

CITY OF OAKLAND
AGENDA REPORT

2010 JUL 15 PM 3:47

TO: Office of the City Administrator
ATTN: Dan Lindheim
FROM: Public Works Agency
DATE: July 27, 2010

RE: **Informational Report On Condition of Oakland Street Pavement, Costs For Resurfacing And Strategies To Minimize Street Degradation**

SUMMARY

This report provides an overview of Oakland's current pavement conditions, a discussion of steps to optimize existing funding, and alternatives to increase funding for pavement preservation. In summary, this report highlights the following:

- Oakland's overall network Pavement Condition Index (PCI) is currently 55, on 100-point scale, and falling. Metropolitan Transportation Commission (MTC) ranked Oakland 95th among 109 Bay Area jurisdictions; the average PCI in the Bay Area is 65.¹ A PCI of 80 is an optimum pavement condition to be maintained according to industry best management practices.
- The current backlog of repairs is \$418 million, and growing. The projected funding levels are not enough to keep up with the growing backlog of repairs and continued deterioration of pavement conditions.
- The projected funding in the next few years is about \$4 million a year. The needed funding is about \$26 million a year just to begin reversing trends.
- The level of available funding makes it even more critical that Oakland allocates the existing resources wisely and effectively by continuing with "best-first" approach.
- Options for increasing funding levels include general obligation bonds, local sales tax, assessment districts, impact fees, and legislative advocacy strategies.

Staff recommends that the City Council accept this report and direct staff to more fully define options for increased funding and return with options for consideration.

FISCAL IMPACT

There is no direct fiscal impact to this report. Long-term fiscal needs are discussed in this report along with options that could be considered for future funding of this critical infrastructure need.

¹ 2007 Bay Area Jurisdiction Pavement Condition Summary, published by MTC on January 5, 2009.

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BACKGROUND

Oakland has approximately 805 miles of streets, ranging from two-lane roadways to multi-lane boulevards and thoroughfares. The breakdown of our street classifications is as follows:

<u>Classification</u>	<u>Miles</u>	<u>PCI</u>	<u>Percentage</u>
Arterial	178	63	22%
Collector	121	51	15%
<u>Residential</u>	<u>506</u>	<u>52</u>	<u>63%</u>
Total	805		100%

Table 1 – Street types, miles, and PCI

The pavement industry uses a Pavement Condition Index (PCI), a numeric grading system on a scale of 0 to 100, to rank the condition of streets. In this system, a score of 100 represents brand new pavement and 0 represents a completely failed pavement.

All roadways deteriorate over time by traffic loading and weathering. However, the rate of deterioration can be controlled, and pavement can be greatly preserved by applying timely maintenance treatments. Paved streets normally have three life cycle stages: 1) initial deterioration; 2) visible deterioration, and 3) disintegration and failure. During the first few years of use, the roadway surface starts to experience some initial deterioration. This stage represents a PCI of 80 or above. Preservation strategies during this period are least costly and can reduce the need for more costly rehabilitation later on. Visible deterioration shows signs of distress as potholes and cracking occur. This stage represents a PCI of 50 or slightly above. A more costly rehabilitation is required at this stage using milling and overlays to extend the life of the road. Roads not properly maintained at the above stages will disintegrate and fail.

The lifespan of a pavement is expected to be about 25 years. Cost of reconstruction after this 25 year period is more than three times the costs of preservation or rehabilitation treatments over the same period. A successful pavement management program must focus most resources on pavement preservation rather than pavement reconstruction. According to the industry best management practices pavement network is most optimally maintained at a PCI of 80.

Birth of a Pothole

Potholes are caused by lack of preventive maintenance. They represent the early stages of a disintegrating and failing pavement. Potholes are created by lack of surface protection against moisture. As moisture from rain works its way into road surface and the sub-base, cracks start developing and gradually grow larger and larger. With traffic pounding over the surface, segments begin to separate from pavement, leading to the birth of a pothole; this is especially a

problem on heavily traveled streets. It is important to note that funds and efforts expended for pothole repairs provide stopgap measures and do not improve overall pavement condition. The same pavement, without surface treatment, will simply experience more potholes, disintegrate and fail.

KEY ISSUES AND IMPACTS

Overall Conditions

Currently, the Pavement Condition Index (PCI) for the City of Oakland's overall network is 55. The PCI breakdown is as follows:

<u>Condition</u>	<u>Miles</u>	<u>Percentage</u>	<u>PCI Range</u>
Excellent	56	7%	100-90
Good	304	38%	89-70
Fair	223	28%	69-50
Poor	222	27%	49-0

Table 2 – Street conditions and miles

As a point of reference, in 2006, Oakland's overall network PCI was 63. Under current funding levels, this score is expected to fall to 49 by year 2014, indicating a rapid rate of degradation. A score of 60, according to Metropolitan Transportation Commission (MTC), represents a 40% reduction in quality that a roadway reaches in about 20 years as its condition turns from 'good' to 'fair'. The same pavement, if untreated, will experience another 40% reduction in quality in only the next 3 to 5 years, turning from 'fair' to 'poor'. This accelerated rate of deterioration makes it critical to fund preventive maintenance treatments to sustain streets at high PCI levels at relatively low costs. Again, cost of reconstruction of pavement after its failure is more than three times the costs of preservation or rehabilitation treatments over the life cycle of that pavement. Therefore, a larger, reliable funding source is needed in Oakland to apply proper preservation or preventive maintenance in order to maintain our streets in 'good' condition and prevent further deterioration. Additionally, there is also a need for a "catch up" effort because so much of our network has fallen to the 'fair' and 'poor' levels.

The other factor that impacts funding needs is the growth of deferred maintenance. Oakland's current backlog of repairs is currently estimated to be \$418 million. This figure was \$300 million in 2006 and \$112 million in 2003. At current funding levels, this deferred maintenance is expected to grow to \$760 million in year 2014.

Funding

Table 3 below shows the past and projected funding budget for pavement in Oakland.

REVENUE SOURCE	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Proposition 42 - State Sales Tax	3.57	1.85	2.12	2.34	2.44	2.53	2.63
Prop IB – State Transportation Bond*	0.00	0.00	6.68	3.00	3.18	0.00	0.00
Federal STP Fund	0.00	0.00	1.80	1.80	1.50	1.50	1.50
Federal ARRA Funds	0.00	6.03	0.00	0.00	0	0	0.00
TOTAL	3.57	7.88	10.60	7.14	7.11	4.03	4.13

* One time allocation

Table 3 – Past and Projected Funding

It is important to note that current funding sources fall under two categories: 1) relatively stable sources (sale taxes); and 2) somewhat less stable (grants, one time funds) or limited sources (federal). Oakland generally uses the stable funds for the in-house maintenance programs (potholes and crack sealing) and the less stable funds for capital rehabilitation by outside contractors. The above table does not include any current or future appropriations from Alameda County Measure B (½ cent sales tax) or Gas Tax since these funds do not pay for street resurfacing. These funds also provide approximately \$14 million in annual funding for other streets and roads maintenance and operations performed by Public Works staff.

The other restriction is that federal dollars cannot fund residential streets (about 63% of our street network). A stable and increased funding source is needed in Oakland to maintain our residential streets and prevent further deterioration.

Best-First Approach

Oakland’s current funding for pavement comes with performance targets, which means that we must fund preventive treatments first in order to prolong the life of City streets. This is why the Council approved a ‘best-first’ policy in 2007. Under this policy we spend 80% of our available dollars optimally by focusing more on funding preventive treatments on ‘good’ or ‘fair’ streets. The remaining 20% is spent on ‘worst’ streets. Operating under the ‘best first’ policy under the current budget may not prevent the continued downward trend of our street conditions, but it has helped the City slow down the rate of decline.

Needed Funding

A budget and funding needs analysis for pavement must consider the trends of decreasing PCI and increasing repair backlog. *Table 4* below shows the impact of varying funding levels on street conditions and deferred maintenance over the next few years. These scenarios start at the current projected funding level with worsening conditions and extend to a funding level that aims to reverse the downward trends, gradually increasing the City's PCI.

Annual Funding Level	Projected PCI in 2014	Projected Deferred Maintenance in 2014
Current level--no increase	49	\$760 million
\$10 million	51	\$736 million
\$23 million	55	\$697 million
\$26 million	56	\$690 million
\$41 million	60	\$648 million

Table 4 – Funding Scenarios and Impacts

As illustrated in *Table 4* above, Oakland has to increase funding for pavement as much as possible. In addition, Oakland must continue with its 'best-first' policy to optimize available dollars. Any funding short of \$26 million a year will continue the overall network deterioration trend and growth of the deferred maintenance backlog. Any deviation from "best first" will only further accelerate the problem.

Funding Options

The average Bay Area driver pays about \$705 a year in additional vehicle operating costs due to poor pavement conditions², according to a national report released in May 2009. In addition, the general public pays again in higher costs to restore pavement to good condition. For this reason, it is beneficial to the public and our community to establish a reliable and stable fund to improve paving conditions in Oakland. The following funding options summary is provided for discussion; additional research is needed to determine their viability in Oakland.

² Driving on poor roads accelerates vehicle depreciation, reduces fuel efficiency, and damages tires and suspension, according to *Rough Roads Ahead* report.

- ❖ **Vehicle Registration Fee.** The Alameda County Congestion Management Agency is currently proposing a \$10 per vehicle registration fee for the November 2010 Ballot. Under the draft Expenditure Plan, Oakland would receive approximately \$1.8 million per year in funding for local streets and roads. Passage of this fee will require 50% plus one vote. State Law currently limits this fee to \$10, but future increases are possible.
- ❖ **General Fund.** Although the General Fund is an extremely limited source and is not therefore a likely source of funding, any General Fund support may be used as a local match to State and Federal dollars. It is generally good fiscal policy to spend, whenever possible, on a “pay as you go” basis for paving and preventive maintenance.
- ❖ **Parcel Tax.** A parcel tax would provide stable funding for paving. Most parcel taxes have been for schools, but there are also parcel taxes passed for fire districts, libraries, parks, and transit. Passage requires a 2/3 vote. An annual parcel tax in the range of about \$200 per parcel would generate about \$20 million per year in Oakland.
- ❖ **General Obligation Bond.** Bonding is best when an initial large capital outlay is needed. It is not recommended for projects, such as paving, that have a shorter life cycle than the underlying bond, because the city will still be paying when the asset again requires rehabilitation. However, this option may be useful to provide funding for an accelerated street paving program to reduce the \$418 million repairs backlog. Passage requires a 2/3 vote. A \$400 million Street Improvement Bond Issue would cost property owners about \$300 per year.
- ❖ **Local Sales Tax.** The City of El Cerrito now funds a comprehensive street pavement repair and maintenance program through a half-percent (½%) sales tax increase passed in February 2008. A ½ cent sales tax in Oakland would net about \$15 million annually.
- ❖ **Assessment Districts.** Benefit assessment districts may be set up to fund paving of residential streets within small geographic areas. Passage would require a simple majority vote in each district. This option may provide funding for residential neighborhoods and free other funding to target collectors and arterials.
- ❖ **Impact Fee.** Imposing this fee in Oakland is currently under consideration. Typically, impact fees provide for a modest level of revenue and would come in very unpredictably, depending on economic cycles. Fees are also typically spent on projects with a rational nexus connection to economic development activities. Maintenance and repair of existing assets is therefore not the best use of impact fee funds. Information on impact fees may be presented to Council in the fall.

- ❖ **Legislative Advocacy.** MTC is dedicating more (and seeking more) funding for pavement from Federal and State sources. Oakland should work actively with MTC and other Bay Area jurisdictions on this advocacy whenever possible.
 - Legislative advocacy needs to be focused on maintaining and if possible increasing State support for local streets and roads (gas tax funding). A significant hike in the gas tax with a majority of the funding going to road repair would be welcome. Given legislative gridlock in Sacramento, there has been very little support for a statewide fee increase. The most likely potential action would be similar to the County-option Vehicle Registration Fee recently passed (and potentially appearing on the November 2010 Alameda County ballot), as it is most likely that only voters in dense metropolitan counties would approve an increased gas tax.
 - Legislative advocacy needs to also be focused on passage of federal legislation. Action on the Federal Transportation bill has been stalled for over a year now, and money has only been appropriated through temporary extensions of the previous “SAFETEA-LU” Federal Gas Tax Program Act. Until the federal gas tax is increased, and the Highway Trust Fund brought to solvency, there will be no possibility of additional resources for local streets and roads from the Federal government.

Strategies to Minimize Street Degradation

As noted above, all pavement surfaces deteriorate over time. However, the rate of deterioration can be controlled, and pavement can be greatly preserved by applying timely maintenance treatments. The following is a summary of steps that are needed in Oakland in order to implement a successful pavement management program and prevent further deterioration of our street network:

1. **Continue ‘Best-First’ Policy.** This policy optimizes available dollars by funding more cost-effective pavement rehabilitation. Without this policy, the rate of deterioration is doubled for streets network condition.
2. **Increase Funding.** Oakland needs to consider increasing funding for pavement as much as possible towards meeting the proposed \$26 million a year to begin reversing the overall network deterioration trend and slow down the growth of the deferred maintenance backlog.

3. **Use One-Time Funds for Pavement.** Opportunities are limited in the current economic environment for one-time funds. In the future, considerations should be given to fund pavement improvements with one-time or surplus funds.
4. **Continue with legislative advocacy on State and national levels.** Legislative advocacy needs to be focused on maintaining and increasing State and Federal support for local streets and roads.

SUSTAINABLE OPPORTUNITIES

Economic: The public pays twice for poor pavement conditions—first, directly or indirectly, in higher vehicle maintenance costs and then in higher pavement rehabilitation costs. Increasing funding for pavement improves driving conditions and provides economic benefit to the entire community.

Environmental: Driving on poor pavement accelerates vehicle depreciation, reduces fuel efficiency, and damages tires and suspension. All of these increase the carbon footprint on the planet. Similarly, applying preventive maintenance treatments uses less carbon and other resources than heavy pavement rehabilitation or reconstruction. Increasing funding for pavement focuses more on preventive measures, improves driving conditions and provides benefit to the environment.

Social Equity: Poor pavement conditions impact everyone who uses personal vehicles, takes public transportation, or receives goods and services. Increasing funding for pavement improves driving conditions and provides benefit to the entire community.

DISABILITY AND SENIOR CITIZEN ACCESS

Street resurfacing eliminates poor paving conditions and provides a uniform travel surface for all roadway users, including pedestrians using crosswalks and transit vehicles.

RECOMMENDATIONS AND RATIONALE

Staff recommends continuing with the ‘best-first’ policy to optimize available dollars. In addition, staff recommends increasing funding as much as possible. Increasing funding to \$26 million a year will reverse the overall network deterioration trend and will slow down the growth of the deferred maintenance backlog.

RECOMMENDATIONS AND ALTERNATIVES


No Action—No Funding Increase: This action will continue the rapid deterioration of our streets and growing backlog of deferred maintenance.

Increase Funding: Several scenarios are provided above showing varying levels of funding and their impacts on the street conditions and deferred maintenance. Staff recommends increasing funding as much as possible towards meeting the proposed \$26 million a year funding level.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the City Council accept this report and direct staff to more fully define options for increased funding and return with options for consideration.

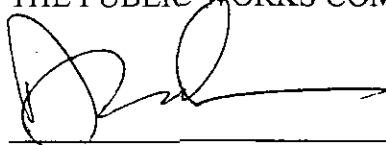
Respectfully submitted,

for 
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APPROVED AND FORWARDED TO
THE PUBLIC WORKS COMMITTEE:



Office of the City Administrator

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