



# Road Maintenance Program Overview

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The Road Maintenance Program (RMP) manages the repair or replacement of existing County infrastructure. The Board has expressed concern regarding the cost of postponing road maintenance. If road defects are repaired promptly, the cost is usually modest. If defects are neglected, an entire roadway section may deteriorate completely, requiring full reconstruction at many times the cost of maintenance.

## **Maintenance Unit Overview**

The RMP is spread among 23 categories of roadway maintenance activities that receive funding each year. Maintenance activities include, but are not limited to, brushing, ditching, grading, asphalt concrete patching, chip seal, slurry seal, crack seal, Dura Patching, sweeping, vegetation control, drainage, traffic signals, sign maintenance and snow removal.

The Transportation Division's Maintenance Unit (Maintenance) is responsible for maintenance of 1,079 centerline miles of roadway. The roadway surface types are as follows:

- 433 miles of asphalt concrete surfacing
- 586 miles of chip seal
- 60 miles of unimproved roads
- 70 miles of sidewalks

The Maintenance Unit is also responsible for installing, maintaining and repairing the following:

- 76 bridges
- 100+ box culverts
- 17,000 feet of guardrail
- 1,600 feet of timber wall
- 14,822 warning, guide, regulatory and informational signs
- 137.6 miles of raised pavement markers (RPMs) – centerline
- 46 signalized intersections

Within the 23 categories of road maintenance activities, the Maintenance unit is responsible for:

- **Traffic Unit - Installs/Maintains/Repairs:**
  - Signalized intersections – Inspected once per month, with general maintenance performed each year, as shown in Table 1-6
  - Sign maintenance
  - Roadway striping – 464 miles of double yellow centerline and 302 miles of white edge line
  - Traffic legends
  - Raised pavement markers

- **Bridge Crew – Installs/Maintains/Repairs:**
  - Bridges
  - Box culverts
  - Guardrail
  - Sidewalk
  - Timber wall
- **Maintenance Shop - Maintains/Repairs:**
  - Construction equipment
  - Heavy vehicles
  - Countywide fleet vehicles
  - Locations:
    - Equipment Shop - Meyers & Headington facility
    - Fleet Shop - Headington facility
- **Road Side Ditch Crew - Maintains/Repairs**
  - Approximately 1,000 miles
  - Performed in winter/fall
  - Annual practice is to clean between 5% and 10% per year
  - The storm water BMP restricts many of these activities due to runoff
- **Brushing:**
  - Performed in fall/winter
    - Completed by combination of hand crews and brush movers (flail machines)
  - Annual practice is 90 miles
- **Cracksealing:**
  - Performed in fall/winter
  - Annual practice is 40 miles completed per year (this is a very labor intensive project and productivity can be greatly hampered by weather conditions)
- **Unimproved roadway grading (reference Table 1-7):**
  - Performed in the spring
  - Annual practice is to re-grade 35 to 40 miles
  - Non-residential areas are generally not graded
  - Minimal locations are cleaned and lightly scraped for wildland fire evacuation routes
- **Culverts cleaned with vector truck:**
  - West Slope activities performed in the fall/winter
  - Tahoe basin activities performed in the summer with the Erosion Control group
  - Annual practice is 300 to 400 per year
- **Chip Seal:**
  - Prep work spring/early summer
    - Grinding/paving, asphalt patching, and/or Dura Patching
  - Chip Seal Application summer/early fall
    - Annual practice is 60 miles
- **Slurry Seal:**
  - Prep work spring/early summer
    - Grinding/paving, asphalt patching, and/or Dura Patching
  - Slurry Seal application summer/early fall
    - Annual practice is 6 miles
  - Mainly used for subdivision streets

Over the past seven years, Transportation has spent approximately \$5,910,000 on chip seal work and \$10,530,000 on asphalt concrete overlay projects.

### **RMP Schedule**

The Pavement Management Program (PMP) enables staff to identify preventive maintenance procedures, which will improve and protect the life of the County's roadway infrastructure. Staff performs pavement condition inspections during the fall and winter months. Maintenance strives to inspect one-third to one-half of the maintained mileage annually. The RMP has a three-year plan that incorporates PMP inspections, pavement condition indexes, maintenance staff visual inspections and public requests for maintenance. The three-year plan is updated annually to re-establish priorities.

### **Maintenance Schedule for Remainder of Fiscal Year (January 2014 – June 2014)**

During the first six months of the year, Maintenance has completed the ditching and brushing projects funded by the Fiscal Year (FY) 2013/14 General Fund allocation. Chip seal preparation, along with other maintenance projects funded by the FY 2013/14 allocation, is on target for completion by June 2014. This preparation work will lead into surface treatment projects scheduled for the summer.

### **Next Fiscal Year Maintenance Schedule (July 2014 – June 2015)**

The roads in El Dorado Hills and Cameron Park designated for FY 2013/14 Chip Seal/Slurry Seal have been carried over to FY 2014/15, due to extensive amounts of preparation work needed before scheduled Chip Seal and Slurry Seal can begin.

Along with the surface treatment, staff's main focus will be on major and minor rehabilitation in preparation for the FY 2015/16 Chip Seal Schedule, which includes, but is not limited to: pavement failure repairs, brushing, ditching, crack sealing, Dura Patching, culvert replacement, concrete curb and gutter repair, grinding of legends and placement of temporary road markers.

Surface treatment preparation is a crucial step in any maintenance project. Without the proper preparation, the surface treatment life span will be cut in half or less. The amount of major and minor rehabilitation needed is determined by the severity of the current roadway condition. Generally, it takes months of preparation and multiple crews to prepare for an upcoming surface treatment.

In FY 2014/15, Maintenance will also focus on the completion of as many maintenance requests as possible in which we were unable to address due to priority projects. The maintenance requests include but are not limited to:

- Brushing – tree limbs, site distance, school district requests.
- Pavement Failures – grind and pave, dig outs and Dura Patching.
- Ditching – erosion, shouldering and drainage improvements.

Maintenance will contract with CalFire - Growlersburg Conservation Camp again in FY 2014/15 to complete various labor-intensive brushing projects throughout the County. Along with these projects, major areas of concentration will include the annual

maintenance of Mosquito Bridge and Cosumnes Mine Road at North Fork Cosumnes Bridge, painting and structural repair of Mount Aukum at North Fork Cosumnes Mine Bridge and National Pollutant Discharge Elimination System (NPDES) Erosion Control in Tahoe.

Maintenance currently replaces about 900 signs per year. Recently, the Federal and State Manual of Uniform Traffic Control Devices (MUTCD) have updated their standards, resulting in a need for staff to replace the County's current sign panels with new retro-reflective panels for better visibility at night. Maintenance has a retro-reflective program in place, and performs sign checking at nighttime during the fall.

Maintenance has identified areas in need of augmented funding for Fiscal Year 2014/15. Activities in the "Required" category are maintenance items that are not currently in the Maintenance budget and are required by county/state or federal mandate. Activities in the "Needed" category are maintenance items that, if done, will improve the County's infrastructure. If "Needed" requests are not done in the very near future, they may move to a more costly "reconstruction" category. An example might be that if a standard roadway overlay does not occur in a timely manner, the roadway may move to the "reconstruction" category, which costs considerably more. Activities in the "Wanted" category are maintenance items that, if done, will continue to keep the County's infrastructure in good condition, but will not have immediate ramifications if not done. Areas of focus for major and minor rehabilitation are illustrated in Figure 1-9.

- ❖ Required: Sign Maintenance
- ❖ Needed: Asphalt Overlays
- ❖ Wanted: Slurry Seal, Major and Minor Rehabilitation

On June 10, 2014, the Board approved an allocation of \$500,000 from the General Fund to the Road Fund to be included in the FY 2014/15 budget. The Board also directed staff to allocate \$2,500,000 from Local Funds - Tribe for FY 2014/15 roadway maintenance activities. On August 5, 2014, the Board approved Transportation staff's recommendation for a FY 2014/15 Maintenance Work Plan.

#### General Fund Allocation Details:

- **Asphalt Overlay (\$500,000)** - These funds will be used to overlay Black Bart Avenue, Martin Avenue, and Barbara Avenue in South Lake Tahoe. These roadways are in very bad condition, and if an overlay is not placed in 2015, these roads will need to be totally rebuilt in the near future. All work will be done by an outside contractor. On September 23, 2014, the Board approved the use of \$250,000 from the Road Fund for this project.

#### Local Funds - Tribe Funding Allocation Details:

These categories were selected using analysis of the pavement condition index (PCI), average daily traffic, and evaluation from staff in regard to the needs and impacts of maintenance activities on current County infrastructure. With the combined maintenance efforts of these programs, Division's goal is to increase the PCI by an average of 3 points total over the next three (3) years. This will help increase the overall County PCI average toward the desired benchmark of 70.

- **Asphalt Overlay (\$750,000)** - This will fund an overlay of Gold Hill Road from Cold Springs Road to Highway 49.
- **Slurry Seal (\$500,000)** - The Division has identified several subdivisions within the designated area that would be good candidates for slurry seal application, including Longview subdivision in Placerville, Highland subdivision, Cameron Woods subdivision, and Emerald Meadows in Cameron Park. All work will be done by an outside contractor.
- **Minor and Major Rehabilitation (\$1,000,000)** - The Division has identified several roadways out of the 523 roadway miles that are in need of rehabilitation in the designated area for FY 2014/15. The anticipated roadways for repair are South Shingle Road, French Creek Road, Old French Town Road and Meder Road. The funding will cover labor, equipment, material, hauling services and rental equipment costs to perform the rehabilitation on these roadways. The work will be performed by a combination of County staff and outside contractors.
- **Sign Maintenance (\$250,000)** - This funding level will increase the production of replacement signage by 475 signs in FY 2014/15, in order to continue working toward the new specifications required by the MUCTD standards for retro-reflectivity. Current funding allows for the production of approximately 900 signs each year. With \$250,000 in additional funding for 2014/15, all required updates in the designated area will be closer to completion. All work will be performed by County staff.

**Table 1-6: County Maintained Traffic Signals**

1.	Bass Lake Road @ Sienna Ridge Road
2.	Cameron Park Drive @ Coach Lane
3.	Cameron Park Drive @ La Canada
4.	Cameron Park Drive @ Meder Road
5.	Cameron Park Drive @ Oxford Road
6.	Cameron Park Drive @ Palmer Drive
7.	Durock Road @ Business Drive
8.	El Dorado Hills Boulevard @ Harvard Way
9.	El Dorado Hills Boulevard @ Lassen Lane/Serrano Parkway
10.	El Dorado Hills Boulevard @ Olson Lane
11.	El Dorado Hills Boulevard @ Park Drive
12.	El Dorado Hills Boulevard @ Saratoga Way
13.	El Dorado Hills Boulevard @ St Andrews Drive/Governor Drive
14.	El Dorado Hills Boulevard @ Wilson Boulevard
15.	Francisco Drive @ Green Valley Marketplace Driveway
16.	Francisco Drive @ Village Center Drive
17.	Green Valley Road @ Bass Lake Road (Includes Flashing Beacon on Green Valley Road) - Emergency Response Only
18.	Green Valley Road @ Cambridge Road
19.	Green Valley Road @ Cameron Park Drive/Starbuck Road
20.	Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road
21.	Green Valley Road @ Francisco Drive
22.	Green Valley Road @ Miller Road/Brown's Ravine Road
23.	Green Valley Road @ Mormon Island Drive/Lakeridge Oaks Drive
24.	Green Valley Road @ North Shingle Road
25.	Green Valley Road @ Pleasant Grove Middle School
26.	Green Valley Road @ Silva Valley Parkway/Allegheny Road
27.	Green Valley Road @ Sophia Parkway
28.	Green Valley Road @ Silver Springs Road
29.	Latrobe Road @ Golden Foothill Parkway/Clubview Drive
30.	Latrobe Road @ Golden Foothill Parkway
31.	Latrobe Road @ Investment Boulevard (Includes Flashing Beacon on Latrobe Road) – Emergency Response Only
32.	Latrobe Road @ Suncast Lane
33.	Latrobe Road @ Town Center Drive
34.	Latrobe Road @ White Rock Road
35.	Missouri Flat Road @ El Dorado Road
36.	Missouri Flat Road @ Forni Road
37.	Missouri Flat Road @ Golden Center Drive
38.	Missouri Flat Road @ Mother Lode Drive
39.	Missouri Flat Road @ Plaza Drive
40.	Mother Lode Drive @ French Creek Road
41.	Silva Valley Parkway @ Harvard Way
42.	Silva Valley Parkway @ Serrano Parkway
43.	South Shingle Road @ Durock Road
44.	White Rock Road @ Stonebriar Drive/Four Seasons Drive

45. White Rock Road @ Valley View Parkway/Vine Street

46. White Rock Road @ Post Street

Table 1-7

County Maintained Unimproved Roads			
	Road #	Road Name	Mileage
<b>West Slope</b>			
1	46	Bear Creek Road	1.73 Miles
2	14	Big Canyon Road	0.58 Miles
3	112	Breedlove Road	2.22 Miles
4	121	Cable Road	5.44 Miles
5	118	Caldor Road	2.69 Miles
6	96	Cedarville Road	0.72 Miles
7	877	Cosumnes Mine Road	3.83 Miles
8	93	Farnham Ridge Road	5.38 Miles
9	858	Fort Jim Court	0.08 Miles
10	42	Goose Flat Road	0.29 Miles
11	80	Happy Valley Road	3.19 Miles
12	92	Indian Diggins Road	3.26 Miles
13	103	Leoni Road	0.53 Miles
14	111	Mameluke Hill Road	1.10 Miles
15	60	Mosquito Road	6.95 Miles
16	75	Mt Murphy Road	1.40 Miles
17	41	Russell Hollow Road	0.65 Miles
18	82	Sand Ridge Road	3.65 Miles
19	124	Sciaroni Road	3.28 Miles
20	17	South Shingle Road	1.39 Miles
21	1862	South Street	0.09 Miles
22	105	Sweeney Road	2.47 Miles
23	125	Tullis Mine Road	0.22 Miles
24	2232	County Road 2232	0.07 Miles
25	45A	County Road 45A	0.08 Miles
26	1861	Oriental Street	0.07 Miles
27	88	Park Creek Road	6.37 Miles
		Total	57.73 Miles
<b>East Slope</b>			
1	1850	Tamarack Avenue	0.11 Miles
2	2005	Tamarack Court	0.03 Miles
3	1852	Hemlock Avenue	0.11 Miles
4	1854	Phillips Heights Avenue	0.11 Miles
		Total	0.36 Miles