

2012 Public Works Agency

Infrastructure Report Card for the City of Oakland



To: Deanna Santana, City Administrator

This Infrastructure Report Card was created to assist City leaders in developing a strategy for addressing the current condition and future needs of the physical infrastructure that supports our City's economic development and community vitality.

Taken together with PWA's Needs Assessment, which was transmitted to the budget office on November 30, 2012, these reports provide a detailed picture of the City's infrastructure needs.

Agenda Reports discussing the condition of streets, equipment, and street lights were reviewed by the Public Works Committee last year. Reports about sidewalks and sewers are in progress. Additional reports will follow.

I look forward to working with you during the next year to find ways to fund Oakland's much needed infrastructure improvements.



Prepared by Vitaly B. Troyan, P.E
Director of the Public Works Agency

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2012 Infrastructure Report Card for the City of Oakland

The 2012 Report Card for Oakland’s Infrastructure follows the approach used by the American Society of Civil Engineers in assigning letter grades for each infrastructure category. The six components of Oakland infrastructure evaluated were capacity, condition, funding, future needs, operations and maintenance, and public safety. The formulas used for calculating grades are found at the end of this report.

Infrastructure Component	Description	Facility Grade	Comments
Local Streets and Roads	806 miles of paved streets	D	Street paving is totally funded by state and federal funds. Lack of local funds has created 85 year paving cycle. Street condition ranks 98 th out of 109 Bay Area cities. Measure B1, sales tax for transportation, lost by 750 votes.
Sidewalks, Curb Ramps, Stairs, Paths	1,126 miles of sidewalk; 17,978 curb ramp locations; 232 sets of stairs and paths	D	City is spending \$2.3M/year for improvements, but backlog is \$109M. City needs to have property owners fix own sidewalks.
Bridges	38 bridges	D	Grade will rise to B when funded work on 21 bridges is completed.
Traffic Signals, Signs and Markings	677 traffic signal Intersections; 200,000 signs	C	75% of signals need to be replaced. Need to retime signals and install “intelligent” traffic signal system.
Street Lighting	37,000 streetlights	B-	Lights meet current standards. Converting to energy efficient lights would save the cost of electricity.
Storm Water	400 miles of storm drains; 80+ miles of open creek	D	60-70 year old system with no dedicated fund source for maintenance, repair, or replacement.
Wastewater Collection	919 miles of sewer pipes; 7 pump stations,	B	25% of system rehabilitated in last 25 years. Rate increases have provided funding for increased cleaning and inspection. Pump station upgrades under way. Need to reduce storm water infiltration and inflow.
Public Buildings	300+ public buildings	D	Inadequate funding for capital improvements and preventive maintenance. Roofs leaking; boilers beginning to fail.
Parks and Landscaping	134 parks and public spaces	D+	25 gardeners laid off due to budget cuts. No routine maintenance of medians. No staff to maintain newly constructed parks.
Trees	42,642 street trees, plus trees in parks & medians	D+	Extensive tree canopy, but five years of staffing cuts have eliminated tree planting and tree maintenance. Remaining staff responds to emergencies only.
Fleet and Equipment	1,489 vehicles and pieces of equipment	D	Fleet is 10.7 years old, twice recommended age. 341 old vehicles have been sold. Request to lease 150 vehicles has been submitted.

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1. Local Streets and Roads

Summary

The City of Oakland has 806 miles of City-maintained streets. Buses use 150 miles of these streets. Bike facilities are designated on 200 miles of streets. The pavement condition is rated by a “Pavement Condition Index” (PCI), created by the Metropolitan Transportation Commission (MTC) which must be used by the City to be eligible for federal, state, and county funds. Oakland is on an 85-year repaving schedule, which means a street that is repaved today won’t be repaved again for another 85 years.



Maintaining the existing pavement condition on Oakland’s streets would require an estimated \$28 million annually, while our annual funding for this purpose is totally dependent on federal, state, and county allocations which have been less than \$6 million in recent years. The total needed to rehabilitate Oakland streets is over \$435 million.

Standards, Current Condition, and Capacity

The City uses the Metropolitan Transportation Commission’s Pavement Management System to evaluate its streets every two years. The evaluation is prepared by a consultant who inspects every street and rates it based on criteria established by MTC. A Pavement Condition Index ranging from 0 to 100 is developed for each street segment.

The Pavement Condition Index (PCI) for Oakland’s streets shows:

- 8% of Oakland’s streets (64 miles) are in Excellent condition (90 to 100 points)
- 31% of Oakland’s streets (255 miles) are in Good condition (70 to 89 points)
- 38% of Oakland’s streets (305 miles) are in Fair condition (50 to 69 points)
- 23% of Oakland’s streets (162 miles) are in Poor condition (0 to 49 points)

Currently, Oakland’s street quality ranks 98th out of 109 Bay Area cities.

Based on a December 2010 survey, Oakland's three-year running average PCI is 56 (Fair), while the Bay Area average PCI is 66 per MTC records. By the time a pavement's PCI has fallen to 60, approximately 75% of its serviceable life has been expended. Also, according to the 2010 Pavement Management Plan Update, residential streets tended to have slightly lower PCI than arterial streets. This is because only arterial and collector streets (not residential) are currently covered by MTC funding for street resurfacing.

The decision about which streets to pave is made in part on the fact that it is much cheaper to preserve a street by resurfacing it than it is to rebuild a damaged street. Therefore, if streets were maintained more often, the total cost of street maintenance would actually decrease. The average cost of street work is \$5 per square yard for preventive maintenance, \$20 per square yard for light resurfacing, \$40 per square yard for heavy resurfacing, and \$140 per square yard for reconstruction.

This means that for the same amount of money, we can raise the condition of one City block from Poor to Excellent (pavement reconstruction) or we can improve seven city blocks from Fair to Excellent (pavement preservation through light resurfacing). For this reason, the City Council resolved in 2007 that a target of 80% of available street rehabilitation funds each year is to be dedicated to rehabilitating streets in Fair condition that are identified by the Pavement Management Program, and that the remaining 20% of available funds are to be dedicated to rehabilitating selected worst streets. "Worst streets" money is allocated through the City Council/community request process.



Deferred Major Capital Projects

Of the 806 miles of City streets, 450 miles need some attention to paving. The backlog of streets needing work is \$435 million (as of 2011) and growing. Funds and efforts expended for pothole repairs provide stopgap measures and do not improve overall pavement condition.



Current Funding

Current funding levels are low for several reasons. As gas mileage in modern cars and trucks has improved (from 10 miles per gallon to over 30 miles per gallon), the 18.4 cents in federal excise taxes on each gallon of fuel has remained flat since 1994. Lower fuel consumption means lower revenue, while construction costs, particularly for roadway materials, are four times higher than they were 20 years ago. The trend toward more hybrid and electric vehicles erodes gas tax revenues further. Finally, the loss of sales tax and property tax revenue caused by the current recession has dramatically reduced the City's income from taxes.



The current Five-Year Paving Prioritization Plan does not expire until the work is complete. Completion is expected in by 2016, depending on availability of funds. The Paving Prioritization Plan can be viewed at <http://www2.oaklandnet.com/oakca/groups/pwa/documents/report/oak030333.pdf>.

In FY 2010-11, \$9.3 million was budgeted for capital funds for street paving and maintenance, including \$7 million of American Recovery and Reinvestment Act (ARRA) federal economic stimulus funding, and \$2.3 million from county and state funds. In FY 2011-12, the budgeted amount for capital funding was reduced to \$6.3 million, the entire amount of which is county, state, and federal funds (no additional ARRA funds are forthcoming). In FY 2011-12, \$7 million was spent for operation and maintenance (for a total of \$13.3 million). For FY 2012-13, funding sources including Measure B, the Gas Tax, Proposition 42, vehicle registration, and federal grants will provide \$15 million to cover both capital and operating costs.

Investment Needed

The City needs \$28 million per year in capital funding alone for street resurfacing and maintenance, plus another \$7.6 million for operations and maintenance, for a total of \$36.2 million per year. The level of funding available (\$15 million) leaves a fund gap of over \$21 million per year. Additionally, the current backlog of repairs is \$435 million and growing.

Table 1 shows the Five-Year Financial Forecast for Street Infrastructure.

Final Grade

The City's Local Street and Road Infrastructure grade is D.

Recommendations

1. Continue to focus on resurfacing streets by applying the MTC's Pavement Management System in order to receive ongoing federal, state, and county funding.
2. Assign higher priority to streets that also have bike lanes to minimize liability from roadway deterioration.
3. Support Alameda County Transportation Commission's efforts to approve a re-authorization of Measure B in November 2012.
4. Support state and federal actions to increase the gas tax.
5. Require that all streets be built to City standards and that the City accept no street for maintenance except by Council Resolution, upon recommendation of the Director of Public Works.
6. Consider placing a \$100 million Street Paving Bond Issue on the November 2013 ballot.



Appendix Table 1: Five-Year Financial Forecast for Streets

Per Baseline / FY 2012-13 Assumptions

	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	7,130,927	7,600,000	7,800,000	8,000,000	8,200,000	8,400,000
Capital Improvement Projects	7,699,000	28,600,000	29,200,000	29,800,000	30,400,000	31,000,000
	14,829,927	36,200,000	37,000,000	37,800,000	38,600,000	39,400,000
Available Revenue						
Fund 2211 Measure B	3,499,520	3,600,000	3,700,000	3,800,000	3,900,000	4,000,000
Fund 2230 Gas Tax	3,950,910	4,000,000	4,100,000	4,200,000	4,300,000	4,400,000
Fund 2231 Prop 42 Replacement	4,376,141	4,500,000	4,600,000	4,700,000	4,800,000	4,900,000
Fund 2163 Federal Grant	1,393,810	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
Fund 2115 Vehicle Registration	1,609,547	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000
	14,829,927	15,100,000	15,400,000	15,700,000	16,000,000	16,300,000
Surplus/(Deficit)	-	(21,100,000)	(21,600,000)	(22,100,000)	(22,600,000)	(23,100,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 1: Local Streets and Roads Infrastructure 2012 Report Card

Table 1: Local Streets and Roads Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 0-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	90	20%	18	Capacity is adequate in terms of access to property.
Condition	Infrastructure's existing or near future physical condition	50	30%	15	The street condition is very poor. Oakland ranks 98 th out of 109 Bay Area cities.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	50	10%	5	\$15 million is budgeted for FY2012-13; \$28 million is needed on an annual basis.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	Backlog is \$435 million and growing.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	50	10%	5	Of the 38,000 public requests per year for Public Works services, 2,700 are for serious street maintenance issues.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	60	20%	12	Consequences of road failure are most severe for bicyclist safety; drivers that swerve to avoid hazards endanger other road users and damage adjacent public property.
	Overall Grade: D		100%	60	
Asset Manager:	Gus Amirzehni/Jamie Ramey				

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

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2. Sidewalks, Curb Ramps, Stairs, and Paths

Summary

The City of Oakland has 1,100 miles of sidewalk, 17,800 curb ramp locations, and 232 developed stairs and pathways. A majority of Oakland's sidewalks, stairs, and paths are in acceptable condition, while 60% of the curb ramps are non-compliant or non-existing.



- Annual funding for sidewalk repair is \$560,000 per year. A complete repair of City-maintained sidewalks would cost an estimated \$28 million.
- Private property owners are responsible for sidewalks in front of their properties. The City operates a limited "Notice to Repair" program and a revolving fund for private sidewalk repairs. There is no annual funding for this program. The cost of repairing all private sidewalk defects is estimated to be \$60 million (2008 estimate).
- The City operates a curb ramp infill program to construct or reconstruct curb ramps not otherwise scheduled under other street improvement projects. Annual funding for this "on-call" program is \$660,000. The approximate cost to correct all remaining curb ramp deficiencies is \$27 million.
- The City devotes \$200,000 annually to repair stairs and paths, but it will cost approximately \$54 million to completely improve the condition of the stairs and paths.
- An additional \$866,000 is budgeted for sidewalk inspection, response to public service requests, and an in-house concrete crew that repairs streets and sidewalks.
- The total cost to repair all paths, curb ramps, and sidewalks for which the City is responsible is estimated to be \$109 million.

Standards, Current Condition, and Capacity

Sidewalks

According to the 2007 Sidewalk Survey, the City of Oakland has 1,126 miles of sidewalk totaling 44.7 million square feet. About 84% of the sidewalk surveyed was in good condition, 16% (7.2 million square feet) was in need of repair. Of the 7.2 million square feet of damaged sidewalk, 1.2 million square feet (16%) is the City's responsibility (mostly caused by City-owned trees). The remaining 6 million square feet (84%) is the responsibility of private property owners.



City sidewalk repairs and curb ramp installations are prioritized based on a five-year plan adopted by the City Council (C.M.S. 81039) in 2008 and the Curb Ramp Transition Plan adopted in 2009. The five-year plan optimizes distribution of funds based on a 50-40-10 split: approximately 50% of discretionary spending goes to repairs in the most traveled areas; about 40% goes to complaint-based repairs in residential areas; and about 10% goes to liability reduction programs. Discretionary sidewalk and curb ramp programs are implemented concurrently in heavily used pedestrian streets, transit corridors, and around public facilities, commercial areas, and high-density residential areas.

The average cost to repair public sidewalk damage ranges from \$10 to \$16 per square foot. Assuming the current funding of \$560,000 annually and no additional sidewalk damage is identified, it would take 50 years to repair all sidewalk damage from public street trees.

The estimated cost of repairing sidewalks for which the City is responsible is \$28 million.

Private property owners are responsible for repair of sidewalks in front of their property. As part of the City's sidewalk repair program, private property owners were given the opportunity to hire the City's contractor to repair their sidewalks. Inspection fees were waived for property owners who took advantage of this opportunity.



Other private property sidewalk damage is repaired through a Notice to Repair Program in which property owners are cited and given time to make sidewalk repairs. If repairs are not made, the City has the work done and files a lien against the property to recover the cost of repairs. The estimated cost of all private sidewalk repairs is \$60 million. The initial funding for a revolving fund to pay for these repairs is insufficient.

Curb Ramps

The City of Oakland has approximately 17,978 curb ramp locations according to the December 2011 Curb Ramp Activities Report. This number increases as street corners with one diagonal ramp are fitted with two directional ramps and new sidewalks are constructed. The report lists 7,124 (40%) of locations as compliant with Americans with Disabilities Act (ADA) requirements, 2,762 (15%) as non-compliant or in need of updating, and 8,092 (45%) without any curb ramps (inaccessible).

The cost to construct a standard curb ramp is about \$2,000, but installations involving utility or other conflicts can cost significantly more. Using an average \$2,500 unit price, the cost to correct citywide curb ramp deficiencies is \$27 million. The City Council adopted a Curb Ramp Transition Plan in 2009 and committed to build 500 ramps per year on average. About 100 curb ramps are installed annually as a condition of City-approved development permits. The balance is constructed by the City. At this pace,

and assuming no additional curb ramps locations are identified, the City will complete its curb ramp system in 18 years.

The estimated cost of repairing, replacing, and constructing new curb ramps for which the City is responsible is \$27 million.

Stairs and Paths

In 2009, Walk Oakland, Bike Oakland volunteers conducted a field survey and created a detailed inventory of 232 developed stairs and pathways. The typical stair serves four adjacent residential parcels and is five feet wide and 250 feet long. Most of Oakland's stairs and paths are over 80 years old.

The stairs and paths were sorted into three condition groupings: good, fair, and poor. The 18 stairs and paths in Good Condition are structures that the City has either repaired or replaced since the stair program was initiated in 2001; therefore these stairs do not require any work at this time. 70 Fair Condition stairs and paths do not require any work beyond routine maintenance at this time. 144 stairs and paths that are in Poor Condition fall into three work categories: Complete Replacement (36 stairs and paths, cost estimate is \$22.5 million), Major Selective Repair (48 stairs and paths, cost estimate is \$3.3 million), and Minor Selective Repair (60 stairs and paths, cost estimate is \$28.5 million).



Prioritization for path and stair projects is decided by evaluating the structure on a 100 point scale: 55 points are based on the physical condition and 45 points are based on the stair/path's proximity to schools, libraries, recreation centers, and commercial districts. Stairs and paths that increase the overall connectivity of pedestrian walkways are also given priority.

The City of Oakland currently allocates \$200,000 per fiscal year in Measure B funds for the repair and replacement of stairs and paths. With our current funding, Oakland's Public Works Agency is only able to make four to six minor selective repairs to stairs and/or paths per year.

The estimated cost of repairing, replacing, and constructing paths and stairs the City is responsible for is \$54 million.

Deferred Major Capital Projects

The total cost of repairing sidewalks and paths, and constructing curb ramps is estimated to be \$109 million:

- \$28 million to repair all sidewalks damaged by City trees;
- \$27 million to repair, replace, and construct new curb ramps; and
- \$54 million to repair paths and stairs.

Current Funding

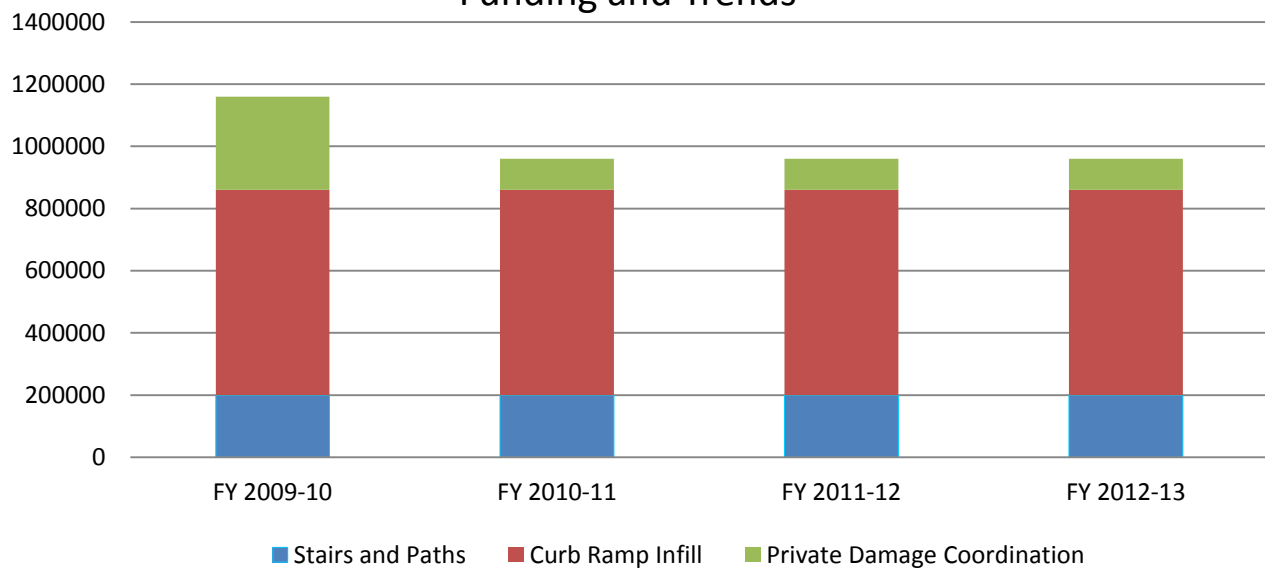
In FY 2009-10, over \$2 million was budgeted for sidewalk repair, which included \$1.19 million of American Recovery and Reinvestment Act federal economic stimulus funding and \$870,000 from Measure B. Oakland's current funding comes the Measure B allocation alone.

Oakland is currently spending:

- \$560,000 per year to repair public sidewalk damage
- \$660,000 per year to upgrade and construct curb ramps
- \$200,000 per year for stairs and paths
- \$866,000 for an in-house concrete crew and inspectors who respond to service requests from the public

Increased investment in sidewalks and curb ramps would reduce the City's liability. However, funding is limited. The City pays approximately \$250,000 in claims annually.

Sidewalk, Curb Ramps and Stairs Program Funding and Trends



Investment Needed

The City needs to spend \$109 million over the next 20 years (\$6.5 million per year) to upgrade its sidewalks, paths, and curb ramps.

Table 2 shows the Five-Year Financial Forecast for Sidewalks, Paths, and Stairs.

Final Grade

The City's Sidewalks, Curb Ramps, Stairs, and Paths grade is D.

Recommendations

1. Significantly expand sidewalk, curb ramp, stairs, and paths funds annually beyond currently budgeted levels (\$660,000 per year for curb ramps, \$560,000 per year for sidewalks, and \$200,000 per fiscal year for stairs and paths).
2. Strengthen the City's sidewalk repair program by inspecting sidewalks in front of private property and requiring property owners to fix their sidewalks.

**Appendix Table 2: Five-Year Financial Forecast for Sidewalks, Curb Ramps, Stairs and Paths**

Per Baseline / FY 2012-13 Assumptions

	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>	<u>FY 15-16</u>	<u>FY 16-17</u>	<u>FY 17-18</u>
Needs (\$)						
Operations & Maintenance	866,380	960,000	980,000	1,000,000	1,020,000	1,040,000
Capital Improvement Projects	1,420,000	5,500,000	5,610,000	5,720,000	5,830,000	5,950,000
	2,286,380	6,460,000	6,590,000	6,720,000	6,850,000	6,990,000
Available Revenue						
Fund 2211 Measure B	1,534,380	1,570,000	1,600,000	1,630,000	1,660,000	1,690,000
Fund 2212 Bike/Ped Pass-Through	752,000	770,000	790,000	810,000	830,000	850,000
	2,286,380	2,340,000	2,390,000	2,440,000	2,490,000	2,540,000
Surplus/(Deficit)	-	(4,120,000)	(4,200,000)	(4,280,000)	(4,360,000)	(4,450,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 2: Sidewalks, Curb Ramps, Stairs and Paths Infrastructure 2012 Report Card

Table 2: Sidewalks, Curb Ramps, Stairs and Paths Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 1-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	80	20%	16	Capacity exists, although in the downtown and commercial areas, sidewalks need to be widened to accommodate pedestrians.
Condition	Infrastructure's existing or near future physical condition	60	30%	18	Tree root disruption and lack of preventive maintenance are key factors.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	60	10%	6	\$2.3 million per year is available to fund this program.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	\$6.5 million is needed to fund the program on a yearly basis. \$109 million overall is needed to address the backlog.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	70	10%	7	The curb ramps program is in compliance with ADA mandates.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	70	20%	14	Trip and fall claims average \$540,000 per year. Increased investment in sidewalks and curb ramps would reduce the City's liability.
	Overall Grade: D		100%	66	
Asset Manager: Gus Amirzehni/Jamie Ramey					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

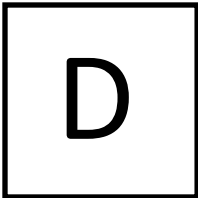
D = 51-69%

F = 50% or lower

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3. Bridges



Summary

The City of Oakland owns 38 bridges connecting local streets. Per the Federal Highway Administration's (FHWA) National Bridge Inspection Guidelines, vehicular traffic bridges are inspected every two to four years by Caltrans and given a Sufficiency Rating. Pedestrian and underpass bridges are inspected every six years. The City currently has a preventive maintenance backlog need of \$2.4 million for bridges. Once this backlog is completed, the City will need \$200,000 annually to keep up with future preventive maintenance for bridges. The City also needs a one-time amount of \$9.5 million that will replace one bridge (MacArthur Boulevard) and restore the embankments of three other bridges (Oakport Street and two on Edgewater Drive), which have scouring problems.



Standards, Current Condition, and Capacity

The City of Oakland owns 34 vehicular traffic bridges, two pedestrian bridges and two underpasses. These bridges are inspected by Caltrans biannually. All structural elements are rated per the National Bridge Inspection Guidelines of the Federal Highway Administration (FHWA). Copies of the inspection reports are sent to the City. The following work needs to be done on the City's 38 bridges and underpasses (some types of work need to be done on several bridges at once, therefore totals will not add up to 38):

- **Replacement**
 - Two bridges were reconstructed as part of the 12th Street project.
 - Two bridges will be reconstructed as part of the 10th Street project.
 - One bridge (MacArthur Street Viaduct) needs to be replaced at an estimated cost of \$8 million.
- **Seismic Retrofit**
 - Six bridges are currently in construction for seismic retrofit and will also require preventive maintenance work in the future.
 - Three bridges are in design to be seismically retrofitted. They will also require preventive maintenance.
- **Scouring**
 - Three bridges are exhibiting scouring problems (water affecting the foundations) and also need preventive maintenance.

- **Preventive Maintenance**
 - Nine additional bridges require preventive maintenance. Four of them will receive preventive maintenance by the end of 2012.
 - One pedestrian bridge requires preventive maintenance.
- **No Work Required:** Eleven bridges do not require any work.

Current Funding

The Bridge Maintenance Program was funded by \$500,000 with Measure B funds in FY 2011-12. During FY 2011-12, Oakland received \$17.3 million in federal grants for bridge seismic retrofits and preventive maintenance. In the past two years, Oakland has succeeded in winning approximately \$35 million in competitive bridge grants for seismic retrofit, preventive maintenance, and replacement projects; however this trend is not expected to continue given serious reductions in federal and state funding.

Final Grade

The condition of a bridge is mainly affected by geometry, traffic handling, and also by structural condition of the bridge elements. A bridge with a Sufficiency Rating of 100 is considered to be in good condition, while a bridge with a Sufficiency Rating of less than 50 needs to be replaced. To qualify for FHWA Bridge Replacement funds, in addition to having a Sufficiency Rating below 50, the bridge has to be either Functionally Obsolete or Structurally Deficient.

The average Sufficiency Rating of 32 City bridges (excluding the two pedestrian and underpass bridges), is 79, which corresponds to a grade of C.

However, 24 of the 32 bridges are also identified as Functionally Obsolete or Structurally Deficient, which lowers the grade to D.

The City’s Bridge Infrastructure grade is currently D.

Once reconstruction of the two 12th Street bridges is completed; the two 10th Street bridges are rebuilt; nine bridges are seismically retrofitted; and preventive maintenance of the eight bridges is completed, the City’s bridge grading will rise to a B.

Investment Needed

The City needs to spend \$11.9 million to perform preventive maintenance on existing bridges, replace one bridge, and restore the embankments of three other bridges.

Capital Improvements

City Bridges	
Preventive maintenance backlog	\$2.4 million
One-time bridge replacement	\$9.5 million
Total – City Bridges	\$11.9 million



Preventive Maintenance

Once backlog is addressed, the annual preventive maintenance need will be \$200,000. While still unaddressed, annual preventive maintenance is \$900,000.

Table 3 shows the Five-Year Financial Forecast for Bridge Infrastructure.

Recommendations

1. Continue to aggressively seek state and federal money for bridge preventive maintenance, rehabilitation, and replacement.
2. Budget a minimum of \$900,000 per year for the bridge preventive maintenance programs until the capital funds to upgrade and replace remaining bridges are found.

**Appendix Table 3: Five-Year Financial Forecast for Bridges**

Per Baseline / FY 2012-13 Assumptions

	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>	<u>FY 15-16</u>	<u>FY 16-17</u>	<u>FY 17-18</u>
Needs (\$)						
Operations & Maintenance	500,000	500,000	510,000	520,000	530,000	540,000
Capital Improvement Project	-	400,000	410,000	420,000	430,000	440,000
	500,000	900,000	920,000	940,000	960,000	980,000
Available Revenue						
Fund 2211 Measure B	500,000	500,000	510,000	520,000	530,000	540,000
	500,000	500,000	510,000	520,000	530,000	540,000
Surplus/(Deficit)	-	(400,000)	(410,000)	(420,000)	(430,000)	(440,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 3: Bridges Infrastructure 2012 Report Card

Table 3: Bridges Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 1-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	70	20%	14	Poor for some bridges.
Condition	Infrastructure's existing or near future physical condition	50	30%	15	Very poor for some bridges.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	50	10%	5	Over \$35 million in federal and state funds over the past two years has addressed many bridge issues. Annual maintenance has been funded by Measure B at \$500,000.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	\$12 million is still needed for one-time bridge improvement and replacement costs. An annual maintenance budget of \$900,000 is needed until the \$12 million is funded.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	50	10%	5	Bridge standards are set by Caltrans and inspected by Caltrans bi-annually on the basis of geometry, traffic handling, and structural condition of bridge elements.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	70	20%	14	Failure of any bridge will affect life and property.
	Overall Grade: D		100%	58	
Asset Manager: Gus Amirzehni					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

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4. Traffic Signals, Signs, and Markings

C

Summary

Oakland streets include 677 traffic signal intersections that are designed and maintained by the City. Current equipment is outdated or obsolete in many instances; moreover, the installation of an Intelligent Transportation System to coordinate signals and provide for coordinated emergency response will require significant investment. In addition, 200,000 signs, 19 million linear feet of traffic striping, 400,000 linear feet of crosswalks, and over 6,000 street legends are maintained either as part of paving or in response to service requests from the public.



Standards, Current Condition, and Capacity

Oakland's streets include 677 signalized intersections (which include 18,000 traffic signals and 4,000 pedestrian walk/don't walk signals). Signals are reviewed and re-timed on the average of once every five to ten years due to the large number of signals (higher than most cities of comparable size) and few dedicated staff to collect the traffic counts necessary to make signal timing changes (less than one full-time staff employee is assigned to signal timing and 7.5 staff are assigned to traffic signal maintenance). Much of the City's signal equipment is obsolete and/or not compatible with modern communication systems.

There are over 3,500 signal poles, and on average, 100 traffic signal poles have to be replaced each year from damages. Oakland's streets also include 200,000 traffic signs, 3,600 miles of lane striping, 400,000 linear feet of crosswalks and 6,000 street legends. All signs, striping, and legends are designed using the California Manual of Uniform Traffic Control Devices specifications and standards as dictated by 23 CFR 655.603. These signs, stripes, and legends are maintained through the course of yearly paving contracts for streets identified in the Five-Year Paving Plan, as hazards are identified or on a complaint basis.

Deferred Major Capital Projects

The City has developed an Intelligent Transportation Systems (ITS) Master Plan to upgrade and manage the signal system along major corridors. Only a small fraction of the system has been built, and most of that in the last year. A Traffic Management Center (TMC) was recently completed and serves as the nerve center for ITS corridors. More arterial corridors which are identified in the ITS Master Plan would be need to implemented. The estimated total cost of implementing the ITS Master Plan is \$123 million in current (2012) dollars.

Additionally, since 75% of the City's traffic signals are obsolete and/or not compatible with modern communication systems, these will require upgrade or replacement. The estimated cost of this work is \$152 million.

Current Funding

In FY 2011-12, the budget for traffic signal design and maintenance was \$630,000, while the budget for capital was \$6.6 million, for a total of \$7.2 million. The subsistence funding requirement to maintain what we have in FY 2012-13 rises slightly to \$8 million; however we cannot presently meet that funding need. These funds do not address any of the major capital improvements necessary.



Final Grade

The City's Traffic Signals, Signs, and Markings Infrastructure grade is C.

Investment Needed

The near-term capital investment needed to deploy the ITS Master Plan by installing the communications network and upgrading the existing traffic signal equipment is \$25 million.

75% of the traffic signals are outdated or have exceeded their useful lives. These require extensive maintenance to continue working. The estimated capital cost to upgrade and replace these signals is \$152 million.

Table 4 shows the Five-Year Financial Forecast for Traffic Signal Design and Maintenance.

Recommendations

1. Update the Intelligent Transportation System (ITS) Master Plan.
2. Develop criteria for prioritizing traffic signal installation and identifying traffic control work to focus implementation.
3. Require all public and private development projects that trigger an environmental impact to the City's roadways to install or upgrade traffic signals, signs, striping, curb ramps, crosswalks, and street legends ("complete streets" items) as project mitigations or as a standard condition of approval.
4. Establish a transportation impact fee on new development.

**Appendix Table 4: Five-Year Financial Forecast for Traffic Signals, Signs, and Markings**

Per Baseline / FY 2012-13 Assumptions

	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	6,610,034	7,090,000	7,230,000	7,370,000	7,520,000	7,670,000
Capital Improvement Projects	630,000	1,000,000	1,020,000	1,040,000	1,060,000	1,080,000
	7,240,034	8,090,000	8,250,000	8,410,000	8,580,000	8,750,000
Available Revenue						
Fund 1750 Multi Purpose (Off-Street Parking)	1,587,008	1,620,000	1,650,000	1,680,000	1,710,000	1,740,000
Fund 2211 Measure B	1,853,865	1,890,000	1,930,000	1,970,000	2,010,000	2,050,000
Fund 2212 Bike/Ped Pass-Through	258,000	260,000	270,000	280,000	290,000	300,000
Fund 2230 Gas Tax	3,020,895	3,080,000	3,140,000	3,200,000	3,260,000	3,330,000
Fund 2416 Traffic Safety Fund	520,266	530,000	540,000	550,000	560,000	570,000
	7,240,034	7,380,000	7,530,000	7,680,000	7,830,000	7,990,000
Surplus/(Deficit)	-	(710,000)	(720,000)	(730,000)	(750,000)	(760,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 4: Traffic Signals, Signs, and Markings 2012 Report Card

Table 4: Traffic Signals, Signs, and Markings 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 1-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	90	20%	18	Current capacity is sufficient.
Condition	Infrastructure's existing or near future physical condition	70	30%	21	Of the 677 traffic signals, approximately 75% will need to be replaced or upgraded.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	70	10%	7	\$7.2 million is currently funded, however this money does not include funds for capital projects (upgrades or replacement).
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	60	10%	6	Cost for capital projects is estimated at \$152 million for traffic signals, signs, and markings, and \$25 million to install the intelligent transportation management system.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	60	10%	6	Out-of-phase traffic signals are common because there is insufficient staff to adjust the timing.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	80	20%	16	Lack of an Intelligent Transportation Management system could create problems during major emergencies where evacuation is needed.
	Overall Grade: C		100%	74	
Asset Manager: Wladimir Wlassowsky					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

5. Street Lighting

Summary

Oakland has approximately 37,000 streetlights. Most of these streetlights meet current City standards. Some areas could benefit from enhanced lighting, but the City has no funding for new streetlights. Current challenges to the lighting infrastructure include



decaying conduits and wiring, corroding poles and degraded foundations, and diminished maintenance schedules. The City funds \$3.6 million a year from the Landscape and Lighting and District (LLAD) for electricity and \$1.9 million a year from the Measure B and other fund sources.

Standards, Current Condition, and Capacity

Oakland has approximately 37,000 streetlights covering over 800 miles of roadways and pedestrian passages. Most of the lights are mounted on wooden poles and fed directly overhead from PG&E. 30,000 streetlights are “cobra head” fixtures on tall poles, while about 7,000 are ornamental pedestrian lights. In FY 2011-12, City staff responded to 2,400 street lighting service requests and repaired 3,200 streetlights.

In general, streetlights in Oakland meet the levels in the Street Lighting Warrants approved by City Council; however, there are areas that could benefit from enhanced lighting due to increased pedestrian usage or criminal activities. Oakland’s current standard for streetlights is Light Emitting Diode (LED) fixtures for City projects and as replacements for failed lights.

Current Funding

Oakland spends about \$3.6 million annually from LLAD funds on electricity for street lighting and about \$1.9 million annually from Measure B and other funds for operation and maintenance of street lighting. LLAD funds are fixed, while the cost of electricity continues to increase. The current electrician crew size only supports emergency repair response. There is no City funding for new streetlights.

Deferred Major Capital Projects

Residents may petition for streetlights in areas where they want lighting to be improved. In previous years up to 100 streetlights per year were added due to petitions that were successfully completed by residents. Currently the City has no funding for new streetlights, but those locations successfully petitioning are put on a waiting list for future consideration should funds become available. There are currently 50 unfunded requests or petitions on file for 60 new streetlights. The estimated cost of

adding these lights is \$260,000. This amount should be budgeted annually to respond to requests for new streetlights.

Final Grade

The City's Street Lighting Infrastructure grade is B-.

This grade is based on overall infrastructure need and unknown deterioration due to lack of inspection. Issues include corrosion of light standards, conduit failures, wiring malfunctions, theft, light addition requests, and lamp life expectancy.

Investment Needed

A new program is being prepared using \$250,000 in PG&E funding to upgrade lighting for high crime areas. While this is a minimal sum, it suggests one way to prioritize funding when it becomes available.

A ten-year capital improvement plan would include the replacement of all High Pressure Sodium (HPS) fixtures with Light Emitting Diode (LED) fixture technology. This plan would include all 37,000 streetlights owned by the City, resulting in a predicted 45% energy savings and 25% maintenance cost saving. Resources saved and any energy rebates collected could be used for future maintenance support of the lighting infrastructure such as wiring, conduit, and pole replacements. A fully funded replacement strategy is estimated to cost approximately \$26 million dollars (one time cost), but the reduced energy cost and rebates associated with this program would make the financing revenue neutral, paying for the program over a 12-year period. The estimated life span of LED fixtures is 15 to 20 years.

Table 5 shows the Five-Year Financial Forecast for Street Lighting Infrastructure.

Recommendations

1. Issue an RFP to replace all High Pressure Sodium (HPS) lights with Light Emitting Diode (LED) lights. Pay for the program with savings in electrical costs.
2. Utilize the energy rebates from the utility company for the conversion of ornamental streetlights with LED fixtures to the extent the funds allow.
3. Inspect all lighting poles every five years and upgrade locations which do not meet acceptable "as designed" standards for operational needs.

**Appendix Table 5: Five-Year Financial Forecast for Streetlights**

Per Baseline / FY 2012-13 Assumptions

	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>	<u>FY 15-16</u>	<u>FY 16-17</u>	<u>FY 17-18</u>
Needs (\$)						
Operations & Maintenance	5,264,400	5,480,000	5,590,000	5,700,000	5,810,000	5,930,000
Capital Improvement Projects	260,000	270,000	280,000	290,000	300,000	310,000
	5,524,400	5,750,000	5,870,000	5,990,000	6,110,000	6,240,000
Available Revenue						
Fund 1750 Multi Purpose (Off-Street Parking)	300,000	310,000	320,000	330,000	340,000	350,000
Fund 2310 LLAD	3,600,000	3,670,000	3,740,000	3,810,000	3,890,000	3,970,000
Fund 2211 Measure B	1,400,000	1,430,000	1,460,000	1,490,000	1,520,000	1,550,000
Fund 2416 Traffic Safety Fund	224,400	230,000	230,000	230,000	230,000	230,000
	5,524,400	5,640,000	5,750,000	5,860,000	5,980,000	6,100,000
Surplus/(Deficit)	-	(110,000)	(120,000)	(130,000)	(130,000)	(140,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 5: Street Lighting Infrastructure Report Card

Table 5: Street Lighting Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 1-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	90	20%	18	Lighting meets industry standards.
Condition	Infrastructure's existing or near future physical condition	80	30%	24	Need to address replacement of light poles damaged by cars/trucks.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	80	10%	8	LLAD funds for electricity and maintenance are fixed at \$3.6 million per year. There is no funding for new streetlights.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	80	10%	8	The replacement cost for 37,000 fixtures is \$26 million (unfunded). A 10-year revenue neutral Capital Plan converting sodium lamps to light-emitting diode (LED) would save 45% on energy and 25% on maintenance costs.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	80	10%	8	Loss of electricians due to budget cuts could be offset by conversion to LED.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	80	20%	16	Areas could benefit from enhanced lighting due to increased pedestrian usage or criminal activities. A \$250,000 PG&E pilot program is underway.
Overall Grade: B- Asset Manager: Paul Chan			100%	82	

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

6. Stormwater

Summary

The City's stormwater infrastructure includes more than 400 miles of storm drains, 15,000 structures, and over 80 miles of open creek. The City of Oakland has no fund source dedicated to stormwater system maintenance. Without a dedicated source of funding for ongoing maintenance, capital improvements, and water quality programs, the existing stormwater system will continue to deteriorate, damage related to flooding and infrastructure failure will continue, and compliance with regulations will be jeopardized. Much of the system is now nearing the end of its useful life and is in need of replacement. An average annual investment of \$20 to \$25 million is needed for stormwater system capital projects and maintenance and for water quality compliance.



Standards, Current Condition, and Capacity

The City of Oakland's stormwater drainage system includes a complex combination of underground pipes and culverts, concrete channels, inlets, and other drainage structures that interconnect with private drainage structures, natural creeks, and Alameda County Flood Control facilities and eventually with Lake Merritt and the San Francisco Bay. There are over 15,000 structures in the City's stormwater drainage system including: pipes, pump stations, manholes, inlets, culverts, trash racks, weirs, and more.

There are approximately 400 miles of storm drain pipes ranging from six to 98 inches in diameter. Approximately 80% of the system is concrete pipe. The remaining pipes are corrugated metal, vitrified clay, polyvinyl chloride, and high-density polyethylene.

The majority of the City's stormwater infrastructure was constructed 60 to 80 years ago. Since that time, very little upgrading of the system has taken place. Much of the system is now nearing the end of its useful life, as it has long suffered from inadequate resources to keep up with the necessary maintenance and improvements, leading to increasing instances of flooding, erosion, and property damage.

The 2006 Stormwater Master Plan evaluation showed that, based on Alameda County Flood Control District protocols for flood evaluation, the City's existing stormwater drainage network could carry the amount of rainfall that can be expected in a storm that happens every two to five years. The City's stormwater system cannot handle larger storm events.

In October 2009, the Regional Water Quality Control Board adopted a Municipal Regional National Pollutant Discharge Elimination System (MRP) for most of the Bay Area's municipalities. Clean water regulatory requirements include:

- New development and redevelopment permitting and enforcement
- Industrial and commercial site inspections, enforcement, and controls
- Illicit discharge detection and elimination
- Construction site inspections, enforcement, and controls
- Public information and outreach
- Water quality monitoring
- Trash load reduction
- Mercury, PCBs, copper and legacy pesticide, PBDE, and selenium controls



These clean water regulatory requirements add significantly to the City's stormwater system capital and operating costs.

While about 80% of the City's system is sound, critical parts of the system are in need of comprehensive system rehabilitation and replacement is needed to prevent failure. Without a dedicated source of funding for ongoing maintenance, capital improvements, and water quality programs, the existing stormwater system will continue to deteriorate, damages related to flooding and infrastructure failure will continue, and compliance with regulations will be jeopardized.

Spending the capital now for the City's storm drainage system would help preserve the more than \$1.4 billion investment in the assets already in place. Infrastructure has a limited life span; however, with proper maintenance and routine repair or replacement of portions of the system, that useful life span can be extended to serve the City's long-term needs.

Deferred Major Capital Projects

Deferred major projects include:

- \$30 million to replace or rehabilitate deteriorated storm drainage pipe
- \$170 million to increase system capacity
- \$10 to \$20 million for water quality improvements and creek restoration



Current Funding

There is no dedicated funding source for the City's stormwater system. As a result, the City spends about \$4.6 million per year from the sewer fund to conduct minimal storm drainage maintenance. Capital projects are completed on an emergency basis only. For example, for the last ten years, the City has typically expended about \$230,000 per year on storm drainage repair and about \$400,000 per year repairing roadway damage due to stormwater drainage issues, such as potholes, concrete erosion, and roadway collapse. Funding for these activities come from paving, sanitary sewer, and Measure B funds.

Final Grade

The City's Stormwater Infrastructure grade is D.

Investment Needed

Capital Costs

There are no funds budgeted for capital costs. Capital projects need \$24 to 28 million annually over the next 20 years. A 2006 Storm Drainage Master Plan identified \$229 million in needs for storm drainage capital improvements (with \$9 million of those capital improvements needed to meet new clean water regulatory requirements alone). Needed capital Improvements include storm drain pipe replacement and rehabilitation, capacity enhancements, creek restoration, new storm drainage systems where none currently exist and new infrastructure to improve water quality.

Annual Operating Costs

Currently the City spends \$4.5 million per year to conduct minimal maintenance, including once-a-year inlet cleaning, flooding response, and some storm drain pipe cleaning. \$11 million is needed to provide adequate levels of maintenance and operations for creeks, water quality, and regulatory-required improvements and compliance.

Table 6 shows the Five-Year Financial Forecast for Stormwater Infrastructure.

Recommendation

- Create a stormwater fee to fund stormwater system operation, maintenance, and capital improvements.

**Appendix Table 6: Five-Year Financial Forecast for Stormwater**

Per Baseline / FY 2012-13 Assumptions

	FY 12-13	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	4,600,000	11,000,000	11,220,000	11,440,000	11,670,000	11,900,000
Capital Improvement Projects	24,000,000	24,500,000	25,000,000	26,000,000	27,000,000	28,000,000
	28,600,000	35,500,000	36,220,000	37,440,000	38,670,000	39,900,000
Available Revenue						
Fund 3100 - Sewer Service	4,600,000	4,690,000	4,780,000	4,880,000	4,980,000	5,080,000
Fund 7760 - Overhead	290,000	300,000	310,000	320,000	330,000	340,000
Fund 2990 - Grant	210,000	210,000	210,000	210,000	210,000	210,000
	5,100,000	5,200,000	5,300,000	5,410,000	5,520,000	5,630,000
Surplus/(Deficit)	(23,500,000)	(30,300,000)	(30,920,000)	(32,030,000)	(33,150,000)	(34,270,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 6: Stormwater Infrastructure 2012 Report Card

Table 6: Stormwater Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score 1-100	Weight (100%)	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	70	20%	14	Storm Water system can handle 2-5 year storm.
Condition	Infrastructure's existing or near future physical condition	60	30%	18	Many of the key 15,000 structures in place are in poor condition. Erosion, flooding, and property damage is occurring now.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	50	10%	5	There is no fund source dedicated to capital projects for the stormwater system.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	New clean water regulatory requirements add significantly to the City's capital and operating costs.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	60	10%	6	Funds are insufficient to comply with ever-increasing government regulations. The process to update permits is rigorous.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	70	20%	14	Flooding and road failures jeopardize personal safety and incur property losses.
	Overall Grade: D		100%	62	
Asset Manager: Lesley Estes					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

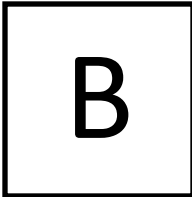
D = 51-69%

F = 50% or lower

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7. Wastewater Collection



Summary

The City of Oakland has 919 miles of City-maintained sanitary sewer pipes, seven pump stations, and over 27,000 manholes and structures. Most of Oakland’s sewer system is 60 to 70 years old. During storm events, sewer flows are significantly increased due to infiltration and inflow (I/I) of stormwater into the sanitary sewer system. The Sewer Service Charge that is collected from all properties is now adequate to cover the operating and capital expenses of the program.



Standards, Current Condition, and Capacity

The sanitary sewer collection system is a network of pipes, manholes, clean-outs, pump stations, and other structures used to collect all wastewater and transport it to the East Bay Municipal Utility (EBMUD) interceptor and treatment plant. The City of Oakland sanitary sewer system is a collection system only. Sewage treatment and disposal occurs at the EBMUD Facility near the Bay Bridge area of West Oakland.

Most of Oakland’s sewer system is 60 to 70 years old¹. Conditions such as ground movement, tree root intrusion, quality of original pipe material, and other factors can significantly decrease the serviceability of sewer pipes and manholes.

In 1987, a long-term capital improvement program was initiated to rehabilitate sewer lines that contributed to wet weather overflows. Approximately 25% of sewers are being rehabilitated under this program, which is planned for completion by 2014. This program does not address the remaining 75% of the system – approximately 680 miles of sewer pipes.

In 2010, the City started a two-year flow metering and modeling project to evaluate system capacity and plan for the next long-term capital improvements, with an objective to improve pipe conditions and reduce wet-weather flows. It is anticipated that the current level of investment in capital improvements will need to be sustained in order to stay in compliance with regulatory requirements.

¹ Most of Oakland's system was reconfigured in the 1940s when a separation project was initiated to separate storm pipes from sanitary sewer pipes. Prior to this era, Oakland had a combined system and all wastewater flowed into the surrounding water bodies.

Current Funding

A Sewer Service Charge is collected from all properties connected to the sanitary sewer system. The rates are adjusted for inflation and are adequate to cover operating and capital expenses.

Three 16% per year increases in the sewer service charge were approved by City Council in 2010. The first increase (from \$22.24/month to \$25.80/month for a single-family residence) took effect January 2011; the second increase occurred in January 2012. The third increase has been deferred to January 2014. The additional revenue enables the City to cover the cost of increased operation and maintenance now required by the United States Environmental Protection Agency (EPA).

The approved budget includes \$13 million in capital funds for the Sanitary Sewer Infiltration and Inflow (I/I) Correction Program, \$2 million for the Cyclic Replacement Program, and about \$26 million for operations and maintenance.



Final Grade

Using the ASCE grading system, the City's Wastewater Infrastructure grade is B.

Investment Needed

Capital Program: The 1987 capital program rehabilitated about 25% of the sanitary sewer system. In the next 10 years, the City must continue its current level of capital investments in the sewer program. The current and anticipated level of capital investment will replace about 1% of the system each year. Given the age, condition, and history of Oakland's sewer system, this rate is sufficient.

Operations and Maintenance: Staff has completed a draft Asset Management Implementation Plan (AMIP) for the wastewater collection system with an objective to set operational and maintenance standards, goals, and objectives. The plan has been submitted to EPA for approval and will provide clear guidelines for the long-term maintenance of the collection system.

Available funding is sufficient to implement this plan.

Table 7 shows the Five-Year Financial Forecast for Wastewater Infrastructure.

Recommendations

1. Continue the current level of capital investments in the sewer collection system.
2. Adjust funding as necessary once a new Consent Decree is imposed by EPA.



Appendix Table 7: Five-Year Financial Forecast for Wastewater

Per Baseline / FY 2012-13 Assumptions

	FY 12-13	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	26,517,295	28,060,000	28,920,000	29,570,000	30,320,000	31,170,000
Capital Improvement Projects	15,150,000	12,700,000	13,000,000	12,750,000	12,400,000	12,450,000
Debt Service	5,413,850	5,400,000	5,000,000	5,000,000	5,000,000	4,500,000
	47,081,145	46,160,000	46,920,000	47,320,000	47,720,000	48,120,000
Available Revenue						
Fund 3100 - Sewer Service Fee	41,580,000	43,810,000	44,220,000	44,620,000	45,020,000	45,420,000
Other Revenue	2,713,800	2,700,000	2,700,000	2,700,000	2,700,000	2,700,000
	44,293,800	46,510,000	46,920,000	47,320,000	47,720,000	48,120,000
Surplus/(Deficit)	(2,787,345)	350,000	-	-	-	-

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects

* As shown in May 2012 Asset Management Implementation Plan



Table 7: Wastewater Infrastructure 2012 Report Card

Table 7: Wastewater Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score	Weight	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	90	20%	18	Re-evaluate this score once hydro-modeling is completed at the end of 2012.
Condition	Infrastructure's existing or near future physical condition	80	30%	24	Occasional localized sewer failures are handled by in-house staff. The system has not yet reached end of its useful life.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	100	10%	10	Three previously approved rate increases provide adequate funding.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	80	10%	8	Determination of the City's final needs awaits negotiation of the EPA consent decree.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	80	10%	8	Addition of staff and new equipment is improving the condition of the wastewater system.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	90	20%	18	Sanitary sewer overflows have been reduced by over 50% since 2008.
	Overall Grade: B		100%	86	
Asset Manager: Allen Law					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

8. Public Buildings

D

Summary

The Public Works Agency maintains approximately 300 City-owned buildings (estimated 2.5 million square feet) ranging in size from Police Administration Building (147,900 sq. ft) to the FROG Park restroom (40 sq. ft.). In 2006, an assessment of 62 representative buildings showed that the majority were in average condition but that the overall building conditions continue to decline due to chronic and constant vandalism, heavy patron usage, and a lack of preventive maintenance and capital repairs. The Public Works Agency has \$23 million budgeted for facility maintenance. However, the Internal Service Fund has a long-standing negative fund balance of \$26.7 million with an approved 10-year repayment plan. There is currently no funding for capital improvements other than grant or bond funded projects.



Standards, Current Condition, and Capacity

The Public Works Agency maintains the Civic Center Complex, the Police Administration Building, Eastmont Police Substation 27 recreation centers, 26 fire stations, a fire training facility, 18 libraries, 4 senior centers, 6 municipal swimming pools, the Public Works Municipal Service Center, Shepherd Canyon maintenance facility, 40 stand-alone restrooms and numerous maintenance sheds, storage or accessory buildings used by City staff. PWA employees maintain the building structural components including roof, walls, and foundations, heating and ventilation, plumbing, and electrical systems. City custodians provide cleaning and recycling support for 86 City buildings and stand-alone restrooms. Painters remove graffiti from parks and buildings, but there is inadequate staffing to proactively paint building interiors. Maintenance mechanics repair park furniture and fencing while electricians work on playing field and recreation center lights. Stationary engineers work primarily at larger facilities, but are also mobile due to staffing constraints.

Current Funding

Each City department pays into an Internal Service Fund (Fund 4400) which pays for facility maintenance. The Internal Service Fund covers only "reactive" maintenance, as there are insufficient funds to pay for a complete or comprehensive preventive maintenance program. For example, a minor building leak could lead to mold and internal water damage and the cost to repair this damage could be significant. Routine preventive maintenance to clean the roof and gutters of leaves and debris could prevent a minor building leak, but there isn't enough staff to perform this work before the rainy

season. Instead, staff is forced to react to building leaks and clearing the roof and gutters only after complaints are received; this is not effective or efficient.

The FY 2012-13 baseline budget is \$23.6 million which covers operation, maintenance, utility costs, and labor. The Internal Service Fund has a long-standing negative fund balance of \$26.7 million with an approved 10-year repayment plan. There is currently no funding for capital improvements other than grant or bond funded projects. In FY 2012-13, only \$250,000 was budgeted for emergency minor capital improvement work.

Deferred Major Capital Projects

Capital projects that have been requested but are not funded include new buildings such as a Police Command Center with crime lab (\$300 million), four fire stations and a combined police and fire training center (\$50 million), recreation centers across the City, parking garage upgrades, and the provision of solar or other energy generating systems for all buildings (estimated total cost of \$584 million).

Upgrades are needed for most City buildings and should be included in the total facility maintenance budget. The capital replacement funds would be used to: replace roofing systems; upgrade electrical systems (including the electrical panel, lighting, and electrical controls); upgrade heating and cooling systems; upgrade boilers and water heaters; and for facility painting and plumbing upgrades. These major projects require a systematic plan that could incorporate green building technology and ADA improvements. Finally, the plan could also help the Public Works Agency to be more proactive in responding to potential problems and reduce time spent reacting to emergencies.

Final Grade

The final grade for City-owned Buildings is D.

The Public Works Agency has not conducted a recent condition assessment on all its buildings, but in 2006, the average grade was **C**. Today, the average building condition has declined to **C-** due to ongoing failures of various building systems, lack of capital replacement funds, and the ongoing reduction in staff. Failures include: heating and ventilation failures at the Animal Shelter and City Hall; plumbing failures in fire stations and recreation centers; and pump and boiler failures at swimming pools. The City's facilities are showing their age.

Investment Needed

The current (\$26.7 million) negative fund balance needs to be repaid by a one-time infusion of funds. The current 10-year repayment plan which calls for repayment of \$1.2 million in FY 2013-14, increasing annually to \$6.6 million in FY 2017-18, is not sustainable.

The City needs to restore 17 painters, electricians, mechanics, stationary engineers, etc. deleted in prior budget reductions at a cost of \$1.9 million.

The \$250,000 currently budgeted for minor capital replacement needs to be increased to \$2 million annually to begin replacing existing building systems and to address an accumulation of deferred capital repairs.

Additionally, new buildings are needed by the City, including a police command center, four fire stations, a combined fire and police training facility, and numerous library and recreation centers projects estimated to cost over \$584 million (per 2011-13 CIP Budget). This may require a bond issue at some time in the near future.

Table 8 shows the Five-Year Financial Forecast for Public Buildings.

Recommendations

1. Eliminate buildings from the City's inventory wherever possible.
2. Amend the OMC to require new buildings be accepted for maintenance only by Council action.
3. Continue to enforce the policy which requires the appropriation of funding to support the operations and maintenance of a renovated or new building, prior to approval of the project.
4. Re-establish operations and maintenance service levels to achieve a higher level of routine, proactive capital maintenance and emergency repairs at a cost of \$1.9 million.
5. Increase the baseline budget for minor capital replacement and repairs in FY 2013-14 to \$2 million.
6. Use one-time funds to reduce the Internal Service Fund deficit.
7. Develop a comprehensive long-term plan for the maintenance of existing buildings.

**Appendix Table 8: Five-Year Financial Forecast for Public Buildings**

Per Baseline / FY 2012-13 Assumptions

	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	22,579,415	26,400,000	27,600,000	29,100,000	31,000,000	34,100,000
Negative Fund Repayment	830,585	1,196,719	1,838,570	2,806,834	4,166,477	6,602,917
Capital Improvement Projects	250,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
	23,660,000	29,596,719	31,438,570	33,906,834	37,166,477	42,702,917
Available Revenue						
Fund 4400 - Internal Services	23,000,000	23,500,000	24,000,000	24,500,000	25,000,000	25,500,000
Other Revenue	660,000	670,000	680,000	690,000	700,000	710,000
	23,660,000	24,170,000	24,680,000	25,190,000	25,700,000	26,210,000
Surplus/(Deficit)	-	(5,426,719)	(6,758,570)	(8,716,834)	(11,466,477)	(16,492,917)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects

Table 8: Public Buildings Infrastructure 2012 Report Card

Table 8: Public Buildings Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score	Weight	Weighted Score	Notes
Capacity	Infrastructure’s capacity to meet current and future demands	80	20%	16	The City owns 309 buildings. This is sufficient space for City staff. The City needs to sell or demolish 21 “mothballed” buildings.
Condition	Infrastructure’s existing or near future physical condition	50	30%	15	10,000 of the 38,000 yearly public requests for maintenance services concern public buildings. Need upgrades to meet ADA requirements.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	50	10%	5	Funding for preventive maintenance is inadequate. Funding for major repairs and improvements is non-existent.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	No capital funds have been budgeted for building improvements.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	50	10%	5	Staffing is insufficient to maintain the building stock of the City in its current condition.
Public Safety	Extent the public’s safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	80	20%	16	Seismic safety is an issue for brick buildings and “soft” first-story buildings. Other building systems that could jeopardize public safety include electrical (fire) and roof failures.
	Overall Grade: D; Asset Manager Derin Minor		100 %	62	

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D+

9. Parks and Landscaping

Summary

Oakland has 134 parks and public spaces. This includes two region-serving parks, nine community parks, 53 neighborhood parks, 15 special use parks, 26 athletic fields, plus many mini-parks, linear parks, and public grounds. There are another 1,055 acres of Resource Conservation Area (open space) primarily in the Oakland hills. Approximately 100 landscaped medians and streetscapes are also included in the City's park maintenance responsibility along with grounds at City facilities.



New and renovated parks and plans are being developed primarily funded by voter-supported Measure DD (2002 Oakland Trust for Clean Water & Safe Parks), Measure WW (2008 Preserve Open Space for Recreation and Wildlife Habitat), State Park Bond Funds (2002 California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act) and Redevelopment funds (still funding projects in process). Bonds and former Redevelopment funds are restricted to supporting the creation of a park or other facility, and are not available to fund staff or materials for ongoing maintenance. No funds have been budgeted to maintain these newly constructed parks.

Current Funding

The FY 2012-13 funding is split between the Landscaping and Lighting Assessment District (\$6.1 million) and the Comprehensive Cleanup Fund (\$2.4 million). These funds support 69 full-time equivalent (FTE) staff that cover all park and landscape asset maintenance. The scope of work includes parks, athletic fields, grounds at City facilities, medians, and streetscapes.

Budget reductions over past years have eliminated gardeners to a level that results in less than routine maintenance.



Deferred Major Capital Projects

There is no comprehensive assessment of park needs. Deferred park maintenance projects include: irrigation system replacement; bathrooms and drinking fountains; playing field lighting upgrades; pathways, park roads and parking lot improvements; and landscape and playing field renovations. Replacing these park facilities and amenities mean that major and minor capital projects must be integrated with building upgrades.

Final Grade

The overall grade for the Parks and Landscaping is D+.

In 2011, the Oakland Parks Coalition conducted their annual park survey and their results were mostly satisfactory, with some “good” and some “needs improvement” park conditions. However, the C grade is based upon weedy and overgrown conditions during the spring due to the lack of staffing. There are delays in completing the mowing schedule resulting in long turf conditions that are unacceptable for baseball or soccer play.

Investment Needed

The Public Works Performance Audit (2009) suggested that for “campus facilities management” a high level of maintenance or a “Service Level B” could be attained with one employee per six to ten acres. With 640 developed park acres and assuming eight acres per employee, 80 employees would be required for parks alone. This does not include the travel time between work sites, a significant factor that the “campus facilities management” did not include in their analysis. Add the medians and streetscapes, and City facility grounds, the total staffing needed is 100 FTEs.

A starting point would be to add back 24 Gardener crew leaders; 25 Gardener IIs; an Irrigation repair specialist and a Park Supervisor I for a cost in FY 2012-13 of \$4 million. This is a cost for staff only and does not include equipment or supplies.

An assessment is necessary to estimate the condition and cost of repairs or replacement of existing park and landscape assets. For this Report Card, we have included a nominal \$0.5 million in minor capital repairs to fix irrigation systems and other minor capital improvements.

Table 9 shows the Five-Year Financial Forecast for Parks and Landscaped Assets.

Recommendations

1. Re-establish service levels to achieve a level “B” for parks and landscape asset maintenance (estimated to cost \$4 million annually at FY 2012-13 costs).
2. Include \$0.5 million in the FY 2013-14 budget for irrigation and other minor capital repairs.
3. Continue to implement the policy which requires the appropriation of funding to support the operations and maintenance of a renovated or new landscaped asset, prior to the approval of the capital plan or project.

4. Continue to partner with the Oakland Parks Coalition and other interested groups to maximize use of volunteers to support park maintenance.
5. Prepare a condition assessment of Oakland Parks as the basis for a future bond issue.
6. Update The Open Space Conservation and Recreation (OSCAR) element of the General Plan to guide parks policy (the current element was adopted in 1996 and is out of date).
7. Create a capital life-cycle schedule for all parks and landscape assets including irrigation systems, playing fields, park furnishings, water fountains, bathrooms, bleachers, fencing, lighting, backboards, pathways, tot lots, and tot-lot surfacing.



Appendix Table 11: Five-Year Financial Forecast for Fleet and Equipment

Per Baseline / FY 2012-13 Assumptions

	FY 12-13	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>	<i>FY 16-17</i>	<i>FY 17-18</i>
Needs (\$)						
Operations & Maintenance	14,527,708	15,500,000	15,800,000	16,100,000	16,400,000	16,700,000
Negative Fund Repayment	1,634,292	1,295,924	1,098,057	1,052,587	1,001,380	1,126,808
Vehicle Replacement	-	25,900,000	10,200,000	10,400,000	10,600,000	10,800,000
	16,162,000	42,695,924	27,098,057	27,552,587	28,001,380	28,626,808
Available Revenue						
Fund 4100 - Internal Services	17,087,000	17,400,000	17,748,000	18,103,000	18,465,000	18,834,000
	17,087,000	17,400,000	17,748,000	18,103,000	18,465,000	18,834,000
Surplus/(Deficit)	925,000	(25,295,924)	(9,350,057)	(9,449,587)	(9,536,380)	(9,792,808)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 9: Parks and Landscape Infrastructure 2012 Report Card

Table 9: Parks and Landscape Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score	Weight	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	70	20%	14	A systematic survey of Oakland needs for recreation and open space has not been completed since 1994.
Condition	Infrastructure's existing or near future physical condition	70	30%	21	Friends of Parks rated Oakland's parks "C" in its 2012 survey.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	60	10%	6	The LLAD fund is inadequate to provide needed services.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	No funds have been budgeted for future maintenance of Lake Merritt and other Measure DD improvements.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	50	10%	5	Loss of 41 gardener positions has drastically affected park operations and maintenance.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	80	20%	16	Addition of lighting in some parks would improve park use and public safety.
	Overall Grade: D+		100%	67	
Asset Manager: Jim Ryugo					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

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D+

10. Trees

Summary

Oakland is known for its green tree covered canopy; the 100-year-old Jack London Oak tree symbolizes this commitment to being a *Green City*. The urban forest consists of 42,642 street trees per the 2008 Sidewalk Survey plus an unknown number of park trees, median and streetscape trees, and trees found within the street right-of-way. Since the survey, several hundred new trees have been planted by Urban Releaf, Sierra Club, West Oakland Greening Initiative and homeowners. Major cuts to Tree Services staffing over the past five years have now limited services to



emergency tree response. The City ended the tree planting and aesthetic tree pruning program in 2008. The Landscape and Lighting Assessment District (LLAD) has a fund balance which is currently offset by mandatory furlough days. Effective July 1, 2013, labor costs will rise and additional revenue expenditure reductions may be necessary.

Standards, Current Condition, and Capacity

The condition of the urban forest is constantly changing as new trees are planted and potentially hazardous trees are removed. Insect infestations, pathogens like Sudden Oak Death, drought, and stormy weather are environmental factors that affect the health and condition of individual trees. There is no current assessment of the City's urban forest.

The City performs tree trimming and tree removals based upon a hazardous tree assessment or an emergency basis only. Current staffing levels are only adequate to handle this level of response.

In 2008, budget reductions eliminated the tree planting program, tree watering, young tree pruning, aesthetic pruning, and pollarding services. The Tree Protection Ordinance (OMC Chapter 12.36) is enforced (200 to 250 tree permits per year) but the lack of tree inspection staff results in delays in prioritizing street tree maintenance. Tree staff is involved with the Hazardous Tree Ordinance (OMC Chapter 12.40), View Preservation Ordinance (OMC Chapter 15.52), and the Street Tree and Shrub Ordinance (OMC Chapter 12.32). Oversight and administration of all the tree-related ordinances is time consuming and greatly understaffed. Self-service tree planting and tree pruning programs (see City website) are in effect for property owners willing to privately contract for the work.

Current Funding

Tree maintenance is limited to emergency response due to the major reductions that have taken place since 2008. Funding from the LLAD is budgeted at \$ 2.5 million for FY 2012-13 and includes 15 FTEs and associated equipment. The past funding from the General Fund was eliminated in FY 2011-12.

Deferred Major Capital Projects

Deferred tree pruning results in top-heavy trees, poor growth habits, and low-hanging branches over streets and sidewalks. This also causes increased limb failure. The solution is increased tree maintenance. New trees continue to be planted by volunteer groups, homeowners, and streetscape projects but there is inadequate staffing to maintain newly planted trees.

Final Grade

The overall grade for the Trees Asset is D+.

The City is responding to potentially hazardous and emergency tree calls that earn an **A-** grade. However, the grade for the tree planting program is **F**. Aesthetic tree pruning and pollarding is also an **F** grade. Young tree maintenance is an **F** grade, while stump removal is a **D** grade. Enforcement of unauthorized tree pruning or removals is also a **D** grade.

Investment Needed

A new 37-foot tower truck is being ordered but additional tower trucks and crane trucks are needed. New equipment will expedite tree trimming and removal, and increase safety for employees and the public. Restoring staffing levels will require one Arboricultural Inspector, two Tree Supervisor I, and 14 Tree Trimmer positions, at a FY 2012-13 cost of \$1.9 million annually.

Table 10 shows the Five-Year Financial Forecast for Trees.

Recommendations

1. Re-establish tree maintenance service levels to include pro-active pruning and tree planting programs, estimated at an additional \$1.9 million annually.
2. Adopt a policy which requires the appropriation of funding to support the operations and maintenance for new tree plantings, prior to the approval of the capital plan.
3. Develop and fund implementation of a comprehensive urban forest capital and maintenance plan.



**Appendix Table 9: Five-Year Financial Forecast for Parks and Landscaping**

Per Baseline / FY 2012-13 Assumptions

	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>	<u>FY 15-16</u>	<u>FY 16-17</u>	<u>FY 17-18</u>
Needs (\$)						
Operations & Maintenance	8,500,000	13,010,000	13,270,000	13,540,000	13,810,000	14,090,000
Capital Improvement Projects	-	500,000	TBD	TBD	TBD	TBD
	8,500,000	13,510,000	13,270,000	13,540,000	13,810,000	14,090,000
Available Revenue						
Fund 2310 - LLAD	6,100,000	6,220,000	6,340,000	6,470,000	6,600,000	6,730,000
Fund 1720 Comp. Clean Up	2,400,000	2,450,000	2,500,000	2,550,000	2,600,000	2,650,000
	8,500,000	8,670,000	8,840,000	9,020,000	9,200,000	9,380,000
Surplus/(Deficit)	-	(4,840,000)	(4,430,000)	(4,520,000)	(4,610,000)	(4,710,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries & Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 10: Trees Infrastructure 2012 Report Card

Table 10: Trees Infrastructure 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score	Weight	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	70	20%	14	While Oakland's tree canopy is extensive, major cuts to Tree Services staffing over the past five years have limited services to emergency tree response only.
Condition	Infrastructure's existing or near future physical condition	70	30%	21	The City is no longer planting trees; aesthetic tree pruning, pollarding, and young tree maintenance is non-existent.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	60	10%	6	Funding from the Landscape and Lighting Assessment District (LLAD), budgeted at \$2.5 million for Fiscal Year 2012-13, has not increased since 1993.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	50	10%	5	\$4.4 million is needed to re-establish tree maintenance service levels to include proactive pruning and tree planting programs.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	50	10%	5	Inflation will continue to cut into funds available for operations and maintenance.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	80	20%	16	Deferred tree pruning results in top heavy trees, and low hanging branches over streets and sidewalks which may become hazardous to life and property.
	Overall Grade: D+ Asset Manager: Jim Ryugo		100%	67	

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

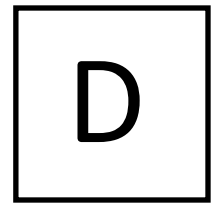
B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

11. Fleet and Equipment



Summary

The City's fleet consists of 1,489 vehicles and major pieces of equipment. 55% of the fleet is due for replacement, as the average vehicle is 10.7 years old. The overall capital need for vehicle replacement is \$25.9 million in the first year and \$10 million per year thereafter. The City has not budgeted any funds for vehicle replacement.

Standards, Current Condition, and Capacity

The City of Oakland owns and operates 1,489 vehicles and major pieces of equipment. The City's fleet has been reduced by 341 vehicles in the last ten years. A full-time City staff of 50 mechanics, service workers, technicians, and administrative staff keep the City's aging fleet at an 89% availability rate.



The average fleet vehicle is 10.7 years old which is more than twice the 5.2-year replacement age recommended by the National Association of Fleet Administrators (NAFA). Currently, over 55% of City vehicles are over the NAFA recommended replacement age.

Current Funding

The Public Works Equipment Services Division's annual operating budget is \$14.5 million, which is paid by individual departments to an Internal Service fund and through direct work orders. This Internal Service Fund has a negative fund balance, which occurred when the fund was not allowed to fully recover costs. The negative fund balance has been reduced from (\$16.4 million) in FY 2007-08 to (\$7.2 million) as of June 30, 2012. Continuing to pay the negative fund balance down will result in a yearly cost of \$17 million in FY 2012-13.

Public Works Equipment Services continues to actively research alternative funding in the form of grants, vouchers, and partnerships through government agencies and businesses. Rebates, grants, and cooperative buying programs are emerging from service providers that aim to increase energy efficiency and maximize cost savings.

Deferred Major Capital Costs

In 2002, the City entered into a lease to replace all vehicles over a five-year period. Unfortunately, a replacement fund was not established for future replacements. As a result, departments have been leveraging operations and maintenance savings and grants to replace vehicles that have high maintenance costs, obsolete parts, and high mileage. The last lease payment was made in FY 2011-12. The total cost for vehicle replacement is \$66 million. If \$42.7 million were made available in FY 2013-14, yearly costs would be in the \$28 million dollar range. Otherwise overall costs will continue to rise.

Final Grade

The fleet is very old. Critically over-aged emergency vehicles may fail and there is no funding (other than grants and emergency funds) for a vehicle replacement program. The number of extraordinary repairs is increasing, causing longer than normal downtime, and decreased vehicle availability. The cost of specialized and obsolete parts, along with long order lead time will increase as the fleet ages further.

The overall grade for Fleet and Equipment is D.

Investment Needed

Per the 2009 Public Works Agency Audit, a minimum of \$10 million annually should be allocated for vehicle replacement, especially for the most critical areas of the fleet (i.e., marked and unmarked police vehicles, fire apparatus, parking enforcement vehicles, and specialty construction vehicles). The estimated cost to meet all vehicle replacement needs is \$66 million, of which \$43 million is needed in the FY 2013-14 budget.

Table 11 shows the Five-Year Financial Forecast for City Vehicles and Equipment.

Recommendations

1. Continue to remove underutilized vehicles from the City fleet.
2. Use savings from completed lease payments to lease a new series of vehicles.
3. Eliminate the \$7.5 million operating deficit by 2017 in compliance with City's repayment plan.
4. Aggressively seek new funding sources, including fund balances in special funds, clean air, and public safety grants, auction of old vehicles, etc. to purchase new vehicles.
5. Seek opportunities to "green" the City's fleet by utilizing hybrid and electric vehicles.
6. Modify the Internal Service Fund to separate operations and maintenance funds from vehicle replacement funds.
7. In the next budget cycle, add \$1 million in the first year, \$2 million in the second year, etc. to the Internal Service Fund to begin systematic vehicle replacement. Increase this amount once the negative fund balance has been repaid.



Appendix Table 10: Five-Year Financial Forecast for Trees

Per Baseline / FY 2012-13 Assumptions

	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>	<u>FY 15-16</u>	<u>FY 16-17</u>	<u>FY 17-18</u>
Needs (\$)						
Operations & Maintenance	4,400,000	4,670,000	4,760,000	4,860,000	4,960,000	5,060,000
Capital Improvement Project	-	-	-	-	-	-
	4,400,000	4,670,000	4,760,000	4,860,000	4,960,000	5,060,000
Available Revenue						
Fund 2310 - LLAD	2,500,000	2,550,000	2,600,000	2,650,000	2,700,000	2,750,000
	2,500,000	2,550,000	2,600,000	2,650,000	2,700,000	2,750,000
Surplus/(Deficit)	(1,900,000)	(2,120,000)	(2,160,000)	(2,210,000)	(2,260,000)	(2,310,000)

Annual Increase Assumptions	
Revenue Increase	2.00%
Inflation - Expenses	2.00%

Note:

Operations & Maintenance Includes: Salaries and Benefits, O&M, Internal Service, Debt, etc.

Capital Improvements Projects Includes: Capital Budget / Projects



Table 11: Fleet and Equipment 2012 Report Card

Table 11: Fleet and Equipment 2012 Report Card – Basis for Grade					
Rating Component	Criteria	Score	Weight	Weighted Score	Notes
Capacity	Infrastructure's capacity to meet current and future demands	90	20%	18	The size of fleet exceeds City needs. Underutilized vehicles are being sold.
Condition	Infrastructure's existing or near future physical condition	50	30%	15	The average age of fleet vehicles is 10.7 years. 55% of the vehicles exceed the national standards for replacement.
Funding	Current level of funding for the infrastructure category compared to the estimated funding need	50	10%	5	Current funding levels are at \$17 million per year from internal service charges.
Future Needs	Cost to improve the infrastructure and determine if future funding prospects will be able to meet the need	70	10%	7	The estimated cost to meet vehicle replacement needs is \$66 million, of which \$17 million is needed in FY2012-13. Planned lease of 161 vehicles is a plus.
O & M	Ability to operate and maintain the infrastructure properly and determine that the infrastructure is in compliance with government regulations	70	10%	7	Staffing is sufficient to maintain 89% of the fleet.
Public Safety	Extent the public's safety is jeopardized by the condition of the infrastructure and what the consequences of failure may be	70	20%	14	Age of the police fleet is a major concern. Lease of new patrol cars is a positive development.
	Overall Grade: D		100%	66	
Asset Manager: Ken Bailey					

American Civil Engineers Society Infrastructure Rating System:

A = 90-100%

B = 80-89%

C = 70-79%

D = 51-69%

F = 50% or lower

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2012 Infrastructure Report Card for the City of Oakland



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Sidewalks, Curb Ramps, Stairs and Paths	Gus Amirzehni, P. E., Principal Civil Engineer, Engineering & Right-of-Way Jaime Heredia, P. E., Supervising Civil Engineer Marcel Uzegbu, P. E., Supervising Civil Engineer Jimmy Mach, P. E., Civil Engineer Christine Calabrese, ADA Coordinator
Bridges	Gus Amirzehni, P. E., Principal Civil Engineer, Engineering & Right-of-Way Jaime Heredia, P. E., Supervising Civil Engineer Mohamed Barati, P. E. Civil Engineer Jing Jing Lin, P. E., Assistant Civil Engineer II
Traffic Signals, Signs and Markings	Wladimir Wlassowsky, P. E., Principal Civil Engineer, Transportation Services Daniel Clanton, Electrical Services Division Manager (retired)
Street Lighting	Daniel Clanton, Electrical Services Division Manager (retired) Paul Chan, Electrical Engineer III
Stormwater	Lesley Estes, Stormwater and Watershed Program Manager
Wastewater Collection	Allen Law, P. E., Supervising Civil Engineer
Public Buildings	Derin Minor, Facilities Services Division Manager
Parks, Landscaping and Trees	Jim Ryugo, Parks and Buildings Division Manager
Fleet and Equipment	Ken Bailey, Equipment Services Division Manager
Support Staff:	Veronica Beaty, Student Intern; Andrienne Rogers, Administrative Services Manager; Tanya Simmons, Public Service Representative; Jasmine Thibeaux, Office Assistant; and Nila Wong, Administrative Services Manager