



Attachment 2A: Staff Report
COMMUNITY DEVELOPMENT AGENCY
LONG RANGE PLANNING

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To: Board of Supervisors

From: David Defanti, Assistant Director

Subject: Budget Workshop – Annual 2014 Capital Improvement Program Update and Transportation Work Plan

BACKGROUND

General Plan Policy TC-Xb and Implementation Measure TC-A require the County to prepare an annual Capital Improvement Program (CIP) for the West Slope Road/Bridge Program specifying expenditures for roadway improvements within the next ten years. The Residential Permit Forecast, approved by the Board on December 3, 2013, began the process of the Annual CIP Update. This forecast enables staff to estimate revenues associated with the Traffic Impact Mitigation (TIM) Fee Program, a funding component of the CIP.

On February 11, 2014, Community Development Agency (CDA) staff informed the Board of the status of projects in the 2013 CIP. On March 18, 2014, the Board provided direction on the proposed 2014 CIP. Projects the Board supported for inclusion or amendment in the 2014 CIP are listed in Attachment 2B. Attachment 2B also reflects changes in project cost or schedule that have been made since the adoption of the 2013 CIP in June, 2013.

DISCUSSION

The proposed 2014 CIP Book includes the following seven programs:

1. West Slope Road/Bridge (CIP)
2. Tahoe Environmental Improvement Program (EIP)
3. Airport Capital Improvement Program (ACIP)
4. Capital Overlay and Rehabilitation Program (CORP)
5. Transportation Facility Improvement Program (TFIP)
6. Road Maintenance Program (RMP)
7. National Pollution Discharge Elimination System (NPDES) Program

The CDA's objectives for the annual CIP update are to:

1. Include new projects, or changes to existing projects, as directed by the Board (Attachment 2B).
2. Invest in road rehabilitation and maintenance, which saves money for the County in the long term.

3. Postpone major CIP changes until the Major Five-Year CIP and TIM Fee Program updates are completed.
4. Make any other necessary revisions per Board direction.

The following discussion describes each program proposed for inclusion in the 2014 CIP Book.

1. West Slope Road/Bridge CIP:

On February 11, 2014, staff informed the Board of the status of projects in the 2013 CIP. On March 18, 2014, the Board provided direction on the proposed 2014 CIP. Staff recommends the Board include the following additional changes in the 2014 CIP Book as described in sections A through C below.

- A. Projects listed in Attachment 2B have had changes in cost or schedule since the 2013 CIP was adopted in June, 2013. Cost or schedule modifications have been made as a result of refinements made during the FY 2014/15 budget process. Staff recommends the Board direct staff to include the changes specified in Attachment 2B in the 2014 CIP Book.
- B. Between \$700,000 and \$800,000 in Federal Urban Regional Surface Transportation Program (RSTP) funding is awarded annually for administration by the El Dorado County Transportation Commission (EDCTC). As of the time of writing of this report, the exact timetable and applicable area for RSTP funding is unclear.

Urban RSTP funding can only be used within urban boundary areas. The most current Urban RSTP boundary map is included as Attachment 2C. The asphalt overlay projects in Table 1 are options for the County's consideration in applying for Urban RSTP funds.

Table 1: Options for Urban RSTP funding

Rank	Road Name	Start Location	End Location	ADT*	PCI**	Length (miles)	Estimated Project Cost
1	Bass Lake Road	Old Sienna Ridge	Parkdale Lane	5585	53	1.95	\$900,000
2	Patterson Drive	State Route 49	Solstice Circle	4107	46	0.95	\$600,000
3	Country Club Drive	Cambridge Road	East Los Santos Drive	4074	37	1.5	\$650,000
4	Palmer Drive	Cameron Park Drive	Palmero Circle	8336	41	0.46	\$400,000
5	Pleasant Valley Road	Mother Lode (Y)	200' west of Oriental Street	9104	49	1.14	\$650,000

The projects in Table 1 are ranked according to several factors, including:

- *ADT (Average Daily Traffic)
- **PCI (Pavement Condition Index)
- Safety considerations
- Type and rate of deterioration
- Parallel capacity provisions
- Professional evaluation by qualified staff

Since the PCI for each of these projects is within a few points, staff has performed additional field observations and updated cost estimates during a recent walk through. These professional evaluations were conducted to provide the Board more accurate information, and are summarized below.

Rank 1: Bass Lake Road, from Old Sienna Ridge to Parkdale Lane

This roadway:

- Provides access to over 5,500 vehicles per day from Green Valley Road to U.S. Highway 50.
- Is the only arterial roadway that serves at least four major subdivisions, as well as traffic from the eastern end of Cameron Park.
- Will deteriorate more quickly than the other roadways in Table 1, due to the number of failed sections.
- Includes areas with large, deep cracking, in which pieces of asphalt concrete are loose and moving.
- Includes areas of exposed asphalt base, leading to possible complete failure of its structural section.
- Contains areas in which deterioration, coupled with existing curves in the roadway, could lead to safety concerns (e.g., dodging potholes.)
- Upon reaching a failed condition, could potentially cost twice the current estimate.

The estimated cost of this project is \$900,000.

Rank 2: Patterson Drive, from State Route 49 to Solstice Circle

This roadway:

- Provides the only access to a major subdivision in the Diamond Springs area.
- Serves over 4,000 vehicles per day.
- Has a current PCI that indicates the need for expedited rehabilitation.
- Will continue to deteriorate at an accelerated rate.
- Has a rate of deterioration that will cause the PCI to quickly fall behind that of other roadways on this list.

The estimated cost of this project is \$600,000.

Rank 3: Country Club Drive, from Cambridge Road to East Los Santos Drive

This roadway:

- Would be chip sealed from Cambridge Road to East Royal Drive and overlaid from East Royal Drive to East Los Santos.
- Provides parallel capacity to U.S. Highway 50.
- Serves thousands of residents, providing access to schools, CSD facilities such as the Community Center and pool, and the local golf course.
- Will not deteriorate as quickly as the first two roadways due to lower ADT.

The estimated cost of this project is \$650,000.

Rank 4: Palmer Drive, from Cameron Park Drive to Palmero Circle

This roadway:

- Has one of the highest ADTs and one of the lowest PCIs.
- Is located in an important economic area, providing access to commercial and medical facilities.
- Will not move toward failure as quickly as the projects listed above.

The estimated cost of this project is \$400,000.

Rank 5: Pleasant Valley Road, from the Mother Lode Y to 200' west of Oriental Street

This roadway:

- Provides parallel capacity for U.S. Highway 50, and a main access point for south County traffic.
- Has the highest ADT.
- Has a PCI of 41, with many of the failures on one side of the roadway.
- Could be rehabilitated, postponing the need for an overlay for several years.

The estimated cost of this project is \$650,000.

Staff recommends the Board direct the CDA to pursue Urban RSTP funding for the overlay projects in priority order as shown in Table 1. Staff also recommends the Board authorize the CDA to include selected projects in the CIP upon receipt of grant funding.

Staff is currently processing a corridor analysis to examine traffic conditions along Green Valley Road from the County line to Lotus Road. Results of this study may indicate that operational improvements are needed on Green Valley Road. Road improvements for existing conditions are not eligible for TIM Fee funding. However, future Urban RSTP funding may be used toward the construction of improvements specified by the Green Valley Road corridor analysis.

- C. El Dorado Trail – Missouri Flat Road Bike/Pedestrian Overcrossing – this project is a candidate for Congestion Mitigation and Air Quality Improvement (CMAQ) federal grant funding. Staff is requesting that \$608,137 in CMAQ funding originally granted for the Diamond Springs Parkway Phase 1B project (CIP #72334) be de-obligated, as the cost to comply with federal regulations for this project would greatly reduce the net benefit of CMAQ funding received.

Staff proposes to shift \$100,137 of the \$608,137 to the Francisco Drive Right Turn Pocket project (CIP #71358), and the remaining \$508,000 to the environmental, design, and Right of Way phases of the El Dorado Trail – Missouri Flat Road Bike/Pedestrian Overcrossing project.

The El Dorado Trail – Missouri Flat Road Bike/Pedestrian Overcrossing project would construct a multi-use bicycle and pedestrian overcrossing at Missouri Flat Road. The overcrossing will connect the trail at its current terminus, with the proposed trail segment west of Missouri Flat Road. The overcrossing structure will have a 12-14 foot wide concrete deck surface.

The preliminary cost estimate for the project is \$2,705,000. The estimated CMAQ grant award is \$508,000 to complete the environmental, design, and Right of Way phases of the project. No local matching funds will be required. During future funding cycles, staff will apply for CMAQ or other federal funding to use for the construction phase of the project.

Staff is requesting Board direction to incorporate the El Dorado Trail – Missouri Flat Road Bike/Pedestrian Overcrossing in the 2014 CIP, once CMAQ grant funding is received. However, if CMAQ funds are not received, staff will re-evaluate this project.

- D. Brockliss Bridge – Members of the public have voiced concern about this bridge. CDA's Transportation Division (Transportation) will continue to work cooperatively with the Forest Service and the Board to find funding for this project.

2. **Tahoe EIP**

Transportation's Tahoe Engineering Unit (TEU) is funded solely by grants, and is primarily responsible for constructing erosion control projects. However, more bike trail projects are appearing in the Tahoe EIP, as tourism and summertime outdoor recreation become more important in the Lake Tahoe Basin. The TEU's proposed Five-Year EIP includes construction of four to five projects per season.

On March 18, 2014, the Board supported the reinstatement of the following projects in the 2014 Tahoe EIP, providing that grant funding is received, as described in Attachment 2B.

- ❖ *Oflyng Erosion Control Project (CIP #95177)*
- ❖ *East San Bernardino Class I Bike Path (CIP # 951SB)*

3. **Airport CIP**

The CDA is responsible for operating the Placerville and Georgetown Airports, which includes developing and implementing the Airport Capital Improvement Programs (ACIP) for both airports. The Federal Aviation Administration (FAA) reviews, authorizes and funds the ACIPs. Thus, the ACIPs are developed in partnership with the FAA. The FAA funds 90% of most ACIP project costs.

On March 18, 2014, the Board supported the ACIP projects proposed for the 2014 CIP, as listed in Attachment 2D.

4. **Capital Overlay and Rehabilitation Program (CORP) CIP**

CORP Projects are Asphalt-Concrete (AC) overlays of one-inch (1") or more in thickness. Transportation's strategy has been to fund CORP projects primarily with external funding. On March 18, 2014, the Board supported the use of external funds, as they become available, for projects listed in the Infrastructure Investment Options list (Attachment 2E). The five overlay projects discussed under the West Slope Road and Bridge section above would make use of Urban RSTP grant funding.

Based on Average Daily Traffic and existing pavement conditions, Transportation's highest priority CORP project is the AC overlay of Black Bart Avenue, Barbara Avenue and Martin Avenue in the South Lake Tahoe area. This project will be discussed as part of the Road Maintenance Program section below.

5. **Transportation Facilities**

The 2014 CIP Book will include a new section for Transportation Facilities. On March 18, 2014, the Board supported the inclusion of the following project in the 2014 Transportation Facility Improvement Program, as described in Attachment 2B:

- ❖ *Headington Wash Rack and Sewer Connection Project (CIP #81134).*
The cost of the project is currently estimated at \$1,300,000, to be funded by the Road Fund.

6. **Road Maintenance Program (RMP)**

On February 25, 2014, the Transportation Division's Maintenance Unit (Maintenance) presented an RMP Yearly Update to the Board and discussed general maintenance activities planned for FY 2014/15. On March 18, 2014, Transportation presented preliminary information regarding maintenance activities in need of funding augmentation.

Augmented funding for maintenance activities would come from the General Fund to increase the Road Fund – Discretionary budget. Current Road Fund balances are shown in Attachment 2F. The projected ending FY 2013/14 Road Fund Balance of \$13,550,000 would seem to indicate that there is adequate funding for Maintenance activities. However, the Road Fund balance is projected to decline in future years due to one-time expenditures programmed for FY 2014/15, increasing expenditures in future years, and an expected decrease in funding sources.

Due to an aging road system, rising construction costs and budget constraints, maintaining the County's roadway system requires that CDA staff and elected officials have accurate information and proven tools to help with decisions. Making cost-effective decisions requires the following:

- An inventory of roads and accessory appurtenances (bridges, guard rails, signs etc.);
- Information on the existing condition of the roadway system;
- A history of the effectiveness and costs of particular roadway maintenance treatments specific to the County's topography, weather and traffic conditions;
- The acceptable pavement condition level necessary to satisfy the public, business, elected officials, staff and taxpayers;
- Predictions on how the conditions of the pavement will change with time, based on budgeted funding level; and
- A list of proven, cost-effective road treatments available to maintain, repair and rehabilitate roadways systems and pavements.

Detailed information on current County roadway conditions will be presented at a Board meeting in the near future.

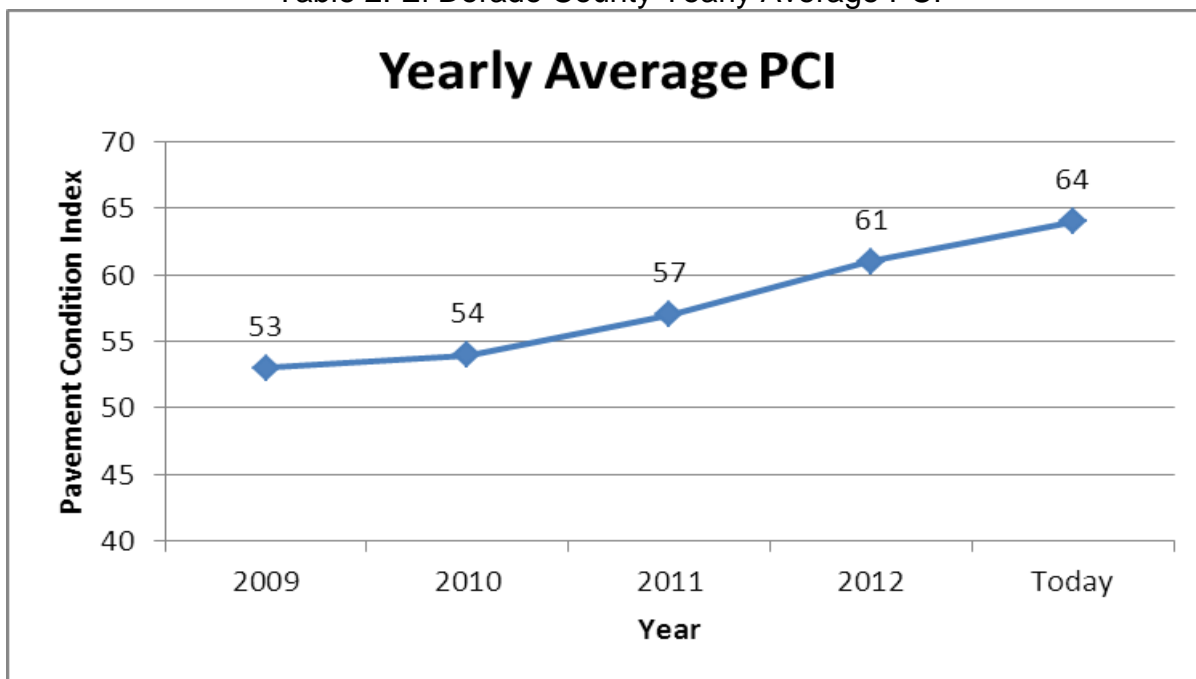
A roadway's condition is ranked on a scale of one to one hundred. The Pavement Condition Index (PCI) is determined by a roadway inspection that measures 19 different roadway conditions, including cracking, ruts and potholes. A roadway with a PCI of 70 or less is considered eligible for rehabilitation, whereas a roadway with a PCI over 70 should require only preventive maintenance.

As shown in Table 2, the County's weighted average PCI has increased from 53 to 64 over the past five years. The following factors have all contributed to this increase:

- Maintenance chip seals and chip seals topped with slurry seals;
- Overlays funded by the American Recovery and Reinvestment Act;
- CIP projects;
- Erosion control projects; and,
- Improved materials.

Crack filling, ditching and drainage improvements have also contributed by slowing the rate of deterioration of the existing pavement and roadway.

Table 2: El Dorado County Yearly Average PCI



The RMP includes 23 categories of roadway maintenance activities that receive funding each year. The majority of these categories are funded at a level that allows staff to perform work on a reasonable, cyclical basis. Maintenance has identified four activities where augmented funding for FY 2014/15 may reduce County costs in the future.

Staff recommends the Board consider funding augmentation for three categories of Maintenance activities. Requests in the “Required” category are maintenance items that are not currently in the Maintenance budget and are required by county/state or federal mandate. Requests 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. Requests 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.

- **Sign Maintenance - Required Item**

Maintenance needs additional funding to increase production of replacement signage by 375 signs in FY 2014/15 in order to continue working toward the new specifications required by the Manual on Uniform Traffic Control Devices standards for retro-reflectivity. Current funding allows for the production of approximately 900 signs each year. With \$200,000 in additional funding for 2014/15 and subsequent years, all required updates will be completed by FY 2018/19. All work will be completed by existing staff.

- **Asphalt Overlays - Needed Item**

Three roadways in the Tahoe Basin are in serious need of surface treatment preparation, erosion control and asphalt overlays: Black Bart Avenue, Barbara Avenue and Martin Avenue. These three roadways are in very bad condition, and without prompt attention, will progress from needing an overlay to needing to be totally rebuilt in the near future. All work will be done by an outside contractor.

A thorough field inspection by Transportation managers and staff revealed several pavement failures and severe rutting along most of the length of the roads. Transportation determined that the most cost effective method for repairing these roads would be to remove the top two inches of surfacing, install a layer of pavement reinforcing fabric, and then replace the removed surfacing with two inches of new asphalt concrete. The total cost of this CORP project is approximately \$700,000.

- **Slurry Seal – Wanted Item**

Slurry Seal is the most basic and cost effective pavement preservation method to prevent deterioration of the County's roadways. It provides a new wearing surface over structurally sound asphalt and moves the need for costly repairs further into the future. Slurry Seal is primarily done in lower traffic areas such as residential neighborhoods. Transportation will be able to complete approximately 500,000 square feet. of roadway for every \$100,000 of additional funding provided. All work will be done by an outside contractor.

- **Major and Minor Rehabilitation - Wanted Item**

Surface treatment preparation is a crucial step in any maintenance project. The amount of chip seal rehabilitation required is determined by the severity of the current roadway condition. The more a roadway has deteriorated or fallen below the "good" condition ranking, the more expensive it will be to repair that roadway.

According to pavement management assessments, 523 roadway miles are currently in need of minor or major rehabilitation. These roadways fall between PCI 25 and 70. Without the proper rehabilitation, the surface treatment life span will be reduced by half or more. Factors used to determine priorities for Major and Minor Rehabilitation include:

- PCI
- Customer concern
- Field Inspection

Costs for roadway rehabilitation work can vary widely, depending on existing road conditions. With additional funding, Maintenance will perform Major and Minor Rehabilitation in areas shown in Attachment 2G. Generally, it takes months of preparation and multiple crews to prepare for an upcoming surface treatment. Roads designated for preparation in FY 2014/15 will be chip sealed in the fall of FY 2015/16.

Major and Minor Rehabilitation 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.

Due to favorable weather conditions, Maintenance staff was able complete additional rehabilitation using the \$1,800,000 allocated by the Board for FY 2013/14. As similar weather conditions are unlikely to occur in FY 2014/15, Maintenance is proposing to use a combination of internal staff and outside contractors to perform the Major and Minor Rehabilitation.

In addition to the areas described above, staff also requests that the Board continue to provide \$500,000 to Maintenance to increase the amount of standard roadway maintenance performed.

Table 3 shows the costs of five options for road maintenance augmentation funding. **Staff recommends the Board approve Option E, which includes \$2,300,000 from the General Fund for the Road Maintenance Program.** The \$2,300,000 will be allocated to standard roadway maintenance, major and minor rehabilitation, slurry seal, sign maintenance and the South Lake Tahoe CORP Project.

Table 3: FY 2014/15 Road Maintenance Augmentation Funding

Option A	Option B	Option C	Option D	Option E
\$200,000 – Sign Maintenance	\$200,000 – Sign Maintenance	\$200,000 – Sign Maintenance	\$200,000 – Sign Maintenance	\$200,000 – Sign Maintenance
	\$700,000 – CORP Project in Tahoe area*	\$700,000 – CORP Project in Tahoe area*	\$700,000 – CORP Project in Tahoe area*	\$700,000 – CORP Project in Tahoe area*
		\$100,000 – Slurry Seal	\$200,000 – Slurry Seal	\$300,000 – Slurry Seal
		\$200,000 – Major & Minor Rehabilitation	\$400,000 – Major & Minor Rehabilitation	\$600,000 – Major & Minor Rehabilitation
\$500,000 for Standard Roadway Maintenance	\$500,000 for Standard Roadway Maintenance	\$500,000 for Standard Roadway Maintenance	\$500,000 for Standard Roadway Maintenance	\$500,000 for Standard Roadway Maintenance
Total: \$700,000	Total: \$1,400,000	Total: \$1,700,000	Total: \$2,000,000	Total: \$2,300,000

* AC overlay of Black Bart Avenue, Barbara Avenue and Martin Avenue

7. National Pollutant Discharge Elimination System (NPDES) Program

The NPDES program is a provision of the Clean Water Act. It is a permitting mechanism that requires the implementation of controls designed to prevent harmful pollutants from being washed by storm water runoff into local water bodies.

Currently the Tahoe and West Slope NPDES Programs are funded by the General Fund and Public Utility Franchise Fees by a 50/50 split. The proposed FY 2014/15 budget for the NPDES program is \$346,000 for Tahoe and \$499,000 for the West Slope, for a total of \$845,000.

On March 18, 2014, staff presented information regarding the Tahoe and West Slope NPDES Programs for FY 2014/15, with proposed funding from General Fund and Public Utility Franchise Fees for ongoing permit compliance activities. Staff will refine NPDES budget requests for discussion during budget hearings in June 2014.

RECOMMENDATIONS

Staff is requesting the Board approve staff recommendations for the proposed 2014 CIP. Revisions will be made based upon the Board's approval, and staff will return to the Board for adoption of the 2014 CIP Book in June 2014.

Staff recommends the Board:

1. Approve additions and changes to West Slope Road/Bridge CIP projects for inclusion in the 2014 CIP, as described in Attachment 2B.
2. Direct the CDA to pursue Urban RSTP funding for the overlay projects in priority order as shown in Table 1. Upon receipt of grant funding, staff will add the projects to the 2014 CIP.
3. Add the El Dorado Trail – Missouri Flat Road Bike/Pedestrian Overcrossing to the 2014 CIP, upon receipt of CMAQ grant funding. If CMAQ funds are not received, staff will re-evaluate this project.
4. Approve Option E for proposed FY 2014/15 RMP funding augmentation of \$2,300,000 from the General Fund.

NEXT STEPS

The 5-Year Major CIP and TIM Fee update processes have been initiated. On April 8, 2014, the Board selected a 20-Year growth forecast as the starting point for these processes. A request for proposal will be issued in the summer of 2014 to begin the analysis to determine a required CIP and TIM Fee Program. Major changes to the CIP will be made during the next CIP update in 2015.