58	119.85	240.12	48.32
PEND OREILLE			0.00	378.86	180.86	559.72	559.72	167.49	334.98	259.59
PIERCE	621.59	424.27	1,045.87	253.13	251.33	504.46	1,550.33	671.75	1,393.61	26.33
SAN JUAN			0.00	184.19	86.71	270.90	270.90	86.71	173.42	56.38
SKAGIT	56.53	41.92	98.45	387.79	312.95	700.75	799.20	354.88	710.74	40.83
SKAMANIA			0.00	152.85	85.55	238.40	238.40	85.55	171.83	29.04
SNOHOMISH	693.73	233.39	927.13	448.42	285.76	734.18	1,661.31	516.09	1,065.20	12.99
SPOKANE	302.62	148.00	450.62	1,438.21	650.48	2,088.69	2,539.31	720.26	1,484.84	1,174.87
STEVENS			0.00	928.83	561.69	1,490.52	1,490.52	465.12	930.27	828.56
THURSTON	238.44	71.89	310.32	451.89	268.46	720.34	1,030.67	340.34	695.17	30.74
WAHKIAKUM			0.00	58.39	85.18	143.57	143.57	78.90	157.80	16.92
WALLA WALLA	50.23	29.54	79.77	447.79	434.18	881.98	961.75	389.05	779.06	374.27
WHATCOM	80.12	42.46	122.58	510.79	318.40	829.19	951.77	360.86	724.22	32.31
WHITMAN			0.00	1,291.01	617.60	1,908.61	1,908.61	419.33	838.66	1,471.17
YAKIMA	85.38	83.15	168.53	819.17	670.14	1,489.31	1,657.84	729.48	1,474.21	564.31
STATEWIDE	4,191.81	1,883.31	6,075.12	21,041.81	12,602.03	33,643.83	39,718.95	12,804.97	25,931.78	13,810.69
EASTERN	725.61	406.44	1,132.05	14,906.29	8,637.68	23,543.97	24,676.02	7,424.06	14,929.51	13,203.20
WESTERN	3,466.20	1,476.87	4,943.07	6,135.51	3,964.35	10,099.86	15,042.93	5,380.91	11,002.27	607.48

Data from County Road Logs certified 1/1/09 by the County Road Administration Board

Table G

**COUNTY ARTERIAL PRESERVATION PROGRAM
2008 ACCOMPLISHMENT SUMMARY**

COUNTY	1/1/07 Eligible Arterial System C/Line (miles)	Total CAPP Rec'd (\$1,000)	Total CAPP Expended (\$1,000)	Total Eligible Expenses (\$1,000)	CAPP Contri- bution (%)	2008 Arterial Sealcoat (miles)	2008 Arterial Overlay (miles)	2008 Total Resurf. (miles)	2008 Percent System Resurf'd
ADAMS	545.77	649.1	649.1	1,251.7	51.9	58.6	0.0	58.6	10.7
ASOTIN	100.35	121.8	121.8	156.0	78.1	10.5	0.0	10.5	10.5
BENTON	305.08	362.6	362.6	1,010.2	35.9	32.9	1.8	34.7	11.4
CHELAN	236.84	282.7	282.7	444.5	63.6	28.5	0.0	28.5	12.0
CLALLAM	129.13	153.5	153.5	214.6	71.5	5.2	0.0	5.2	4.0
CLARK	458.58	588.9	588.9	4,579.5	12.9	43.9	9.8	53.7	11.7
COLUMBIA	141.17	167.7	167.7	443.8	37.8	15.2	0.0	15.2	10.8
COWLITZ	223.78	266.1	266.1	962.1	27.7	32.8	0.0	32.8	14.7
DOUGLAS	292.67	350.1	327.1	734.1	44.6	12.2	0.0	12.2	4.2
FERRY	187.15	222.7	37.5	28.9	129.9	0.0	0.0	0.0	0.0
FRANKLIN	345.42	412.8	412.8	611.6	67.5	32.5	0.0	32.5	9.4
GARFIELD	126.27	150.1	150.1	322.3	46.6	31.0	0.0	31.0	24.5
GRANT	835.23	998.5	998.5	1,825.0	54.7	98.9	0.0	98.9	11.8
GRAYS HARBOR	245.00	290.8	290.8	1,144.0	25.4	36.8	0.0	36.8	15.0
ISLAND	215.82	258.2	258.2	1,665.7	15.5	7.6	7.4	15.0	7.0
JEFFERSON	129.71	154.6	107.8	102.2	105.4	0.9	0.0	0.9	0.7
KING	544.21	688.4	688.4	3,610.7	19.1	0.0	18.2	18.2	3.3
KITSAP	313.68	377.7	377.7	1,232.6	30.6	0.0	8.0	8.0	2.6
KITTITAS	306.99	365.2	158.5	865.9	18.3	35.3	0.6	35.9	11.7
KLICKITAT	338.25	400.8	400.8	569.6	70.4	22.3	0.0	22.3	6.6
LEWIS	286.50	340.7	348.1	588.1	59.2	13.5	0.9	14.4	5.0
LINCOLN	379.18	450.6	450.6	550.7	81.8	24.8	0.0	24.8	6.5
MASON	264.44	314.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OKANOGAN	408.35	485.7	485.7	1,119.7	43.4	42.1	0.0	42.1	10.3
PACIFIC	119.57	142.2	170.5	1,491.7	11.4	3.4	3.6	7.0	5.8
PEND OREILLE	167.18	198.9	118.5	118.5	100.0	31.8	0.0	31.8	19.0
PIERCE	676.70	846.1	846.1	7,033.0	12.0	14.5	15.4	29.9	4.4
SAN JUAN	86.71	103.0	103.0	461.4	22.3	12.5	0.0	12.5	14.4
SKAGIT	355.37	423.0	423.0	1,133.1	37.3	38.7	0.0	38.7	10.9
SKAMANIA	85.76	102.5	257.0	849.8	30.2	13.4	1.7	15.2	17.7
SNOHOMISH	474.53	596.7	596.7	1,826.8	32.7	31.5	4.0	35.5	7.5
SPOKANE	714.67	873.4	873.4	3,449.4	25.3	54.8	4.1	58.9	8.2
STEVENS	465.12	553.0	553.0	732.8	75.5	32.3	0.0	32.3	6.9
THURSTON	347.54	422.0	422.0	2,233.7	18.9	22.9	1.9	24.9	7.2
WAHIAKUM	78.90	93.9	105.5	162.1	65.1	5.3	0.0	5.3	6.7
WALLA WALLA	390.37	463.8	462.0	1,031.0	44.8	34.5	0.0	34.5	8.8
WHATCOM	362.19	432.1	432.1	1,066.9	40.5	32.2	0.8	33.0	9.1
WHITMAN	418.82	497.9	497.9	853.7	58.3	34.4	0.4	34.8	8.3
YAKIMA	735.45	883.0	883.0	1,047.5	84.3	18.2	1.7	19.9	2.7
TOTAL	12,838.4	15,485.2	14,829.0	47,524.7	31.2%	966.0	80.3	1,046.3	
							AVERAGE		8.8

Table H

COUNTY FREIGHT AND GOODS SYSTEM - 1/1/2009

COUNTY	Freight and Goods System - Truck Route Class					Total FGTS	Total Adequate	% Adequate
	T-1	T-2	T-3	T-4	T-5			
ADAMS		0.53	31.58	346.32	204.53	582.96	180.63	31.0%
ASOTIN		0.15	23.00	19.98		43.13	38.05	88.2%
BENTON			116.75	126.87	84.16	327.78	84.38	25.7%
CHELAN			32.99	39.62	51.32	123.93	10.41	8.4%
CLALLAM			34.40	98.74	9.99	143.13		0.0%
CLARK	2.56	16.12	131.36	15.20		165.24	145.42	88.0%
COLUMBIA			10.30	49.06	147.07	206.44	11.20	5.4%
COWLITZ			79.62	57.47	3.00	140.09	112.09	80.0%
DOUGLAS			6.89	83.67	171.26	261.82	3.22	1.2%
FERRY			108.86	115.60		224.46	27.31	12.2%
FRANKLIN			103.78	161.88	251.62	517.28	246.85	47.7%
GARFIELD				10.13	125.75	135.88	116.96	86.1%
GRANT		10.46	273.01	261.92	305.98	851.37	58.38	6.9%
GRAYS HARBOR		1.03	211.56	7.13		219.72	192.26	87.5%
ISLAND			14.88	27.35	0.37	42.60	42.21	99.1%
JEFFERSON			40.81	33.19	65.75	139.75	108.26	77.5%
KING	21.07	28.09	275.20	112.83		437.19	402.97	92.2%
KITSAP	2.94	5.42	29.61	3.87		41.83	0.93	2.2%
KITTITAS		3.90	203.81	91.39	6.87	305.97	204.13	66.7%
KLICKITAT			174.68	111.37		286.05	7.63	2.7%
LEWIS			135.77	208.30	48.68	392.75	218.71	55.7%
LINCOLN			131.90	281.78	363.90	777.58	447.51	57.6%
MASON			40.89	80.46	1.46	122.81	2.09	1.7%
OKANOGAN			100.57	119.00	180.27	399.84	6.94	1.7%
PACIFIC				135.41		135.41	23.11	17.1%
PEND OREILLE			38.39	125.40	62.21	226.00	0.49	0.2%
PIERCE	11.47	53.64	307.00	24.35	7.70	404.16	134.89	33.4%
SAN JUAN			23.92	64.86		88.78	57.70	65.0%
SKAGIT		22.74	206.71	7.45		236.90	107.78	45.5%
SKAMANIA			22.83	58.73		81.56	81.13	99.5%
SNOHOMISH	4.64	7.45	348.30	110.27	60.82	531.48	339.20	63.8%
SPOKANE	5.69	31.95	455.74	106.90	109.28	709.56	599.65	84.5%
STEVENS			116.46	176.73	42.19	335.38	12.80	3.8%
THURSTON		1.14	164.41	32.01	4.13	201.69	21.24	10.5%
WAHKIAKUM			12.00	2.67	10.83	25.50	12.80	50.2%
WALLA WALLA			71.81	287.10		358.91	4.65	1.3%
WHATCOM			109.76	93.58		203.34	73.19	36.0%
WHITMAN			3.29	37.97	249.59	290.85	37.44	12.9%
YAKIMA		8.66	389.43	138.17	67.41	603.67	592.90	98.2%
TOTAL	48.37	191.27	4,582.26	3,864.73	2,636.15	11,322.78	4,767.51	42.1%

County Road Log Certified 1/1/2009 by the County Road Administration Board

Maintenance Management

How do we protect our investments in transportation infrastructure assets? This is a question central to many policy, legislative and administrative proposals related to state, county and city transportation networks. Whether one is addressing transportation benchmarks, accountability, funding, efficiency or best practices, analytic tools and the data supporting such tools play an essential role. And it is here where Maintenance Management takes center stage...

The Maintenance Environment

County road maintenance programs form a significant portion of county operations. For 2009, the 39 counties of Washington State budgeted over \$354 million for maintenance and preservation of the approximately 40,000 centerline miles of county roads. This budget also addressed the needs for maintenance and preservation of over 3,200 bridges and various road features including signs, ditches, culverts, guardrails and roadsides. For 2008, county road maintenance and preservation expenditures totaled \$354,640,000 or 37.4% of total road-related expenditures in counties. Road maintenance employment totals approximately 2,085 and represents one of the largest employee groups in the counties. County maintenance and preservation activities vary as counties address varying traffic, environmental and population characteristics across the state.

As attention was directed on state, county and city transportation infrastructure, special commissions and legislative bodies proposed various solutions to address maintenance and preservation needs. The table on this page presents an overview of some of the specific actions that ultimately resulted in the adoption and implementation of recommendations that began ten years ago. The County Road Administration Board played a key role in this process and has worked with the 39 counties of Washington State to address county road maintenance needs. As shown, the process of developing and

Timeline to adoption of a standard of good practice for Maintenance Management:

- 2000—Recommendations from the Blue Ribbon Committee on Transportation
- 2001—CRAB begins focus on Maintenance Management (MM); survey of county MM use
- 2002—HB 2304 signed directing CRAB to prepare a standard of good practice for MM
- 2003—January: HB 2304 null and void because no new transportation revenues were authorized
- 2003—May: SSB 5248 adopts recommendations of the Blue Ribbon Commission on Transportation; results in RCW 36.78.121 directing CRAB to prepare a standard of good practice for maintenance management to be implemented by December 2007
- 2003—CRAB prepares a Maintenance Management Manual (Draft) for the counties
- 2004—Draft Standard of Good Practice prepared by CRAB and distributed to counties for review
- 2005—Washington State Association of County Engineers establishes a Subcommittee on Maintenance to review Standard of Good Practice
- 2005—July: CRABoard approves final draft of WAC 136-11 and directs staff to prepare proposed rule making (CR-102) to establish a new standard of good practice for maintenance management.
- 2005—October: Public Hearing for WAC 136-11
- 2005—December: Effective date for WAC 136-11
- 2006—CRAB assists counties in meeting the December 31, 2007 implementation date for the new WAC 136-11
- 2006—WAC 136-300 modified to allow County Arterial Preservation Account (CAPA) funds to be used for maintenance management activities.
- 2007—CRAB continues to assist counties in meeting the requirements of WAC 136-11 and provides guidance in meeting reporting requirements
- 2008—Counties in substantial compliance with the requirements of WAC 136-11
- 2009—Counties begin reporting to CRAB by submitting annual maintenance plans and (in 2010) will be submitting an Annual Certification form for Maintenance Management

implementing specific rules to meet the legislative intent to address transportation infrastructure maintenance needs involved many players and resulted in the adoption of a new standard of good practice for maintenance management (WAC 136-11).

What is Maintenance Management?

Maintenance management provides a framework for developing maintenance plans, tracking work accomplishment and preparing reports that compare planned and actual work performance. The framework includes the typical management functions of planning, organizing, directing and controlling.

Planning maintenance activities based upon the road features to be maintained, the resources needed to provide maintenance and the level of service to be provided. This includes preparing budgets based upon performance guidelines to define the specific types and amounts of maintenance work.

Organizing the labor, equipment and material resources to ensure that planned maintenance activities can be accomplished with the budget available.

Directing maintenance operations by authorizing, scheduling and supervising maintenance activities and preparing the annual, seasonal and short-term schedules needed for guidance.

Controlling maintenance operations by monitoring work accomplishment and expenditures to ensure that planned work programs are actually achieved within available resource levels.

Why the increased focus on Maintenance Management?

In November 2000, the Blue Ribbon Commission on Transportation (BRCT) submitted its final report proposing major reforms and new funding strategies for transportation agencies. Included in the BRCT's recommendations were:

Recommendation #5: Invest in maintenance, preservation, and improvement of the entire transportation system so that the transportation benchmarks can be achieved. This recommendation further proposed that "All agencies and jurisdictions should be required to demonstrate the use of maintenance management systems... as a condition of receiving a baseline allocation of funding."

Recommendation #13: Link maintenance and preservation funds to best practices.

Direct a baseline allocation of adequate funding to operations, maintenance, preservation and safety functions...and, as a condition of receiving their baseline allocation of funding, require all agencies and jurisdictions to demonstrate the use of maintenance management systems and pavement management systems.

How did the County Road Administration Board address maintenance management?

In 2001, CRAB embarked on a program to address maintenance management needs in the counties. A focal point of CRAB's mission is to preserve and enhance the transportation infrastructure by providing standards of good practice and technical services. The goal of the maintenance management project was to increase county application of management principles to road maintenance activities.

During the initial three months of the maintenance management project, CRAB staff met with counties to discuss how maintenance management was currently being used. These initial meetings and discussions indicated a wide range of maintenance management procedures in use throughout the state. Each and every county practiced some form of maintenance management; however, the level of formality and the availability of information related to maintenance operations varied widely.

Typically, counties use the Budgeting, Accounting, Reporting System (BARS) to identify maintenance activities, develop budgets and report expenditures related to these activities. Not so typically, some counties have management information systems that provide detailed cost, work accomplishment and work location information and compare this with their budgets. Such information is an indicator of the level of formality of the organization's use of a maintenance management system.

There are many examples of good maintenance management practices being used at the counties and such examples were utilized in promoting the application of improved maintenance management practices in all counties. One of the challenges faced by counties was the increased focus on system integration, specifically the integration of Public Works information systems with county accounting systems.

The intent of the maintenance management project was to increase the application of formal maintenance management system use in county maintenance operations. By implementing standards of good practice related to maintenance management, counties were encouraged to examine their maintenance processes and to look for ways to improve on the various activities being performed.

Survey results indicated that approximately one-third of the counties utilized a formal maintenance management system to plan, schedule and report maintenance activities. Every county practiced some form of maintenance management; however, the level of formality and the availability of information related to maintenance operations varied. Indicators of MMS use include detailed descriptions of maintenance activities, weekly or bi-weekly scheduling forms, and reports showing costs, amounts and locations of completed work activities. In addition to focusing on the detailed elements of maintenance management systems, CRAB staff also addressed data entry and reporting, especially as related to Public Works and Accounting Information Systems.

How did the legislative process guide CRAB's focus on maintenance management?

In 2002, increased focus on maintenance management came from House Bill 2304 which became effective on July 1 and added a new section to RCW 36.78 that CRAB "shall establish a standard of good practice for maintenance of transportation system assets". Such focus provided further support for CRAB's mission to provide assistance to enable counties to attain and maintain compliance with standards of good practice. In January 2002, the maintenance management program section of the CRAB website was updated to provide various maintenance management resource materials.

How do counties collect and use maintenance data?

All counties collect maintenance data through the completion (usually daily) of time cards, with many similarities among the counties. This data is provided from the individual maintenance workers and field supervisors, so their role in data collection efforts is very important. A basic concept of maintenance management is that work programs are identified and resources allocated to individual field units in accordance with the need to accomplish the maintenance work. Work accomplishment is then reported.

Regardless of the way in which the data is processed for such work reporting, the concepts of a maintenance management system remain the same. The basic components of maintenance management systems developed for road maintenance organizations include the establishment of a management information system which provides the basic data required by operating managers for routine decision-making. One of the challenges is the increased focus on system integration, specifically the integration of Public Works information with varied county accounting systems.

How did CRAB provide guidance for maintenance management?

A draft manual on maintenance management, together with meetings throughout the state, focused attention on the implementation of more formal maintenance management practices in the counties. The draft maintenance management manual provided guidance in addressing the building blocks of a maintenance management system and assisted the counties in preparing to use more formal maintenance management practices.

What additional legislative support did CRAB receive for maintenance management?

During the 2003 legislative session, Substitute Senate Bill 5248 was passed. Part III of this bill addressed transportation planning and efficiency and added a new section to chapter 36.78 RCW. This section (307) is presented below:

The county road administration board, or its successor entity, shall establish a standard of good practice for maintenance of transportation system assets. This standard must be implemented by all counties no later than December 31, 2007. The board shall develop a model maintenance management system for use by counties. The board shall develop rules to assist the counties in the implementation of this system. Counties shall annually submit their maintenance plans to the board. The board shall compile the county data regarding maintenance management and annually submit it to the transportation commission or its successor entity.

Note that SSB 5248 enacted the provisions of HB 2304 that was deemed null and void because no new transportation funding was appropriated.

How did CRAB establish the standard of good practice for maintenance management?

Based upon accepted maintenance management practices, CRAB developed a draft standard of good practice for maintenance management. The accepted maintenance management practices included material from a large body of knowledge related to maintenance management and included references from county engineer peer organizations. Such organizations included the National Association of County Engineers (NACE), the American Public Works Association (APWA), the American Association of State Highway and Transportation Officials (AASHTO), and the Transportation Research Board (TRB).

The draft standard of good practice was then sent to the Washington State Association of County Engineers (WSACE) for review as part of the Washington Administrative Code (WAC) rule-making procedures. Following review and comments by County Engineers/Public Works Directors, a final draft was prepared. The County Road Administration Board addressed the proposed standard of good practice at their quarterly meetings in 2004 and specifically addressed CRAB's role, RCW 36.78.121, and WAC 136-11, as well as comments received during the Office of the Code Reviser CR-101 process for WAC 136-11 Maintenance Management. In January 2005, the Washington State Association of County Engineers Executive Board established the Committee on Maintenance Management. The committee was formed to provide a focal point for WSACE discussion and comment on the proposed Standard of Good Practice for Maintenance Management (WAC 136-11). The intent was to continue to review the Pre-proposal Statement of Inquiry that CRAB sent to the Office of the Code Reviser as part of their responsibility under RCW 36.78.121. From these comments, a revised draft was prepared for the Maintenance Management Standard of Good Practice and the Annual Certification form to be used by CRAB.

Continuing activities related to CRAB’s maintenance management program have included discussions with counties on plans for implementing the proposed standard of good practice and County efforts to prepare for implementation.

The proposed Standard of Good Practice for Maintenance Management, Washington Administrative Code 136-11, was the subject of a public hearing on October 27, 2005 during the regularly-scheduled CRABoard meeting at the County Road Administration Board office in Olympia.

The new Standard of Good Practice for Maintenance Management (WAC 136-11) became effective on December 1, 2005.

The Annual Certification Form to be used by CRAB in reviewing compliance with WAC 136-11 has been developed and is also being used to provide guidance to counties in meeting the requirements of the new Standard of Good Practice.

The Annual Certification Form is essentially a checklist for the requirements as identified under WAC 136-11 and provides a useful guide in meeting the requirements listed in the table on this page.

Reporting to CRAB comes in two parts—one, the submittal of an annual maintenance plan and two, certification of county adherence to the standard of good practice. The first part can be satisfied by preparation of a Work Program & Budget. The second part of reporting to CRAB comes as part of the Annual Certification.

During 2006, WAC 136-300 was modified to specifically allow CAPA funds to be used for maintenance management activities. In addition, the legislature approved a transfer of \$2.3 million from the Rural Arterial Trust Account to the County Arterial Preservation Account.

As required in RCW 36.78.121, CRAB established the Standard of Good Practice for Maintenance Management (WAC 136-11) and assisted counties in meeting the December 31, 2007 implementation date. Counties are in substantial compliance with the new standard of good practice and satisfy the requirements outlined above. One of the primary objectives of CRAB’s maintenance management initiative was to promote the increased use of formal maintenance management systems in county maintenance operations. Through implementation of the standard of good practice such increased use has been achieved.

What requirements are included in the Standard of Good Practice?

1. An inventory of significant maintainable road features (physical assets).
2. Activity Guidelines for significant maintenance activities.
3. A work program and budget that is based upon the road features to be maintained, the types and amounts of maintenance work planned, and the costs for the planned work.
4. Identification of resources (labor, equipment and materials) required to accomplish the planned workload.
5. Documentation of work scheduling procedures.
6. Reports showing work accomplishment and cost.

Throughout 2008 and 2009 CRAB has been monitoring use of maintenance management systems in the counties, assisting in improving maintenance documentation, and providing guidance in meeting the reporting requirements to CRAB.

Reporting forms for maintenance management changed in 2009. The County Road Administration Board's Calendar of Due Dates has been revised to include two NEW FORMS: The Maintenance Management Work Plan and Budget due December 31, 2009 and the Maintenance Management Certification form due April 1, 2010.

The Maintenance Management Work Plan & Budget form is no longer part of the Budget Summary Sheet (also due December 31, 2009). Acceptable forms for submittal to CRAB include the Work Program & Budget report output from the county's maintenance management system, completion of the Interactive Work Plan & Budget worksheet (using county-specific maintenance activities) or a county prepared spreadsheet in a similar format. The work plan and budget should be based upon an inventory of road features maintained, the types and amounts of work planned and the costs for the labor, equipment and materials needed to complete the work.

The Maintenance Management Certification form, due April 1, 2010, certifies county compliance with the requirements of the standard of good practice for maintenance management.

CRAB continues to support the use of maintenance management procedures in the counties. Such support includes field and management level assistance in the use of the various elements of maintenance management—planning, organizing, directing and controlling maintenance operations. CRAB has also developed a maintenance management system module in the Mobility data system. The module, the MMS Console, provides another tool that counties can use to manage maintenance operations. To date, the MMS Console addresses the planning and organizing elements of maintenance management with other elements of maintenance management to be included at a later date. Shown below is a screen print of the MMS Console in Mobility.



Maintenance management is an essential tool that assists counties in effectively and efficiently utilizing county resources. In the current environment of severely constrained county budgets, this tool offers benefits now and in the future and will help address transportation infrastructure maintenance and preservation needs.