



Oregon Zoo Capital Construction:
Metro's readiness to construct 2008 bond projects

November 2009
A Report by the Office of the Auditor

Suzanne Flynn
Metro Auditor

Audit Team: Elizabeth Wager, *Sr. Management Auditor*
Kristin Lieber, *Sr. Management Auditor*
Kathryn Nichols, *Principal Management Auditor*



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SUZANNE FLYNN

Metro Auditor

600 NE Grand Avenue

Portland, OR 97232-2736

(503)797-1892 fax: (503)797-1831

MEMORANDUM

November 12, 2009

To: David Bragdon, Council President
Rod Park, Councilor, District 1
Carlotta Collette, Councilor, District 2
Carl Hosticka, Councilor, District 3
Kathryn Harrington, Councilor, District 4
Rex Burkholder, Councilor, District 5
Robert Liberty, Councilor, District 6

From: Suzanne Flynn, Metro Auditor 

Re: Oregon Zoo Audit

The attached report covers our audit of the management of construction projects at the Zoo. This audit was on our FY09-10 Audit Schedule.

We conducted this audit to assess the capacity at Metro and the Zoo to manage capital construction projects. Our methodology was to review three projects in different stages of completion. One was completed in March 2007, one was under construction during the audit, and the other will begin construction next year and is funded by the bond measure approved by voters in 2008. Based upon our analysis, we have concerns that the 2008 bond measure program is not as developed as it should be.

We have discussed our findings and recommendations with Michael Jordan, Chief Operating Officer, Scott Robinson, Deputy COO, the Zoo Director, the Director of Finance and Regulatory Services, and the Zoo Bond Program Manager. We have found them receptive to our concerns. We note that Metro management began to take action prior to our office completing our work.

My office will schedule a formal follow-up to this audit within 1-2 years. We would like to acknowledge and thank the management and staff who assisted us in completing this audit.

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Summary

The Oregon Zoo is important to the region and has been part of the Portland landscape for over 100 years. Metro became responsible for the Zoo in 1979. It is home to more than 2,000 animals from around the world, attended by over 1.5 million visitors annually and more than 2,000 individuals donate their time to the Zoo. The Zoo also has an independent foundation that provides support for Zoo development.

In November 2008, Metro-area voters passed a \$125 million bond measure to allow the Zoo to make improvements including larger enclosures, an updated veterinary hospital, better sewer system, water conservation measures, and conservation education. This ballot measure was three times the size of a similar bond measure passed in 1996 and will take at least twice as long to complete.

The Auditor's Office added this program to the audit schedule to assist the Zoo in meeting this new challenge and to ensure that Metro and the Zoo were adequately prepared. We completed case studies of three construction projects to analyze the Zoo's and Metro's management structure.

We concluded that there were risks in the 2008 bond program. The Zoo did not have strong processes in place to manage costs and schedules. A more comprehensive master plan was needed to manage a complex series of projects that would be completed over a 10-12 year period and affect almost every corner of the current Zoo site. The hiring of key people to manage the program was delayed and the structure of the organization was not yet clear.

Previous construction projects at the Zoo were much smaller. The procedures that the Zoo had in place to monitor earlier projects were ad hoc. There was no consistent, basic approach. In all three projects we studied, the project began with a design that exceeded the budget. Projects should be designed with the original budget in mind. Zoo management tried to re-engineer the costs down after design but this was not an effective method to control costs.

Once Zoo management determined the project was going to be over budget and was late, it compensated by trying to complete projects with in-house or temporary staff and reducing time that was planned for animals to adjust to the new exhibits. In order for the Zoo to manage the current ambitious program, it must carefully track costs and schedules.

We found that the management environment at the Zoo contributed to poor project management practices. Management made plans based upon unrealistic expectations. Zoo management chose deadlines for maximum public exposure and did not balance them with a methodically determined construction schedule. Zoo operations were more independent from Metro than other Metro departments. As a result, the Zoo did not have available certain skill sets that might have been helpful if the relationship had been more collaborative.

Information and communication are important to keeping a project on track and controlling costs. Previous Zoo projects suffered from a lack of accurate information. There were no consistent systems in place to maintain documentation or to allow ongoing monitoring. In some instances, management could have responded more effectively to information about project costs. Roles and responsibilities were not clear and personnel at the Zoo and Metro thought that spending and budget oversight were the responsibility of someone else.

We believe this is an opportune time to correct the deficiencies and build a stronger program. We have recent evidence that Metro and Zoo management realizes that improvements are needed. We have made recommendations that are designed to improve the stewardship of public resources, encourage expectations that are more realistic and clarify the roles and responsibilities of all involved.

Background

The Oregon Zoo has been a part of the Portland landscape for over 100 years. Home to more than 2,000 animals from around the world, the Oregon Zoo also boasts one of the largest volunteer programs in the country. Annually, more than 2,000 individuals donate over 168,000 hours of their time. The Zoo has welcomed more than a million guests in 17 of the past 20 years, with a record breaking year of attendance in 2008 of over 1.5 million visitors.

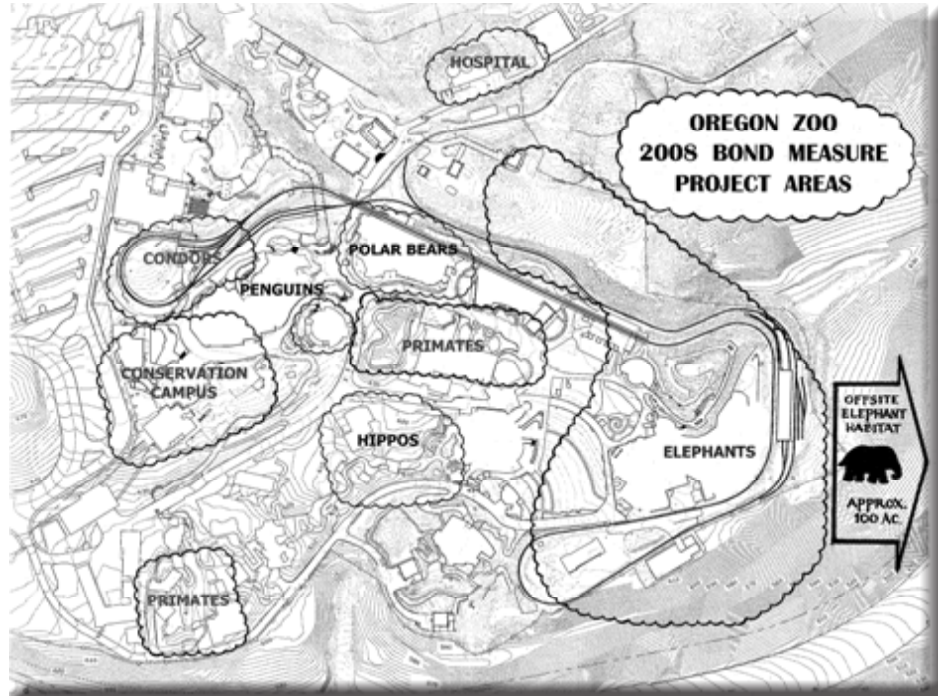
The Zoo is committed to conservation, research and education. It currently participates in 21 Species Survival Plans and is a conservation leader for local animals. For the last four years, the Zoo's butterfly conservation lab successfully reared and released endangered northwest butterflies. The Zoo has hosted forums and research efforts to help the local endangered turtle species survive and operates a Turtle Conservation Lab where turtles are hatched and raised until they are large enough to thrive on their own. The Zoo is internationally known for its successful Asian elephant breeding program. The Oregon Zoo is an important part of the region's ecology and is enjoyed by children, adults and families from all over the area.

In November 2008, Metro-area voters passed a \$125 million bond measure to enable the Zoo to provide more humane conditions for animals and realize water and energy efficiencies. The bond measure was intended to provide financing for a number of significant improvements to the Zoo grounds including:

- Updating four undersized enclosures with larger, more natural and safer spaces, including the addition of four and a half acres of new area for elephants.
- Modernizing the outdated veterinary hospital for better animal safety and health.
- Improving water quality by replacing the Zoo's 1950s-era sewer system.
- Increasing water conservation through the installation of water recycling filtration systems and replacing damaged plumbing and irrigation systems.
- Expanding access to conservation education through providing more space for summer camps, classes and hands-on learning for children, adults and families.

The bond measure also called for internal audits, annual independent financial audits and the creation of a citizen oversight committee to monitor spending and recommend project modifications if needed. Additionally, Metro has created an internal steering committee to provide direction for bond activities.

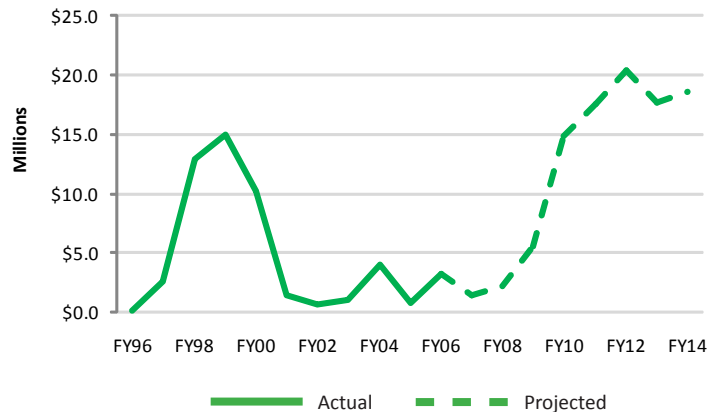
Exhibit 1
New capital projects funded by the 2008 bond measure



Source: Oregon Zoo

Capital projects funded by the 2008 bond measure will affect almost every corner of the Zoo grounds. There are nine new capital projects that are a result of the passage of the new bond measure. The Zoo's capital spending will increase as a result of these projects. The 2008 bond measure is three times the size of the last similar bond measure passed in 1996, which funded the Great Northwest exhibit.

Exhibit 2
Actual and projected Zoo capital spending FY 1996-2014 (in millions, adjusted for inflation)



Source: Metro budgets

Scope and methodology

The purpose of this audit was to determine whether Metro and the Oregon Zoo were ready to implement the 2008 bond measure. Our audit objectives were designed to determine if:

1. Metro and the Oregon Zoo followed best practices in organizing and implementing construction projects.
2. Metro and the Zoo met their obligation to citizens under the previous Zoo bond measure.
3. Metro and the Zoo completed projects on time and on budget.
4. Metro and the Zoo adequately addressed previous deficiencies in project management and were prepared to implement the new bond program.

To accomplish our objectives, auditors reviewed previous relevant audit reports to identify prior deficiencies. We focused our audit work on areas where recommendations had been made.

We used a case study approach to review Zoo construction project management practices. Three construction projects were selected: Cascade Canyon, which was part of the Great Northwest exhibit, completed March 2007; Predators of the Serengeti, which opened in fall of 2009; and the early project work on the new veterinary hospital. These projects were selected because they were representative of projects the Zoo has undertaken: one was completed, one was in progress during audit fieldwork and one was in the planning stage. Additionally, these projects were selected on the basis of whether they had been previously audited, if obtaining data would be particularly difficult, or how defined the scopes of the projects were.

Exhibit 3
Case study projects

PROJECT	DESCRIPTION
Cascade Canyon	Also called "Introduction to the Forest," this project consisted of a trail connecting the mountain goat area to new exhibits for bear, cougar and bobcat. The exhibit opened in March 2007 and cost \$3.5 million.
Predators of the Serengeti	Funded largely by donations, the project converted the Alaska Tundra exhibit into additional African exhibits, providing visitors with viewing opportunities for close-up interaction with predators, including lions, wild dogs, cheetahs and caracals. The exhibit opened in September 2009 and is expected to cost \$6.97 million.
Veterinary Hospital	Part of the 2008 bond measure, this project will replace the aging and substandard veterinary and animal quarantine buildings. Design began in early 2008 and the capital budget was \$9.2 million.

We selected these projects to obtain an understanding of how construction projects were managed at the Zoo. We assessed the planning, scheduling and contracting information related to the three projects and reviewed the project facilitation software used by the Construction and Maintenance office. We reviewed five years of the Zoo's capital budgets and associated documentation. Expenditures were reviewed and interviews conducted with Metro and Zoo management and a number of Zoo employees. We researched construction project best practices as well as information from the Project Management Institute as criteria for our audit. Our fieldwork was conducted from June to September 2009.

This audit was included in the FY09 audit schedule. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Results

Managing construction projects is difficult and requires different skills than managing the business side of a zoo or the care of animals. The Zoo's past experiences in building new and improved exhibits were on a much smaller scale than the projects currently before them.

To determine if Metro and the Zoo were prepared for the 2008 bond measure, we reviewed three projects that the Zoo had worked on and were in different stages of completion. We determined that the processes in place were not at a sophisticated enough level to ensure effective management of construction. As a result, the Zoo had taken some unnecessary risks. The Zoo lacked some basic project management processes such as budgeting and monitoring ongoing costs and project timelines.

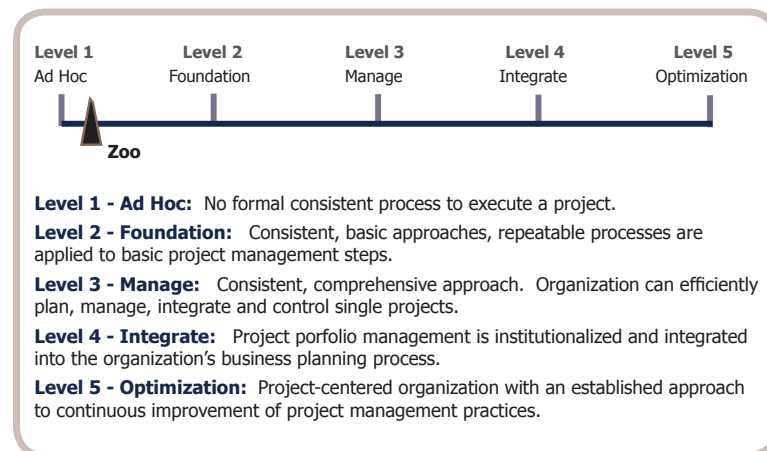
The underlying cause was the management environment at the Zoo and Metro. Zoo leadership had unrealistic expectations for improvements, starting with the budget. Information was not gathered or communicated effectively to support monitoring the progress of projects. Staff at both Metro and the Zoo were unclear as to roles and responsibilities to be performed. As a result, oversight was weak.

Applying these lessons learned, we saw future risks to the program if adjustments were not made. Metro and the Zoo need to develop a master plan, improve the quality of project management, and move quickly so that timelines can be met.

Project management processes need to be at a higher level

A common method of determining an organization's level of project management capability and maturity is to use the model shown below. We found the Zoo's management of construction projects was ad hoc. As a result, all three projects we studied had cost increases and schedule delays. Project management was handled differently for each project and was highly dependent on the project manager. This resulted in the Zoo taking some unnecessary risks, exceeding its budgets, and not knowing when projects were off track.

Exhibit 4
Level of project management capability and maturity



Source: Metro Auditor's Office analysis

The current bond program is ambitious and complex. Managing costs will be essential, as the ultimate outcome of paying more for one project is that there will be fewer funds available for other projects. Additionally, the Zoo will remain open and will need to move guests through for many years while it is under construction. Construction schedules need to be coordinated with Zoo operations to maintain the quality of the visitor experience and animal care.

In order to be successful in managing multiple projects while maintaining operations, the Zoo needs project management processes equivalent to a Level 4 organization. At Level 4, project management processes are well-defined, documented, understood and executed. Data is collected, analyzed and used to anticipate and prevent problems.

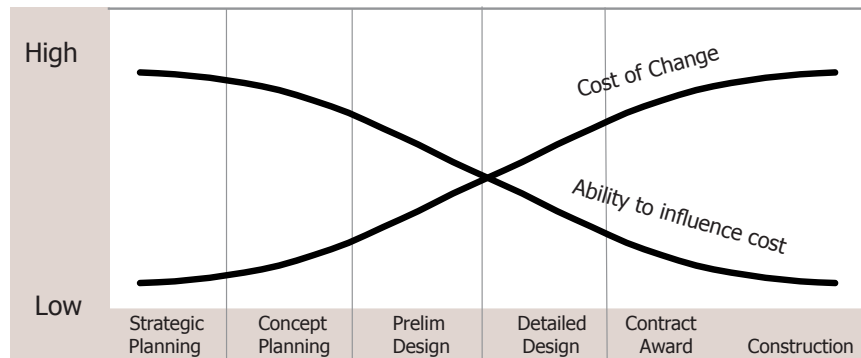
In all three projects reviewed, we found no consistent systems in place to maintain project-oriented documentation. Information was lost or located in separate places within the division. As project managers frequently changed, it was difficult for new project managers to obtain accurate information about their project status. This environment contributed to inaccurate reporting.

As a Level 1 organization, the Zoo cannot reliably manage projects within a schedule and budget, placing the bond program at risk. The Zoo should act quickly to put better cost and schedule management processes in place immediately.

The Zoo begins projects without a realistic budget

For all three projects we reviewed, construction began, or was going to begin, with a design that would cost more to build than the budgeted amount. Once construction begins, the ability to influence costs is very limited.

Exhibit 5
Ability to influence cost compared to project timeline



Source: 2008, Office of the City Auditor, Edmonton, Canada, capital project audit

We found that the construction budget was not communicated to the designer up front, when the ability to influence the cost was the greatest. Because this was not done, the Zoo spent a long time trying to reduce costs after the initial design was developed. One of the goals of the design period is to develop a good estimate of a project's cost. Despite long design times, the Zoo did not develop accurate cost estimates. It then began construction, without reasonable assurance the project could be completed within its budget.

Cascade Canyon exhibit: After the cost estimate for the design exceeded the budget, Zoo staff tried to engineer costs down. The project began construction with an estimated cost 10% higher than its budget.

Predators of the Serengeti exhibit: The project began construction with a cost estimate developed by the Zoo that was not realistic. It had no project contingency funds and low estimates for work. For example, the budget for direct construction was \$700,000 less than the estimate provided by the architect. The Zoo budgeted \$320,000 for architectural and engineering services but had already issued \$400,000 in contracts. A later budget reduced the budgeted amount to \$300,000, although \$375,000 had been spent.

Veterinary Hospital: The architecture firm hired to design the new veterinary hospital began work in February 2008. Their initial design was estimated to cost more than \$2 million over the \$9.2 million allocated for the project. As of September 2009, work was ongoing to engineer the cost of this design down. The Zoo considered beginning construction in August 2009 without assurance the project could be completed within the budget, but to their credit, elected to wait until designs were more complete.

Costs and schedules
should be tracked

The purpose of tracking budgets and schedules is to provide adequate information so management can take effective actions when projects deviate significantly from plans. Neither the Zoo nor Metro's Finance and Regulatory Services Department tracked how much was obligated through contracts. The Zoo did not have a standard way to track spending on a project basis. Schedules developed at the beginning of projects were not kept current. Management and stakeholders did not get accurate information on cost and schedule status.

Cascade Canyon exhibit: The project manager developed a spreadsheet to track projected spending against the budget. Final costs came in over the capital budget by about \$400,000. A project plan developed at the beginning of the project was not kept current.

Predators of the Serengeti exhibit: The project manager did not track projected spending or the total value of contracts signed by Metro. As a result, management did not identify cost overruns of \$1.6 million until construction was almost complete. As of the writing of this audit report, construction work was ongoing, so cost overruns may be higher. A basic reason for cost overruns was a work scope that could not realistically be completed within the budget. However, monitoring contract commitments would have provided an indication a year earlier the project would go over budget.

The schedule was not kept current. Animal keepers were given inaccurate information about when exhibits would be ready and animal move-in dates slipped several times. Status reports indicated the project was within budget and ahead of schedule. In reality, the project was over budget and behind schedule.

Veterinary Hospital: The project manager planned to track projected costs, but had not started yet. Schedules had been developed for design, but there was no schedule for the full project. Because the Zoo was close to beginning construction and had already issued some contracts for the project, it would be reasonable to expect a schedule and a way of tracking costs.

Zoo can reduce risks

The Zoo wanted to provide the best possible facility for animals and the community. However, it took risks by not monitoring spending and timelines. When projects fell behind schedule, staff gave animals less time than planned to adjust to new exhibits. When exhibits cost more than expected, money was not available for other projects. The Zoo pulled staff from other activities to complete exhibits, leaving work undone, or hiring temporary staff to supplement increasing costs.

Cascade Canyon exhibit: Staff was pulled from other projects to complete exhibit work. Costs exceeded the budget. The Oregon Zoo Foundation provided funds to complete the exhibit.

Predators of the Serengeti exhibit: Delays in construction resulted in shortening the planned acclimation periods for animals. The Zoo developed strategies to manage risks, but this additional work could have been avoided with better planning. Staff was pulled from other projects to complete exhibit work. Funding was identified to cover cost overruns, which may have reduced money available for other projects.

Management environment could be improved

During the audit, we found a management environment and agency culture that, at times, undermined effective project management. Zoo leadership set unrealistic expectations for construction projects. These expectations led to weak planning, poor communication and a confused organizational structure. Management did not always respond appropriately when projects deviated from plan. Similar deficiencies noted in previous audits were not fully addressed. Projects had insufficient oversight because roles were never well defined. Management will need to take the lead in promoting practices that ensure the careful management of public resources.

The tone in an organization is set at the highest management level, and that tone influences the standards and actions of everyone. Limiting focus to short-term results can have negative consequences. History has shown that an emphasis on “results at any cost” fosters an environment in which the price of failure becomes too high. In setting the tone and culture, management can create an environment that reduces the risk of questionable or unethical behavior. While we found no evidence of fraud, we found information was misrepresented and that incorrect information was presented to the Metro Council.

The Zoo was geographically and programmatically separated from the rest of Metro. Zoo employees did not participate in cross departmental collaboration that would have benefited the Zoo. Skills transfer could have taken place between Metro's planners, engineers, and financial staff to improve Zoo operations and project management.

Zoo management undertook complex projects and committed to completing them quickly and inexpensively. At times, this was to the detriment of Zoo staff. Deadlines for projects and opening dates were chosen for maximum public exposure and were not balanced with a well thought out construction schedule. Those dates were then advertised, which locked in the unrealistic schedule. As a result, construction was rushed. When projects were delayed and timelines were not adjusted, the Zoo needed to use its own staff to work on projects because additional outsourced work was not budgeted. Zoo management has acknowledged it over-committed and over-extended Zoo staff.

Management grew to rely on the support of the Oregon Zoo Foundation and were less rigorous in managing project budgets. The Oregon Zoo Foundation was highly successful at raising money for the Oregon Zoo. Zoo management may have used this continued success to instill the idea that money would always be found, and there was less need to follow through on delivering projects on budget.

Management could respond to information more appropriately

When told that projects were off track, Zoo management did not address the problems. There are several instances where the Zoo could have responded more appropriately. Employees provided information that was subsequently changed. During the course of our audit, we were unable to determine whether that was at management's direction, but it happened frequently enough that we questioned these practices.

For the Predators of the Serengeti exhibit, during the planning stage, the cost estimate came in higher than the budget and the Zoo responded by reducing the cost estimate. Project contingency funds were reduced to zero and line items reduced to low amounts. When presented with information that the project was over budget before construction began, the Zoo proceeded with construction without adjusting the budget. Zoo leadership planned to cover shortfalls with operating funds or by seeking assistance from the Oregon Zoo Foundation.

For the Cascade Canyon exhibit, when bids for construction exceeded the budget, Zoo leadership split the work between two years. They delayed much of the work to the second year rather than reduce the project scope, making it appear the project was within budget. Zoo leadership continued to report this as a \$3 million project to Metro Council although the cost to complete the project would be higher.

Councilors, managers and employees need accurate information in order to make informed decisions. Many times, information reported about Zoo construction projects was incorrect.

Roles and responsibilities
can be clarified

Zoo employees indicated they communicated their needs to management, but management did not act on those requests. Getting work done quickly was difficult. Multiple employees interviewed said the biggest constraint to effectiveness was their lack of resources.

A well-defined organizational structure is essential to the control environment. When an organizational structure is unclear, lines of authority and accountability become blurred – or can disappear entirely. Such structural breakdowns result in situations in which “everyone is responsible” but “no one is responsible.” In such a situation, monitoring accountability becomes difficult.

Among the Construction and Maintenance division at the Zoo, as well as within Metro and Zoo management, roles and responsibilities were unclear. The project management plans for both the Cascade Canyon and Predators of the Serengeti exhibits described overlapping responsibilities for both Metro and Zoo management, leading to weak accountability.

Staff members with skill sets valuable for particular project management functions were not performing those functions. An employee with demonstrated project management skills had developed a tool for monitoring costs, however this tool was not used. Similarly, the finance manager’s skills could have been instrumental for assisting with budget development, tracking spending and monitoring. However, those skills were not used.

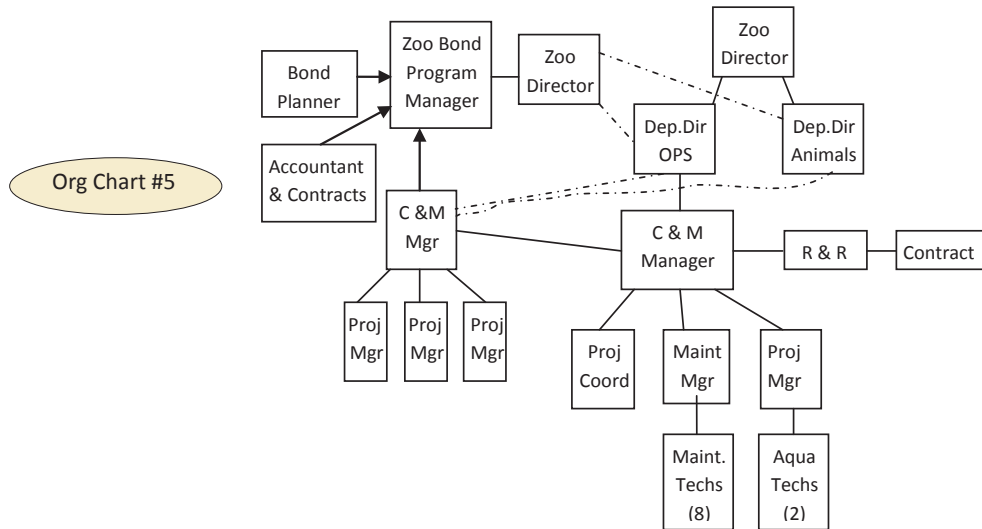
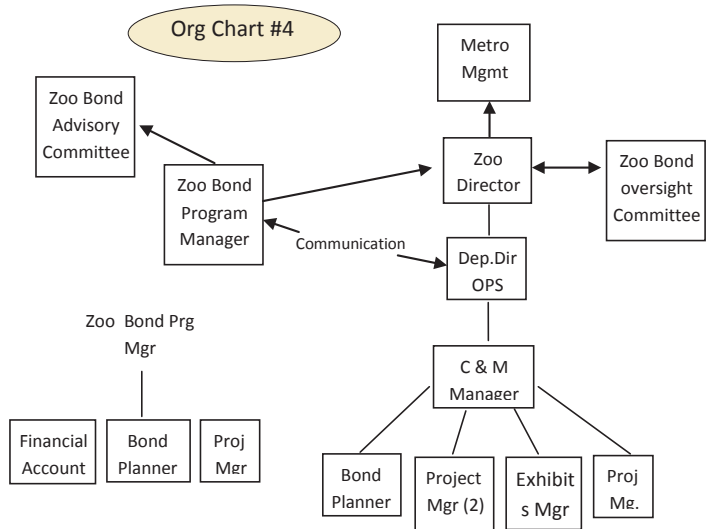
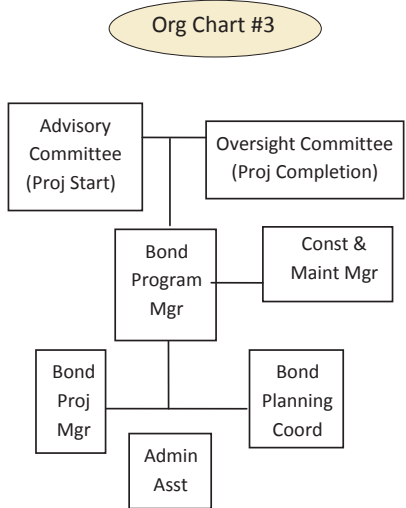
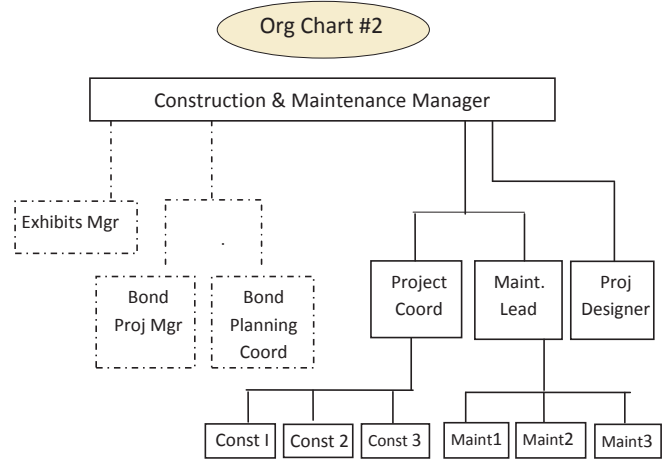
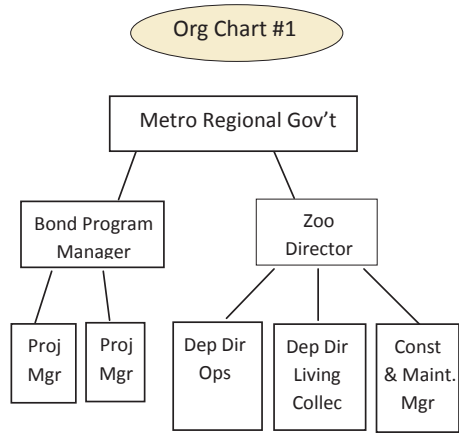
Employees within the Construction and Maintenance division were unclear regarding who was ultimately responsible for what, and from whom they should take direction. Some employees said they requested management input on design elements early in the process. However, when management’s input or intervention was provided, it was done late in the process, negatively impacting timelines and budgets.

Upon reviewing the organization for the new bond measure, we saw a similar pattern emerging of role confusion and overlapping responsibilities. This would not have been so concerning except this type of confusion occurred on the Cascade Canyon and Predators of the Serengeti projects and resulted in weak management and oversight. Neither management nor the Construction and Maintenance staff understood the organizational structure within which they worked. Auditors conducted an exercise in which they asked key staff working on or contributing to bond-funded projects how they saw the organization. The auditors received a very different representation of the organization from each employee interviewed (Exhibit 6). That exercise indicated that the confusion that existed in earlier Zoo construction projects was still a problem.

Additionally, the employees were unclear regarding the function of the two external committees. These added layers of oversight will not improve accountability if project roles are not more clearly defined.

Exhibit 6

The illustrations below represent the five organizational charts created by Zoo management and key staff working on or contributing to bond funded projects.



Financial oversight by Zoo and Metro leadership needs strengthening

As a result of the unclear assignment of roles and responsibilities, financial oversight of construction projects was inadequate. Depending on a contract's value, multiple people reviewed and indicated approval by signing their names. Our interviews found Zoo and Metro management each thought the other was responsible for ensuring funds were available to pay for the work.

Financial oversight at the Zoo was lacking. Zoo management did not track the value of contracts signed. The Zoo's Construction and Maintenance Office did not do this, but instead reviewed contracts to ensure work was required to complete the project. Zoo upper management read contract documents but did not verify money was available.

Metro management did not track the value of contracts signed for a project. Finance and Regulatory Services personnel reviewed contract documents to ensure procurements were lawful and a budget code assigned. The Office of the Metro Attorney provided a legal review of some contract documents and it would not make sense for the attorney to be responsible for monitoring project budgets.

For certain contract changes, Metro Council's approval was required. Information given to the Metro Council was not accurate enough for the Council to provide financial oversight. Staff reports were provided to inform their decisions. It was unclear to us who prepared or verified the information in these reports, but we know that it was inaccurate at times.

As a result, contracts were approved without verifying that sufficient funds were available. For instance, the Zoo Deputy Director, the Metro Procurement Officer, Zoo Contract Consultant, and the Office of the Metro Attorney approved a \$400,000 contract for fencing of the Predators of the Serengeti exhibit, despite there not being a budget for fencing for the project. This indicated to us that an important internal control was missing.

Metro's Finance and Regulatory Services Department appeared to function more as a service than as a control over spending. When Finance and Regulatory Services noticed discrepancies between spending and the capital budget for the Predators of the Serengeti exhibit, it notified Zoo management. The Zoo submitted a project budget that Finance and Regulatory Services found was not accurate. Despite this red flag, Finance and Regulatory Services seemed reluctant to assert authority. It offered to assist the Zoo in developing a budget and a way to track costs, but did not require the Zoo to do so. Finance and Regulatory Services reported twice a year to the Metro Council on capital projects; however, it relied on verbal assurance from Zoo management that projects were on time and on budget.

Attention needed to improve management of 2008 bond program

During the course of this audit, management became aware of some of these weaknesses and has started taking action. Zoo leadership acknowledged there is an opportunity to improve the management of construction projects. Metro Council, Metro management and the Oregon Zoo Foundation board have been briefed on cost overruns on the Predators of the Serengeti exhibit.

The Zoo and Metro risk their reputations if costs are underestimated and projects are not delivered as promised to the public. For the 2008 bond program, financial accountability is especially important. Promises were made to the public that spending would be closely monitored and cost savings realized due to infrastructure improvements.

The bond measure required a citizen oversight committee to review progress on projects, monitor spending and recommend changes if there are funding constraints. To perform its function, the oversight committee will need current and accurate information on the status of individual projects and the bond program as a whole. The Metro Council, Zoo leadership and Metro management also will require similar information to provide adequate oversight.

We saw risks to the 2008 bond program:

- Although planning was underway for two years, there was no master plan for how projects would be accomplished.
- The Zoo did not have processes in place to manage costs and schedules.
- Key decisions have taken longer than anticipated. Hiring the bond program manager took longer than anticipated, the citizen oversight committee was not appointed and construction of the veterinary hospital was delayed.
- We saw a risk that the veterinary hospital project could not be completed within the amount allocated in the capital budget.
- The bond program was not fully staffed at 6.8 full-time employees. Three new employees had been hired; however, two were working on other projects. The remaining 3.8 positions were intended to come from existing staff, but the organizational structure was not developed.
- Metro was considering establishing multiple committees to help steer the bond program. However, if their responsibilities overlap and are poorly defined, Metro risks weakening accountability.

The Zoo was waiting to begin several projects pending the outcome of a zoning decision by the City of Portland. By its own estimates, the earliest the Zoo might receive a decision was 2011. It had yet to submit its application, and several major milestones had not been met. Construction at the Zoo is limited by seasonal factors, such as weather and attendance, so monitoring timelines is particularly important. A small delay can result in a project not beginning until the following year. Because the zoning decision is the critical path for many projects, the Zoo should track its progress closely and monitor for schedule slippages. The Zoo should consider developing a contingency plan in case the application is delayed or rejected.

Recommendations

To ensure careful stewardship of public resources and encourage realistic expectations for Zoo projects:

1. Metro should ensure basic cost management processes are in place before it commits to large value construction contracts for bond-funded projects. This includes processes for:
 - a. Communicating the project budget to the architect;
 - b. Estimating project costs, including appropriate contingency amounts;
 - c. Verifying the work scope can reasonably be completed within the budget; and,
 - d. Monitoring and controlling spending and encumbrances.
2. Metro should improve its knowledge and understanding of estimating project costs.
3. Metro should develop processes for creating, monitoring and updating schedules for individual projects and the bond program as a whole.
4. Metro should establish a periodic reporting mechanism that provides the citizen oversight committee and Metro Council with current and accurate information on cost, schedule, and variances by project and for the bond as a whole.
5. Metro should develop a consistent system to maintain Zoo bond project documentation.

To improve accountability, the Chief Operating Officer should:

6. Clarify the organizational structure by clearly delineating roles and responsibilities and lines of authority.
7. Clarify the role of the Finance and Regulatory Services Department in providing financial oversight to capital projects.


MANAGEMENT RESPONSE



Memorandum

Date: Nov. 6, 2009

To: Suzanne Flynn, Metro Auditor

From: Scott Robinson, Deputy Chief Operating Officer; 
Mike Keele, Oregon Zoo Interim Director

Re: October 23, 2009 Oregon Zoo Construction Management Audit Report

This memorandum is Metro management's response to the final Oregon Zoo Construction Management Audit Report transmitted by your office on October 23, 2009.

Management would like to thank you and your office for adding this audit to your schedule. As you know, we encouraged this review, appreciate the diligence shown by your staff in researching and preparing the report, and welcome your recommendations. Metro management believes that it is vitally important that additional resources and processes are put in place to effectively manage the Oregon Zoo Infrastructure and Animal Welfare bond program, the largest capital improvement program the zoo has ever undertaken. Metro is well positioned to quickly implement improvements called for in the audit. The Sustainable Metro Initiative established project management best practices and the ability to bring expertise and resources from across the agency to support priority projects. Since the \$125 million Zoo bond measure passed in November 2008, Metro has taken steps to begin to create a robust governance and oversight structure to ensure careful and diligent stewardship of bond funds. This audit provides valuable additional guidance for improving performance and protecting taxpayers.

Your audit report provides critical insight into the construction management shortcomings manifested by Metro and the Zoo during the development of two exhibits occurring prior to and outside the November 2008 bond program – the Cascade Canyon exhibit and the recently opened \$6.9 million Predators of the Serengeti exhibit. The audit describes the Zoo's construction management style on these projects as ad hoc. Metro agrees. Now is the opportune time to build a stronger program. Your audit provides specific recommendations that Metro concurs will ensure significantly improved performance as it begins to implement the construction called for in the 2008 bond program. Metro has adopted or will adopt all audit recommendations and is focused on improving project management, budgeting, communication, and oversight to ensure that promises made to the public are kept.

Oregon Zoo staffs are highly skilled in animal care, conservation education, safety, and guest operations – but as the audit's review of Cascade Canyon and Predators projects reveals, they clearly were not adequately prepared or staffed to manage the scope and complexity of either project in addition to their regular duties. While the Predators exhibit was under construction, Zoo

managers and staffs were simultaneously working on the Amur tiger exhibit, a stormwater master plan, developing a new landscaped trail for animatronic dinosaurs, designing a veterinary hospital, and preparing for a national zoo and aquarium conference. Zoo management and staff tackled all of these tasks – including opening a world-class Predators exhibit – while welcoming an all-time record 1.6 million visitors. This tendency to over commit and respond with ad hoc management techniques must be corrected before the Zoo undertakes the upcoming projects called for in the 2008 bond program. To promptly and effectively implement the audit’s recommendations, Metro has taken or will undertake a series of improvements in staffing, governance and oversight to build a stronger program.

Metro has put in place a management process in which the Zoo bond construction program will be overseen and supported by three new dedicated positions: a program manager, a construction manager, and a bond planner.

The bond program will be coordinated with other Metro capital programs under the management of the Metro Deputy Chief Operating Officer. Zoo bond construction management has been separated from Zoo maintenance functions to ensure role clarity and dedicated resources.

Metro will develop and implement comprehensive best practices for capital project management with the assistance of outside experts and apply those practices to all Metro capital projects. Those practices will include consistent archiving of project management documentation.

The Metro Finance and Regulatory Services department is now charged with ensuring budgetary and contract controls and oversight. Metro has already and will continue to draw on and cross train staff to leverage the expertise of other branches within the agency to support the Zoo bond.

To ensure transparency to the public, a formal advisory committee comprised of internal and external experts, representing construction, finance, architecture, and animal care, will help guide all aspects of the Zoo bond program. The committee recently met to begin its work.

In addition, the bond program is focusing on a Master Planning process to address programmatic risks, dependencies, and opportunities. The new focus on project management practices led to the decision to hold any construction associated with the Veterinary Hospital until scope, budget, and schedule information is finalized to high levels of confidence and adequate contingency measures are in place.

Regular project status reporting has begun and will help ensure that progress and unforeseen issues are effectively managed with adequate oversight.

Finally, in addition to annual financial expenditure audits, a citizen performance oversight committee will review and publish an annual report on the adequacy of the established bond governance and project management processes. Through all of these checks and balances, Metro will be in a strong position to successfully deliver on its promise to the public.

The new staffing, governance structures and processes already are making a significant difference. For example, many of the issues identified in the auditor’s review of the Predators of the Serengeti project also apply to the Red Ape Reserve project. Metro recently completed an assessment of the

project's scope, schedule, and budget to ensure it can be completed and open for visitors in 2010 using only funds from capital reserves and donations.

Metro agrees that the implementation of your recommendations will improve and strengthen the 2008 bond program and is committed to fully implementing the audit recommendations. The steps Metro already has taken, when combined with work underway and improved monitoring and reporting, will strengthen the agency's construction capabilities and help ensure the 2008 Zoo bond program is effectively managed. Metro management and staff appreciate the thoughtful and thorough review conducted by the Auditor and welcome ongoing review of progress towards implementation of the audit recommendations.



METRO

Office of the Metro Auditor
600 NE Grand Avenue
Portland, Oregon 97232
503-797-1892
www.oregonmetro.gov