



Tillamook County Public Works



2009 Road Performance Report



Submitted to:
Tillamook County
Public Works Department
503 Marolf Loop Road
Tillamook, OR 97141

Submitted by:
PBS Consulting, Inc.
3024 NE Bryce Street
Portland, OR 97212

Information through June 30, 2009
Prepared December 2009

**TCPW Road Performance Report - 2009
Document Control**

Revision Number	Date	Revision Details	Author	Reviewed	Approved	Informed
1.0	November 6, 2009	List Report Changes	Patricia Bugas-Schramm PBS Consulting			
1.0	November 9, 2009	Review Report Changes		TCPW Director		
1.1	December 11, 2009	Draft Report	Patricia Bugas-Schramm PBS Consulting			
1.1	December 16, 2009	Review Draft Report		TCPW Director		
1.2	December 21, 2009	Draft Final Report	Patricia Bugas-Schramm PBS Consulting			
1.2	January 4, 2010	Review Draft Final Report		TCPW Director		
1.3	January 15, 2010	Revise Final Report	Patricia Bugas-Schramm PBS Consulting			
1.3	January 15, 2010	Receive Final Report			TCPW Director	
1.3	January 2010	Distribute Final Report				BOCC & CRAC

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Director's Transmittal Letter

This is the second annual *Tillamook County Road Performance Report*. It builds on initiatives that began in 2008 to communicate the challenges and accomplishments of the Tillamook County Road Department.

Tillamook County's road network is critical for economic growth, safety and quality of life for those working, living and playing in the county. The County owns and operates transportation infrastructure assets valued in 2008 at \$394 million. This includes roads, bridges, levees, culverts, signs, pavement markings and ditches. Over 100 pieces of equipment and 23 County employees respond to weather events and calls for service. The purpose of this team is to maintain the capacity and condition of Tillamook County roads so that the traveling public's risks are managed and costs of road services minimized.

As cited in last year's report, the County's road system needs more work than there is money to pay for it. County roads have been under funded for years and the condition of County roads continues to decline. County roads are rated the worst in Oregon. An additional \$37 million was needed in 2008 to bring paved roads to good condition. Two more federally-declared weather events in December 2008 continue to add to the burden of safety and infrastructure maintenance, and reduced the time and money available for road maintenance. A 611% increase in emergency response, \$734,000, was spent in Fiscal Year 2008-2009. Without new funding, the condition of County roads will continue to decline.

While the community considers solutions to finding sustainable road funding, the Road Department remains committed to looking for new and better ways to manage the resources we do have. The Board of County Commissioners adopted a policy in July 2009 that set guidelines for implementing consistent road asset management processes. This starts with knowing what road assets are owned by the County, their condition, value and the present and future transportation needs of the community. Road service priorities are based on an assessment of risk conducted in June 2008. This annual report informs County businesses, citizens and leadership as risks are managed and conditions change.

Twenty-five percent of 2009 expenditures were used to replace and repair County bridges. Tillamook County has replaced 6 bridges in poor condition by the end of Fiscal Year 2010. This was possible using OTIA funds, a statewide bond issue. However, once completed, there will be no funds available to rehabilitate and replace bridges. In spite of these accomplishments, there were 13 bridges in poor condition in 2009. Lommen Bridge over the Nehalem River has a sufficiency rating of 4 out of 100. This is one of the worst bridge rating in the state.

Better inventory and condition information is needed on culverts that manage Tillamook's stormwater. Average rainfall is 90 inches per year. There have been catastrophic collapses of aging culverts in 2008 and 2009. Drainage management—repairing, inspecting and replacing critical culverts—was ranked a high risk to this community in 2008. Thirty-one culverts were replaced in FY 2009, 1% of the total estimated inventory. Over \$350,000 was used for this and drainage ditching, a 337% increase over the past 5 years. A drainage management strategy is needed that identifies high risk locations and establishes an inspection program for the road network. The Road Department is looking for resources to inventory and assess the condition of County culverts in the next year to begin this effort.

Vegetation management is the source of 9% of service requests and is considered an extreme risk given the high rainfall and mild county temperatures. Mowing, brush removal and weed spraying services are

funded at 49% less than 5 years ago. Reduced staff means services are not keeping up with these complaints.

Our work seeks to partner with other agencies to minimize costs. In 2009 Marion County re-striped 299 miles of county roads. Introducing road preservation techniques, like chip sealing and full-depth reclamation, help preserve the life of paved County roads. We are building on the experience and capabilities of our employees through a commitment to safety and cross-training. As of 2009, fully 50% of Road Department employees are eligible for retirement. There are now 23 employees, a 43% decline since 1998. There are 115 vehicles and pieces of equipment used to maintain the roadways; 73% of the fleet is older than 10 years with all 5-yard dump trucks older than 30 years. Some equipment parts are not available and must be made in-house. Core road services will need to be evaluated if there is further decline in road revenues, or staff attrition.

There are many Fiscal Year 2008-2009 accomplishments due to the hard work and dedication of the County Road Department. These include:

- Pavement overlay 2.64 miles (Tideland Road, Miami-Foley Road, Whiskey Creek Road, Trask River Road, Curl Bridge Road, Resort Drive)
- Replaced Johnson Bridge - 25% of 2009 expenditures with OTIA funds, a statewide bond issue
- Repaired bridges (Slab Creek Bridge, Ollie Woods Bridge, Holgate Bridge, Lommen Bridge, Bay's Creek Bridge)
- Repaired 260 feet of guardrails using liability insurance and ODOT funding
- Pothole repair (Foss Road, Resort Drive, McCormick Loop, South Prairie)
- Replacing 31 culverts, 1% of the estimated 3,200 culverts (Anderson Road, Burton Frasier Tidegate, Blaine Road)
- Ditching (Trask River Road, Savage Road, Irish Road, Makinster Road, Foss Road)
- Vegetation Management (Mowing, brushing, weed spraying)
- Traffic Safety (All 4,641 signs inspected for night time visibility, 299 miles re-striped by Marion County, 926 hours for sign maintenance, repair and replacement)
- Maintain 115 vehicles & pieces of equipment (conducted 124 Level A Maintenance, 97 annual safety inspections; invested in a pick up truck and excavator)
- Capital Projects, Bridge Design Contracts & Project Management – (Johnson Bridge design, Boulder Creek bridge design, Asset Management)
- Development Review – 475 road approach, utility and land use review permits
- Managed service requests, conducted training, safety programs, cost accounting, budgeting, accounts receivable/payable

We are proud of our contributions. We believe we've struck a balance between economic realities, stewardship of County road assets at greatest risks and the livability of our county given available resources. We are committed to sharing this information to the community so that solutions to current and future challenges can be found.



Liane Welch, Director
Tillamook County Public Works

1. Introduction

a. Purpose

This is the second annual report on Tillamook County Public Works (TCPW) road service performance. Monitoring and reporting performance serves to:

1. Establish current County road performance and identify future needs
2. Communicate with customers and partners
3. Monitor and report progress on delivering results based on strategic objectives and tactics of road asset management plan
4. Manage resources annually over a 3-year planning horizon
5. Measure and compare road services with similar agencies to understand and implement best appropriate practices at Tillamook County.

Three types of performance measures are included:

1. Strategic measures link the County's strategic vision and goals, legislative requirements and customer expectations with what Tillamook County Public Works must provide to achieve the desired community outcomes (e.g. smooth, safe and affordable roads rely on pavements and bridges in good condition with appropriate signs to ensure the safety of the traveling public). Current road network performance or significant aspects of road services are compared to a target level of service (e.g., 65% of paved road surfaces in Good or Very Good condition) where targets have been adopted. Strategic indicators are primarily used to report to external stakeholders.
2. Program or tactical measures link Tillamook County road services to measurements as perceived by the customer and the technical expert, and set targets of performance. Where possible, the current road service performance and future targets are identified so progress can be measured and reported.
3. Operational performance measures are related to the timeliness and cost efficiency of activities performed to deliver a program or service. These monitor and report the value for specific road services delivered.

Explicit performance targets are included where adopted. Performance targets align the road management strategy and Tillamook County Public Works road resources and efforts. Comparing targets with what is achieved annually indicates whether strategic objectives are being achieved, or road service needs are changing and why. Clear accountability helps decision makers, citizens, and TCPW employees communicate these choices by using the same information. Future impacts can be better managed and risks minimized if strategy and actions are linked and monitored.

This report should be read in conjunction with:

- The *Tillamook County Public Works Road Asset Management Plan 2008* which describes the links between Tillamook County road management strategy, tactics and current operations.
- The *Tillamook County Public Works Core Infrastructure Risk Management Plan for Road Assets*, January 2009. Road service priorities were established by a Risk Management Team as a part of a June 2008 workshop.

This report contains the most current funding and asset performance information available. Unless noted, information is through June 30, 2009. Updates of this information will occur annually.

b. Tillamook County Public Works Vision & Mission

Vision

Tillamook County's high quality, safe road network supports a thriving economy and a healthy environment. Well-trained and professional staff works in partnership with the community to ensure that the County road network meets the needs of citizens now and in the future.

Mission

Tillamook County Public Works serves the public by providing, maintaining and preserving a safe and efficient county road network, and quickly responding to weather events and hazards. The public's investment in the road network is protected by working with other agencies and targeting resources to minimize long term costs while providing the best possible service given available resources.

Strategic objectives that achieve this mission are to:

- Maintain a safe road system by
 - Responding to weather events
 - Identifying and repairing hazards
- Preserve county roads to prevent further deterioration and protect the public's investment
- Reconstruct the most critical road assets
- Bring road facilities up to standard and manage the County roads to meet current and future needs

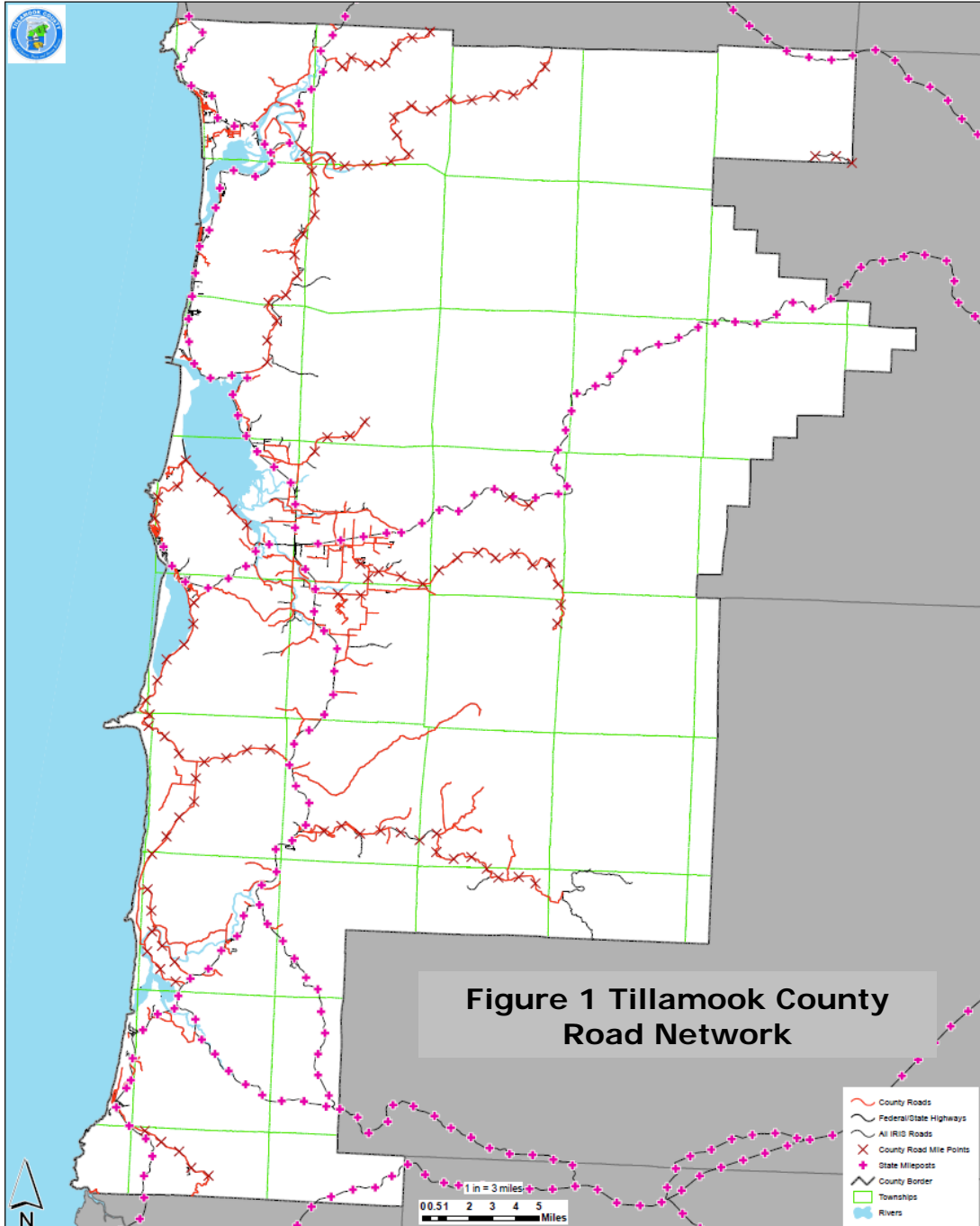
Tillamook County Public Works (TCPW) adopted this mission in 2008, and reconfirmed it in 2009.

The Board of County Commissioners adopted a Tillamook County Public Works Asset Management Policy July 1, 2009.¹ It embraces asset management strategies and best practices as the foundation to Public Works business processes. Performance reporting and a commitment to continuous improvement are the foundation of this approach. The accompanying 3-year improvement plan reflects how TCPW is implementing actions that minimize long term costs, manage risks to the community and meet legal obligations associated with managing the county road network for the citizens and businesses in Tillamook County.

¹ See Appendix A, Asset Management Policy.

c. County Road Network

Tillamook County Public Works (TCPW) manages a 380-mile county road network for 24,927 county citizens.²



² Tillamook County Comprehensive Annual Financial Report, June 30, 2009.

The road network provides safe access to services for county residents and movement of goods to and within the county.

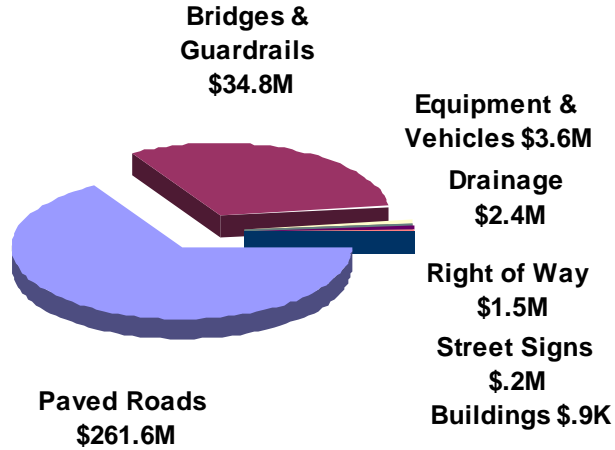


Figure 2 County Road Network Value \$394 Million - 2009

The 2009 County road network replacement value is conservatively valued at \$394 million. Sixty-six percent (66%) of the road network's value is in its paved roads and 31% in the 96 bridges.³

d. County Road Services

TCPW is responsible for the following managing county:

- Roads (paved and gravel)
- Structures (bridges, levees and guardrails)
- Drainage (culverts and ditches)
- Traffic Safety (road signs, road markings, traffic signals)
- Equipment and vehicles
- Facilities (buildings) management
- Quarries
- Operational services that support the above (Vegetation Management, Emergency Management, Engineering and Administrative Services, Materials and Stockpiling)

³ Rating the condition and revaluing paved roads occurs every other year and will be updated in 2010.
PBS Consulting TCPW Road Performance Report – 2009 v.1.3

e. County Road Network Inventory, Value & Condition and Unmet Need

Table 1 Tillamook County Road Network Inventory, Value, Condition & Unmet Need

TILLAMOOK COUNTY ROAD NETWORK INVENTORY, CONDITION, AND VALUE JULY 2009										
FACILITY	GASB34	STATUS	REPLACEMENT VALUE	CONDITION*						TOTAL UNMET NEED**
				VG	G	F	P	VP	TBD	
PAVEMENT										
Paved***	X	283 centerline miles	\$261,600,000		25%	15%	25%	35%		\$37,000,000
Gravel		97 centerline miles	N/A						X	N/A
			\$261,600,000							\$37,000,000
STRUCTURES										
Bridges	X	96	\$122,689,350		67%	20%	13%			TBD
Guardrails		10.1 miles	\$1,152,385	39%	8%	8%	33%	10%	2%	\$495,526
Levees		7	TBD						X	TBD
			\$123,841,735							\$495,526
DRAINAGE										
Culverts	X	3,210	\$2,375,000						X	TBD
Ditches***		198 miles	TBD	1%	6%	63%	22%	8%		TBD
TRAFFIC SIGNALS		1	TBD						X	TBD
STREET SIGNS										
Signs	X	4,641	\$139,230	85%	14%		1%			\$1,620
Delineators	X	457	\$9,597						X	TBD
Posts	X	4,165	\$70,805						X	TBD
			\$219,632							
PAVEMENT MARKINGS										
Painted center lines miles		299	N/A							N/A
Painted Stop Bars		TBD	N/A							N/A
VEHICLES & EQUIPMENT****	X	115	\$3,898,879						TBD	TBD
BUILDINGS****	X	TBD	\$85,103						X	
RIGHT-OF-WAY****		2,367 acres	\$1,475,557							
TOTAL			\$393,495,906							\$37,497,146

*Asset condition categories vary using 3, 4 and 5-level condition assessment categories.
 **Unmet need varies by asset class; the level of service is defined specific to the asset class' highest performance for the least cost, or can simply be the elimination of assets in poor condition (e.g., signs).
 ***Information 2008
 ****Tillamook County Comprehensive Financial Annual Report, June 30, 2009. ROW width: minor arterials & major collector: 60 feet; minor collector width is 60 feet; locals 45 feet.
 Notes: VG = Very Good, G = Good, F = Fair, P = Poor, VP = Very Poor, TBD = To Be Determined, N/A = Not Applicable

The most recent evaluation of Tillamook County’s pavement condition is from 2008. Paved road condition rating, or the Pavement Condition Index (PCI) in 2008 was Fair (45 PCI), a decline from 2007. \$375.5 million was needed in 2008 to bring County roads to Good condition and address known guardrail needs. This long term investment represents the lowest lifecycle cost that is required to manage paved roads in a state of Good condition.⁴

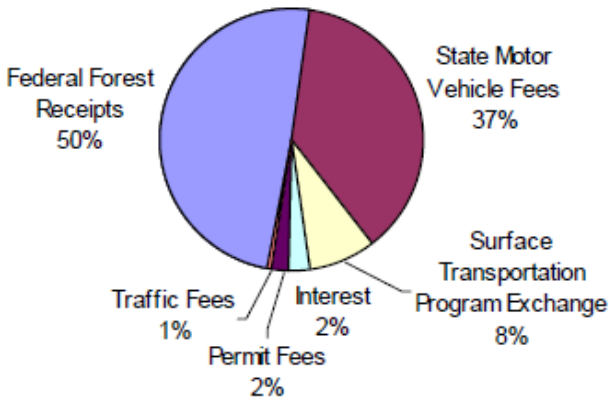
Bridge replacement value was updated in 2009 at \$123 million, the second most valuable County road asset class. This replacement value reflects recent Tillamook County bridge reconstruction costs and accepted state average bridge replacement costs.

In 2009, 13 (13%) of the County’s 96 bridges are in poor condition, up from 7% in 2008. Once OTIA state bridge funds are expended in Fiscal Year 2010 there will be no funds to rehabilitate or replace County bridges.

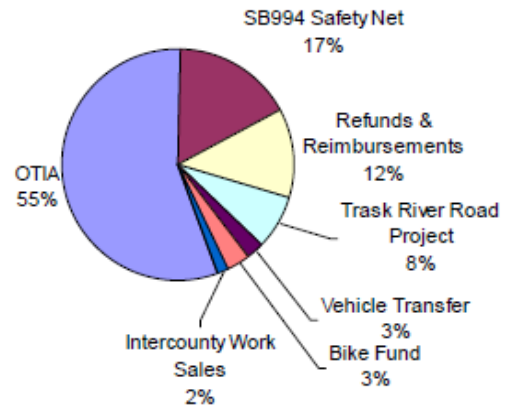
⁴ Pavement condition is updated every other year. The next update will occur in 2010.

2. TCPW Services – Sources of Road Revenues & Expenditures

**On-going Road Revenues
\$3.3 Million**



**Other One-time, Dedicated Revenues
\$5.3 Million**



*Without Beginning Fund Balance - \$2.4 Million

Figure 3 TCPW Road Revenues Fiscal 2009

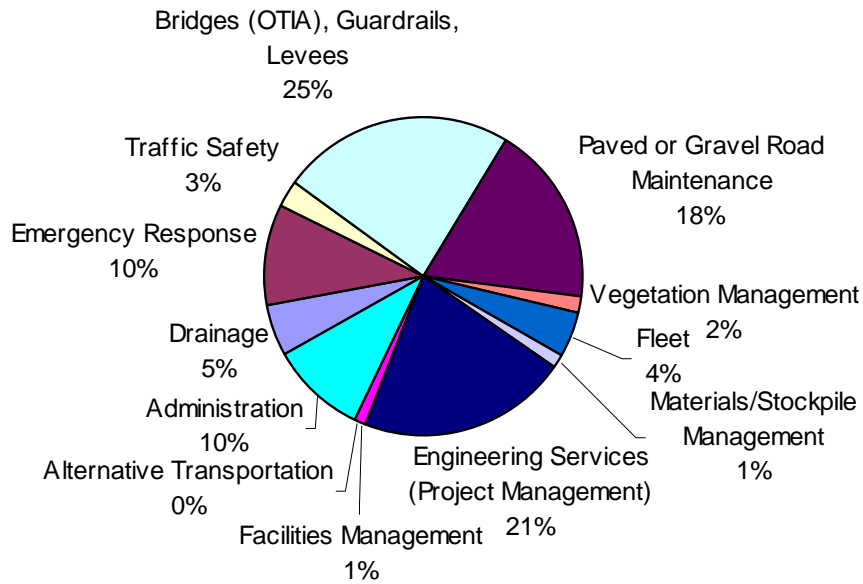


Figure 4 TCPW Road Expenditures Fiscal 2009

3. Reporting Relationships

a. Management and Reporting

Tillamook County's road assets are managed by Public Works. TCPW is advised by the County Road Advisory Committee (CRAC) and reports directly to the Board of County Commissioners (BOCC). The organizational structure is shown below.

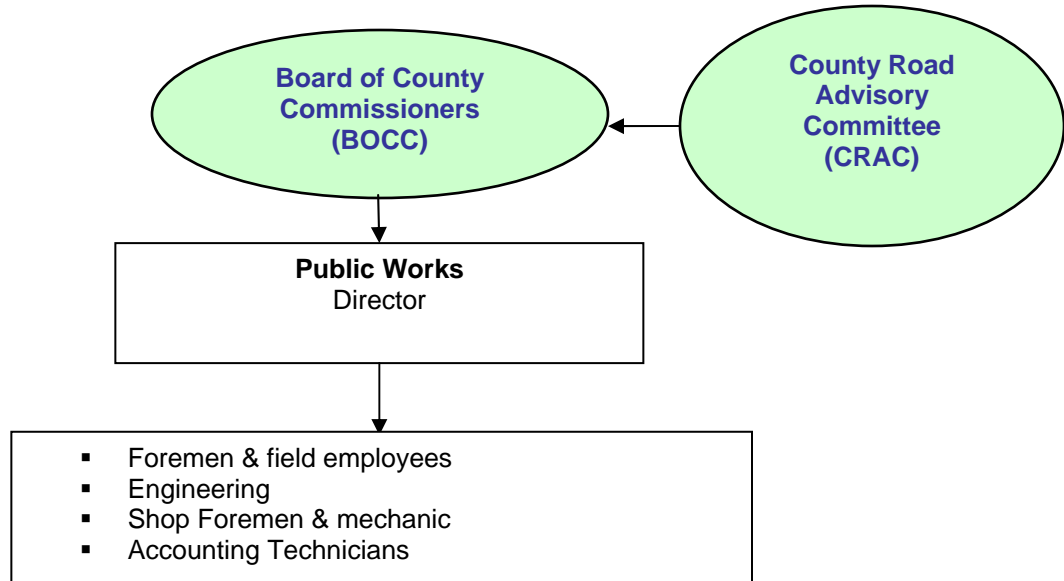


Figure 5 Tillamook County Management Structure

County asset management roles and responsibilities extend beyond TCPW and are considered critical to successful management of road services. This recognizes that asset management planning is a County responsibility and requires the commitment of the County Board to succeed.

b. Road Management Strategy & Decision Making Process

The TCPW county road network management strategy is to “Preserve investment at the least cost to meet present and future needs.” This approach uses key performance criteria to target the best investment timing. However, given the current Fair condition of county road assets, a “Mix of Fixes” strategy is pursued to ensure the safety of the traveling public. This requires major rehabilitation and reconstruction of some county road assets, while preserving the condition of other road assets so they do not fall into disrepair and require early replacement or reconstruction.

TCPW is committed to maintaining an inventory of its transportation assets—the pavement, bridges, signs, guardrails and other assets—that make up the county road network. Periodic inspection of these assets identifies their current performance. Regular maintenance, periodic renewal and eventual asset replacement and disposal are required.

Technical analysis is performed on high cost (e.g., pavement) and high risk (e.g., bridges, stop signs) assets to identify current and future performance. This and regular, documented and repeatable inspections identify network condition, and candidate repair and replacement projects.

TCPW reviews candidate projects considering other agency partnership and funding opportunities. An annual work plan of selected projects is discussed with the County Road Advisory Committee and approved by the Board of County Commissioners.

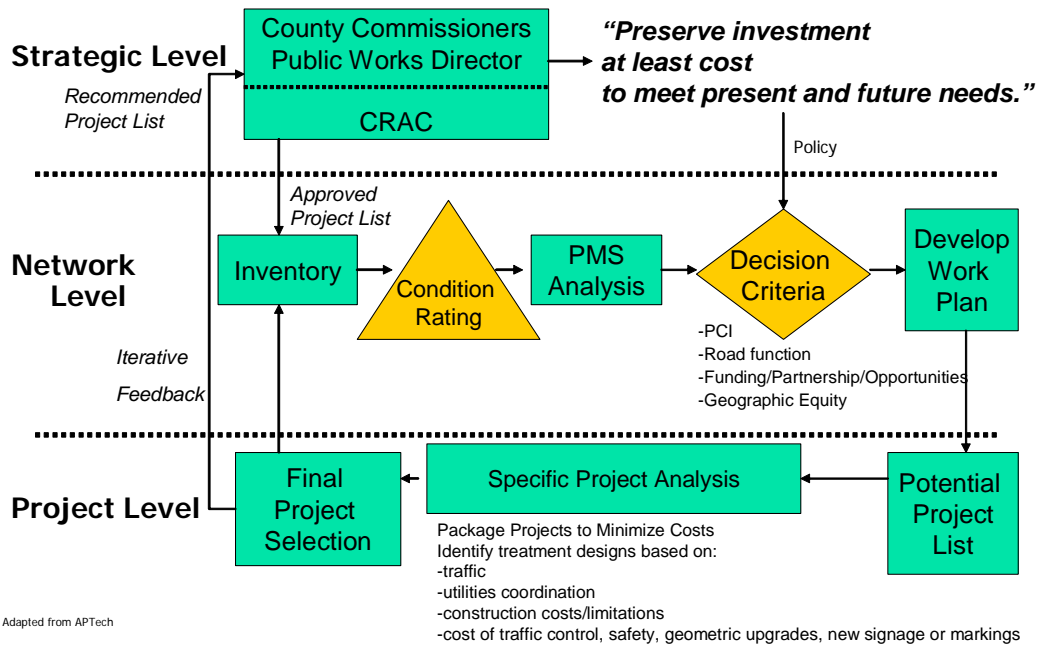


Figure 6 Strategic Alignment & Road Asset Management

c. Links to Other Plans & Strategies

Management of county road assets relates to adopted County strategic plans and processes, public expectations and legislative mandates.

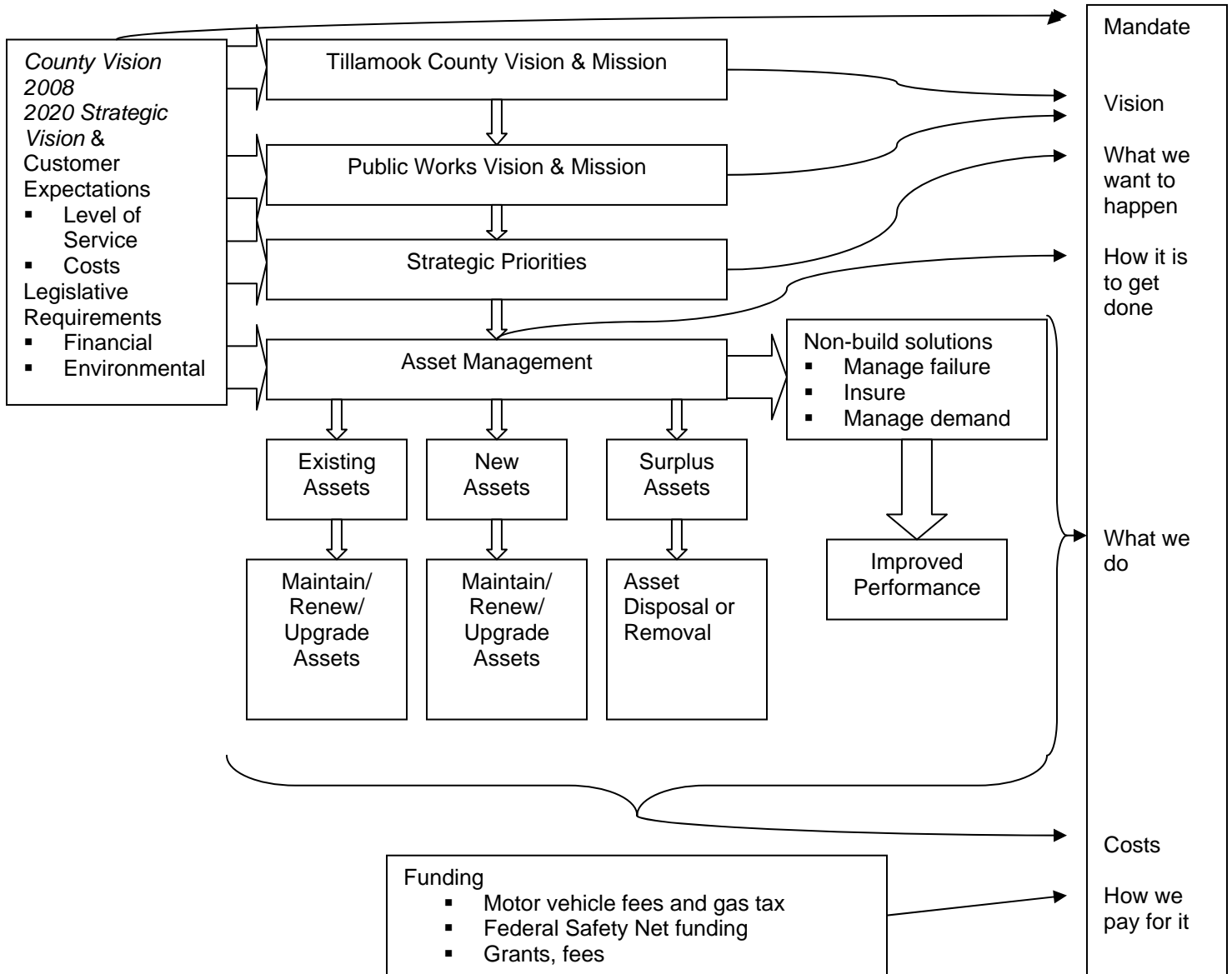


Figure 7 Tillamook County Strategy, Planning & Policy Framework

4. Tillamook County Road Customers

Tillamook County provides road services that meet the needs of the community. What services are provided, and how they are provided depends on the community served. Many agencies and jurisdictions directly influence the demands and management of roadways within Tillamook County.

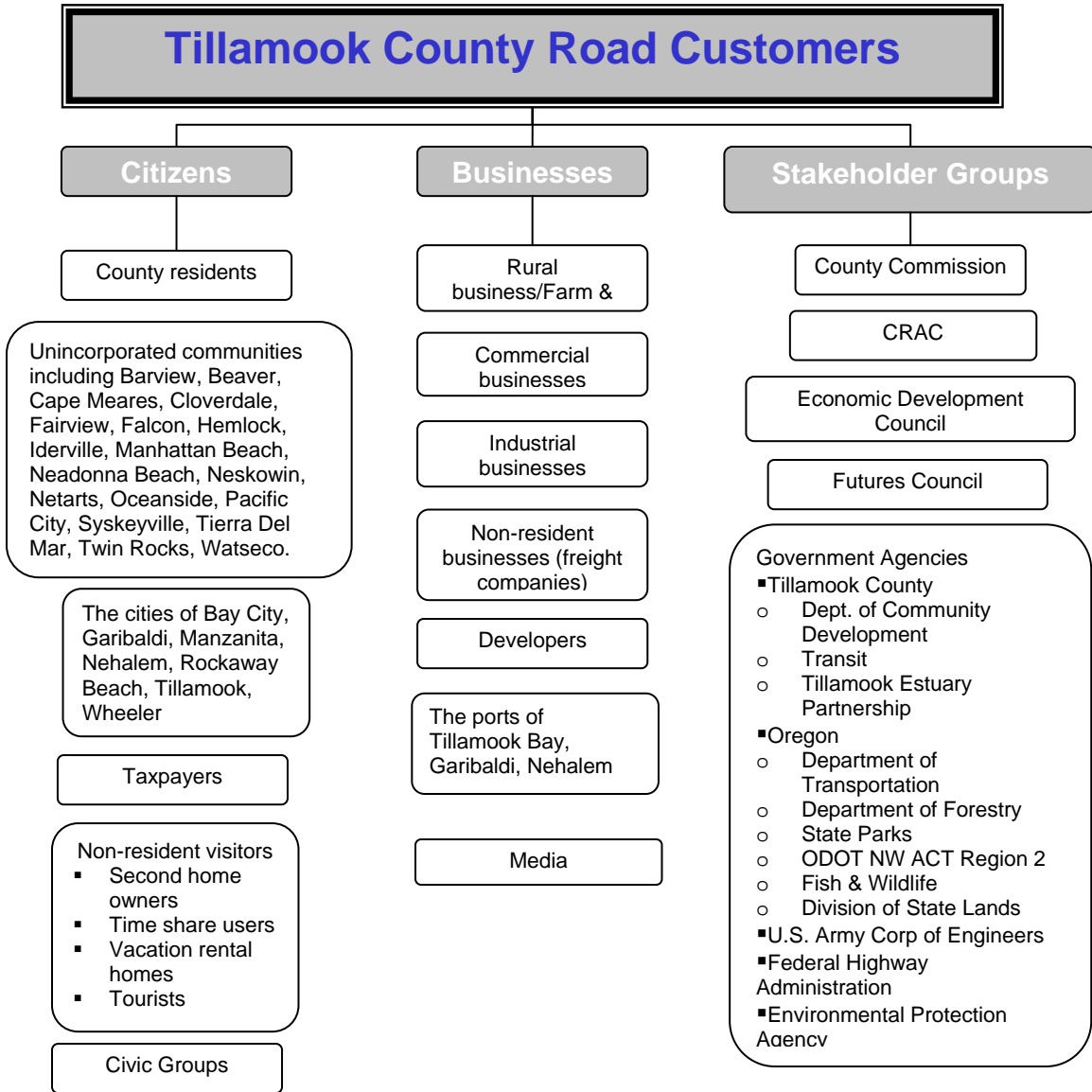


Figure 8 Tillamook County Road Customers

5. Risk Assessment and Management

The relative priority of TCPW services and their assets was established by a June 2008 Risk Workshop Team. Members of the team are:

- Tillamook County Board of County Commissioners (BOCC)
- County Road Advisory Committee (CRAC) Members
- Tillamook County Public Works Director and management staff
- County Community Development Director
- Tillamook County Coastal Resource Planner
- Tillamook County Treasurer
- Tillamook County Human Resource Director

Using existing inventory, condition and value information and Tillamook County Public Works management knowledge, the Risk Workshop Team assessed the types of failure that might be expected, how likely failure was, and if failure was to happen, the consequences to Tillamook County road service customers.

Criteria used to evaluate consequence include:

- Economic (damages to community, losses, additional expenditures)
- Legal compliance
- Community impact
- Human health and safety
- Reputation
- Environment
- Human resource

Based on this analysis (likelihood and consequence) a risk level was assigned.

Required actions and a risk management strategy are used by TCPW to manage Extreme and High risks within available resources. Risks are monitored as a regular course of business, transferred to others (e.g., local access roads), or accepted, given the current level of resources.

Table 2 Risk Treatment

Risk Rating		Action Required
E	Extreme Risk	Immediate action required to reduce risk
H	High Risk	Management attention required to manage risk
M	Medium Risk	Management responsibilities specified and risk controls reviewed
L	Low Risk	Manage by routine procedures

The results of the June 2008 Risk Workshop are shown below.

Table 3 Tillamook County Risk Rating 2008

Asset or Service Program	Asset or Service Subprogram	Risk Rating
Roads	Arterial & collector paved roads	Extreme
Vegetation Mgmt.	Spraying & mowing roadsides	Extreme
Equipment	Fleet & equipment	Extrteme
Admin. Services	Staffing levels & succession	Extreme
Emergency Mgmt.	Roads, Structures, Drainage, Traffic Safety, Department Employees	Exreme
Roads	Gravel roads-county maintained	High
Roads	Local Access Roads	High
Structures	Bridges	High
Drainage	Culverts, ditches & shoulders	High
Traffic Safety	Signs-Regulatory (stop signs)	High
Traffic Safety	Pavement markings	High
Traffic Safety	Pavement markings	High
Materials Mgmt.	Quarries	High
Structures	Guardrails	Medium
Traffic Safety	Signs-Other	Medium
Engineering	Engineering Services	Medium
Facilities	Public Works buildings	Low

Within each asset class, critical assets for safe passage on County roads and bridges are identified and managed (see weight limited bridges, bridge sufficiency ratings, pavement management system, and Integrated Road Information System for these rank-ordered assets). Monitoring and addressing critical needs occurs as a part of the risk evaluation process, on-going inspection and are reflected in the annual operating and capital budget.

6. Performance of TCPW Road Services

a. Progress on Key Indicators

The table below provides a general state of County road indicators included in this report. Details about the progress of each indicator are within the report.

Table 4 Progress on Key Indicators - 2009

Progress	Indicator	Comment
Good Progress	Signs	99% stop signs in Good condition; nighttime visibility for all signs assessed annually
	Equipment	Preventive Maintenance performed on all vehicles; replaced pick up and excavator
	Levees	2009 inventory & condition assessment; general assessment of Satisfactory or Adequate
No Trend	Quarries	2009 inspection
	Ditches	2008 inventory & condition assessment; 93% require some maintenance & 30% in Poor or Very Poor condition
	Guardrails	2007 inventory & condition assessment; 43% in Poor condition
	Service Requests	2009 tracking & reporting started
Changes are not favorable	Culverts	Unknown condition & some catastrophic failures
	Paved roads	Declining condition due to inadequate funds
	Gravel roads	Inadequate staff to maintain regular maintenance
	Vegetation Management	Inadequate resources to maintain regular maintenance; not meeting customer expectations
	Bridges	13 bridges in poor condition in 2009, up from 7 in 2008; OTIA funding ends in FY 2010
	Emergency management	Significant expenses (10%) are required to respond to weather events which takes away from regular road maintenance
	Facilities	Buildings exceed useful life and function; emergency Shop roof repair in 2009

b. Detail of Road Service Performance, Condition and Need

b.1. Paved and Gravel Roads

b.1.1 Strategic Outcome and Objectives

Provide, maintain and preserve a safe and efficient

Strategic objectives are to:

- Preserve the condition of paved roads so they not fall into disrepair and require early replacement or reconstruction.
- Ensuring safety and minimizing unpaved local costs by blading and graveling every other year

b.1.2 Inventory

There are 380 miles in the County road network. Seventy-four percent (74%) or 283 miles are paved, the remaining 97 miles (26%) are local gravel roads.

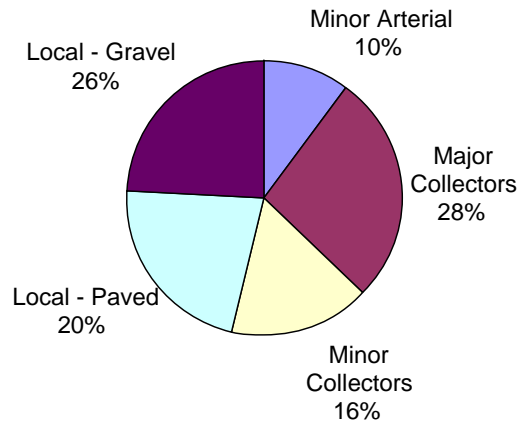


Figure 9 Road Inventory

b.1.3 Value

The June 30, 2008 replacement cost for County roads is \$261.6 million⁶

b.1.4 Pavement Condition

Pavement condition is a Key Performance Indicator for County road network needs. Road condition is evaluated every other year.

The 2008 Tillamook County road condition is Fair, or a network weighted average of 45 Pavement Condition Index (PCI). Arterial and collector roads are in better condition than local roads.

Table 5 Pavement Condition

Condition Category	PCI Range
Good	70 - 100
Satisfactory	50 - 69
Fair	25 - 49
Poor	< 25

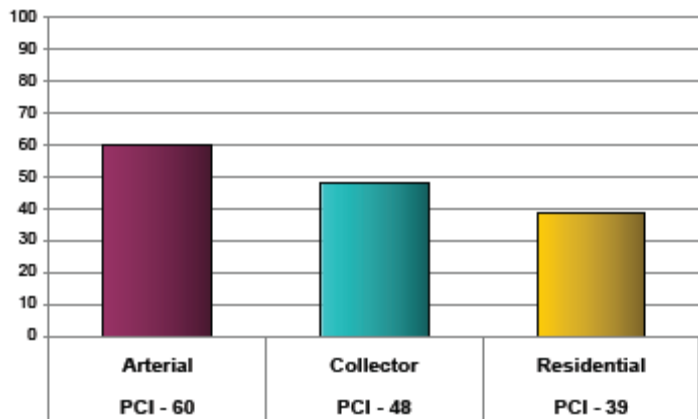


Figure 10 2008 Pavement Condition by Type of Road (45 Network Weighted Average)

⁵ Source: *Tillamook County Comprehensive Annual Financial Report for June 30, 2009.*

⁶ Source: *Tillamook County Public Works Pavement Management Program Budget Options Report, Capitol Asset and Pavement Services, Inc., December 2008.*

b.1.5 Pavement Condition - 2001-2008

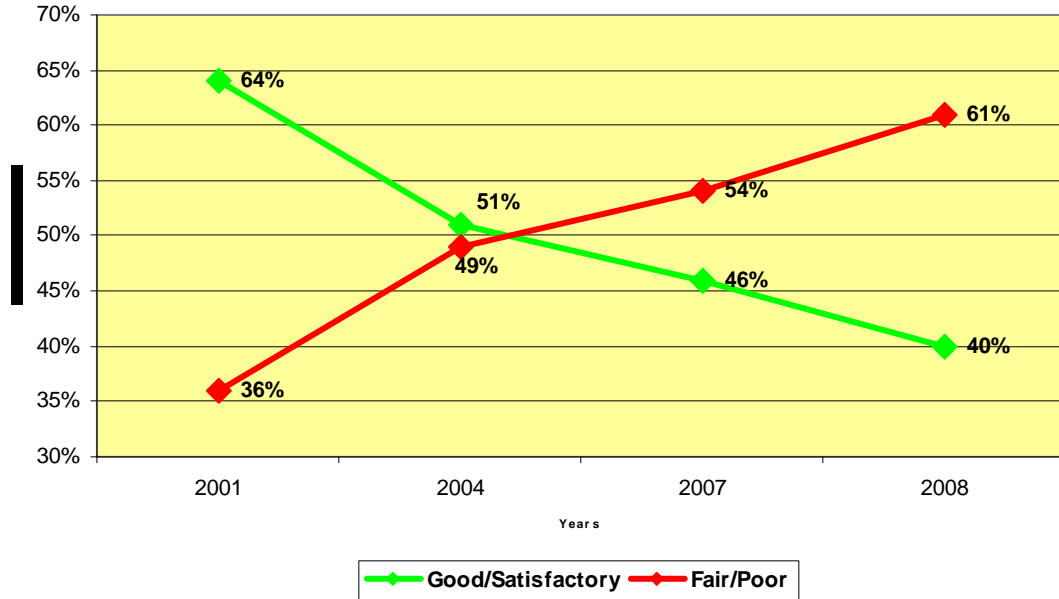


Figure 11 County Road Condition Declined - 2001-2008

b.1.6 2008 Cost of Road Surface Management

Strategy	Activity	Cost	Unit	Road Condition	
				Category	PCI
Routine Maintenance	Crack Seal	\$0.84	lineal foot	Good	90
Routine Maintenance	Chip Seal	\$2.25	square yard	Good	90
Preventive Maintenance	Thin Overlay (1.5")	\$7.50	square yard	Satisfactory	50-70
Minor Rehabilitation	Thin Overlay with leveling	\$7.50	square yard	Fair	25-50
Rehabilitation	Thick Overlay (3-5")	\$14.50	square yard	Fair	25-50
Replacement	Reconstruction	\$90.00	square yard	Poor	0-25



Figure 12 Intervention Strategy & Pavement Condition Index (PCI)

⁷ Tillamook County IRIS, Street Saver (Pavement Management System), 2008

b.1.7 Road Lifecycle Management & Activity Costs 2005-2009

Table 7 Road Management Activities by Lifecycle

Activity (Source: IRIS)	Routine Maintenance	Reactive Maintenance	Preventive Maintenance	Rehabilitation	Reconstruction
1101 – Pothole Repair		✓			
1102 – Surface Blading	✓				
1104 – Shoulder Maintenance	✓				
1105 – Brooming	✓				
1150 – New Base/Sub Base				✓	
1151 – New Oil Mat (Gravel)			✓		
1152 – Oil Seal Coat (Pavement)			✓		
1153 – Paving (includes blade patch less than 2 in.)			✓		
1154 – Paving (2 inches or more)				✓	
1181 – Road Conditions	✓				

Road Lifecycle Expenditures
2005-2009

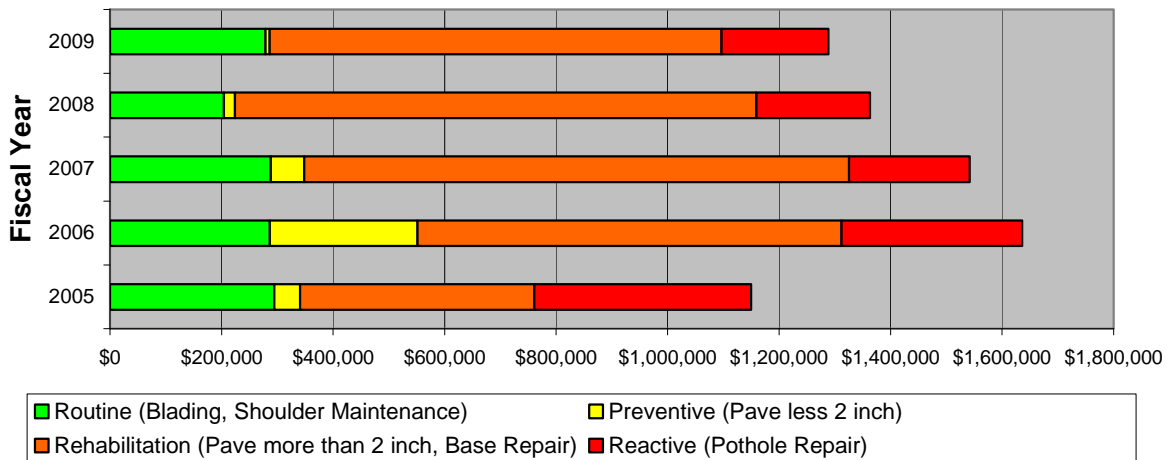


Figure 13 Road Lifecycle Management 2005-2009

Table 8 Road TCPW Road Resurfacing Accomplishments – 1998-2009⁸

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Resurfacing (miles)	6.3	2.0	5.4	7.1	3.9	4.8	4.7	18.2	12.3	4.0	8.9	2.6

2005 and 2006 pavement overlay projects included projects with federal and state funding.

b.1.8 Future Pavement Performance Options & Decisions- 2008-2018

The five scenarios show pavement condition in 2018 given funding levels. Given current funding levels, Tillamook’s road network will decline to a pavement condition of 32 PCI, or Fair condition by 2018.

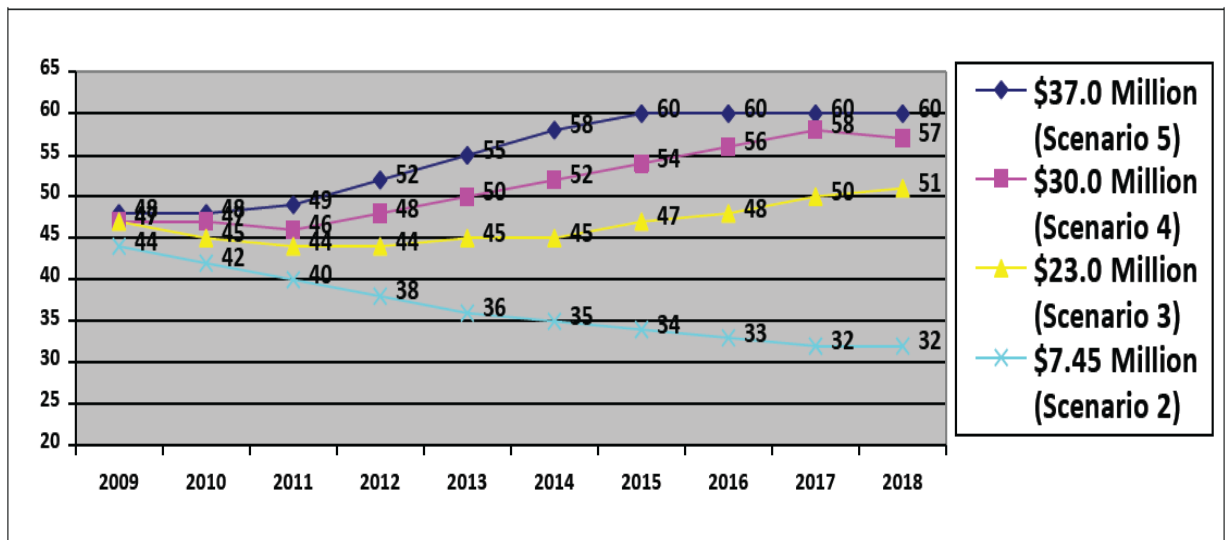


Figure 14 Pavement Condition Scenarios and Expenditures 2009-2018⁹

Current funding will result in continued decline of the County road network. Funding is insufficient to maintain the street network over the long run; the deferred maintenance backlog will continue to rise. If the 2008 funding level (\$745,000 per year) continues over ten years, the network PCI will decrease to 32 (Scenario 2). The deferred maintenance backlog continues to increase, to \$191.6 million by 2018.

If the County were to increase the funding level to \$3.7 million per year (Scenario 5), for a total of \$37.0 million over ten years, the network level PCI would increase by 15 points, to 60 at the end of the ten year analysis period. Deferred road maintenance continues to increase under this funding level, to \$118.1 million in 2018. Almost 71% of the network would be in Good condition. This funding level approximates the target performance of the Oregon Department of Transportation and is below current performance of adjoining Lincoln and Clatsop counties; both counties have PCIs above 70.

⁸ Tillamook County Comprehensive Annual Financial Report, June 30, 2009

⁹ Pavement Management Program Budget Options Report, Capitol Asset & Pavement Services, 2008

b.2 Detailed Structures Performance

b.2.1 Strategic Outcome and Objectives

A continuous road network over rivers, streams and uneven terrain supporting the traveling public and safety of all road users with well maintained bridges, guardrails and levees.

Objectives to achieve this are:

- Build and inspect bridges, guardrails and levees to comply with established standards
- Maintain and repair bridges to ensure long-term sustainability
- Respond to requests within specified timeframe and complete based on risk and available resources.

b.2.2 Inventory & Value

Table 9 County Structures Inventory & Value - 2009

Structure Type	Number	Replacement Value
Bridges	96	\$122,689,350
Guardrail	10 miles	\$ 1,152,385
Levees	7	Unknown

Bridges were revalued in 2009. The replacement value reflects significant reinvestment in County bridges and uses accepted state average bridge replacement costs.

b.2.3 Condition

Bridge sufficiency ratings are used to indicate a bridge’s condition based on structural adequacy, safety, reduction of load capacity, serviceability and functional obsolescence (roadway width, and vertical clearance), essentiality for public usage, and detour length. A rating of 75 or above is considered good, 50 to 75 is fair and below 50 is poor. It does not indicate the ability of a bridge to carry traffic loads or whether it will collapse but rather which bridges may need repair or replacement.

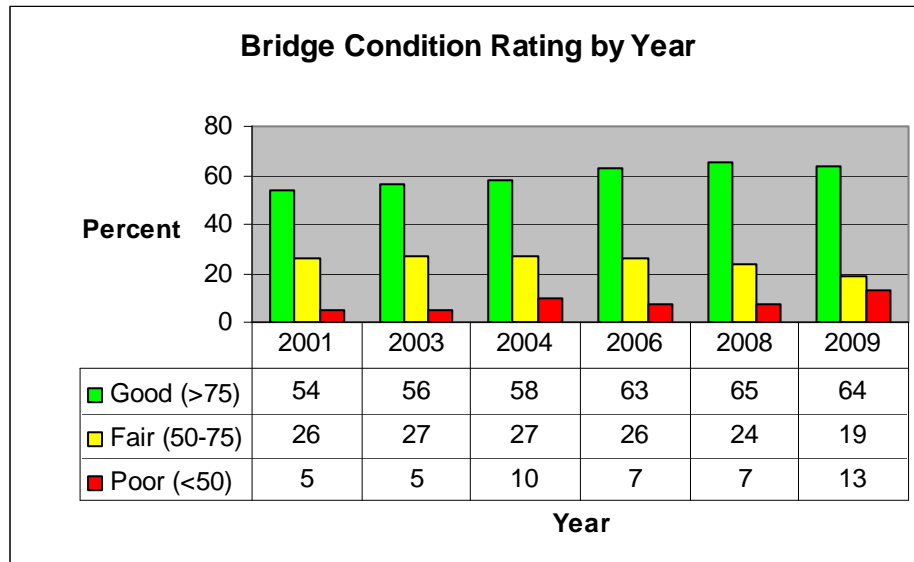


Figure 15 Bridge Condition 2001-2009

The County owns 96 bridges. In 2009, 67% are in Good condition, 20% in Fair and 13% were in Poor condition. The number of bridges in poor condition has increased from 7 to 13 since 2008.

Of the bridges in poor condition, Lommen Bridge over the Nehalem River has a sufficiency rating of 4 out of 100. This is the second worst bridge rating in the state. The Salmonberry Bridge which was washed out in the December 2007 winter storm will be replaced. Replacement is scheduled for 2011. Ninety percent (90%) will be funded by Emergency Relief (ER) funding from the U.S. Federal Highway Administration, and 10% by local funding.

**Table 10 Bridges in Poor Condition - 2009
(less than 50 sufficiency rating)**

Bridge Name	Sufficiency Rating
Lommen	4.0
Holgate	8.7
Wyss	17.0
Minich Creek	24.6
Salmonberry	28.4
Cedar Creek	42.1
Lommen Overpass	44.2
Trask River, South Fork	44.9
Moss Creek	45.6
Hushbeck	46.1
Makinster	46.8
Prince (Blum Lane)	47.7
Fagan	48.5

Three County bridges are posted with weight limits [Hushbeck, Prince (Blum Lane) and Foley Creek bridges] and another 6 bridges require special permits for large loads (Three Rivers, Robinson, McConkey, Big Trout, Bays Creek and Wyss bridges).

The 2001 Oregon legislature approved a statewide bond measure, the Oregon Transportation Investment Act (OTIA), which provides funding for state, county and city bridge replacement. Tillamook County will have replaced 6 bridges in poor condition by the end of Fiscal Year 2010 with OTIA funds:

- Johnson Bridge (2009)
- East Creek Bridge on Moon Creek Road
- Sorenson Bridge
- Bewley Creek Bridge on Bewley Creek Road
- Josi Bridge on Kansan Creek Road
- Killam Creek Bridge on South Prairie Road

However, once completed, there will be no local funds available to rehabilitate and replace bridges.

b.2.4 Guardrails. Guardrails were inspected in 2007. The Oregon Standardized Drawings were the basis of the five-point condition assessment.

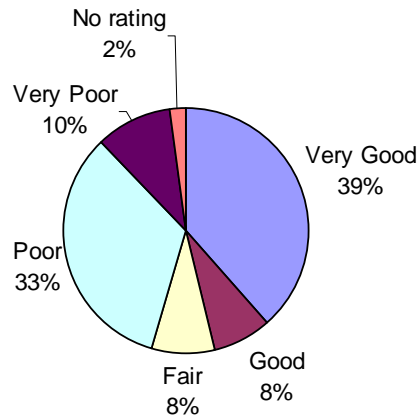


Figure 16 Guardrail Condition

Forty-three percent of the 10 miles of guardrail were in Poor or Very Poor condition in 2007. In 2009, 260 feet of guardrail were repaired or replaced with liability insurance claims and ODOT funding.

b.2.5 Levees. Levee management responsibility was transferred to TCPW in 2008. There are 7 levees managed by Tillamook County: Moss Creek Road, Beaver Creek, Tone Road, Makinster, Boquist Road, Bosetti Road, and Miami-Foley Road.

Levees were inspected by Tillamook County Public Works and the U.S. Army Corp of Engineers in 2009. Levee inventory, condition inspection protocols and asset-based cost accounting are under development.

Levees will be inspected annually. In general, levees were described as satisfactory or adequate. However, a list of overdue maintenance activities (including vegetation management) were identified in the inspection process.

b.2.6 Structure Activities

2006-2009 expenditures reflect OTIA funding, statewide bonds used to repair and replace bridges throughout Oregon. Once completed in 2010, there will be no funds available to rehabilitate and replace bridges.

Table 11 Structure Activity Expenditures

	2005	2006	2007	2008	2009
1112 - Riprapping	\$3,607	\$155	\$0	\$4,751	\$19,862
1130 - Guard Rail	\$4,975	\$5,051	\$7,891	\$14,939	\$16,021
1131 - Fencing	\$53	\$591	\$258	\$241	0
1170 - R/W Aquisition	\$208	\$0	\$111	\$0	\$64
1204 - Cleaning	\$1,727	\$11,021	\$8,233	\$5,872	\$979
1205 - Approach Guardrail Repair	\$9,880	\$2,677	\$2,596	\$4,733	\$450
1206 - Inspections	\$6,395	\$2,047	\$11,529	\$2,776	\$8,530
1207 - Approach Repair	\$11,125	\$357	\$470	\$131	\$2,996
1210 - Repair Structure - Wood	\$487	\$0	\$299	\$12,802	\$1,340
1211 - Repair Structure - Concrete	\$523	\$0	\$418,415	\$255,265	\$348
1220 - Replace Structure - All Types	\$415	\$2,101,103	\$1,334,881	\$824,681	\$1,660,939
Total	\$35,788	\$2,122,847	\$1,784,683	\$1,121,440	\$1,691,667

Twenty-five percent (25%) of the 2009 road expenditures were used to replace and repair county bridges.

b.3 Detailed Traffic Safety Performance

b.3.1 Strategic Outcome and Objectives

A county road network safely and reliably used by the traveling public with well maintained road signs and markings so that state and local laws can be understood and enforced.

Traffic safety activities protect the motoring public by providing quality traffic control devices (signs & delineation) and pavement striping. This is accomplished by providing the public with signage and striping that meet at least the minimum standard required by federal, state and county regulations. Signs and delineators serve a variety of functions, including:

- Providing the motoring public with regulatory instructions which they are required to obey
- Warning travelers of temporary or permanent hazards
- Providing street name, and guide signs which identify where the traveler is or where sites are located

b.3.2 Traffic Safety Activities

Five activities make up the Traffic Safety program.

- Vandalism repair
- Sign maintenance
- Pavement striping
- Signal illumination
- Pavement striping at intersections and railroad crossings

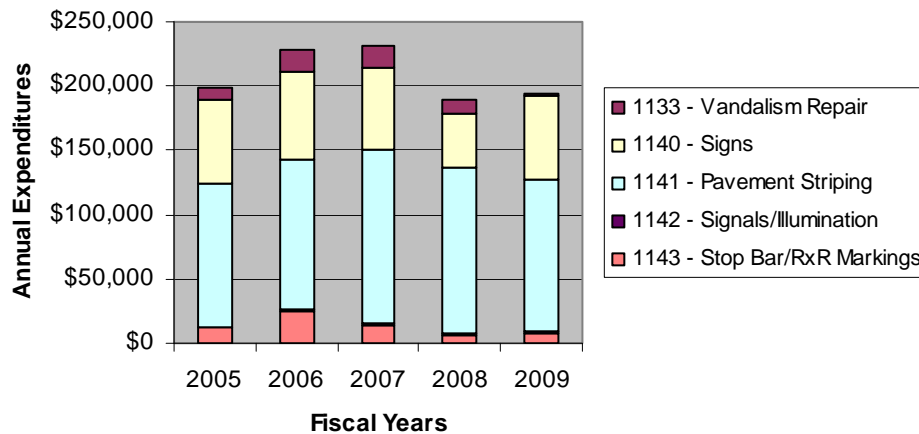


Figure 17 Traffic Safety Program Expenditures – 2005 - 2009

The County spent \$193,859 on the Traffic Safety program in 2009. Centerline and fog lines at the side of county roads must be repainted each year. Sixty-one percent (61%) of the program’s expenditures were used to re-stripe County roads and another 4% to add pavement markings at railroad crossings and intersections (stop bars). Tillamook County contracts with Marion County for pavement marking services. Maintaining County signs requires 33% of the Traffic Safety resources.

b.3.3 Inventory & Replacement Value

There were 4,641 signs in IRIS in 2009.

Table 12 Traffic Safety Inventory and Value - 2009

Asset	Units	Unit Cost	Replacement Value
Signs	4,641	\$30	\$139,230
Delineators	457	\$21	\$9,597
Posts	4,165	\$17	\$70,805
Total Replacement Value			\$219,632

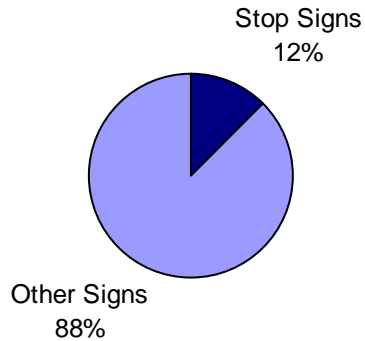


Figure 18 Sign Inventory - 2009

b.3.4 Pavement Markings

Pavement markings regulate and guide traffic movements and promote safety. Arterial and collector paved roads receive pavement centerline, stop bar and fog lines. Marion County re-stripes Tillamook County roads through intergovernmental agreement (IGA). Centerline, stop bar and railroad crossing pavement markings are applied annually with fog lines reapplied every other year.

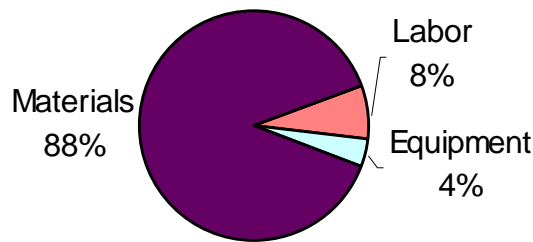


Figure 19 Pavement Marking Expenditures \$117,000- 2009

Two hundred and ninety-nine (299) miles of county roads received pavement markings in 2009 at an average cost of \$349 per mile.

b.3.4 Sign Condition & Performance

Regulatory signs receive the highest priority. There are 577 stop signs on county roads; 85% are in Very Good condition and 14% in Good condition.

The majority of signs are in good physical condition. Night time visibility is evaluated annually for all signs. A four-point scale, from Very Good to Poor, is assigned based on professional judgement.

Table 13 Stop Sign Condition

Category	Condition	
Very Good	491	85%
Good	81	14%
Fair & Poor	5	1%
Subtotal	577	100%

b.4 Detailed Drainage Management Performance

b.4.1 Outcome and Strategic Objectives:

An accessible, safe and well maintained county road network clear of surface storm water and flooding.

Drainage management strategic objectives are to:

- provide and maintain adequate road drainage in order to prevent water damage to the roadway structure,
- maximize the use of the county road network,
- protect the rights of adjoining property, and
- provide fish passage where mandated.

b.4.2 TCPW Drainage Management Activities

Surface storm water and flooding is managed by maintaining vegetated ditches that serve as drainage and water quality facilities, maintaining culverts in the condition necessary to handle their design capacity, and where culverts carry streams, in maintaining them in a condition to provide fish passage.

Drainage management activities include:

- Culvert and catch basin cleaning,
- Culvert replacement
- Ditching
- Erosion control using best management practices with regards to steep slopes, drainage ways and permitted activities.

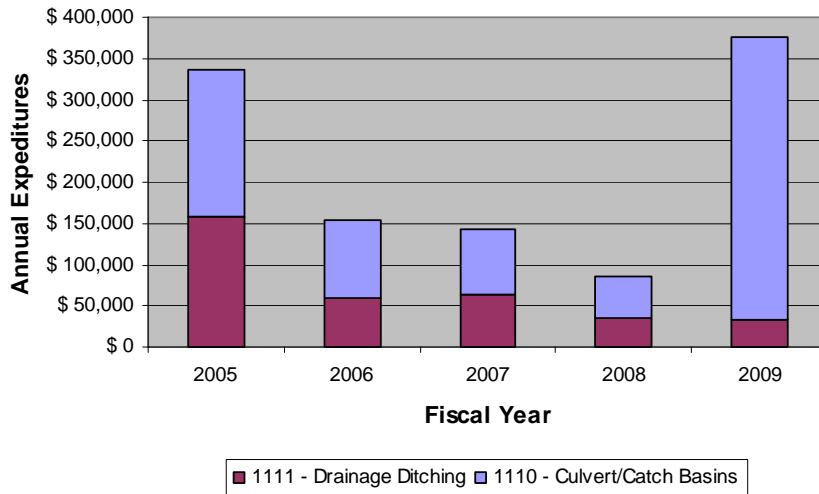


Figure 20 Drainage Expenditures 2005-2009

b.4.3 Culvert inventory, condition and performance

Drainage management is considered a High risk. The bottoms of culverts are rusting out due to their age and the effects of salt water. \$376,000 (5% of the total expenditures) were spent replacing 31 culverts (1% of the culvert inventory) and performing 507 hours of drainage ditch maintenance. This is a 337% increase from 2008.

There are an estimated 3,210 culverts in the county with a combined length of 124,577 feet, or almost 24 miles of culverts associated with draining Tillamook County roads and their approaches.¹⁰ Of these, 1,860 are classified as cross culverts which act as conduits that move water under the roadway. Based

¹⁰ Integrated Road Information System (IRIS)

on a review of information in IRIS, the average length of a county culvert is 39 feet; 291 culverts (9%) have no information on length. The confidence in the culvert inventory is low.

b.4.4 Ditch Inventory, Condition and Performance

County roadway ditches should be cleaned annually. Ditches are graded generally during the dry summer months so that the vegetation can be removed, the original flow line defined and adequate roadway and ditch drainage can occur. Currently, Tillamook County ditches are cleaned on a reactive basis.

County roads were surveyed in 2008 to inventory and rate the condition of county road ditches. Of the 325 road miles surveyed in 2008, 60% have ditches, 2% have concrete curbs channeling water and 38% have no ditches or curbs.

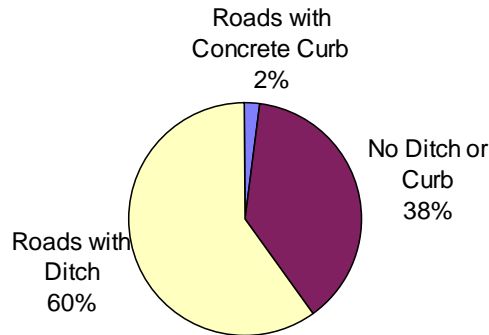


Figure 21 County Ditch Inventory 195 Miles - 2008

Table 14 Ditch Condition Rating

1	Very Good	This rating indicates ditch is clean and free of any debris, and is functioning as intended - No maintenance needed at this time
2	Good	Ditch is flowing fairly unobstructed - small amount of vegetation is present - No maintenance needed at this time
3	Fair	Ditch is carrying water with minor obstructions - Vegetation is present & growing - ditching required in some areas of main ditch channel
4	Poor	Vegetation & Sediment is blocking flow in numerous areas - still water depth reaches at least 1 foot or more before starting to flow
5	Very Poor	Ditch is more than 80% filled with Vegetation or Sediment and flow is severely impeded. Immediate maintenance is required

The county's ditch standard¹¹ requires a ditch depth of 3:1 width, with a width of 5 feet. Of the 195 miles of ditches along Tillamook County roads, 30% required some ditching maintenance in 2008; 22% were in Poor condition, and 8% were in Very Poor condition requiring immediate maintenance.

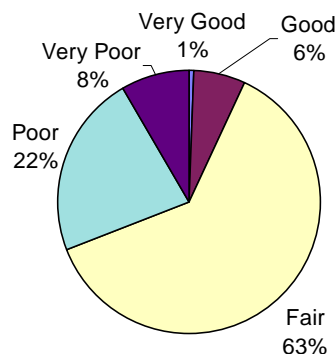


Figure 22 County Ditch Condition - 2008

¹¹ "Standard Roadway Section," which reflects standards of the American Association of State Highways and Transportation Officials (AASHTO) Manual
 PBS Consulting TCPW Road Performance Report - 2009 v.1.3 Page 31

b.5 Detailed Vegetation Management Performance

b.5.1 Outcome and Strategic Objectives

Roadside safety and visibility ensured by removing vegetation blocking sight lines to advisory signs, ditch lines, guardrail and guideposts.

Vegetation strategic objectives are to:

- regularly maintain roadside vegetation, including routine cutting and disposing of trees, brush, berry, and other vines that may become a traffic hazard.
- provide sight distance safety, drainage and prevent further damage to road surfaces and shoulders.

b.5.2 Vegetation Management Activities

County roadside vegetation is controlled and road infrastructure preserved through annual mowing, As a part of integrated vegetation management, small brush is cut, weeds are sprayed and trees removed or trimmed in the right of way. Debris in the right of way is removed as work is accomplished.

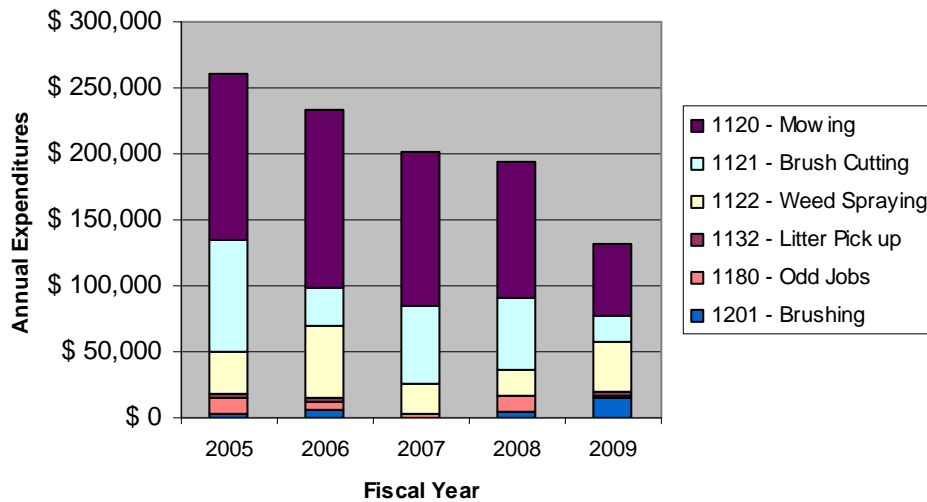


Figure 23 Vegetation Management Expenditures 2005-2009

b.5.3 Inventory, Condition and Performance

There is currently no inventory or condition assessment of the vegetation at the edge of county roads (e.g., obstructions/hazards, noxious weed inventory, presence of litter, appearance).

b.6 Emergency Response Level of Service

b.6.1 Outcome and Strategic Objectives

A repaired and safe county road network by working in partnership with federal, state and county emergency responders, and preparing for and responding to weather events and hazards.

Objectives are:

- Respond to hazards due to weather events
- Respond to customer service requests in a timely manner to reduce hazards by participating in Incident Command center

b.6.2 Emergency Response Activities

Since 1996, Tillamook County has experienced numerous catastrophic storms. Road network emergency mitigation and recovery expenses have increased 611% over the last 5 years. There were two federally declared winter storms in December 2008. A total of \$734,000, or 10% of total 2009 expenditures, was expended managing weather events and hazards in Tillamook County.

Table 15 Emergency Response Expenditures

Activities	2005	2006	2007	2008	2009
1160 - Snow Plow/Sanding	\$19,285	\$18,377	\$37,469	\$23,060	\$43,345
1161 - Flood/Wind/Slide	\$83,781	\$275,726	\$300,935	\$738,646	\$684,166
1202 - Debris Removal	\$230	\$5,925	\$558	\$2,307	\$6,676
Total	\$103,295	\$300,028	\$338,962	\$764,013	\$734,187

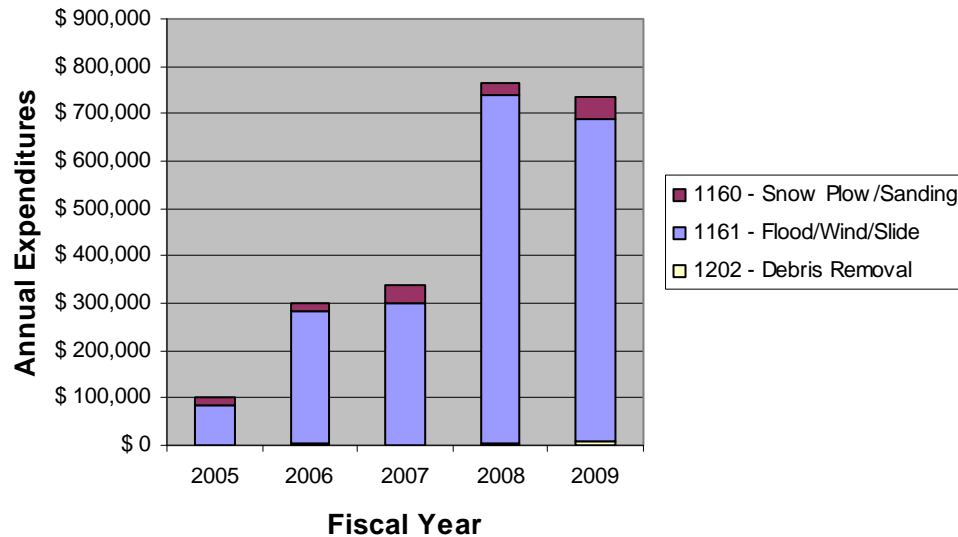


Figure 24 Emergency Management Expenditures - 611% Increase over 5-Years

b.6.3 Performance

Responding to customer Service Requests in a timely manner & reducing hazards is a high priority. 100% of emergency service requests are responded to as soon as staffing allows. Completion is dependent on priority and staffing levels, given the event.

TCPW currently tracks the hours and costs of snow plowing and response to flood, wind events and land slides. Federal aid reimbursement requires documenting emergency costs.

b.7 Operations**b.7.1 Engineering Services**

The purpose of Engineering Services is to plan, research, coordinate and manage a variety of right of way activities, and to assist in emergency response and recovery.

Table 16 Engineering Services

	2005	2006	2007	2008	2009
Capital Project & Bridge Design Contracts & Project Management	\$7,681	\$257,626	\$132,430	\$601,150	\$1,040,396
Permits, Engineering Staff	\$1,220,563	\$964,829	\$575,000	\$503,137	\$471,381
	\$1,228,243	\$1,222,455	\$707,430	\$1,104,287	\$1,511,777

The majority of Engineering expenditures are due to Johnson and Boulder Creek bridge designs, and asset management. These will be reduced significantly once OTIA funds are expended. 475 permits were reviewed and issued in 2009.

b.7.2 Equipment Management

The purpose of equipment management is to provide optimum TCPW vehicle availability and reliability for the least lifecycle cost by providing timely maintenance and repairs given available resources.

Table 17 Equipment Management Activities

	2005	2006	2007	2008	2009
1601 - Safety Inspections (shop)	\$206	\$617	\$0	\$435	\$0
1602 - Fuel/Oil/Lube	\$90,712	\$139,240	\$146,050	\$189,285	\$123,983
1603 - Tires	\$10,872	\$15,861	\$27,320	\$29,947	\$18,866
1604 - Communications Equipment	\$2,402	\$3,642	\$777	\$455	
1610 - Other Repairs (shop crew)	\$228,121	\$248,084	\$203,744	\$200,241	\$148,929
1620 - Operator Maintenance and Repairs	\$17,282	\$16,170	\$13,526	\$14,720	\$15,827
1621 - Accident Repairs	\$0	\$221	\$0	\$0.00	\$0
1622 - Non-County Equipment/Oper. Rental	\$173	\$2,795	\$519	\$107	\$216
1630 - Fabrication	\$637	\$330	\$47	\$1,906	\$870
1640 - Chasing Parts	\$2,797	\$5,036	\$2,480	\$3,506	\$5,669
Total	\$ 353,203	\$ 431,994	\$ 394,462	\$ 440,602	\$ 314,360

Public works manages 115 vehicles and rolling stock. The 2009 value is \$3.9 million.¹² Nearly 75% of these vehicles exceed the County's adopted useful life for vehicles; all 5-yard dump trucks exceed 30 years. Some vehicle parts are not available and must be made in house. Vehicle replacement funds are now beginning to replace high maintenance vehicles. A pick up truck and excavator were replaced in 2009.

The shop foreman began analyzing and reporting on-going vehicle costs and performance (hours and miles of use) in 2008. 124 Level A Maintenance and 97 annual safety inspections were conducted in 2009.

¹² Tillamook County Comprehensive Annual Financial Report, June 30, 2009.

b.7.3 Facilities Management

The purpose of facilities management is to provide safe and effective shelter for TCPW employees, equipment and the materials used to provide county road services.

Table 18 Facilities Management

Activities	2005	2006	2007	2008	2009
1720 - Building Maintenance	\$43,344	\$20,581	\$12,967	\$27,373	\$42,365
1721 - Utilities	\$23,912	\$26,615	\$26,263	\$29,885	\$22,776
1722 - Yard Maintenance/Cleanup	\$10,922	\$12,641	\$18,567	\$27,409	\$13,532
1723 - Building Construction	\$18,635	\$0	\$115	\$230	\$62
Total	\$96,813	\$59,837	\$57,912	\$84,897	\$78,735

The County Public Works buildings were built in the beginning of the 1900s. The estimated useful life of county buildings is 45 to 50 years. They substantially exceed their estimated useful life and require increasing maintenance and repair. The Shop roof was repaired on an emergency basis in 2009. Public Works buildings are inspected for health and safety annually.

b.7.4 Quarries, Materials Management & Stockpiling

Reliable materials are needed for county road maintenance. These must meet consistent standards of quality for the least cost.

Table 19 Materials & Stockpiling

Activities	2005	2006	2007	2008	2009
1502 - Operation	\$1,133.55	\$1,168.47	\$4,817.57	\$6,478	\$3,120
1505 - Tack Oil	\$7,995.13	\$1,611.44	\$2,106.49	\$1,649	\$294
1507 - Signs	\$283.38	\$8,195.15	\$8,960.24	\$7,483	\$6,861
1510 - Pit/Stockpile Dev.and Maint.	\$37,275.85	\$7,617.18	\$2,767.01	\$44,177	\$17,535
1511 - Hauling to Stockpile	\$25,711.74	\$61,690.80	\$45,575.59	\$72,905	\$59,941
1521 - Material Purchase	\$0.00	\$349.47	\$0.00	\$261	\$0
Totals	\$ 72,400	\$ 80,633	\$ 64,227	\$ 132,953	\$ 87,751

There are two county quarries. The county quarries are located south of Cloverdale (near Clear Creek) and north of Nehalem. Most materials management costs result from hauling gravel from the Counties quarries to work sites. These costs decreased 34% from 2008 to 2009.

b.7.5 Administration

County road managers and employees plan, budget and manage road resources (labor, materials and equipment) so that road services can be provided in a safe and cost effective manner. Results are communicated on road service performance, efficiency and effectiveness.

Table 20 Administration

2005	2006	2007	2008	2009
\$659,328	\$589,096	\$651,726	\$564,911	\$681,575

Table 21 Employees

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
41	40	39	35	35	35	35	35	30	30	30	26

Administration includes payroll, training, and safety programs for employees, managing service requests, cost accounting, budgeting, accounts receivable and payable, management, insurance and audit services. Funds also must be transferred to the General Fund and Bike Program.

7. TCPW Priorities & Improvement Plan

Tillamook County road management requires cooperation and communication between the TCPW Department, other county agencies and partners. County asset management roles and responsibilities extend beyond TCPW and are considered critical to successful management of road services. This recognizes asset management planning is a County responsibility and requires the commitment of the County Board to succeed.

Management and performance reporting occurs as follows:

Table 23 TCPW Management & Performance Reporting

Report & Monitoring Method	Frequency	Responsible	Approves	Conferred with	Informed
Asset Management Plan	Every 3 years	TCPW Director	BOCC	CRAC	TCPW Mgmt. & Employees Community & Partners
Three-Year Improvement Plan & Progress	Annual	TCPW Director	BOCC	CRAC	TCPW Mgmt. & Employees Community & Partners
Risk Management Plan	Every 3 years	TCPW Director	BOCC	Risk Team (TCPW Mgmt. Team, CRAC, BOCC, County Dept. Mgrs.)	Community & Partners
Risk Register – New Risks & Risk Status	Annual	TCPW Director	BOCC	Risk Team (TCPW Mgmt. Team, CRAC, BOCC, County Dept. Mgrs.)	Community & Partners
Performance Report	Annual	TCPW Director	n/a	TCPW Mgmt. & Employees BOCC CRAC	TCPW Mgmt. & Employees Community & Partners
Significant Service Level Changes	Annual	TCPW Director	BOCC	TCPW Mgmt. & Employees BOCC CRAC Community & Partners	TCPW Mgmt. & Employees Community & Partners
TCPW Budget	Annual	TCPW Director	BOCC	CRAC Community & Partners	TCPW Mgmt. & Employees Community & Partners
Asset Management Policy	Every 4 years	TCPW Director	BOCC	CRAC	TCPW Mgmt. & Employees Community & Partners

TCPW is committed to continuously improving the way it provides and reports on road services in Tillamook County. An improvement plan for Fiscal Years 2010-2012 follows.

Table 24 Improvement Plan FY 2010-2012

Improvement Plan Schedule FY 2010-2012													
No.	Task	FY2009-2010				FY2010-2011				FY 2011-2012			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
	Policy												
1	Adopt explicit Board road asset management policy that clarifies how road services are to be managed and road needs funded. (See draft policy, Appendix D: Asset Management Policy).	Done											
2	The role of the BOCC and CRAC in setting goals and targeting road service performance needs to be clarified. Adopted goals should guide investment, program and project ranking criteria, and should be specific for each program.												
3	Distribute Asset Plan: Communicate established federal, state, local statutes, County policy, governing engineering standards and practices, and agency policies and procedures to the CRAC, BOCC and TCPWD employees.	Done											
	Performance Management												
4	Adopt key performance measures and annually report the cost of each service. Link service levels and road service budgets, and share with the public. Highlight planned, significant changes to services that are provided (e.g., eliminating a service) as a part of the annual budget process.	In Progress					CRAC May, BOCC June				CRAC May, BOCC June		
5	Develop targets for approval by the County Board so that appropriate budgets are developed that achieve targets over defined time periods given available resources.												
6	Assign roles to track the inventory, condition and performance of assets; review as staffing changes occur.	In Progress											
7	Review activity accomplishments. Assign appropriate workload measures for each service so that annual work plans can be developed for each service.	In Progress											
8	Contact Clatsop, Lincoln, Jackson and Polk Counties. Identify improvements to work planning and performance reporting. Benchmark the cost of activities and services. This may benefit foremen as they structure how and when activities are performed.												
9	Train crews to identify appropriate maintenance and renewal actions given asset performance and condition. Develop maintenance standards that include clear photographs, descriptions and quantitative measures to define the condition of an asset and appropriate maintenance or renewal activities.	In Progress											
10	Review the TCPWD activities and redefine so that they are aligned with: location, asset class or service (e.g., drainage, structures, vegetation management), and whether an activity is performed to maintain, rehabilitate, install, or decommission an asset. Improving these relationships will enable TCPWD to identify whether it is more efficient to continue to maintain or replace an asset based on the lowest life cycle cost.												
	Accountability												
11	Annually report on the inventory, condition, replacement value and maintenance and renewal needs for County road assets.	In Progress				BOCC January				BOCC January			
12	Inventory and assess condition for culverts and TCPWD buildings.												
13	Develop documented, regular and repeatable inspection processes based on established standards and frequencies are needed for each asset class.												
14	Segregate preventive maintenance activities in the cost accounting system so that actions correlate more closely to managing the lifecycle of an asset, and note if an activity is reactive or planned (e.g., pothole patching is reactive while pavement overlays are planned activities). Train staff regularly to distinguish reactive maintenance (response to service requests) versus proactive, or preventive maintenance (usually scheduling work targeted at maintaining an asset's condition or preventing its deterioration).												
15	Add asset management accountabilities and responsibilities to the managers' position statement; foremen position statements should clearly identify their roles and asset management responsibilities, where appropriate. Incorporate in Performance Reviews, at a minimum.												
16	The director TCPW and asset management responsibilities and roles should be adopted and the frequency of reporting to the CRAC and County Commissioners defined. The TCPW director and AM team will a) adopt strategy and assign implementation roles based on needs assessment and strategic initiatives to improve road services; b) plan implementation for data collection, review of service delivery, and information technology implementation (e.g., service requests, inventory and mapping services); and c) plan ongoing operations and planning (e.g., evaluate and monitor accomplishments) and ongoing plan review).	Done & On-going											
	Resource Allocation												
17	Implement a risk-based assessment at the network, program and project level. Review the risks identified in this plan to ensure known risks are included, adopted priorities are reflected in criteria. The objective is to clearly document the tradeoffs of investing more or less in various services and identifying and selecting projects in a consistent and defensible manner.	Done								3-Year Risk Evaluation			
18	Adopt policies that guide service priorities and road resources.	Done											
19	Review the Local Access Roads (LAR) Board Order given the resources of Tillamook County. Provision of county road maintenance services on private roads is not performed by adjoining Oregon counties.	Done											
20	Clearly note the purpose of service requests, assign priorities and adopt response standards and track actual response time.	On-going											

Table 24 Improvement Plan FY 2010-2012 (continued)

Improvement Plan Schedule FY 2009-2011													
No.	Task	FY2009-2010				FY2010-2011				FY 2011-2012			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Operational Efficiency													
21	Adopt an explicit policy that as resources are spent on the County's road assets, consideration of innovative techniques for new or major renewal projects will be considered, including performance-based contracting. Bulk materials purchases and equipment sharing should be pursued as a regular practice.	Done											
22	Complete intergovernmental agreement (PMAT) which shares resources and services.	Done											
23	List operational efficiencies (e.g., changes in work practice or materials, partnerships with other jurisdictions, disposal of underutilized equipment) in the annual asset status and condition report so that employees, CRAC, the County Board and the public are aware progress.	In Progress - On-going											
24	Examine on-going costs such as equipment maintenance and repair versus equipment replacement, as well as gravel hauling. Identify whether more efficient mobilization can be achieved with fewer work sites.	In Progress - On-going											
Data Collection and Organization													
25	Pavement, bridge, sign, ditches, guardrail and equipment inventory is current and condition known.	In Progress											
26	Initiate inventory and assess condition of culverts, levees, and buildings.							Annual Report					
27	Enter sign and sign post condition in IRIS. Document methods of condition assessment for each inventory so a repeatable process can achieve similar results when conducted by more than one individual.	In Progress - On-going											
28	Annually report on TCPWD assets' inventory, condition, the method of assessing condition and the confidence and frequency of methods used. Document roles, responsibilities and methods for collecting and maintaining inventory information.			Annual Report				Annual Report			Annual Report		
29	Establish regular schedule for assessing asset condition that reflects the risks to the community and County liability.	Done June 2008		Annual Report				Annual Report			Annual Report	Update Risk Assessment	
30	Train managers responsible for data maintenance and condition assessment on use of IRIS.												
31	Budget development and annual reports to the public and decision makers should include:	In Progress		Annual Report				Annual Report			Annual Report		
31a)	a) An explanation of the current level of service and targeted level of service given a specific timeframe for achieving a road asset condition. The annual budget should seek to link short term budget levels to long term consequence of budgets.	In Progress		Annual Report				Annual Report			Annual Report		
31b)	b) Annual accomplishments (e.g., miles of roads overlaid, signs replaced or maintained, miles of guardrail repaired)	In Progress		Annual Report				Annual Report			Annual Report		
31c)	c) Service requests by type	Done		Annual Report				Annual Report			Annual Report		
31d)	d) Public surveys on perception of service priorities and needs	As exists in other sources in 2010				Conduct survey 2011							
Financial Planning													
32	Support local funding efforts that explore additional Tillamook County road funding for critical needs of the road network.	In Progress											
33	Strengthen link between work planning, cost accounting and performance reporting. Track expenditures based on an asset's life cycle, and work accomplishments so that performance can be reported.												
34	Establish reporting system that begins to track life cycle cost of work activities; incorporate life cycle cost consideration in capital project selection.												
35	Introduce annual revaluation and inventory, condition rating and unmet need in annual Status & Condition Report for County Transportation Network	In Progress		Annual Report				Annual Report			Annual Report		
36	Continue to risk-rate services; highlight needs based on criticality or risk. Introduce risk-based decision making throughout TCPW decision making (project selection, service priorities, and budget requests).	In Progress											
37	Move from reporting historic depreciation for County road assets in financial reporting to current valuation. Base asset value on effective life of assets, current condition and anticipated service demands.	In Progress											
38	Develop long range capital improvement plan and capital improvement financing to address known rehabilitation, replacement and expansion needs. Integrate with County Transportation System Planning capital project priority setting.												

8. TCPW Planning Processes

a. TCPW Mission, Vision & Values

The vision of Tillamook County Public Works is:

Tillamook County's high-quality, safe road network supports a thriving economy and a healthy environment. Our professional, well-trained staff works in partnership with our community to ensure that our road network meets the needs of our citizens now and in the future.

The TCPW mission that achieves its vision is:

We take pride in serving the public by providing, maintaining, and preserving a safe and efficient county road network, and quickly responding to weather events and hazards. We protect the public's investment by working with our partners and targeting resources to minimize long term costs while providing the best possible service.

The values that guide the performance of TCPW road services are:

Teamwork – *We work together as a team, dedicated to exploring all options while supporting each other in performing high quality work efficiently.*

Communication – *We keep the lines of communication open with our employees, our partners and our customers.*

Professionalism – *We strive for professional excellence by supporting employee training focused on improved service delivery.*

Change – *We anticipate and prepare for change to meet the needs of today and the future.*

Accountability - *We deliver on our promises, and we maximize the use of public funds to deliver the best possible results.*

Success – *We provide successful solutions to the meet the needs of the public, and we celebrate our successes.*

Safety – *We perform our work safely to protect our employees, our customers and our environment.*

b. Asset and Service Planning Processes

Information and business processes used by TCPW to manage each of these asset classes include the following.

**Table 25 Asset Inventories and
Tillamook County Road Management Processes**

Asset Inventories	Process				
	Inventory?	Documented Condition?	Documented inspection process?	Established inspection schedule?	If yes, frequency?
Roads	Yes IRIS-SS	Yes	Yes	Yes	Every 2 years
Bridges	Yes Spreadsheet	Yes	Yes	Yes	Every 2 years
Traffic Signs -reflectivity	Yes IRIS-RI	Partial IRIS-RI	Yes Annual report	Yes	Annual night time inspection
Traffic Signs -maintenance	-	Yes IRIS-RI	Yes Report	Yes	Continuous
Guardrail	Yes IRIS-RI	Yes	Yes	No ¹³	-
Culverts	Yes (partial) ¹⁴	Yes (2006)	No	No	-
Ditches	Yes (2008)	Yes	Yes	No	-
Pavement Markings	No ¹⁵	N/A	N/A	N/A	N/A
Levees	Yes (2009)	Yes	No	Yes	Annually
Buildings	No	No	No	No	-
Vehicles & Equipment	Yes IRIS-EM	Per preventive maintenance	Yes ¹⁶	Yes	Continuous
Quarry sites	No	No	No	No	No
Vegetation Management	No	No	Yes	Yes ¹⁷	Annually

¹³ Guardrail condition is based on an inspection completed in spring 2007.

¹⁴ Nestucca/Neskowin Watersheds: Culvert Prioritization and Action Plan for Fish Passage, August 2006.

¹⁵ Pavement markings are repainted by contractor (Marion County) one time a year with oil-based paint. An Excel spreadsheet notes the materials used and length of line and type to calculate materials.

¹⁶ Equipment Management tracks preventive maintenance performed by vehicle.

¹⁷ Vegetation management is performed routinely and spray reports comply with regulations.

Table 26 Method of Condition Assessment by County Asset Class

Asset Class – Asset Type	Inspection Method	Source of Standard	Condition Category		Frequency	Performed by
			Technical Scale	Qualitative Categories		
Road – Paved	Visual inspection	MTC Method	0-100	Good (70-100), Satisfactory (50-69), Fair (25-49), Poor (<25)	Every other year	Contract Inspection
Road – Unpaved	Complaint-driven	N/A	N/A	N/A	Per complaint	Foremen
Bridges	Visual inspection	National Bridge Inspection Standards (NBIS)	0-100	Good (75-100), Fair (50 to 75) Poor (0-49)	Every other year	Contract inspection
Guardrail	Visual inspection	Oregon Standardized Drawings	1-5	Very Good (1), Good (2), Fair (3), Poor (4), Very Poor (5)	No established cycle	TBD
Levees	Visual inspection	US Army Corp of Engineers (USACE)	TBD	TBD	Annually	Eng. Project Supervisor
Signs, Delineators & Posts	Visual inspection	Manual on Uniform traffic Control Devices (MUTCD)	1-4	Very Good (1), Good (2), Fair (3), Poor (4)	Annual night time visibility	TBD
Culvert	TBD	TBD	TBD	TBD	TBD	TBD
Ditches	Visual	Industry Standard	1-5	Very Good (1), Good (2), Fair (3), Poor (4), Very Poor (5)	TBD	Contract inspection
Vegetation Management	N/A	Industry Standard	N/A	N/A	Annually	Vegetation Management Technician
Equipment	Hours or Miles of Service	IRIS Equipment policies	Per Vehicle	Per Vehicle	Ongoing	Shop Supervisor
Facilities	Visual	OSHA, fire	TBD	TBD	TBD	Eng. Project Supervisor

N/A: Not applicable.

TBD: To be defined.

c. Confidence Levels in Data & Information

The accuracy and reliability to forecast road asset needs is based on available information. The quality of forecasts varies by asset class. The expression of accuracy and reliability in the areas of information (source and reliability), process (ad hoc or repeatable) and documentation (documented or not documented).

The following table provides definitions for each confidence level:

Table 27 Confidence Level Definitions¹⁸

	Confidence Level	Inventory Completeness	Condition Assessment Method and Frequency	Process and Documentation
1	No confidence	No inventory	No assessment method	No process
2	Low confidence	Partially	Estimates used to assess condition	Process not well documented
3	Moderate confidence	Inventory complete	Subjective process to estimate condition	Some documentation in place
4	High confidence	Inventory complete	Condition surveys conducted on a regular schedule by well-trained personnel	Well documented process followed
5	Optimal confidence	Inventory complete	Condition survey on a regular schedule	Objective process followed; Accuracy of data verified and well documented

The following defines confidence levels¹⁹ in asset information presented in this report.

Table 28 Confidence Levels by Asset Class

Asset Information	Confidence
Pavement	Optimal for the first 3 years and Moderate in years 4-10.
Bridge	Optimal in the near term and Moderate for years 4-10.
Culverts	Low; inventory estimated and condition unknown.
Guardrails	Moderate; inventory and condition assessment as of 2007; no inspection cycle established.
Signs	Moderate; inventory and condition managed by trained staff through 2008; condition not entered in IRIS
Equipment	Optimal
Buildings	Low; annual safety inspection only
Levees	Optimal; 2009 inspection & inventory by US Army Corp of Engineers
Quarries	Moderate
Ditches	Optimal; assessment, documentation and inventory 2008
Pavement Markings	Not applicable; repainted each year based on inventory

¹⁸ City of Portland Asset Status & Condition Report, December 2007

¹⁹ City of Portland Asset Status & Condition Report, 2007

d. Asset Useful Life Assumptions

Useful life assumptions are the basis of asset planning. Maintenance and renewal costs are required over the life of an asset to ensure the useful life is achieved for the least total lifecycle cost. This information is an input to annual and long range County financial planning and reporting.

Table 29 Useful Life by Asset Classification²⁰

Asset Classification	Useful Life
Roads²¹	
- Arterial & Collectors Paved	20 years
- Local Paved	40 years
- Local Gravel	N/A
Structures²²	
Bridges	
- Timber bridges, treated	30 years
- Steel bridges	65 years
- Reinforced concrete bridges	80 years
- Pre-stressed concrete bridges	100 years
Guardrails	40
Levees	TBD
Traffic Safety Facilities²³	
- Signs	7 years
- Signs-delineators	20 years
- Posts	10-30 years
- Painted pavement markings	6 months – 1 year
Drainage²⁴	
- Drainage culverts	40-60 years
- Major culverts (pipes/barrel, inlet/outlet structures)	40-60 years
- Ditches	50-100 years
Support Facilities	
Equipment	5-10 years
Buildings	45-50 years
Quarries	N/A

*TBD: To be determined.
N/A: Not applicable.

²⁰ Useful life assumptions are reported in the *Tillamook County Combined Annual Financial Report*, June 30, 2009. Several assumptions are considered inaccurate (e.g., 50 years for roads, equipment). Public Works will refine and provide more accurate assumptions with the County Treasurer for future financial planning, reporting and asset planning purposes. The estimated useful life for county paved roads currently used by the County in financial reporting is 50 years which is considered conservative. A more accurate useful life for the surface of low volume, paved rural roads is 20 years, based on AASHTO guidelines.

²¹ *Guidelines for Geometric Design of Very Low-Volume Local Roads*, AASHTO, 2001

²² Bridges, guardrail useful life assumptions from City of Portland Transportation System: Status and Condition Report, 2008.

²³ Tillamook County Public Works, 2008

²⁴ TC Public Works Director estimates 40-60 year useful life for drainage and major culverts; Oregon DOT assumes a 50-year service life for culverts.

e. Asset Management Information Sources & Data Maintenance Responsibilities

Table 30 Information Sources & Data Maintenance Roles & Contacts

Asset /Activity	Source of Data	Lead Staff Contact
Service Requests	- IRIS	Office Support Specialist
Road <ul style="list-style-type: none"> - Pavement inspection - Road inventory - Local gravel condition 	<ul style="list-style-type: none"> - Contract management - Street Saver/IRIS - TBD* 	Director Engineering Project Suprvsr. TBD
Structures <ul style="list-style-type: none"> - Bridges inventory, inspection & post weight limits - Guardrails inspection & inventory management - Levees inventory & inspection management 	<ul style="list-style-type: none"> - Inspection contract management - IRIS - Inspection reports 	Engineering Project Suprvsr.
Drainage <ul style="list-style-type: none"> - Culvert inventory & condition assessment - Ditches inventory & condition assessment 	<ul style="list-style-type: none"> - IRIS - Contract Management 	TBD Director
Traffic Safety <ul style="list-style-type: none"> - Signs - Signs-delineators - Posts - Painted pavement markings 	<ul style="list-style-type: none"> - IRIS - IRIS - IRIS - Contract & spreadsheet 	Engineering Project Suprvsr.
Vegetation Management <ul style="list-style-type: none"> - Mowing by lane, percent miles cleared of debris & herbicide by acres sprayed 	- N/A**	Foremen & Office Staff
Emergency Management <ul style="list-style-type: none"> - Storm response hours - Hours spent plowing and sanding - Slides responses to - Culverts 	<ul style="list-style-type: none"> - IRIS – CA - IRIS – CA - IRIS - CA - TBD 	Foremen & Office Staff
Support Services/ Facilities <ul style="list-style-type: none"> - Equipment management - Facilities management - Materials Management - Cost acctg/Budget development 	<ul style="list-style-type: none"> - IRIS - TBD - IRIS - IRIS 	Shop Foreman Engineering Project Suprvsr. Office Support Specialist Office Support Specialist

*TBD: To Be Developed/Determined

** N/A: Not Applicable

Appendix A. Asset Management Policy

BOOK 111 PAGE 396 ✓
COUNTY COURT JOURNAL

THE BOARD OF COUNTY COMMISSIONERS
FOR THE COUNTY OF TILLAMOOK IN THE STATE OF OREGON

In the Matter of a Tillamook) ORDER
County Public Works Asset)
Management Policy) #09-054

FILED
JUL 10 11 2009
4:50a
TASSI O'NEIL
COUNTY CLERK

This matter came on to be heard this 1st day of July, 2009, at a regular meeting of the Board of Commissioners, at the request of Liane Welch, Tillamook County Public Works Director.

Being fully apprized of the records and files therein, the Board of Commissioners finds as follows:

1. Tillamook County's road network is the county government's most valuable physical asset. In 2008, the replacement value of the 374 miles of county roads was estimated at \$304 million. The County transportation network has been under funded for years and the condition of county roads is declining.
2. The Tillamook County Board of Commissioners, concerned about the declining condition of county roads and bridges, authorized the Road Department to document the condition and value of County road assets, and identify the risks that must be managed in the County. This approach, known as asset management, helps target available road dollars so that the greatest risks are managed for the least cost.
3. The purpose of the Asset Management policy is to set guidelines for implementing consistent asset management processes throughout Tillamook County Public Works Department.
4. The Road Advisory Committee at their May 5, 2009 meeting accepted the Asset Management report.

NOW THEREFORE, IT IS HEREBY ORDERED THAT:

5. The Tillamook County Asset Management Policy, Exhibit A attached and incorporated here by reference, be and hereby is adopted.
6. This order is to become effective immediately.

DATED THIS 1st DAY OF July, 2009.

BOARD OF COUNTY COMMISSIONERS
FOR TILLAMOOK COUNTY, OREGON

	Aye	Nay	Abstain/Absent
<u>Tim J. Josi</u> Tim Josi, Chair	✓		
<u>Mark Liebhart</u> Mark Liebhart, Vice-Chair	✓		
<u>Charles J. Hurliman</u> Charles J. Hurliman, Commissioner	✓		

ATTEST: Tassi O'Neil
County Clerk

APPROVED AS TO FORM:

By Sumner D. Beaufort
Special Deputy

William K. Sargent
William K. Sargent, County Counsel



EXHIBIT A

TILLAMOOK COUNTY PUBLIC WORKS

ASSET MANAGEMENT POLICY

1.0 Purpose To set guidelines for implementing consistent asset management processes throughout Tillamook County Public Works Department.

2.0 Objective To ensure adequate provision is made for the long-term replacement of major road assets as financial resources allow by:

- Ensuring that County services and infrastructure are provided in a sustainable manner, with the appropriate levels of service to residents, visitors and the environment.
- Safeguarding County road assets including physical assets and employees by implementing appropriate asset management strategies and appropriate financial resources for those assets.
- Creating an environment where all Public Works employees take an integral part in overall management of County road assets by creating and sustaining an asset management awareness throughout the County transportation system.
- Meeting legislative requirements for asset management and financial reporting.
- Ensuring resources and operational capabilities are identified and responsibility for asset management is allocated.
- Demonstrating transparent and responsible asset management processes that align with demonstrated best practice.

3.0 Scope This policy applies to all County public works activities.

4.0 Policy

4.1 Background

4.1.1 The County Commission is committed to implementing a systematic asset management methodology in order to apply appropriate asset management best practices across all road management areas of the County. This includes ensuring that assets are planned, created, operated, maintained, renewed and disposed of in accordance with Commission priorities for service delivery.

4.1.2 The County owns and uses approximately \$304 million road assets to support its core business of delivering road service to the community.

4.1.3 Asset management practices impact directly on the core business of the county and appropriate asset management is required to achieve our strategic service delivery objectives.

4.1.4 Asset management relates directly to the Tillamook County Transportation Strategic Plan goals and strategies:

- Protect the function, operation and safety of existing and planned roadways
- Consider land use impacts on existing or planned transportation facilities
- Coordinate with other jurisdictions to assure adequate connections to streets and transportation systems between incorporated and unincorporated areas
- The roadway network is not restricted to jurisdictional boundaries.
- Roadway maintenance and improvement are to be coordinated in cooperation with other jurisdictions.
- Road function, access and "level of service standards" are to be implemented through regulation.

4.1.5 A strategic approach to asset management will ensure that the County Commission delivers the highest appropriate level of service through its assets. This will provide positive impact on:

- Members of the public and staff;
- The ability of the County to deliver the expected level of service and infrastructure based on available resources;
- The political environment in which County Commission operates; and
- The legal liabilities of the County.

4.2 Principles

4.2.1 A consistent Asset Management Strategy must exist for implementing systematic asset management and appropriate asset management best-practice throughout the County's road department.

4.2.2 All relevant legislative requirements together with political, social and economic environments are to be taken into account in asset management.

4.2.3 Asset management principles will be integrated within existing planning and operational processes.

- 4.2.4 An inspection regime will be used as part of asset management to ensure agreed service levels are maintained and to identify asset renewal priorities, as funding allows.
- 4.2.5 Asset renewal plans will be prioritized and implemented progressively based on agreed service levels and the effectiveness of the current assets to provide that level of service.
- 4.2.6 Systematic and cyclic reviews will be applied to all asset classes and are to ensure that the assets are managed, valued and depreciated in accordance with appropriate best practice and applicable standards.
- 4.2.7 Future life cycle costs will be reported and considered in all decisions relating to new services and assets and upgrading of existing services and assets.
- 4.2.8 Future service levels will be determined in consultation with the community.

5.0 Standard	Government Accounting Standards Board (GASB) Statement 34
6.0 Related Documents	Tillamook County Road Asset Management Plan and Road Risk Management Plan.
Responsibility	<p>County Commissioners are responsible for adopting the policy and ensuring that sufficient resources are applied to manage the assets.</p> <p>The Public Works Director has overall responsibility for developing an asset management strategy, plans and procedures and reporting on the status and effectiveness of asset management within the County road network.</p>
Review Date	This policy has a life of 4 years. It will be reviewed in June 2013.

Appendix B. Three-Year Detail of Road Services Performance

Tillamook County Road Performance by Service 2007-2009								
Program	Unit/Type of Accomplishment	Effectiveness/Network Impact						
		2007	2008	2009	2007	2008	2009	
Road Management								
	Miles to maintain	378	378	380	PCI for arterial, collector, local roads	60/51/40	60/48/39	-
	Miles arterial/collector/local of asphalt resurfacing	8.9*	3.97	2.64	Percent of paved roads resurfaced (overlaid)	3%	3%	1%
	Miles local gravel road	91	91	97	Percent of local gravel roads graded every other year	TBD	TBD	TBD
					Percent of Surface Road expenditures on preventive maintenance	4%	1%	1%
	Miles inspected every other year	-	272	-	Percent of Surface Road expenditures on rehabilitation	63%	69%	63%
	Number of Service Requests	TBD	TBD	317	Percent pothole service requests reported as completed	100%	TBD	87%
Structures								
	Number of bridges inspected every other year	96	95	96	Average NBIS sufficiency rating	80%	80%	77%
					Percent of bridges with sufficiency rating over 75 (Good)	66%	68%	67%
					Percent of bridges with sufficiency rating over <50 (Poor)	7%	7%	13%
	Number of weight limited bridges	6	3	3	Percent of weight limited bridges	6%	3%	3%
	Miles of guardrail inspected	10	-	-	Percent of guardrail in Poor/Very Poor condition	43%	43%	43%
Traffic Safety								
	Number of miles receiving pavement markings	299	299	299	Cost per mile for pavement marking	\$346	\$351	\$349
	Number of traffic signs maintained	4,807	4,807	4,651	Percent of Stop signs Very Good or Good condition	98%	TBD	99%
					Percent of signs inspected for night-time visibility	100%	100%	100%
					Percent of Stop signs repaired/replaced within 48 hours	100%	TBD	100%
					Percent of Stop sign requests response within 24 hours	100%	TBD	100%
Drainage								
	Number of lane miles of ditches to maintain annually	TBD	195	195	Percent ditches blocked flow (Poor) or requiring immediate maintenance (Very Poor)	TBD	30%	30%
	Lane miles of ditches maintained	TBD	TBD	TBD	Percent of ditches maintained annually	TBD	TBD	TBD
	Lineal feet of culverts repaired or replaced	TBD	235	1,303	Percent of culverts maintained or replaced	TBD	TBD	1%
	Number of levees inspected annually	TBD	2	7	Levees in Poor condition	TBD	TBD	0
Vegetation Management								
	Miles treated with herbicide	TBD	TBD	530	Percent of lane miles mowed per year	TBD	TBD	TBD
	Lane miles of vegetation maintained	TBD	TBD	TBD	Percent of lane miles cleared of debris per year	TBD	TBD	TBD
Emergency Management								
	Storm response hours (total for department)	5,400	11,018	7,703	Percent of roads cleaned of snow and sanded within 24 hours	100%	100%	95%
	Hours spent plowing and sanding	511	337	548	Percent of roads blocked by downed trees opened within 12 hours	95%	95%	100%
Equipment Management								
	Number of pieces of equipment managed	99	99	115	Percent receiving 24 hour service fueling	TBD	100%	100%
	Number of pieces of equipment serviced receiving preventive maintenance service	TBD	TBD	115	Percent of equipment serviced every 90 days for preventive maintenance	TBD	100%	100%
	Number of pieces of equipment D.O.T. certified annually	TBD	TBD	115	Percent of fleet DOT certified annually	TBD	0	100%
Facilities Management								
	Number of buildings inspected for structural, fire code and OSHA compliance annually	3	3	3	Percent of buildings certified by fire, OSHA, building inspector	TBD	100%	100%
Alternative Transportation								
	Number of projects completed annually	0	0	0	Percent projects completed annually	0%	0%	0%
Engineering Services								
	Total number of permits reviewed	TBD	380	475				
	Number of permits reviewed by Community Development	TBD	120	59				
	Number of bridge projects ready for construction/complete annually	TBD	0	1				
Administration								
	Number of employees	30.5	30.5	26	Percent of full time employees performance assessed per year	100%	100%	100%
	Hours of training per year	1,256	1,607	1,416	Percent of retention/turnover	3%	30%	8%

*Included miles paved by federal and state agencies
 TBD To Be Determined
 N/A Not Available

Appendix C. List of 2009 Project Accomplishments

Overlay 2.64 miles

- Tideland
- Miami-Foley
- Whiskey Creek Road
- Trask River Road
- Curl Bridge
- Resort Drive

Graded gravel roads (491 hours)

Shoulder maintenance

Pothole repair \$190,000

Replaced Johnson Bridge

Repaired

- Slab Creek Bridge
- Ollie Woods Bridge
- Holgate Bridge
- Lommen Bridge
- Bay's Creek Bridge

Repaired 260 feet of guardrails

- 150 feet on Latimer railroad (ODOT funded)
- 110 feet on Wilson River Loop (liability insurance claim)

Replaced 31 culverts (1% of inventory)

- Anderson Road
- Burton Frasier Tidegate
- Blaine Road

Ditching - 507 hours (¼ of one full time employee)

- Trask River Road
- Savage Road
- Irish Road
- Makinster Road
- Foss Road

Reviewed 475 permits

Designed Johnson and Boulder Creek bridges

Produced *2008 Performance Report & 2009 Risk Management Report*

Responded to 2 federally declared winter storms

- December 13-26, 2008 - record snow, landslide and mudslides & related damage
- December 31, 2008 - severe weather conditions
flooding, landslides and erosion

Inspected 4,641 signs for night time visibility

Re-striped 299 miles of county road

Mowed and removed brush and weeds along County roads

Maintained Road Department equipment & hauled rock

Received and managed service requests