

2019/20 ROADS MAINTENANCE REPORT

COUNTY OF SAN LUIS OBISPO



**County of San Luis Obispo
Department of Public Works
Transportation Division – Roads Maintenance
Fiscal Year 2019/20**

Board of Supervisors

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Introduction

The primary objective of the Department of Public Works Transportation Division is to enhance mobility in our county. This objective is realized in large part through a comprehensive Roads Maintenance program.

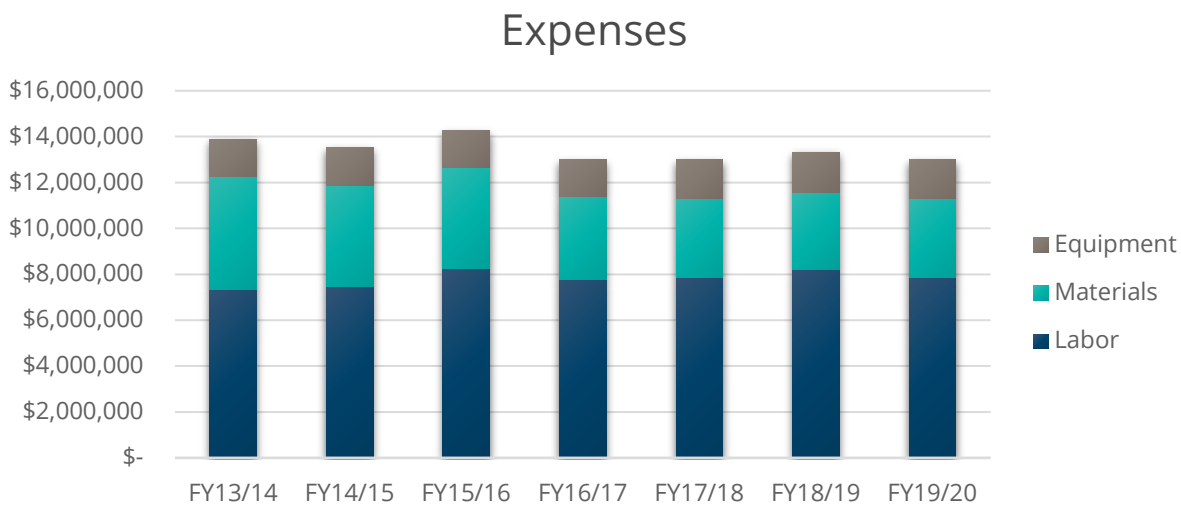
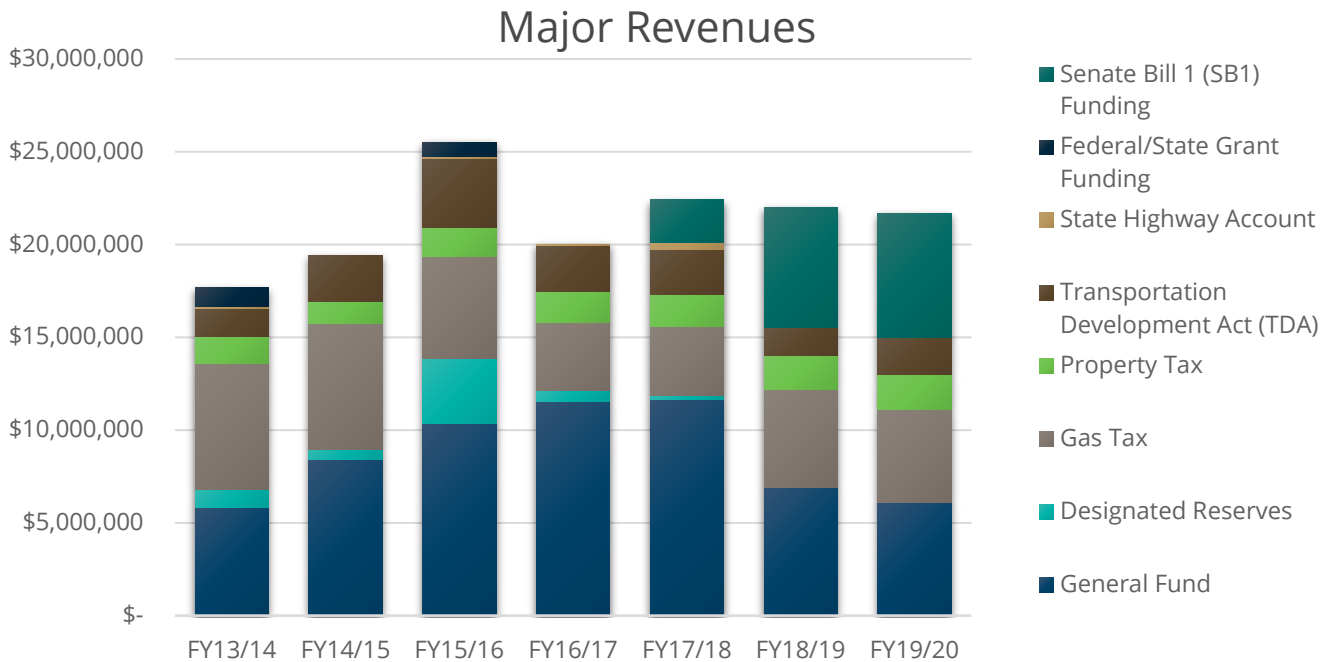
Policy establishes the priorities of the program as **Maintenance, Safety Improvements, and Operational Betterments**. These are achieved through preventive and corrective maintenance services, careful management of equipment and budget, and proper staff training. *(Refer to Appendix A – Policies to Govern the Operation and Maintenance of the County Highway System)*



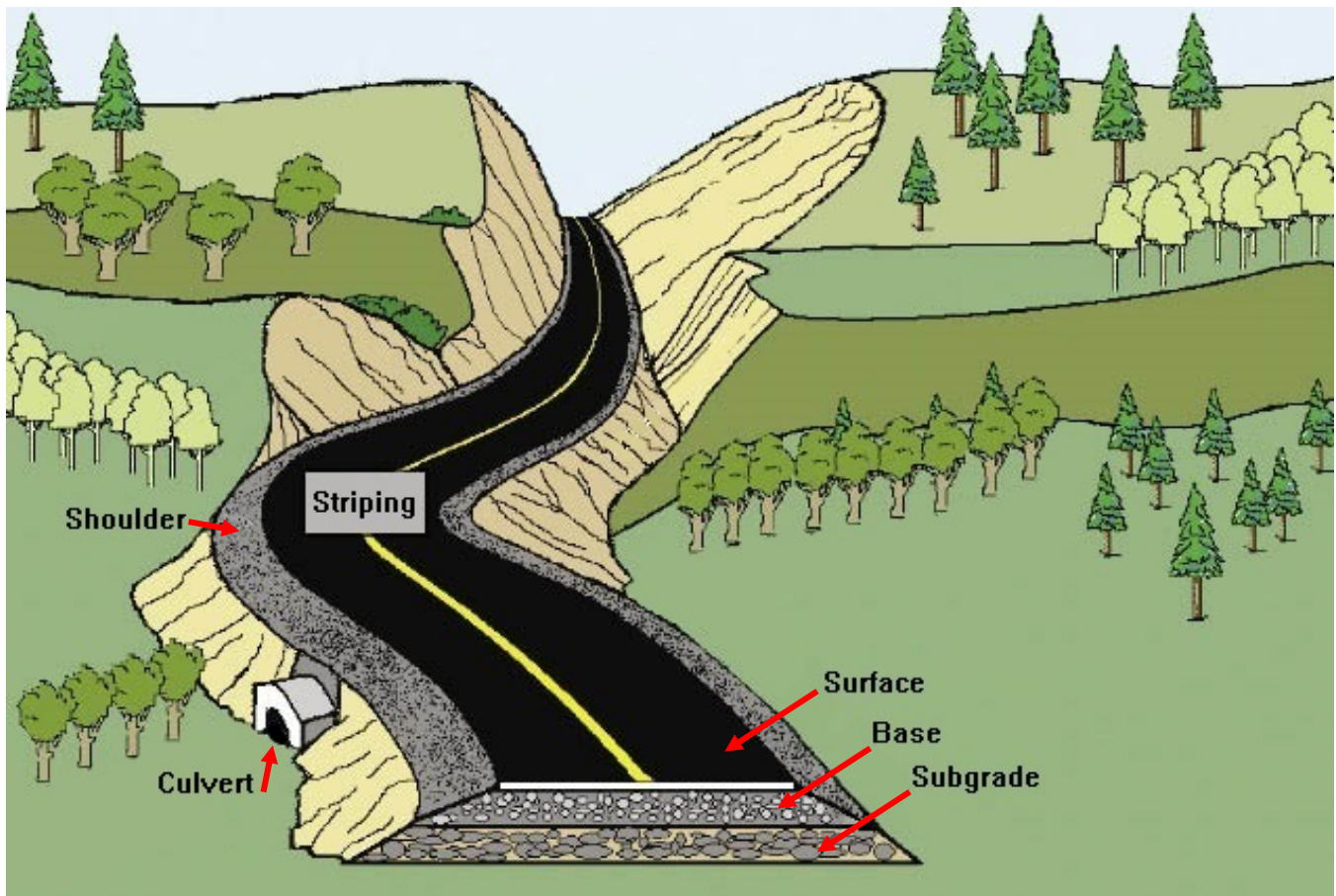
Roads Maintenance crews are dedicated to providing a safe environment, conducting work year-round and often around the clock. Services provided by this program are essential to ensuring safe mobility for emergency responders, commuters, cyclists, citizens, commerce, agriculture, and visitors.

Annual Funding

Roads Maintenance is funded through several sources, such as gas taxes and the General Fund. The amount of available funding is not guaranteed and generally fluctuates with economic changes. Thus, the Public Works Department manages the funds conservatively, and closely monitors maintenance costs through reporting and long-term planning. The Major Revenues graph below illustrates the overall Road Fund, which funds the Roads Maintenance, Bridge Maintenance, and Pavement Management programs; the Expenses graph reflects expenditures from Roads Maintenance activities only.



Components of a Maintained Road



The most obvious aspect of a road may be the asphalt surface, but there are many other infrastructure components that must be maintained. Roads Maintenance is tasked with ensuring the safe and operational conditions of not only the traveling surface, but also the characteristics shown in the image above plus many others not pictured. Maintenance of these structures proves to be a continuous effort, as conditions are constantly changing due to weather, wear, and the overall age of the infrastructure. The lists to the right give an example of the road components requiring routine maintenance.

Shown in illustration:

- Culverts
- Shoulders
- Striping
- Surface
- Base
- Subgrade
- Trees & vegetation

Not shown:

- Bridges
- Berms
- Cattle guards
- Ditches
- Drainage basins
- Guardrail
- Retaining walls
- Side drains
- Signs
- Traffic signals

Services Provided by Roads Maintenance

Day-to-day activities include sweeping, culvert inspections and cleaning, traffic signal maintenance, pothole repair, and more. Roads Maintenance services are essential to ensuring safe mobility on County-maintained roads. In the event of a storm or emergency, Roads Maintenance is responsible for clearing slides and fallen debris, repairing washouts, and delivering barricades and flashing signs.

Road Maintenance

- Emergency response and call out
- Debris removal
- Inspections – pavement and roadway
- Bike lane work
- Base repair, crack sealing, and spot sealing
- Hand patching and major patching
- Preparation for surface treatments
- Shoulder grading and reconditioning
- Gravel road repair, grading, and graveling
- Adopt-A-Road work
- Vandalism repair
- Erosion control
- GIS Field Work

Bridge Maintenance

- Bridge inspection, maintenance, and repair
- Guardrail inspection, maintenance, and repair
- Cattle guard inspection, maintenance, and repair

Vegetation Maintenance

- Mowing
- Brush and tree trimming
- Vegetation and tree removal

Our Road System

The County of San Luis Obispo maintains a road system which includes the following:

- 1,349 miles of maintained roads
 - 1,105 miles of paved roads
 - 244 miles of unpaved roads
- 200 bridge structures
- 624 segments of guardrail
- 141 cattle guards
- 22 signalized intersections
- 12 roadside flood control basins
- 1,500+ ADA curb ramps
- 4,950+ road drainage culverts
- 26,100+ road signs

Traffic Operations & Sign Maintenance

- Sign fabrication, installation, and maintenance
- Traffic signal and street lighting maintenance
- Pavement markings, striping, guide markers, reflective markers

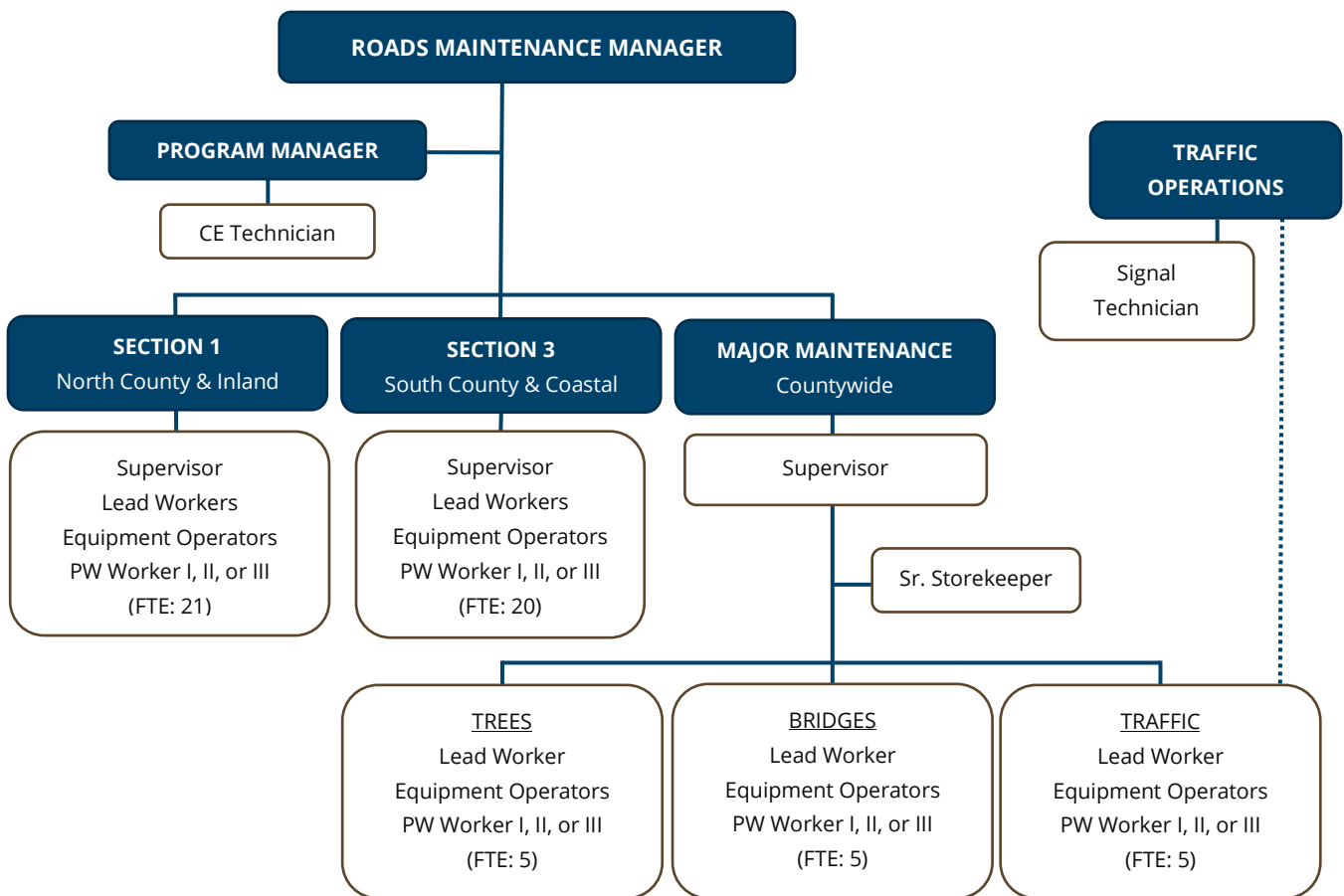
Drainage & Stormwater Permit Compliance

- Water Quality Control Program, NPDES compliance
- Culvert inspection, maintenance, and repair
- Basin inspection and maintenance
- Sweeping
- Storm preparedness

Staffing

Organization

Roads Maintenance staff operate from three facilities: two in San Luis Obispo and one in Paso Robles. Vehicles, equipment, materials, and supplies are stored at the three facilities, including the sign fabrication shop and the Public Works Warehouse. Management and administration operates from downtown San Luis Obispo



Operational Areas

Staff is organized by operational area and typical work conducted. This includes Section 1 – North County & Inland, Section 3 – South County & Coastal, and Major Maintenance – Trees, Bridges, and Traffic. Major Maintenance serves the entire County of San Luis Obispo.

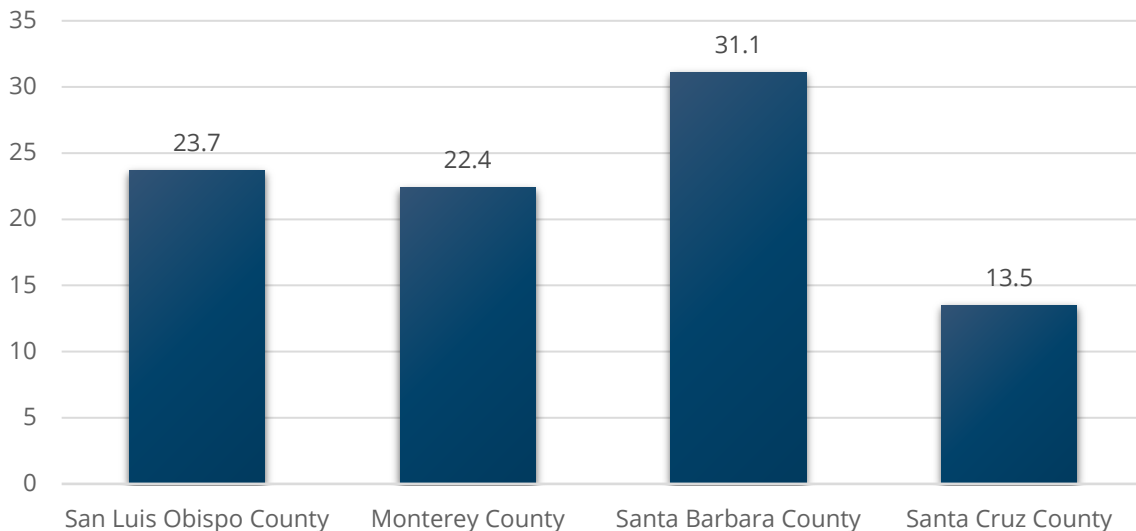


Neighboring Counties Comparison

There are 57 field staff positions in the Roads Maintenance program responsible for maintaining 1,349 miles of road. Staff examined how the County of San Luis Obispo’s Roads Maintenance program compared to neighboring counties and found that the ratio of road miles per staff person are comparable with the County of Monterey and the County of Santa Barbara. Refer to the table and chart below for a more detailed comparison of the evaluated Roads Maintenance programs.

	Total Road Miles	Unincorporated Population	Total Land Area (Sq. Mi.)	Maintained Bridges	Maintenance Yards	Staffing								
						Supervisors	Road Maintenance Crew	Traffic Maintenance Crew	Tree Maintenance Crew	Bridge Maintenance Crew	Total Field Staff	Signal Technician(s)	Management & Office Staff	Total Road Maintenance Program Staffing
San Luis Obispo County	1,349	120,552	3,298	199	3	3	39	5	5	5	57	1	3	61
Monterey County	1,234	107,642	3,771	173	4	6	39	4	0	6	55	0	3	58
Santa Barbara County	1,648	139,052	2,748	100	5	3	38	6	6	0	53	2	9	66
Santa Cruz County	607	129,739	445	98	1	5	40	0	0	0	45	0	1	46

Road Miles per Field Staff



Equipment

Roads Maintenance owns and maintains a fleet comprised of 153 pieces of equipment. The fleet is monitored by the Program Manager, with oversight by the Roads Maintenance Manager and technical support provided by the Central Services Department Fleet Services Division. *(Refer to Appendix B – Roads Maintenance Equipment List for a complete list of equipment.)*

Equipment Maintenance & Replacement

Public Works utilizes the Central Services Department Fleet Services Division for equipment maintenance and repair. The Roads Maintenance fleet is managed under a comprehensive preventive and predictive maintenance program, and each piece of equipment is monitored using the specialized fleet management software FASTER.



Equipment expenses are closely monitored, as well as routine maintenance schedules, repairs, utilization rates, equipment assignments, and equipment depreciation. These factors, in addition to the equipment usefulness, overall condition, and replacement costs, are reviewed when equipment is evaluated for replacement. California Air Resources Board (CARB) compliance and emission standards are also key criteria to consider when evaluating equipment for replacement. The Public Works fleet is self-funded through the Internal Services Fund (ISF).

Regulatory Compliance

Adhering to emissions regulations and California Air Resources Board (CARB) requirements is an important aspect of public fleet management. Emission standards are monitored for all on-road, off-road, and portable equipment. Replacement equipment, when needed, will be verified for compliance when ordered.

Smog checks are conducted as required, with compliance reporting submitted annually to the California Bureau of Automotive Repair (BAR). CARB compliance of on-road equipment has been fully achieved, and heavy on-road diesel vehicles are regularly monitored under the Periodic Smoke Inspection Program (PSIP). Off-road equipment currently meets CARB regulatory requirements through January 1, 2028. Portable equipment is a unique aspect of CARB compliance; applicable equipment is registered with the Portable Equipment Registration Program (PERP) and reported to the San Luis Obispo Air Pollution Control District (APCD).

Contracted Services

The Public Works Department relies upon annual contracts to supplement staff and provide special services for our community. In these instances, it is more cost-effective for the Department to contract the work with outside vendors rather than try to complete the work in-house. These contracts allow staff to react to incoming requests promptly and manage ongoing maintenance projects, while vendors can focus on specified tasks and apply economy of scale to complete the work more efficiently.

Sweeping and mowing are regularly contracted on an annual basis. These services are ideal for contract work because they are easy to scope, delegate, and monitor. Also, these contracts eliminate the Department's need to maintain seasonal equipment and employ the additional staff required. Roads Maintenance staff are available as needed to supplement the work of the vendors.

Sweeping

Sweeping is provided year-round through an annual contract. Sweeping is considered a Best Management Practice (BMP) under the Water Quality Protection program. This service helps prevent sediment and debris from entering the stormwater system and is part of the Department's stormwater management efforts.



*Approximately
8,808 curb miles
are swept under
contract each year*

The annual sweeping contract encompasses urbanized areas outlined in the County's NPDES MS4 Permit. The sweeping schedule covers 609 curb miles throughout the county, with an additional 125 curb miles of bike lanes, to be swept each month.

Mowing

Mowing is seasonal work, generally performed from April through June. Routine mowing is important to protect the integrity of the roadway and shoulder, and has the added benefit of providing clear line of site and vegetation control. Mowing is also one of the many tasks included in preparing a road for new surface treatment.

*Approximately
1,750 shoulder miles
are mowed under
contract annually*



Mowing occurs at a minimum of once per year, and at times twice depending on weather and vegetation growth. Providing this important service through contract helps free up staff during the summer season when work load demands are greater.

Other Contracted Services

The Public Works Department also regularly contracts materials trucking, operated heavy equipment, and tree removals on an as-needed basis. This enables the Department to better meet peak work demands, frees up staff for other maintenance needs, and eliminates the need for low-use specialty equipment, allowing for more cost-efficient management of the Public Works fleet. Overall, contracting these services allows for an opportunity to improve our service to the public while lowering costs.

Future Opportunities for Contracted Services

Annual contracts for specific specialized services allow opportunities for the Department to efficiently and effectively provide service throughout the County. Looking ahead, staff will evaluate which services may be better provided through an annual contract rather than provided in-house, such as paving and striping. These large maintenance tasks may be beneficial for annual contracts because they are time- and labor-intensive, require expensive specialized equipment, and are typically weather dependent.

Adopt-A-Road

Litter and illegal dumping is more than just an eyesore – it can impact drainage infrastructure and local waterways. Roads Maintenance staff regularly removes large items (such as appliances and furniture) illegally dumped along County roads and other items that may pose a hazard to the travelling public. However, due to limited resources, it is infeasible for Roads Maintenance staff to collect loose trash along the 1,300+ miles of road in the County’s maintained road system.

The Public Works Department relies upon the community’s partnership to help reduce roadside litter and mitigate its impacts. The Adopt-A-Road program allows the public to directly contribute to road maintenance through litter collection and removal. The program saves taxpayer money every year and provides a great opportunity to promote civic responsibility and community pride.



The Adopt-A-Road program currently consists of over 120 volunteer groups, with approximately 190 miles of road adopted

Adopt-A-Road participants are provided with high visibility vests, disposable gloves, and litter bags at no cost. Roads Maintenance crews provide pickup and disposal of filled litter bags and other debris collected from the adopted roadways. In addition to the aesthetic benefits of litter removal, participants help to prevent potentially harmful pollutants from entering waterways.

In FY 2019/20, Adopt-A-Road volunteers collected nearly 1,000 bags of trash!



Environmental Protection

All roads undoubtedly interface with the environment. As such, consideration is given to how maintenance activities impact the environment. Data shows an upward trend in the cost and time invested in reducing these impacts to the environment and complying with environmental regulations.

Environmental protection requirements include species checks, permitting (as required), project site mitigation, and environmental monitoring. Services directly affected by this demand include routine culvert maintenance and repair, vegetation trimming and removal, and bridge repair or replacement, among others.

Roads Maintenance absorbs significant costs related to environmental protection work. Costs typically include species checks in ice plant, trees, and other sensitive habitat; environmental assessments at culvert maintenance sites, creek crossings, and wash outs; and regulatory permitting. Environmental protection costs related to maintenance are also attributed to on-going mitigation at 19 project sites, as well as inspection and maintenance of stormwater control measures such as bioswales.

Water Quality Protection

Since 2006, the County has implemented best management practices (BMPs) related to protecting water quality. These best management practices are based on the National Pollutant Discharge Elimination System (NPDES) permit program, to which the County must adhere.

Maintenance and repair of road drainage structures is the key component to the program. This includes routine inspection and maintenance of over 4,950 culverts throughout the County-maintained road system. Additionally, monthly street sweeping within MS4 permit areas is intended to limit the transport of sediment, debris, and pollutants into waterways.



CULVERT MAINTENANCE – TURRI ROAD

Additional MS4 Permit requirements include annual facility assessments, routine evaluations of BMP implementation during operations and maintenance activities, and annual staff training. Permit compliance also requires annual evaluations and reporting of the mandated tasks listed above.

Storm Work

Preparedness

Every year Roads Maintenance crews carry out planned storm preparedness work, typically performed between September and November. Below is a summary of the planned storm preparedness work completed annually:

- Culvert inspections & maintenance
 - Inspecting approximately 1,250 culverts within MS4 permit boundaries
 - Inspecting approximately 3,700 culverts outside of MS4 permit boundaries
- Pre-storm inspections
 - Checking slide areas
 - Inspecting & clearing drainage ditches
 - Inspecting road basins & performing minor maintenance
- Sand deliveries
 - By request, delivering sand for sandbags to local Community Services Districts
- Sign maintenance
 - Opening ICY signs County-wide
- Yard preparations
 - Checking rain gear
 - Staging equipment
 - Cleaning up and/or covering stock piles
 - Installing any needed BMP's
 - Equipping response vehicles

Response

Roads Maintenance crews work tirelessly throughout every storm season to keep roads safe. Storm events often generate challenging conditions, such as flooding, slip-outs, mud or debris slides, and tree issues. Crews respond to hundreds of storm-related calls each year between October and April.



STORM RESPONSE – DOWNED TREE, LAS PILITAS ROAD

Surface Treatment Preparation

The Public Works Department follows an aggressive surface treatment program. The extent of the Pavement Management Plan (PMP) is outlined in the *2015 Pavement Management Report*. The PMP includes a five-year plan that identifies which roads are eligible to receive surface treatment.

Before surface treatment is applied, each road undergoes extensive preparation by Roads Maintenance staff. Thorough preparation work, as well as the timing of the preparation, is paramount to ensuring that the road and surrounding space is sufficiently ready to receive new surface treatment. Quality preparation will establish a good foundation for which surface treatment can be applied. Good preparation followed by good surface treatment will significantly extend the life of the road.



SURFACE TREATMENT – NACIMIENTO LAKE DRIVE

Typical preparation work activities include:

- Shoulder work
- Patching
- Culvert replacement
- Tree trimming
- Crack sealing
- Correcting drainage issues

Preparation activities typically begin in late spring, continue through summer, and wrap up by early fall. This timeframe allows Roads Maintenance staff to be available throughout the rainy season for other corrective and planned maintenance work and storm work.



*SURFACE TREATMENT PREPARATION – TORO CREEK ROAD
LEFT: SHOULDER WORK, RIGHT: CRACK SEALING*

Maintenance Schedule

While maintenance happens year-round, maintenance activities follow a general schedule from year-to-year. The following maintenance activities occur year-round:

- Hand patching
- Debris removal
- Tree trimming
- Cattle guard maintenance
- Guardrail maintenance
- Sign maintenance
- Culvert maintenance
- Bridge maintenance

Certain maintenance activities require specific weather conditions and temperatures, which may impact the effectiveness of materials being used and safety of staff. The following calendar identifies when condition-dependent activities are typically scheduled from year-to-year; however, scheduled activities may change due to weather conditions.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Storm Work													
Storm damage		January - April								October - December			
Flooding		January - April								October - December			
Debris clearance		January - April								October - December			
Road Work													
Paved Roads													
Corrective patching	January - December												
Major patching				April - October									
Shoulder work				April - October									
Surface treatment preparation				April - October									
Gravel Roads													
Grading				April - May						October - December			
Graveling				April - May						October - December			
Tree Work													
Trimming or removal requests	January - December												
Trimming for surface treatment preparation				April - October									
Traffic Operations													
Sign inspections & maintenance	January - April									October - December			
Pavement markings after surface treatment				April - October									
Drainage													
Culvert inspections & maintenance													
Within MS4 boundaries	January - December												
Outside MS4 boundaries	January - March									September - December			

Request Priorities

The Department receives maintenance requests daily through phone calls, emails, and web forms. Each maintenance request is assigned a priority based on the impact to road safety. Priorities determine the timeframe in which Department staff will assess the damage and determine the next step for restoration to operational condition, either to amend immediately or schedule the work to be completed. The table below outlines the priority levels and required timeframe to assess the damage.

Priority Level for Maintenance Requests	Required Assessment Time Frame
1	24 hours
2	4 days
3	7 days
4	14 days

Sample Level Priority 1 maintenance requests:

- Stop sign down
- Hazardous material on the roadway
- Traffic signal malfunction
- Tree blocking the roadway
- Mudslide

Road work completed by the Department is either corrective maintenance or preventive maintenance. Both types of work are completed year-round with the goal of providing a well-maintained road system.

Process Flow

The Department utilizes SAP, a sophisticated asset management software, to record maintenance requests and maintenance activities. Each corrective maintenance request or preventive maintenance activity is recorded, along with the service type, location, date, and costs for staff, materials, and equipment.



Mobile Notifications & Work Orders

Roads Maintenance Crews receive real-time notifications of incoming maintenance requests and are able to generate SAP work orders remotely. This allows for a quicker initial response, increased efficiency, and more accurate time and cost tracking.

Corrective Maintenance vs. Planned Maintenance

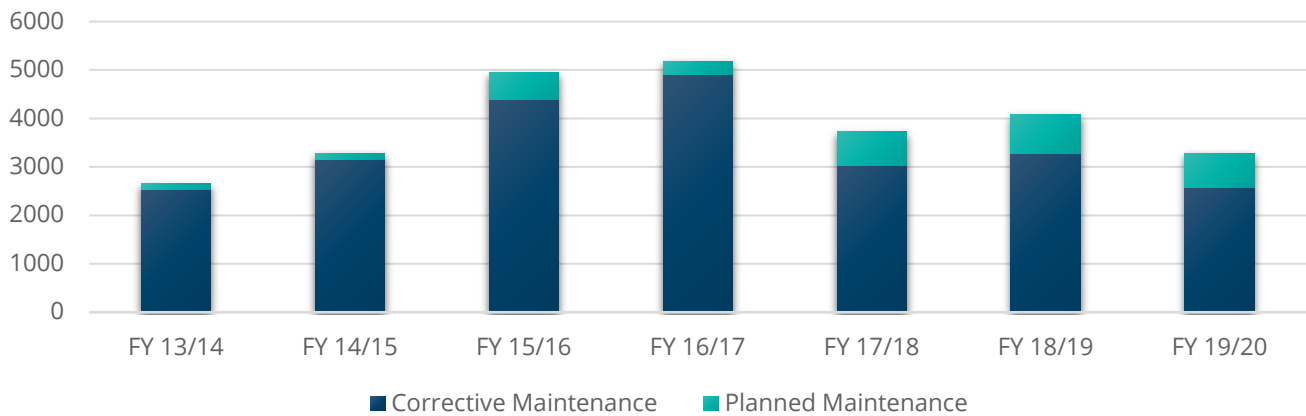
Corrective Maintenance refers to maintenance tasks performed to identify, isolate, and amend faults so that a damaged aspect of the system can be restored to an operational condition. These tasks are carried out after damage detection. Planned Maintenance refers to maintenance tasks that are scheduled by staff to maintain and preserve the condition of the roadway system.

Examples of Corrective Maintenance	Examples of Planned Maintenance
<ul style="list-style-type: none"> • Minor patching • Sign replacement • Debris and litter removal • Cattle guard repair • Guardrail repair 	<ul style="list-style-type: none"> • Surface treatment preparation • Culvert inspection and cleaning • Refreshing striping and pavement markings • Shoulder grading • Cattle guard and guardrail inspections

Maintenance Request Volumes

In FY 2019/20, Roads Maintenance received and completed over 2,500 work orders for corrective maintenance requests. Additionally, over 700 planned maintenance work orders were completed.

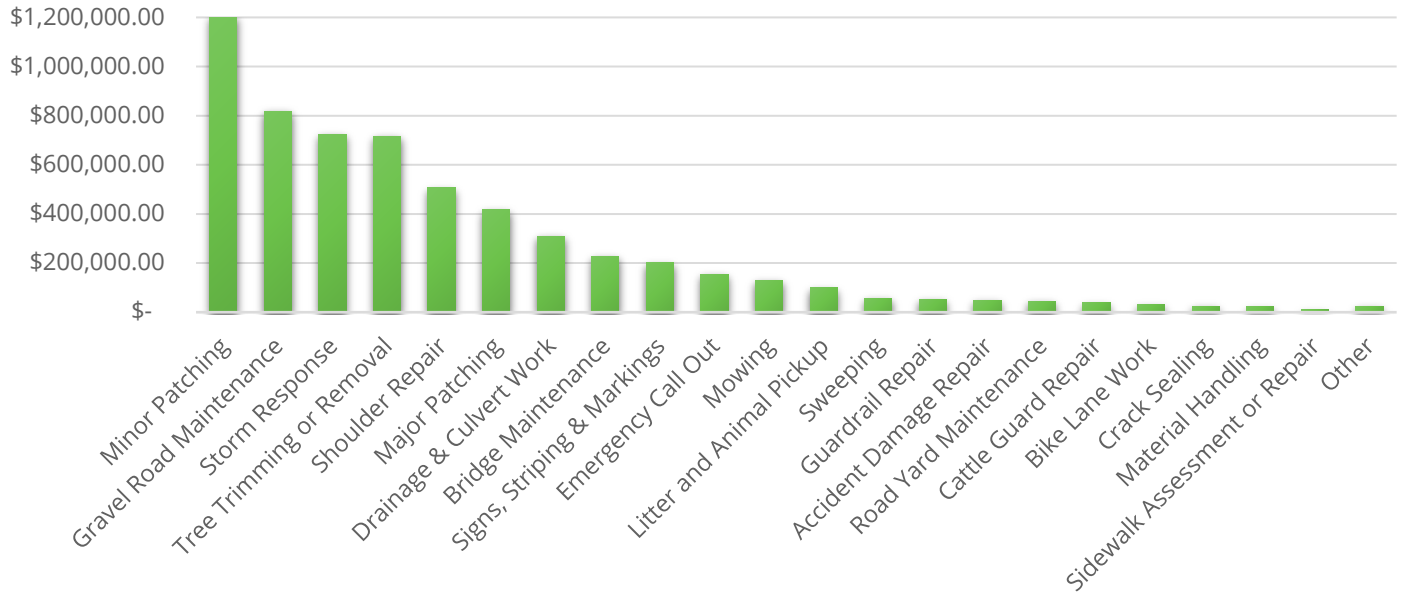
Number of Work Orders



The number of work orders each year remains largely consistent. The increased number of work orders in Fiscal Years 2015/16 and 2016/17 are attributed to special projects and storm response. In Fiscal Year 2017/18, Roads Maintenance staff reviewed the method by which work orders are created and adjusted the classification of regular and ongoing efforts to more accurately delineate corrective work from planned maintenance. This adjustment is reflected in the overall increase of planned maintenance efforts in the subsequent fiscal years.

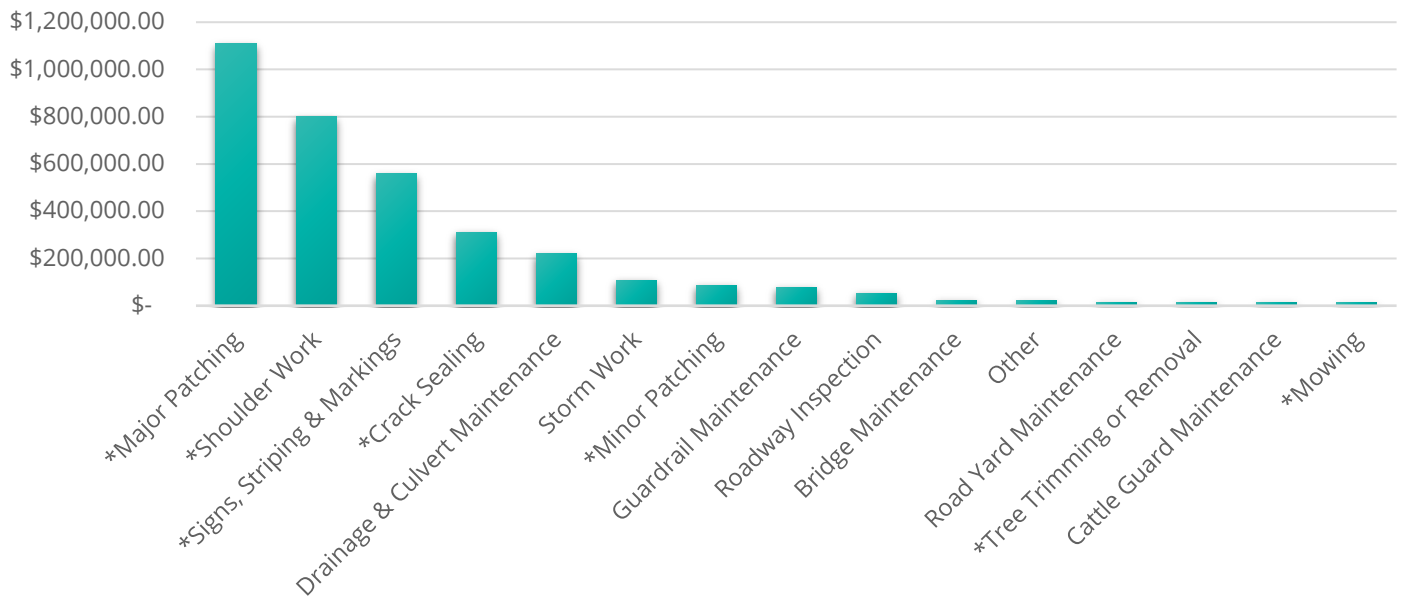
Corrective Maintenance Costs by Service Type

Fiscal Year 2019/20



Planned Maintenance Costs by Service Type

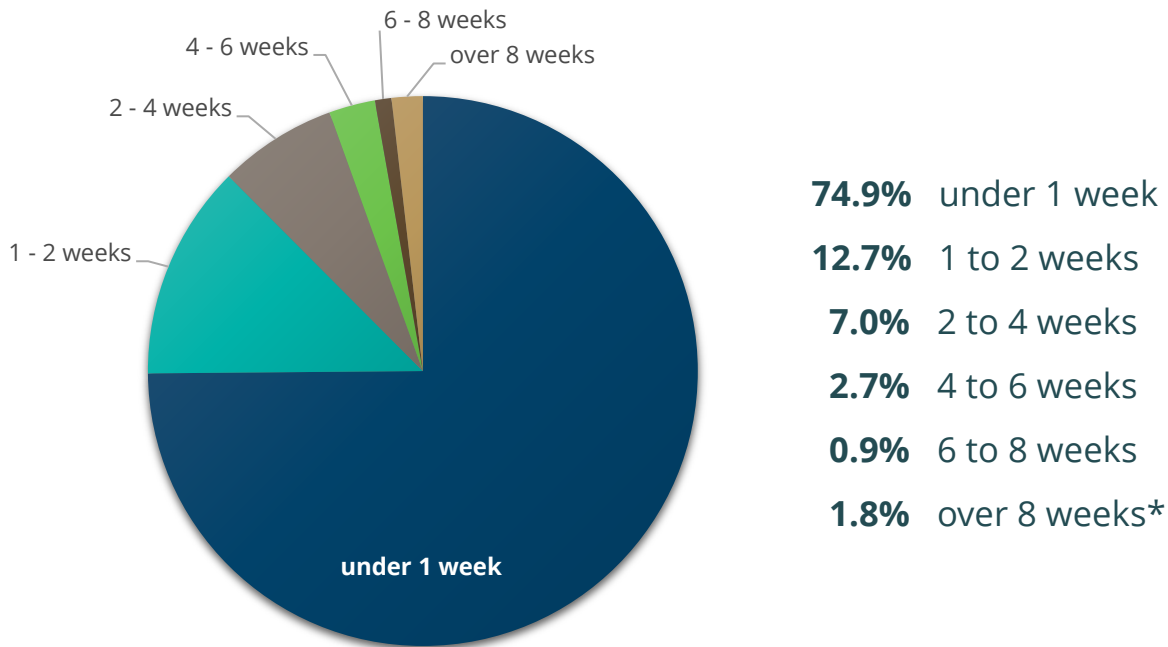
Fiscal Year 2019/20



*Activities noted with an asterisk are related to surface treatment preparation work. See Page 14 for details.

Corrective Maintenance Request Completion Times

Corrective maintenance work is scheduled based on the assigned priority level and is typically completed within a maximum of 8 weeks from the initial maintenance request.

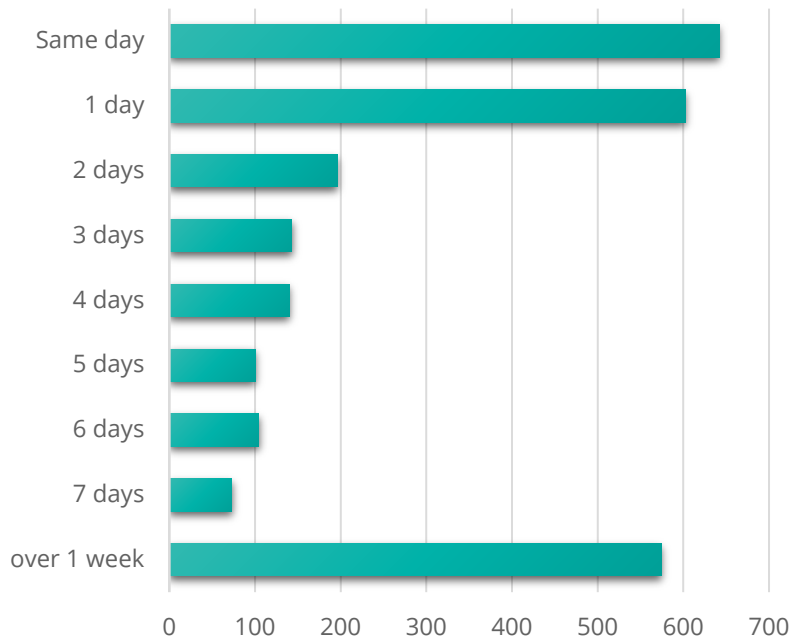


*Corrective work orders with completion times of over 8 weeks were postponed due to weather, environmental clearance, and/or permitting delays.

1,244 corrective maintenance work orders were completed within one day

...

*That's over **48%** of all corrective maintenance work orders!*



Maintenance Projects

In addition to corrective and planned maintenance of the County-maintained road system, Roads Maintenance is often charged with installation of special projects. These projects are beyond the scope of corrective and planned maintenance tasks, but not on the scale of capital improvement projects. These projects may be an emergency repair or could be generated from a corrective maintenance request, storm damage, or preventive maintenance inspection. The projects are small in scale, and are scheduled and completed in-house with engineering, design, and environmental assessments as needed. These maintenance projects are not regularly funded and are scheduled and completed based on the availability of funding.



MAINTENANCE PROJECT - CULVERT REPLACEMENT, CORBETT CANYON ROAD

Maintenance Project List

Fiscal Year	Project	Status	Aligned with Program Priority
2018/19	Drainage – Replace culvert E Street, Cayucos	Complete	Maintenance
	Drainage – Repair culvert Old Creek Road, Cayucos	Complete	Maintenance
	Drainage – Repair culvert Foothill Boulevard, San Luis Obispo	Complete	Maintenance
	Drainage – Repair culvert Cottontail Creek Road, Cayucos	Complete	Maintenance
	Bridge maintenance – Replace bridge deck Righetti Road, San Luis Obispo	Complete	Maintenance
	Bridge maintenance – Repair bridge #1 Suey Creek Road, Nipomo	Complete	Maintenance
	Drainage – Replace culvert Saint James Road, Cambria	Complete	Maintenance
	Drainage – Replace culvert Santa Rosa Creek Road, Cambria	Complete	Maintenance
	Drainage – Replace culvert Corbett Canyon Road, Arroyo Grande	Complete	Maintenance
2019/20	Drainage – Replace culverts Tassajara Creek Road, Santa Margarita	Complete	Maintenance
	Drainage – Repair drainage basin La Cumbre Lane, Nipomo	Complete	Maintenance
	Storm damage – Repair slip-out Turri Road, Los Osos	Complete	Maintenance
	Bridge maintenance – Repair bridge #3 Huasna Road, Arroyo Grande	Complete	Maintenance
	Drainage – Repair culvert Beverly Drive, Nipomo	Complete	Maintenance
	Drainage – Replace culverts Cayucos Creek Road, Cayucos	Complete	Maintenance
	Bridge maintenance – Replace bridge deck & stringers Cottontail Creek Road, Cayucos	Complete	Maintenance
	Bridge maintenance – Repair bridge #2 Huasna Road, Arroyo Grande	Complete	Maintenance
	Bridge maintenance – Repair bridge #1 Pippin Lane, Avila	Complete	Maintenance

Appendix A

POLICIES TO GOVERN THE OPERATION AND MAINTENANCE OF THE COUNTY HIGHWAY SYSTEM

Since the County has limited funds for highway maintenance, improvements, and betterments and does not have the funds to perform all the work it would perform if it had unlimited resources, staff efforts and Road Fund allocations for the operation, maintenance, and improvement of the County highway system shall be prioritized as follows:

I. STATE OF GOOD REPAIR & HIGHWAY SAFETY (first priority)

A. *Emergency Repairs/Non-Routine Maintenance*

Maintaining a fully functional roadway system is crucial to County operations and to the overall safety of our community members. It is the Department's highest priority to provide, at a minimum, full all-weather access on all County-maintained roads regardless of demand or pavement condition. Responding to and repairing storm damaged road assets is the County's number one priority for roadway safety.

B. *Routine Maintenance & Operations and Mandates*

A well-maintained County roadway system, particularly one which provides good driving surfaces, promotes road safety by reducing opportunities for roadway collisions and injuries, and also by reducing the frequency for maintenance crews to occupy the roadway. Furthermore, a well-maintained County roadway system requires less funding and fewer County resources when compared to poorly maintained roadways; which ultimately frees up resources for other uses.

1. Roadway Maintenance: Maintain County roadways, including roadway surface, culverts, traffic control devices, and shoulders, in good condition.
2. Bridge Maintenance: Maintain the County bridges in a safe and usable condition. Structurally deficient, poor condition, and weight restricted bridges should be addressed or replaced.
3. Per Resolution 2007-344, limit adding new streets to the County Maintained Road System (CMRS) to those areas serving high density commercial or residential development.
4. Consider terminating or abandoning County maintenance on roads serving fewer than five occupied parcels through the appropriate statutory procedures.
5. Sidewalks shall be maintained in accordance with the Streets and Highway Code.
6. Compliance with the Americans with Disability Act (ADA) at existing intersections shall be funded by the County per the adopted Title II Transition Plan for Public Rights-of-Way.

C. *Pavement Management & Preventative Maintenance*

Public Works shall prepare and regularly update a pavement management plan. This plan shall use current technology and best practices to maximize the level of service to the public, optimize

the pavement condition of the overall County highway system and minimize the maintenance and operation cost.

Preventative maintenance consists of minor and major rehabilitation projects. Minor projects are non-structural enhancements, like micro-surfacing and surface overlay, made to the existing pavement sections to eliminate age-related surface cracking to extend the life of the existing pavement. Major rehabilitation consists of structural enhancements that both extend the service life of an existing pavement and improve its load-carrying capability.

The objectives of preventative maintenance for the County's road system are:

1. Keep roads at an acceptable pavement condition index
2. Avoid expensive road reconstruction costs

II. ROADWAY BETTERMENTS

A. Safety Betterments (second priority)

The aim is for the overall collision rate for the County roadway system to be below the overall State collision rate. A priority shall be placed on those projects that:

1. Reduce collision rates below State average
2. Improve roadway sight distance
3. Provide lighting for identified roadway safety needs
4. Address identified Safe Route to School needs as primary focus for grant applications.
5. Drainage projects that improve road surface conditions

B. Operational Betterments (third priority)

Non-safety related operational improvements shall be made in accordance with Board adopted standards for Level of Service (LOS) for intersection and roadway segments.

In addition to roadway safety and maintenance needs, there are other desired improvements or betterments to the County roadway system that promise to offer an improved access to the public. These should typically be addressed as follows:

1. Upgrading roads, including paving gravel roads in residential areas, should be funded by the affected property owners under the Board of Supervisor's adopted Cooperative Road Program; which are developed through County Service Area 21.
2. Increasing roadway capacity or providing additional access to mitigate cumulative impacts from development shall be funded by development through one of the County's Road Improvement Fee (RIF) programs.
3. The following types of projects should be funded through outside grants sources such as Active Transportation Projects (ATP), Congestion Mitigation and Air Quality (CMAQ), and Regional State Highway Account (RSHA) grant programs.
 - a. Develop and improve bikeways (per the County Bikeways Plan)
 - b. Implement downtown streetscape projects
 - c. Construct pedestrian routes
 - d. Construct "Complete Streets" Projects

4. Maintenance for street lighting, landscaping, and other non-transportation street features shall be funded outside of the Road Fund. Inclusion of these amenities within the County right-of-way will require funding and maintenance by the local community via a Community Services District, a Community Services Organization, a Non-Profit Agency, or other community group.

III. ROADWAY DESIGN

Design standards for road construction are intended to promote safety and to reduce the maintenance demand on County resources. Therefore, new roads or improvements to existing roads in the County maintained system shall conform to the Public Improvement Standards adopted by the Board of Supervisors. Deviations from these standards should only be allowed after proper documentation for a design exception and when approved by the Director of Public Works or his designee.

Appendix B

Roads Maintenance Equipment List (Fixed Assets)

Operated Equipment

- 23 Pickup Trucks
- 17 Dump Trucks
- 18 Utility/Service Trucks
- 8 Loaders
- 7 Graders
- 5 Mower Tractors
- 5 Rollers
- 5 Sweepers
- 4 Water Trucks
- 3 Backhoes
- 2 Forklifts
- 2 Hot Patch Trucks
- 2 Jetter Trucks
- 2 Transfer Trucks
- 2 Truck Tractors
- 1 Aerial Truck
- 1 Articulated Crane
- 1 Chip Truck
- 1 Dozer
- 1 Excavator
- 1 Paver
- 1 Road Widener
- 1 Skid-Steer
- 1 Striper Truck

Other Equipment

- 15 Trailers
- 5 Portable Message Boards
- 4 Emulsion Sprayers
- 2 Chippers
- 2 Compressors
- 2 Crack Seal Machines
- 1 Bitumen Application Trailer
- 1 Crane Suspended Man Basket
- 1 Curb Machine
- 1 De-Icing Sprayer
- 1 Pavement Marking Remover
- 1 Pavement Saw
- 1 Radar Speed Trailer
- 1 Thermoplastic Machine
- 1 Walk-Behind Striper