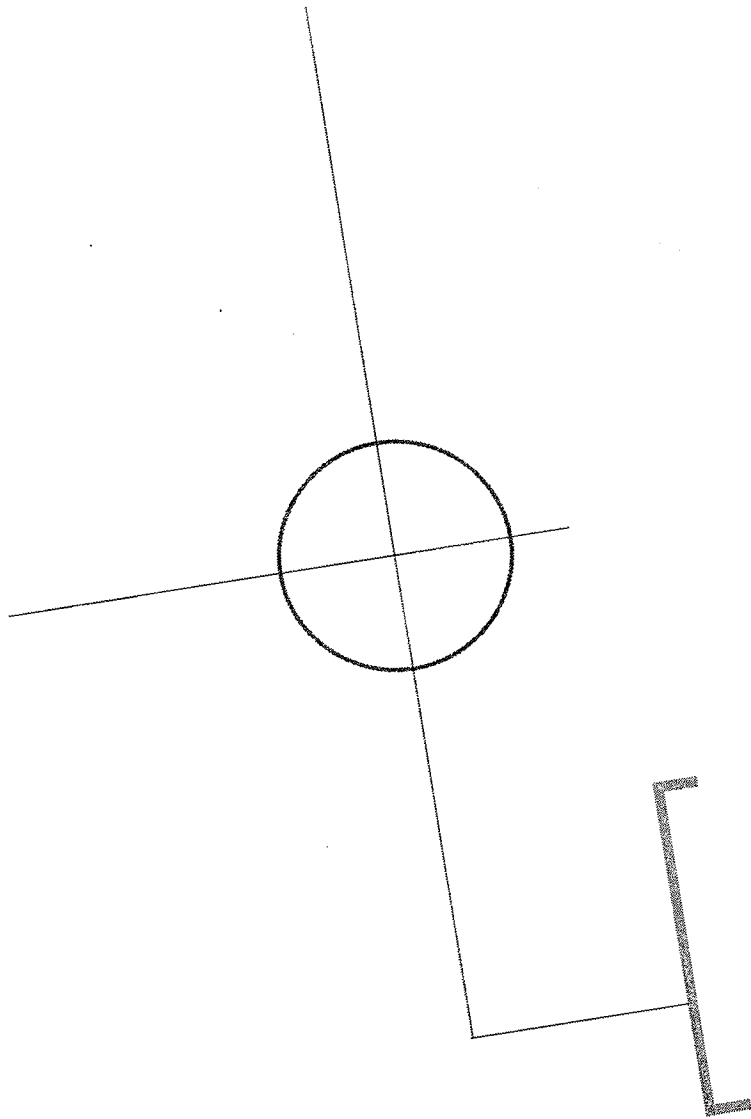


Attachment B
2006-109

King County



IT Organization Recommendation Final Report

December 20, 2004

December 20, 2004

Mr. Paul Tanaka, County Administrative Officer
Mr. David Martinez, Chief Information Officer
King County, Department of Executive Services
701 Fifth Avenue
Seattle, WA 98104-5002

Dear Paul and David:

Pacific Technologies, Inc. is pleased to present the final version of the *King County IT Organization Recommendation Report*. The report documents the findings resulting from our work at the County, begun in May, 2004. It includes recommendations for reorganizing delivery of IT services at the County, along with associated cost-benefit analysis and a transition plan.

I would like to take this opportunity to thank you and the members of the County's Project Advisory Committee for their significant contributions to this effort. At PTI, we would all like to see the County move forward with the major recommendations.

Please call me at (425) 881-3991 if you have any questions about this deliverable.

Sincerely,



Michael Silverman
Co-CEO
Pacific Technologies, Inc.

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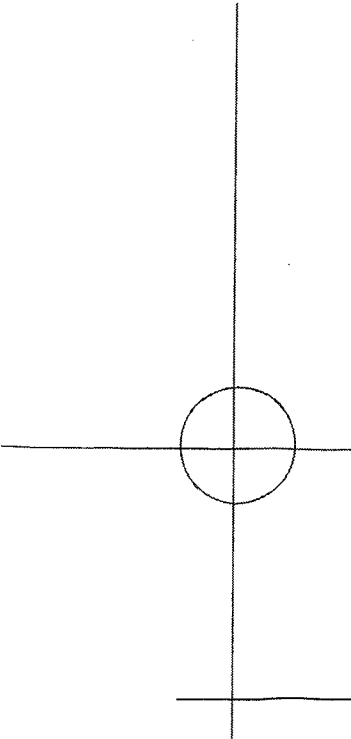
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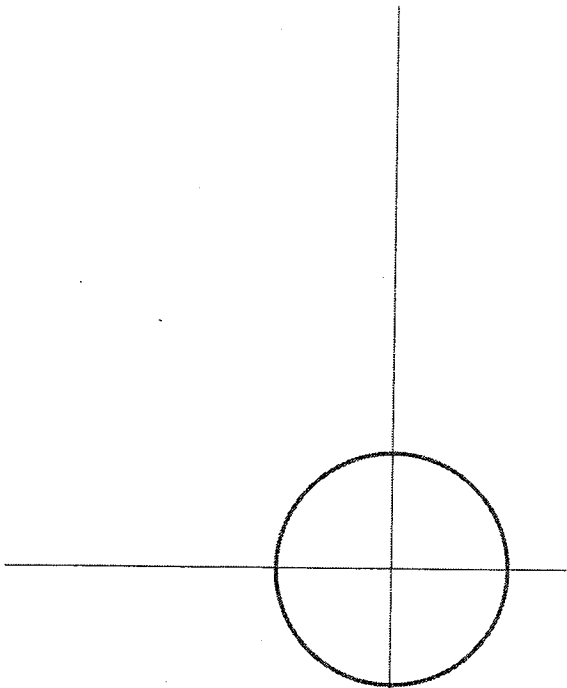
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executive summary

Responding to 2004 Budget Ordinance 14797, King County (the County) engaged Pacific Technologies, Inc. (PTI) to develop a new information technology (IT) organization model, a quantifiable business case supporting that model, and a plan for implementing it countywide. The project began in May of 2004 and culminates with the delivery of this recommendation report.

The scope of the contract included:

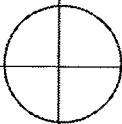
- ◆ Developing a countywide IT vision and goals statement
- ◆ Updating data from the County's recent IT Total Operating Cost of Technology report to include information about geographic distribution of staff and IT assets
- ◆ Reviewing prior IT studies and surveying similar jurisdictions
- ◆ Identifying potential alternative approaches to IT service delivery at the County
- ◆ Recommending a preferred approach to County IT service delivery and comparing the cost of the preferred approach to the status quo
- ◆ Identifying implementation considerations and proposing a transition plan

The work is intended to help the County address previously-identified issues related to IT service delivery, as well as improve the overall efficiency and effectiveness of County IT services. It will also establish a foundation for the future by aligning IT service delivery with the County's revised IT vision and goals.

The remainder of this chapter presents key results from the study, organized as follows:

- A. IT Vision and Goals
- B. Problem Statement
- C. Current Distribution of IT Resources
- D. Alternatives Considered
- E. Recommendation
- F. Cost-Benefit Analysis Summary
- G. Transition Strategy
- H. Risks and Mitigation Strategies
- I. Conclusion

The body of the report provides a more in-depth treatment of our findings and recommendations, including the new IT vision and goals, a recommended approach to IT service delivery at the County, related analysis and a strategy for transitioning to the targeted organizational model. The appendices present associated back-up material with additional details.



A. IT VISION AND GOALS

PTI developed an IT vision and attendant goals to define a clear, actionable, strategic “stake in the ground” for the future state of IT at the County. The following presents the vision and goals, as accepted by the project sponsors for use by the consultants.¹

KING COUNTY IT VISION STATEMENT

Utilizing information and technology to shape a better tomorrow by enabling effective public services and streamlining countywide operations

KING COUNTY IT GOALS

- ◆ Deliver responsive service to internal customers, the public, and other jurisdictions
- ◆ Provide reliable, cost-effective technical and application architectures
- ◆ Create countywide efficiencies for business functions and infrastructure that are common across the organization
- ◆ Support a culture of effective governance, clear accountability and communication
- ◆ Ensure IT security and privacy
- ◆ Facilitate information sharing – internally and externally
- ◆ Recruit, deploy and retain an appropriately-skilled workforce
- ◆ Serve as a leader in IT regional initiatives

B. PROBLEM STATEMENT

Several prior studies articulated significant issues related to the County’s IT services and infrastructure, both of which are highly decentralized today. They note that King County lacks coordinated organization structures to support countywide IT functions and technologies, suffers from a proliferation of servers, and has very little IT performance management information. The distributed nature of the County’s current network infrastructure increases cost and lowers efficiency. It also leaves the County more susceptible to outages and security breaches than other reasonable networking solutions. **These problems cannot be construed as insignificant. This study represents the County’s first effort to find a comprehensive solution to these issues.**

Beyond the findings of prior studies, **the County’s current IT organizational model is not aligned with the new IT vision and goals.** This position is understandable, as the existing structures were not designed with the new vision and goals in mind. In particular, current decentralized IT service delivery mechanisms are at cross-purposes with a desire to provide a reliable, cost-effective technical architecture; create countywide efficiencies; support a culture of effective governance; and ensure IT security and privacy. **The existing highly-distributed IT environment, which has evolved without significant focus on countywide needs, serves as a roadblock to achievement of the County’s newly-established IT goals.**

The County’s looming fiscal crisis adds another compelling dimension to this situation. As the King County Commission on Governance Report² noted, County expenditures are growing faster than revenues. The report indicates that, at current growth rates, costs for law

¹ In addition to the project sponsors, the Business Management Council (BMC), Technology Management Board (TMB) and Project Advisory Committee each reviewed and accepted the IT Vision and Goals for use by the consultants.

² King County Commission on Governance Report and Recommendations, prepared by Berk & Associates, March 2004

and justice services could consume the entire general fund by 2009. Clearly, this creates tremendous pressure for the County to pursue options for saving money – particularly ways that do not reduce services to constituents.

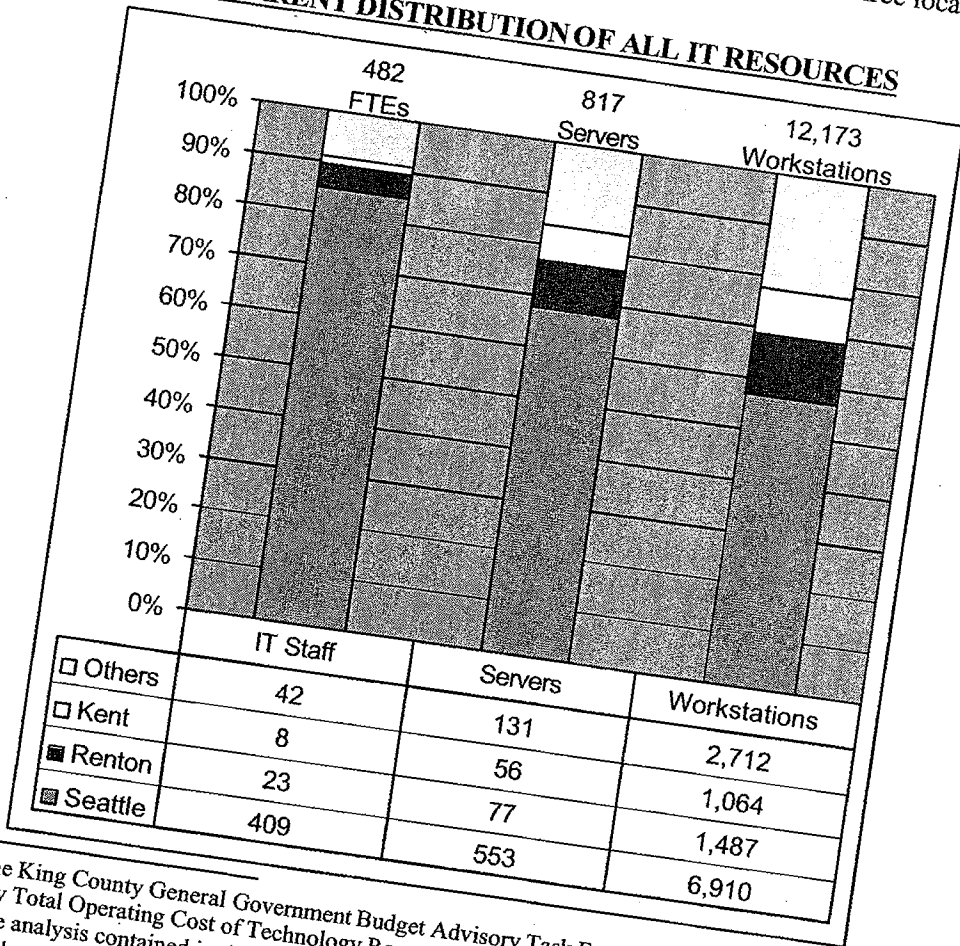
Quite simply, *there is both room and critical need for improvement in the County's approach to IT service delivery.* As the Budget Advisory Task Force³ stated, the County can become more efficient and should be engaged in identifying ways to do so. The IT Total Operating Cost of Technology⁴ (TOCT) report found the County to be at or below the median found in other public sector organizations in several labor efficiency measures.⁵ The TOCT report also found the County's IT operating spending to be above the typical range. In short, the answer to the question "Can we do better?" is a resounding **YES**.

C. CURRENT DISTRIBUTION OF IT RESOURCES

Interviews during this project indicated that the perceived wide-geographic distribution of IT staff and assets represents a legitimate barrier to progress in the above areas. However, data gathered over the course of this engagement fails to support this conclusion.

As the following exhibit indicates, the vast majority of servers, workstations, and IT staff reside in three primary locations: Seattle, Renton, and Kent. Note that the IT staff column reflects distribution of all staff with IT job titles, not just FTEs supporting servers and workstations. Thus, application support staff are concentrated in these three locations as well.

CURRENT DISTRIBUTION OF ALL IT RESOURCES



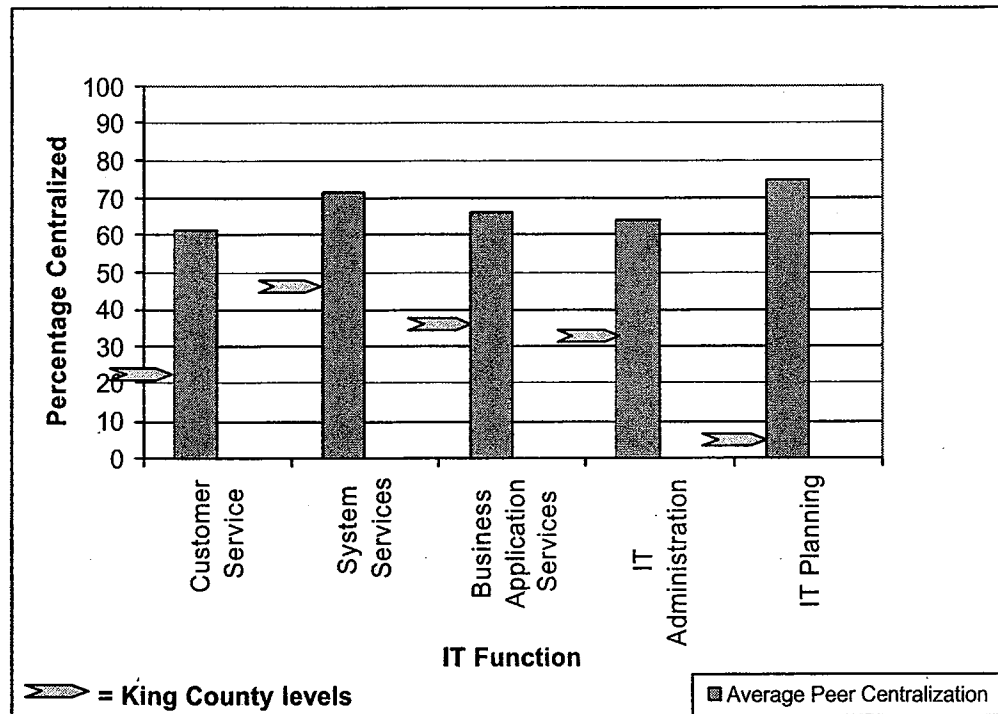
³ Report of the King County General Government Budget Advisory Task Force, June 2003
⁴ King County Total Operating Cost of Technology Report, prepared by Pacific Technologies, Inc., May 2004
⁵ Note that the analysis contained in the Total Operating Cost of Technology Report was based on data previously collected by the consultant. A County-specific benchmarking study was not performed.

CURRENT DISTRIBUTION OF ALL IT RESOURCES BY PERCENTAGE

Area	IT Staff	Servers	Workstations
Seattle	85%	68%	57%
Renton	5%	9%	12%
Kent	2%	7%	9%
Others	9%	16%	22%

In addition, we found that King County is less centralized across the five major IT service areas we analyzed than other peer organizations, as the following chart illustrates.

KING COUNTY'S CENTRALIZATION OF IT SERVICES IN RELATION TO PEER ORGANIZATIONS⁶



The peer organizations included in this study for benchmarking purposes were selected by the project sponsors based on size (i.e., comparable or larger jurisdictions than King County) and reputation as high-performing service entities. That said, in reviewing this data, the reader should be aware that the peer analysis does not connote "best practices." It simply reflects the level of countywide IT service provision of the jurisdictions surveyed. As such, it provides only one data point of many analyzed by PTI during the course of this work.

⁶ PTI surveyed seven other counties identified by King County as comparables. This chart depicts the summarized results of that work. Appendix C contains additional detail. It may be worth noting that several King County agencies conducted follow-up surveys on an agency-specific basis (in contrast to PTI's aggregated, countywide analysis). In doing so, they found that replies from individual agencies in some of the same comparable counties appeared to conflict with PTI's findings. (i.e., they reported a higher level of decentralization in the comparables than PTI found).

D. ALTERNATIVES CONSIDERED

To explore options for addressing these issues and opportunities, PTI identified eight potential approaches to delivering IT services at the County. Five of these alternatives were dismissed because they did not support the IT vision and goals, did not address fundamental problems, or were not otherwise viable. Three alternatives remained for consideration:

- ◆ **Model A – Status Quo**
 Nothing is changed within King County’s IT organizational structure.
- ◆ **Model B – Complete Centralization**
 All IT titled personnel and services are organized within a single department.
- ◆ **Model C – Distributed Application Support**
 Staff providing business application support and training remain within the business units, while all other IT services are delivered by a central organization.

E. RECOMMENDATION

The following table summarizes the study’s major recommendations:

MAJOR RECOMMENDATIONS OF THE IT ORGANIZATION STUDY

1. Implement Model C – consolidating County IT functions, with the exception of business application support and related training, for all agencies in all branches of government in a new Central IT Department
2. Competitively fill top management positions in the Central IT Department and build a culture of service excellence
3. Relocate all servers into a few centrally-managed data centers, consolidating servers to reduce long-term replacement costs, improve security, reduce support labor, and more effectively use available capacity
4. Transition staff from Information Technology Services (ITS) and agency IT groups into the Central IT Department to realize cost savings from economies of scale
5. Standardize workstation configurations to improve management efficiency and security
6. Implement “Communities of Interest” to optimize help the County’s application portfolio and guide application investments

Our selection of Model C was driven by evaluation criteria⁷ specifically developed to help differentiate key elements of the three models. The criteria revolved around two primary themes: best addressing King County’s unique set of challenges, and alignment with the County’s revised IT vision and goals. Overall, this strategic direction aims to balance IT cost-efficiencies with County service effectiveness.

We believe that the best way to accomplish the recommended centralization is to establish a new Central IT Department that will replace the impacted services currently provided by the Information and Telecommunication Services Division, the Office of Information Resource Management, and other County agencies. It is important to note that this recommendation assumes that *the new central IT organization will be built from a “clean slate.”* The intention

⁷ Chapter 5 and Appendix D describe these criteria and the evaluation methodology in more detail.

is not to transform existing offices, divisions, or departments into the new centralized IT service provider. Rather, an entirely different organization will be built to provide centralized IT services.

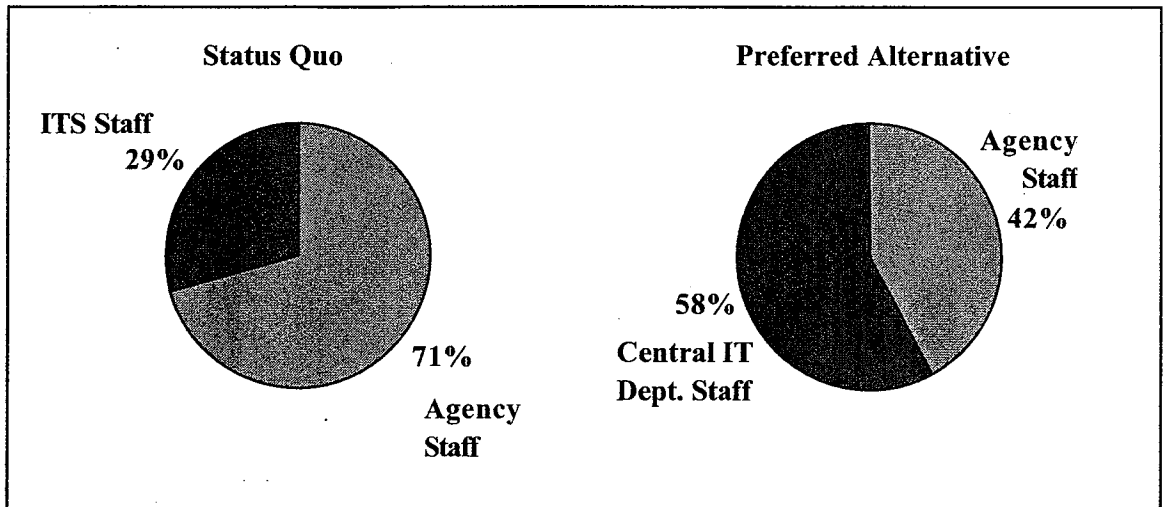
In concert with the centralization effort, the County needs to rationalize its server architecture and improve its ability to manage desktops. We expect the server work to significantly reduce the number of servers in the County, which currently exceeds 800. This will lead to savings in long-term replacement costs and a reduction in server support labor. The desktop standardization, combined with establishment of a consolidated help desk in the new IT organization, should also yield a large productivity gain.

While this change is significant, from a countywide IT service delivery perspective it is not as radical as it sounds. Notably, it *completely retains the current IT organizational model for support of the County's business applications* – the area of greatest value and importance to delivering services to County residents, businesses, and other public sector jurisdictions. Since application support is largely workload driven, no cost savings would be derived from transferring fully-utilized agency application support personnel to a centralized service provider. Rather, PTI believes it is most prudent to allow agencies to ascertain business application support economic efficiencies on a case-by-case basis – utilizing a central IT department when it makes sense.

Over the long term, the County should be able to save money by optimizing its application portfolio to eliminate redundant applications and improve data sharing. Our governance recommendations establish *communities of interest* to focus on this effort.

The following chart contrasts the reporting relationships of IT staff under the current model with reporting relationships under the Preferred Alternative.

Reporting Relationships of IT Staff



Note that, while reporting relationships change, some Central IT Department staff will remain co-located in the business units. In particular, facilities with large numbers of employees may generate sufficient workload to justify permanent deployment of staff from the Central IT Department.

In short, the Preferred Alternative addresses all major aspects of the problem statement by:

- ◆ Providing a structure capable of resolving long-term issues with countywide IT infrastructure and service delivery
- ◆ Serving as a firm foundation for achieving the County's long-term IT goals
- ◆ Offering achievable efficiency and effectiveness benefits

F. COST-BENEFIT ANALYSIS SUMMARY

The cost-benefit analysis (CBA) indicates a positive return of approximately \$63.9 million over a 15 year period. This translates to a net present value (NPV) of \$34.3 million with an internal rate of return (IRR) of 27%.⁸ A positive cash flow begins early in the fourth year, and break-even is reached during the fifth year. At the end of 10 years, the estimated savings are \$26.6 million (with an NPV of \$15.2 million and an IRR of 22%).

The savings result from two areas:

- ◆ A reduction of approximately 60 full-time equivalents (FTEs) of labor devoted to IT activities
- ◆ Server consolidation, which will eliminate approximately 279 servers from the inventory and provide associated savings in replacement costs

It must be noted that it will be difficult to achieve the full labor savings in the form of reduced budgets. While we believe it is achievable for the County to reduce total IT effort by 60 FTEs, some percentage of the associated savings will likely occur as a productivity benefit (i.e., staff who relinquish a portion of their job responsibilities to the central IT organization are then able to devote this "time saved" to other activities). The magnitude of the labor savings ultimately realized as budget cuts will depend upon how aggressively the County pursues headcount reductions⁹.

Realizing the entire savings requires investment of approximately \$18.4 million in one-time costs over the first five years to pay for:

- ◆ **Enterprise architecture and transition activities, which include:** transition management, enterprise architecture¹⁰ planning and implementation, organization

⁸ Net present value is a financial calculation that expresses the lifetime return of an investment in today's dollars, discounting the value of revenue streams in the future to account for the time value of money. Internal rate of return indicates the discount rate (i.e., interest rate) that would make the net present value of the investment equal to zero. Both are commonly used to compare investment alternatives. PTI uses them here to provide a financial comparison between the Status Quo and Model C.

⁹ If the County considers all the staff that spend 50% or more of their time on activities to be centralized as candidates for consolidation or position elimination, then the vast majority of the savings should be achievable as budget reductions. If the County chooses to establish a cutoff of greater than 50%, or does not aggressively pursue elimination of positions, the budget savings diminish accordingly. See Chapter 3 and Appendix G for additional explanation.

¹⁰ Enterprise architecture costs include resources necessary to develop server and workstation standards, develop a server architecture and consolidation plan, develop application standards and an

transition services, business case development, and establishing base-line service level measures

- ◆ **Server consolidation activities**, which include: server consolidation and data center build-out, along with necessary networking upgrades
- ◆ **Workstation standardization efforts**, which include: planning and implementing workstation desktop standardization, including remote management tools
- ◆ **Service center build-out** which includes: the establishment of a service center (i.e., call center with a central help desk) and ongoing facility lease expenses

In addition, approximately \$0.5 million in annual operating cost is required for the Service Center facility.

Note that these activities represent required prerequisites to achieving the labor savings. It is also worth noting that these costs are intended for initial planning purposes only – not as budget placeholders. The County will need to perform the requisite due diligence to further analyze capital requirements prior to developing an actual budget request. The transition strategy outlined in Chapter 4 of this report includes a specific project directed toward that effort.

The following tables summarize the costs and savings over 15 years:

Costs Related to the Status Quo

Status Quo Costs		
Costs	One-Time	15 Year Total Recurring
IT Labor	\$ -	\$ 757,970,386
Server Consolidation	\$ -	\$ 93,535,567
Workstation Standardization	\$ -	\$ -
Service Center*	\$ -	\$ 260,621
Enterprise Architecture and Transition Activities	\$ -	\$ -
Total Costs	\$ -	\$ 851,766,574

* Cost accounts for annual maintenance fee on existing Help Desk software

Costs Related to the Preferred Alternative

Preferred Alternative Costs		
Costs	One-Time	15 Year Total Recurring
IT Labor	\$ -	\$ 678,447,412
Server Consolidation	\$ 1,362,371	\$ 83,102,260
Workstation Standardization	\$ 4,066,391	\$ -
Service Center Build-Out	\$ 781,104	\$ 7,910,476
Enterprise Architecture and Transition Activities	\$ 12,227,122	\$ -
Total Costs	\$ 18,436,988	\$ 769,460,147

The final table in this subsection highlights the costs and savings of the Preferred Alternative relative to the Status Quo.

overall application architecture, optimize the network, establish other countywide IT architecture standards, and manage the related implementation effort.

Costs and Savings of the Preferred Alternative over the Status Quo¹¹

Costs and Savings	
IT Labor Savings	\$ 79,522,974
Server Consolidation Savings	\$ 9,070,936
Sub-total savings	\$ 88,593,911
Workstation Standardization Cost	\$ (4,066,391)
Service Center Build-Out Cost	\$ (8,430,959)
Enterprise Architecture and Transition Activities Cost	\$ (12,227,122)
Sub-total Costs	\$ (24,724,471)
Net Savings	\$ 63,869,439

LABOR IMPACT

As noted, the labor savings result from a lower level of effort needed to support IT under Model C. The following table contrasts current IT labor effort levels¹² with the final labor effort levels projected for Model C. PTI based projected labor efficiencies on our experience with high-performing IT organizations. Consistent with the methodology used in the Total Operating Cost of Technology Report, the effort levels are presented by IT functional area. Please see Appendices E, F, and G for additional detail.

**IT LABOR EFFORT: STATUS QUO VS PREFERRED ALTERNATIVE
(TOTAL FTES)**

	Status Quo	Preferred Model	Percent Change
Customer Services	95.86	76.22	-20%
Agency Staff	74.86	24.43	
Central Org. Staff	21.00	51.79	
Svstem Services	129.65	108.11	-17%
Agency Staff	83.70	0.00	
Central Org. Staff	45.95	108.11	
Business App Services	149.51	149.51	0%
Agency Staff	113.35	113.35	
Central Org. Staff	36.16	36.16	
IT Planning	23.58	17.74	-25%
Agency Staff	19.18	7.92	
Central Org. Staff	4.40	9.82	
IT Administration	83.40	70.15	-16%
Agency Staff	48.88	31.46	
Central Org. Staff	34.52	38.69	
Total	482.00	421.73	-12%
Agency Staff	339.97	177.16	
Central Org. Staff	142.03	244.57	

¹¹ These numbers reflect the difference between the Status Quo and the Preferred Alternative – derived by subtracting Status Quo one-time and recurring costs from one-time and recurring costs associated with the Preferred Alternative (e.g., service center build-out costs are \$8,691,580 – \$260,621 = \$8,430,959).

¹² Based on the May 2004 Total Operating Cost of Technology Report. Note that approximately 25 FTEs of “shadow staff” (i.e., individuals who do not have IT job titles, but who perform IT work) have been removed from the analysis, as only IT-titled staff will be impacted by the recommendations.

In the aggregate, PTI believes strongly that an overall reduction of 12% (approximately 60 FTEs) in IT operating labor represents an achievable target, although the County's ability to translate this into budget savings will require a strong emphasis on staff reductions, rather than retaining these FTEs to work on other activities.

SENSITIVITY ANALYSIS

While a number of factors were considered in the development of the CBA, three in particular are important to determining the final cost savings. These three are:

- ◆ **Network upgrades and associated costs**
An increase in either the degree of network upgrades and/or associated costs will decrease or eliminate projected savings
- ◆ **Server reductions and associated costs**
A decrease in the number of servers to be reduced and/or an increase in overall associated server costs will decrease or eliminate projected savings
- ◆ **Labor reduction levels**
Lower than anticipated staff reductions will result in a significant increase in overall labor costs resulting in a major negative impact on projected savings

Changes to the assumed values of the model in any of these three areas will have a substantial impact on total cost savings. The sensitivity analysis section of the business case presented in Chapter 3 provides more detailed discussions on each of these factors.

G. TRANSITION STRATEGY

We see four major threads of activity as central to effecting a transition to the Preferred Alternative:

- ◆ **Governance** – these activities build a transition management team, establish project governance, and manage the transition project
- ◆ **Service Delivery** – these activities build the new Central IT Department by establishing a management team, developing operating policies and performance measures, and making the new organization operational
- ◆ **Technical Infrastructure** – these activities implement workstation standards and optimize the server architecture
- ◆ **Applications** – these activities are centered on identifying business applications for centralized management, service delivery and support

Given the potentially divisive nature of the transition, and the politics involved in any radical organizational change, King County should start the transition process where the project sponsors have the greatest opportunity for success: agencies and departments that report to the King County Executive. In doing so, the Central IT Department would be created relatively quickly to demonstrate the efficacy of the model, build service credibility, and prove the cost-effectiveness of the new department. Once established – and the benefits are well-communicated – centralized IT services would be extended to the other branches of government in a planned, phased manner.

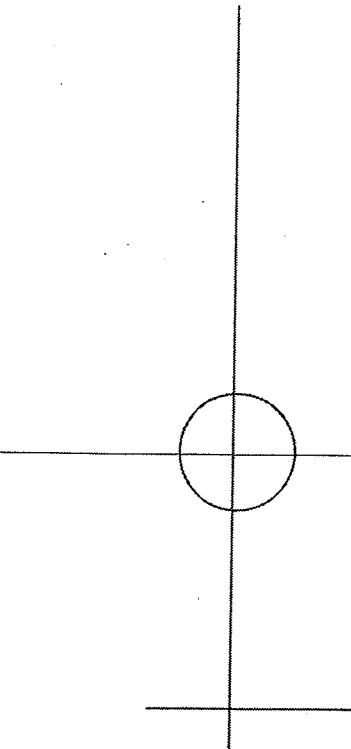
Chapter 4, section D provides a detailed description of recommended transition approach – including a high-level implementation plan.

H. RISKS AND MITIGATION STRATEGIES

The changes recommended will result in a major shift in IT support countywide, carrying risks as well as benefits. The following table summarizes major risks and possible mitigation strategies.

RISKS AND MITIGATION STRATEGIES

Risks	Mitigation Strategies
<p>A. Service degradation occurs during and after the transition:</p> <ul style="list-style-type: none"> ◆ Server downtime increases ◆ Problem resolution takes longer 	<p>Baseline service levels need to be established, with services being compared over time to this baseline. Service level agreements need to be created that defines expectations for both service delivery and receipt. Upgrades to the network may be required. Investment in desktop and server management technology will be necessary. The Central IT Department must be developed as a capable, credible, and accountable provider of IT services. All parties must be held accountable for their responsibilities. This necessitates strict attention to performance management. The central provider must also recognize the need for different levels of service (i.e., “one size doesn’t fit all”), and be prepared to provide higher levels of service as necessary.</p>
<p>B. The transition from the current state to the recommended state is not sufficiently funded</p>	<p>Costs for the transition need to be validated and justified, with appropriate funding secured for all phases of implementation.</p>
<p>C. Organizational resistance to changes prevents full implementation</p>	<p>An effective governance process needs to be put in place to manage the transition. The Central IT Department must demonstrate that it is a capable, credible, and accountable service provider. Bargaining unit concerns must be addressed. Readiness evaluations should be conducted to rate capability before services are shifted to the Central IT Department. Incentives, such as reinvesting some portion of the savings back into the business units, could be explored. Benefits need to be documented and communicated to the agencies.</p>



Risks	Mitigation Strategies
D. Security and privacy concerns make agencies reluctant to participate	Security and privacy requirements need to be clearly documented. Central IT Department staff needs to have appropriate security clearances, and technology needs to be utilized to meet security and privacy requirements to the fullest extent possible. An exception process must be in place to allow agencies to retain control over their assets if the Central IT Department cannot meet defined security and privacy requirements.
E. Predicted benefits are not fully achieved	A clear set of expected benefits needs to be defined and communicated, along with associated quantitative measures. Current-state values for these measures need to be taken to serve as a baseline. Measures need to be repeated periodically, with adjustments made if results do not appear to be on track with expectations.
F. Necessary legislation is not passed	The King County Council must be kept informed about the planned changes and the potential need for legislation. Legal precedents from other jurisdictions can be examined and used to help make appropriate changes.
G. Leadership and/or management is ineffective during the transition and after the change	Effective management of both the transition and the new Central IT Department are critical to ensuring effective service delivery and instilling trust in the new organization. The County can help mitigate this risk by competitively filling key management positions and providing training as appropriate for management staff of the new Central IT Department.
H. The new central IT service provider becomes a target for budget cuts that degrade service	Quantitative service levels measures should be used so that the impact of budget reductions can be objectively evaluated. The importance of maintaining adequate service levels needs to be communicated to individuals with budget authority.

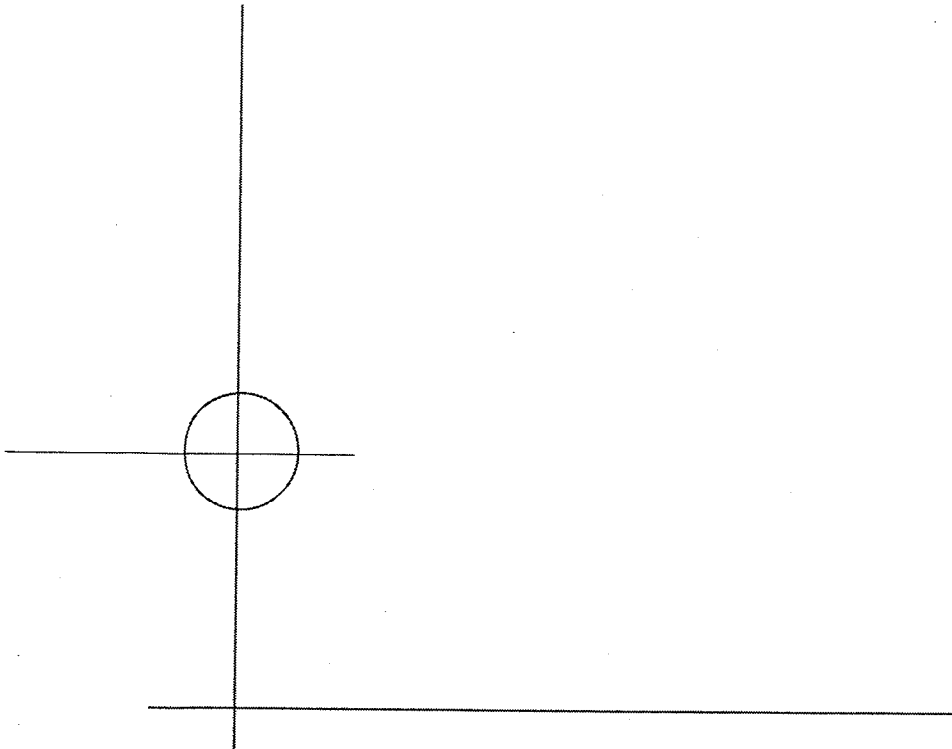
While these risks present significant challenges, we believe that the potential benefits clearly outweigh the hazards. Nevertheless, the County must actively manage these concerns to ensure a successful transition.

I. CONCLUSION

PTI recognizes that this recommendation represents a radical change for IT service delivery at the County – and will likely meet with significant organizational resistance. Nonetheless, this report presents a clear and urgent message:

- ◆ **The County is under severe financial pressure**
- ◆ **The efficiency of current IT service delivery structures can be improved, particularly in the areas of help desk and server administration (i.e., “commodity” services)**
- ◆ **The efficiency of the County’s technical infrastructure can be improved, particularly server and workstation architectures and related support technologies**
- ◆ **The existing IT organizational model is not aligned with the County’s long-term IT vision and goals**
- ◆ **Significant benefits related to making changes are available – and *achievable***

The table on the following pages summarizes this report’s key recommendations, their linkages to the problems addressed, and the major attendant benefits.

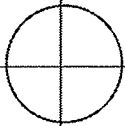


RECOMMENDATION SUMMARY

IT Organization
 Recommendation
 Report

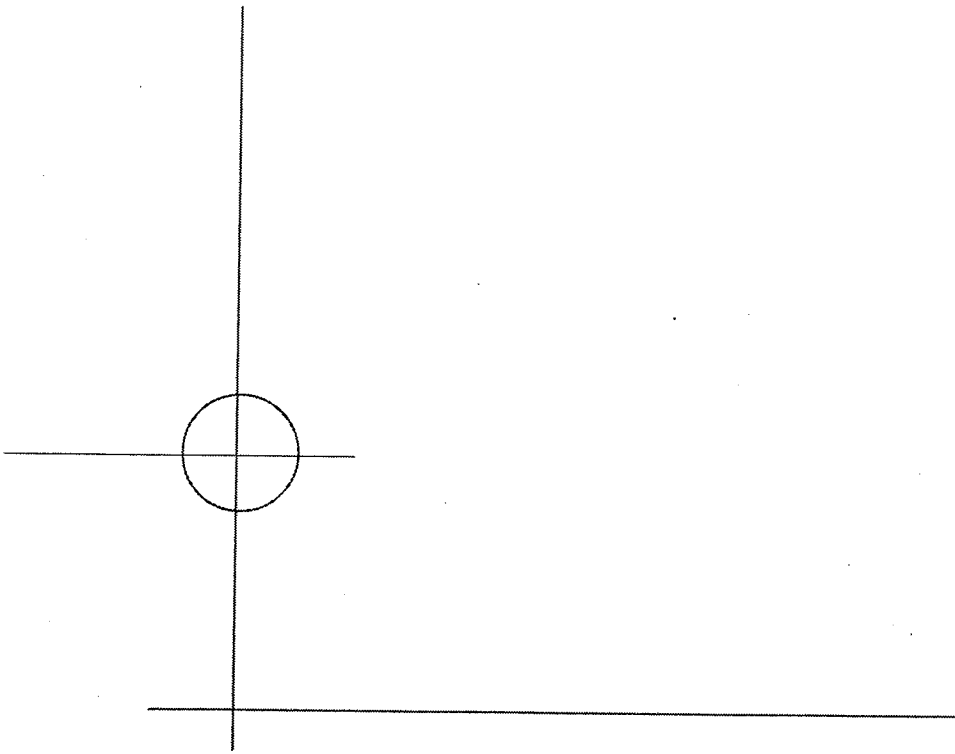
Chapter 1:
 Executive
 Summary

KEY RECOMMENDATION	PROBLEMS ADDRESSED	MAJOR BENEFITS
<p>1. Implement Model C – consolidating County IT functions, with the exception of business application support and training, for all branches of government in a new Central IT Department</p>	<p>A highly-fragmented IT service delivery approach, leading to:</p> <ul style="list-style-type: none"> - increased costs - decreased efficiency - inconsistent IT standards and practices 	<ul style="list-style-type: none"> ◆ Focuses agencies on business-based, value-added IT activities – not commodity services ◆ Potentially large labor savings and ability to better manage IT performance and cost efficiency
<p>2. Competitively fill top IT management positions in the Central IT Department and build a culture of service excellence</p>	<p>Agency concerns regarding the credibility and capability of a central IT service provider</p>	<ul style="list-style-type: none"> ◆ Effective leadership and management of the Central IT Department during and after the transition ◆ Helps address issues of trust and build confidence among agency stakeholders
<p>3. Relocate all servers into a few centrally-managed data centers, consolidating servers to reduce long-term replacement costs, improve security, reduce support labor, and more effectively use available capacity</p>	<p>A proliferation of servers and server locations (i.e., over 800 servers in 217 different locations) leading to increased expenditures – as well as inconsistent security-related policies and procedures that may impact the effectiveness of protection, detection, and response</p>	<ul style="list-style-type: none"> ◆ Improved server management and attendant security protection ◆ Potential cost savings due to lower long-term replacement costs
<p>4. Transition staff from ITS and agency IT groups into the Central IT Department to realize cost savings from economies of scale</p>	<p>During a period of looming financial crisis, King County operates a variety of technology organizations with little coordination among them – performing a wide array of redundant functions</p>	<ul style="list-style-type: none"> ◆ Potentially large labor savings ◆ Improved IT career paths through greater specialization of IT skills and opportunities for advancement

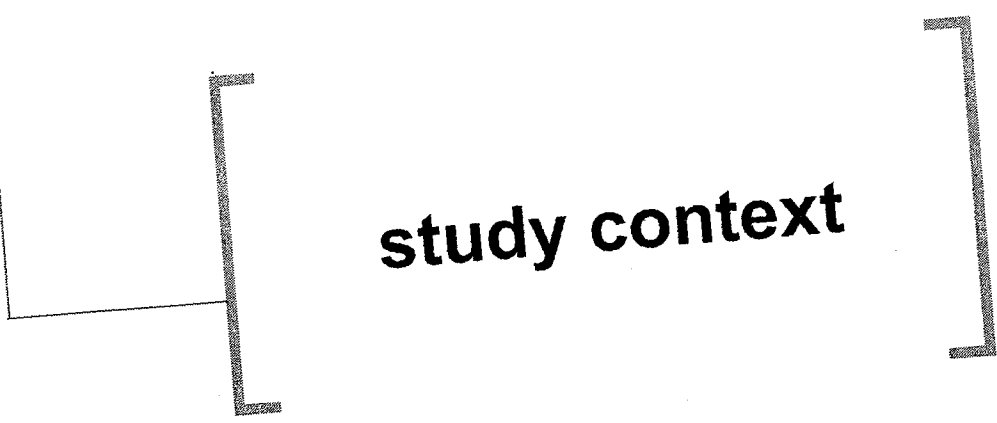
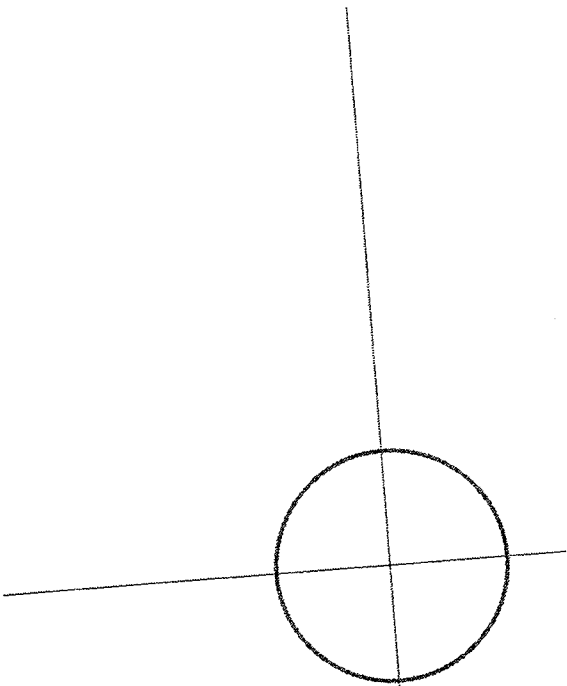


KEY RECOMMENDATION	PROBLEMS ADDRESSED	MAJOR BENEFITS
5. Standardize workstation configurations to improve management efficiency and security	A wide and disparate set of desktop configurations exist at the County, leading to: - increased support costs - heightened security risks	<ul style="list-style-type: none"> ◆ Reduced maintenance complexity and cost ◆ Enables the implementation of remote software tools and assistance – reducing downtime and increasing productivity of support staff ◆ Enhanced security protection
6. Implement Communities of Interest to help optimize the County's application portfolio and guide application investments	The County lacks coordinated approaches to cross-functional software needs	<ul style="list-style-type: none"> ◆ Reduction in redundant business applications ◆ Improved coordination and data sharing across business units

Big picture, the primary purpose behind any restructuring is to improve an organization's ability to meet its goals. This study clearly demonstrates that the stated recommendations will unequivocally accomplish this objective. The time has come to **embrace a new way of delivering IT service that is better managed, more cost-effective, and focused on providing value-added, reliable service to King County customers in the years ahead.**



CHAPTER 2



study context

King County's 2004 Total Operating Cost of Technology report provides a detailed treatment of overall IT costs and service delivery patterns at the County. This organizational study built upon that prior information by analyzing the geographic distribution of IT resources and surveying peer organizations about their IT service delivery approach.

This chapter highlights the results of our work in the context of King County's stated vision and goals for information technology. Appendix C provides additional related material.

The chapter is organized as follows:

- A. IT Vision and Goals
- B. Problem Statement
- C. Current State
- D. Peer Survey Results

A. IT VISION AND GOALS

PTI developed a revised IT vision and attendant goals to articulate a clear, actionable, strategic "stake in the ground" for the future state of IT at the County. The following presents the vision and goals, as approved by the project sponsors and project governance for use by the consultants.¹

KING COUNTY IT VISION STATEMENT

Utilizing information and technology to shape a better tomorrow by enabling effective public services and streamlining countywide operations

KING COUNTY IT GOALS

- ◆ Deliver responsive service to internal customers, the public, and other jurisdictions
- ◆ Provide reliable, cost-effective technical and application architectures
- ◆ Create countywide efficiencies for business functions and infrastructure that are common across the organization
- ◆ Support a culture of effective governance, clear accountability and communication
- ◆ Ensure IT security and privacy
- ◆ Facilitate information sharing – internally and externally
- ◆ Recruit, deploy and retain an appropriately-skilled workforce
- ◆ Serve as a leader in IT regional initiatives

B. PROBLEM STATEMENT

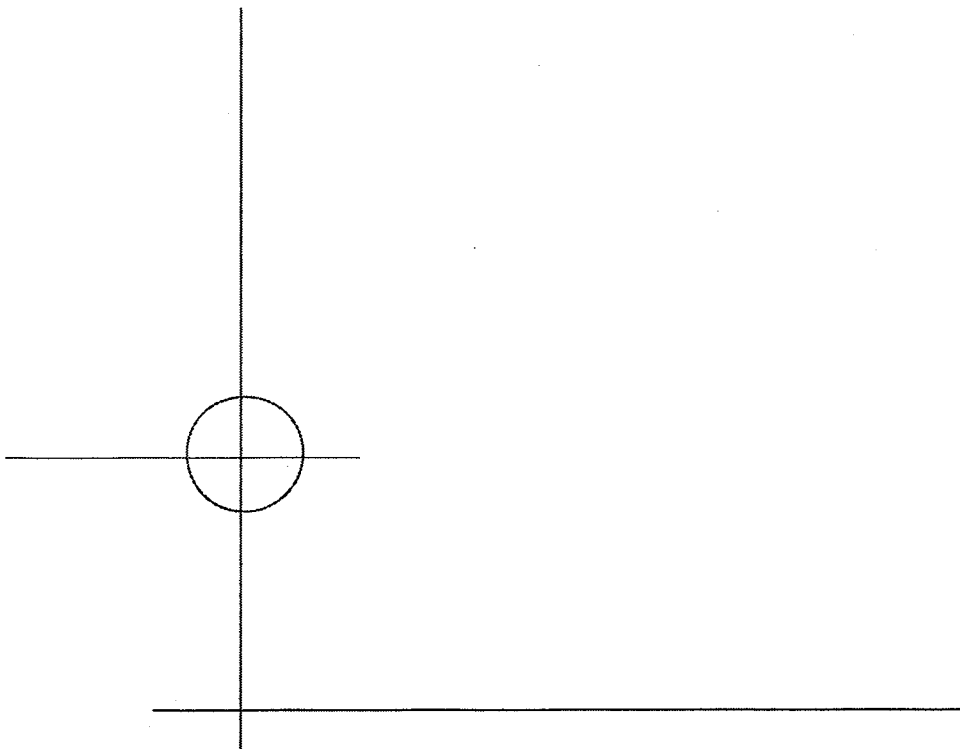
For a variety of historical reasons, the County's IT support structures evolved over time into its current configuration – a series of highly-decentralized IT service organizations and a correspondingly decentralized hardware infrastructure. At a very fundamental level, **the County's existing IT organizational model is not aligned with its new IT vision and goals, which indicate a strong emphasis on countywide needs.**

¹ In addition to the project sponsors, the Business Management Council (BMC), Technology Management Board (TMB) and Project Advisory Committee each reviewed and accepted the IT Vision and Goals for use by the consultants.

Several prior studies documented problematic aspects of the County's current situation. From a summary perspective, King County's core IT issues can be characterized as follows:

- ◆ A fragmented approach to IT across critical aspects of service delivery, planning and standards, and performance management
- ◆ A lack of documented, standardized processes for IT activities
- ◆ IT resource redundancies – resulting in increased costs and decreased efficiency during a period of fiscal crisis
- ◆ “Back-end” infrastructure decentralization – raising the potential for security breaches and outage incidents, and leading to an unnecessary proliferation of servers
- ◆ Lack of quantitative service level measurement, making fact-based discussion of current service quality difficult
- ◆ Significant countywide pressure to focus on cost-efficiency, given the County's forecasted financial challenges

To expand on the above, the tables on the following two pages encapsulate the findings from recent, related studies.

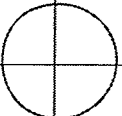


FINDINGS FROM RECENT COUNTY STUDIES

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King County Strategic Technology Plan 2003-2005 derived from King County Strategic Technology Plan 2002 by Moss Adams	Network Infrastructure Optimization Assessment/ Evaluation Report by IBM	Report of the King County General Government Budget Advisory Task Force To Executive Ron Sims
<ul style="list-style-type: none"> ◆ King County operates technology groups in various agencies with little coordination across them – performing redundant functions that include programming, report development, network and server administration, and applications support ◆ King County lacks centralized, coordinated organization structures supporting IT-related enterprise functions and technologies ◆ Formal performance measurement related to IT is not in place, hindering agencies from knowing where plans, initiatives, projects, and budgets stand ◆ Designs and plans to guide personnel in development, implementation, and deployment activities are inadequate ◆ King County lacks a standardized infrastructure and suffers from a proliferation of servers without consideration of capacity or placement 	<ul style="list-style-type: none"> ◆ The decentralized nature of King County’s structure raises costs and lowers efficiency of providing data networking ◆ This decentralized structure significantly increases expenditures and leaves King County more susceptible to outages than other reasonable networking solutions 	<ul style="list-style-type: none"> ◆ King County can become more efficient. All levels of County government, and all programs, should be engaged in identifying ways to become more efficient and on eliminating duplication ◆ King County must simplify, unify and streamline its management practices. Basic management systems of King County are fragmented. Multiple financial systems and human resources systems exist. Basic business policies and practices of the government differ widely across the organization ◆ King County must place a higher priority on investing in central systems technology



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King County Commission on Governance Report by Berk & Associates	Total Operating Cost of Technology Report by Pacific Technologies	Security Configuration Assessment Guidelines Report by IBM
<ul style="list-style-type: none"> ◆ King County’s \$500 million general fund faces a long-term structural revenue gap ◆ At current growth rates, costs for law and justice services threaten to consume all general fund revenues by the year 2009 ◆ The County should consolidate all internal service functions (including information technology) for every agency in a single countywide office focused on consistent management and cost controls 	<ul style="list-style-type: none"> ◆ King County spends over \$65 million per year on IT-related operations and maintenance, an amount that would make it King County’s eighth largest agency from an operations and maintenance spending perspective ◆ King County has a highly-distributed approach to IT service delivery ◆ Ratios of workstations-to-desktop services staff and servers-to-server administration staff are at or below the median found in other public sector organizations – signifying that room for improvement may exist ◆ IT operating expenditures as a percentage of total operating expenditures are above the range typically found in other public sector organizations 	<ul style="list-style-type: none"> ◆ King County lacks a unified approach to County IT security ◆ Inconsistent policies and procedures may impact the effectiveness of protection, detection, and response ◆ Each organization implements its own security strategy, creating potential exposures for the other agencies ◆ King County needs to create a security organization within the structure with authority necessary to enforce compliance with security policies, procedures and standards

The County’s fiscal crisis also presents a significant challenge. It strains the organization’s ability to deliver service to citizens and puts an even stronger emphasis on efficiency. Under these circumstances, many agencies prefer to be “masters of their own destiny,” with tight control over all aspects of their budgets. In addition, the complexity of the County’s operations – and the fact that it provides a wide variety of services to a broad array of constituents – makes it difficult for some to even accept the concept of an “enterprise” that transcends multiple, diverse lines of business.

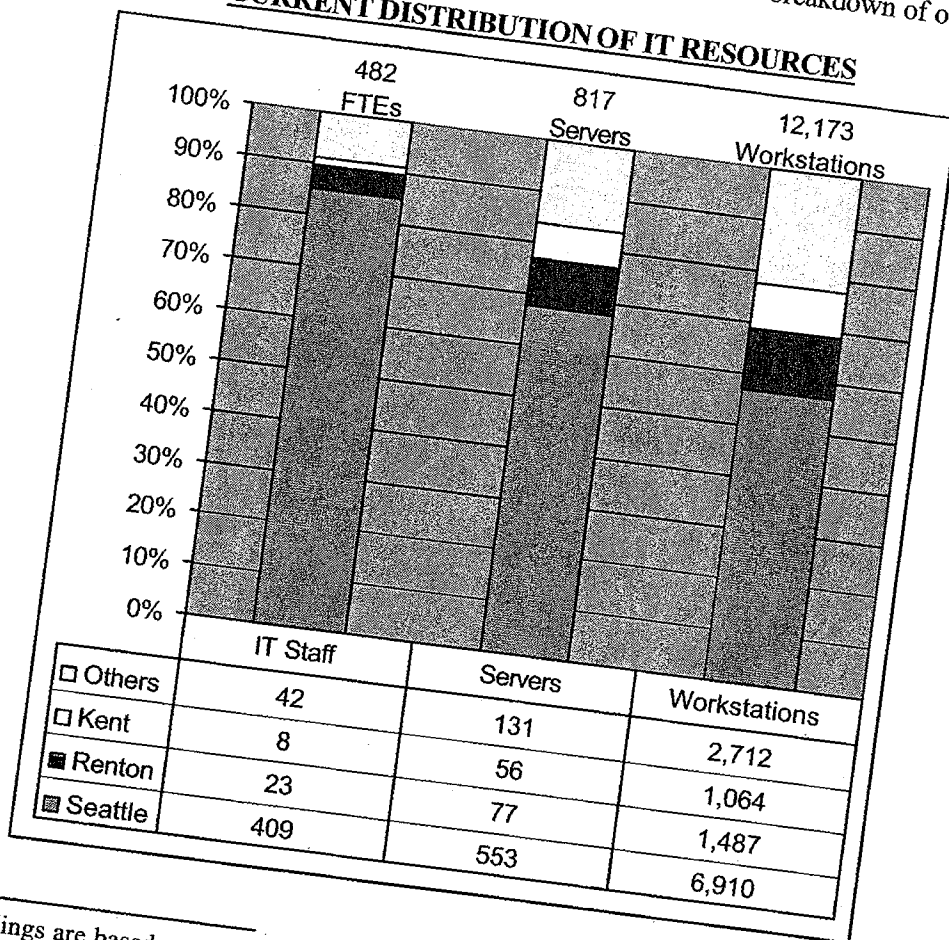
The autonomous nature of many of the County's agencies also serves as a barrier to changing the fundamental structure of IT service delivery. Several agencies have independently-elected leadership, while others have their own sources of funds. Under these circumstances, it may not be uncommon for agencies to consciously prioritize their individual needs over countywide considerations. Additionally, some agencies believe strongly that centralizing IT service delivery will degrade service, increase cost, and impact their ability to meet business objectives.

Many at the County believe that it can do better. Although prior work documented parts of the problem, the County undertook this new study to comprehensively and impartially evaluate alternatives for organizing IT service delivery – and recommend a future direction centered on long-term improvement.

C. CURRENT STATE

One would expect that an organization such as King County, with its highly-decentralized approach to IT service, would have IT personnel, servers and workstations spread widely across its geography. This is not the case. Instead, we found that the County's IT resources, inclusive of business application support IT staff, are largely consolidated geographically within Seattle – although not within a single facility nor under the management of an individual agency or department. **Two other areas, Renton and Kent, when combined with Seattle, account for the vast majority of servers, workstations and IT staff within King County².** The following exhibit provides a summary-level breakdown of our analysis.

CURRENT DISTRIBUTION OF IT RESOURCES



² These findings are based on an examination of the prior Total Operating Cost of Technology report data and newly-gathered geographic information.

Note that the FTE figures include only staff with IT job titles. “Shadow staff,” i.e., individuals who do not have IT job titles but who spend some portion of their time on IT activities, have been removed from the analysis.

CURRENT DISTRIBUTION OF ALL IT RESOURCES BY PERCENTAGE

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Area	IT Staff	Servers	Workstations
Seattle	85%	68%	57%
Renton	5%	9%	12%
Kent	2%	7%	9%
Others	9%	16%	22%

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From a “big picture” perspective, this analysis yields a somewhat surprising conclusion: geographically, *both IT staff and the County’s servers are largely already consolidated.* Within this context, very few geography barriers exist regarding potential consolidation efforts.

Currently, IT staff is distributed across the County’s agencies with a variety of reporting relationships. Some agencies have one or more designated IT units, with dedicated IT managers. Other agencies have IT staff embedded in their business units. A few have taken both approaches.

It is important to note that the current organization contains a central IT service group (ITS), housed within the Department of Executive Services. ITS manages some aspects of IT for countywide operations as well as support for agencies in King County which do not employ IT-titled staff. However, ITS accounts for less than 30% of the County’s total labor effort for services. The majority of IT labor efforts reside outside ITS.

This distribution of staff creates inconsistencies across agencies. Agencies that have a more stable and consistent funding base are able to provide a greater level of in-house IT support. It also creates overlaps in expenditures and planning efforts when agencies allocate funds to similar activities and services. Distributed IT staff reporting to multiple agencies and a multitude of managers also contributes to a lack of standardization in technology, policies, and procedures between agencies.

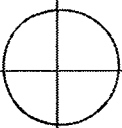
D. PEER SURVEY RESULTS

PTI conducted an external survey as part of this study, with seven peer organizations responding³. Surveys were completed by the CIO/CTO of each organization. Results were confirmed with the respondents in follow-up interviews. The peer organizations included in this study for benchmarking purposes were selected by the project sponsors based on size (i.e., comparable or larger jurisdictions than King County) and reputation as high-performing service entities. That said, in reviewing this data, the reader should be aware that the peer analysis does not connote “best practices.” It simply reflects the level of countywide IT service provision of the jurisdictions surveyed. As such, it provides only one data point of many analyzed by PTI during the course of this work.

In comparison to other similar organizations, the survey indicates **that King County is less centralized in all five major IT functional areas :**

- ◆ Customer Service

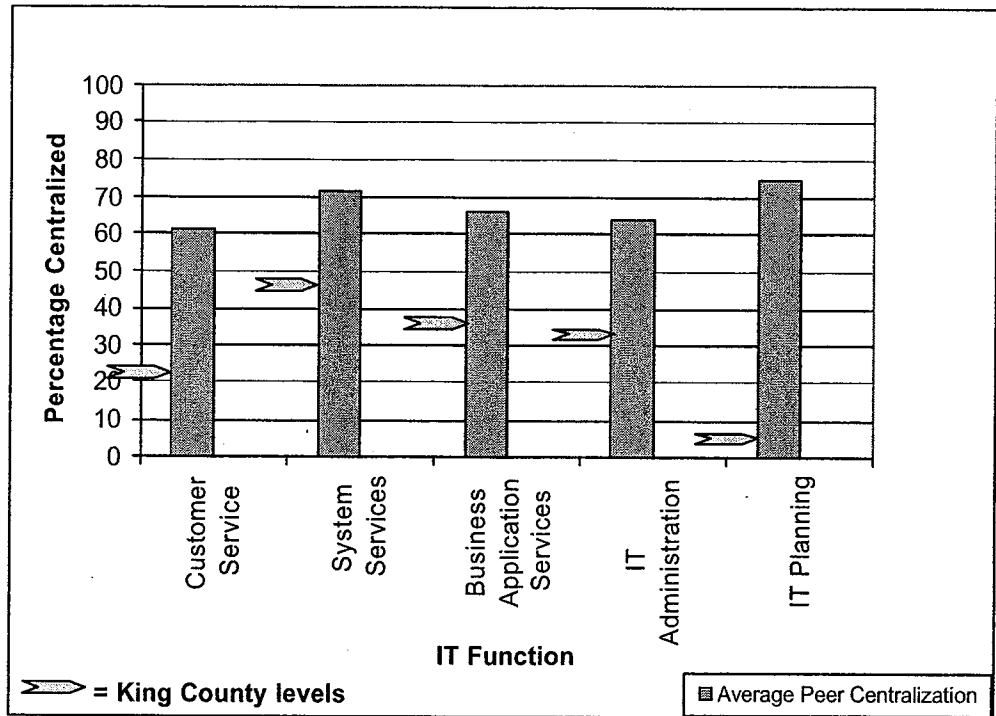
³ See Appendix C – Current State for additional survey results. The County provided PTI with a list of 12 similar jurisdictions for inclusion in the survey. Five of these did not respond.



- ◆ System Service
- ◆ Business Application Services
- ◆ IT Administration
- ◆ IT Planning

The following chart depicts average levels of centralization of the peer organizations' IT service delivery, highlighting King County's relative position.

KING COUNTY'S CENTRALIZATION OF IT SERVICES IN RELATION TO PEER ORGANIZATIONS⁴



Building upon the problem statement presented earlier, in this heavily-distributed environment King County loses efficiency of operations (and increases expenses) by not having:

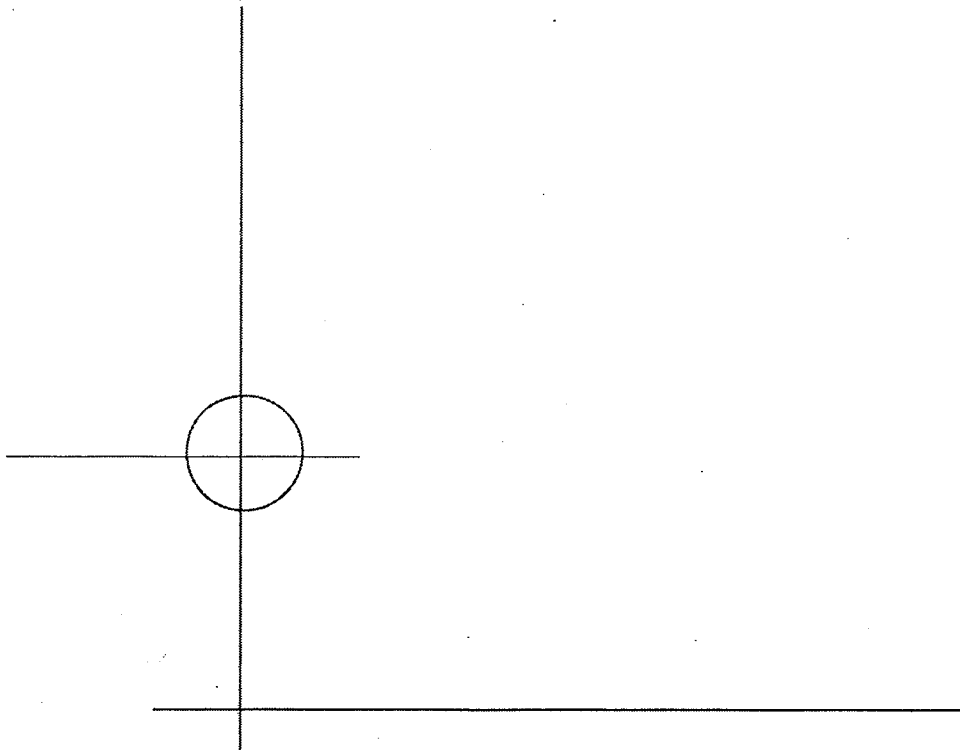
- ◆ Centralized oversight, planning and technical management of networking, network maintenance and future network expansion/upgrading to reduce potential outages
- ◆ Standard IT management practices including global governance and oversight of overall IT operations to eliminate redundant spending habits and provide consistent service delivery to all agencies and departments within the County
- ◆ The ability to take advantage of economies of scale in “commodity” services, such as workstation support and server administration
- ◆ Routinely-gathered quantitative measures of IT service performance
- ◆ A single security authority with “teeth” for setting and enforcing application and data security standards across the board

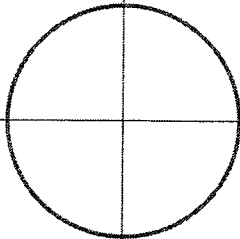
⁴ PTI surveyed seven other counties identified by King County as comparables. This chart depicts the summarized results of that work. Appendix C contains additional detail. It may be worth noting that several King County agencies conducted follow-up surveys on an agency-specific basis (in contrast to PTI's aggregated, *countywide* analysis). In doing so, they found that, even within the counties reported as highly centralized, some individual agencies remained autonomous.

Issues of security are increasingly important given the current geopolitical climate and concerns surrounding consumer privacy. The potential opportunities for breaches of privacy as well as attacks on servers, workstations and network components posed by inconsistent security standards and lack of consistent implementation of security practices leaves King County open to a wide variety of liability issues.

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business case



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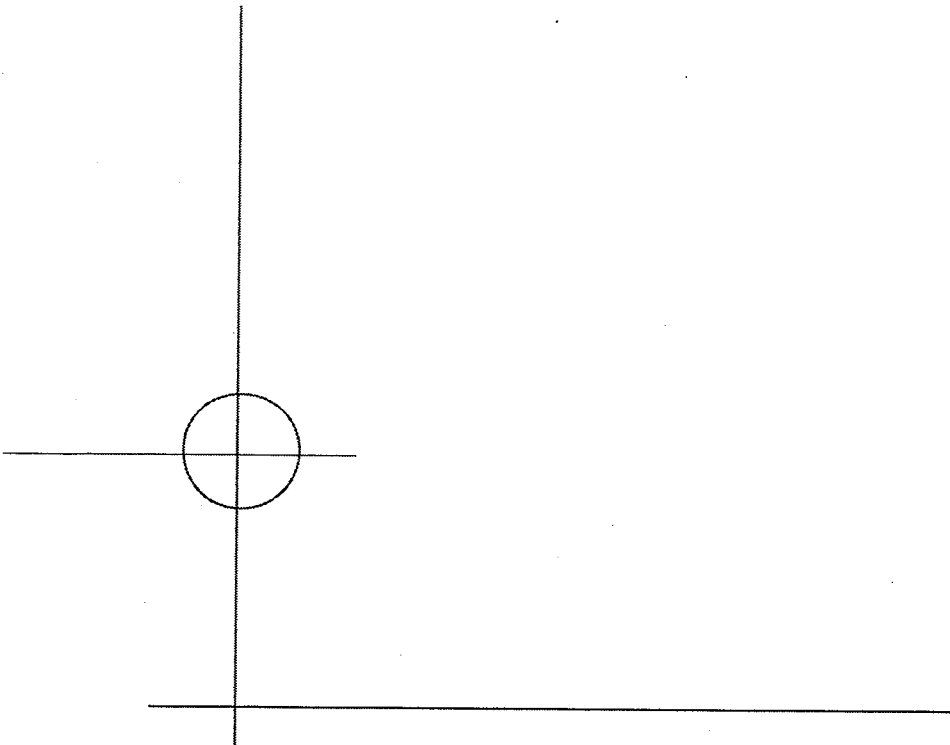
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Chapter: 3
Business Case

This chapter presents the business case that analyzed IT organizational options, including PTI's cost-benefit analysis and identification of a preferred alternative. It is organized as follows:

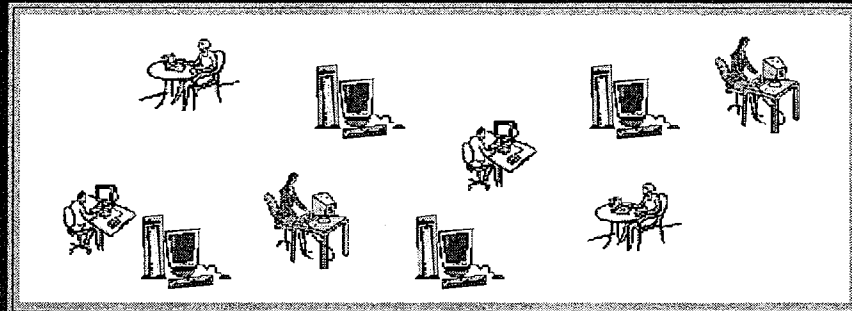
- A. Major Alternatives Considered
- B. Discarded Models
- C. Study Evaluation Methodology
- D. Preferred Alternative
- E. Cost-Benefit Analysis



A. MAJOR ALTERNATIVES CONSIDERED

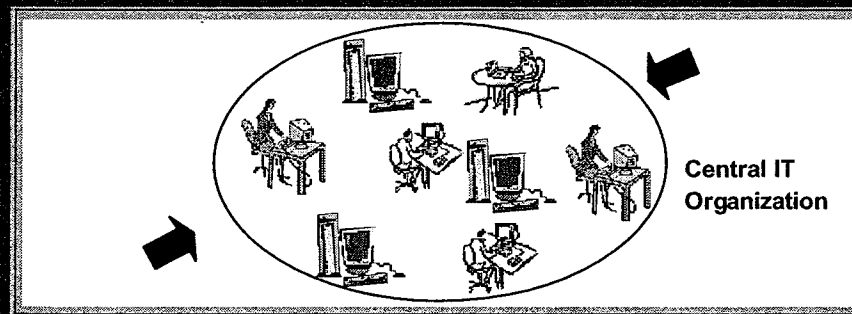
The graphics below illustrate a high-level summary of the three models retained for evaluation.

MODEL A: STATUS QUO



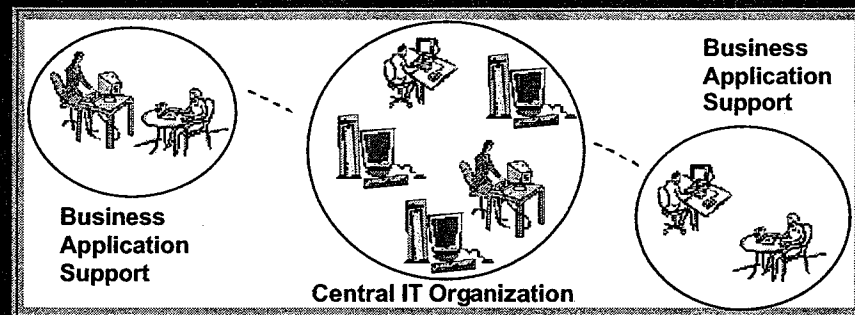
All IT service remains highly distributed

MODEL B: COMPLETE CENTRALIZATION



All IT functions are managed and supported by a central agency

MODEL C: DISTRIBUTED APPLICATION SUPPORT



Support staff for business applications report to appropriate business areas, all other IT functions are managed and supported centrally

To provide a consistent analytical structure, we defined each model using PTI's proven strategic planning framework for assessing IT service delivery. This framework distributes IT labor into five separate functional areas: Customer Services, System Services, Business Application Services, IT Administration, and IT Planning. These categories are also used to frame assumptions for each model's *end state*. Each end state represents the anticipated outcomes associated with a fully-implemented organization model. Brief definitions of the IT functional areas follow.

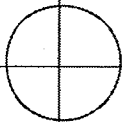
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IT SERVICE DELIVERY FRAMEWORK DEFINITIONS

- ◆ **Customer Services** – labor related to directly supporting users of IT systems and services. Types of services include help desk, desktop PC support, other portable/specialized device support, personal productivity tool support, first-tier application support, training, etc.
- ◆ **System Services** – labor related to implementing, maintaining and supporting the organization's computers, systems software, and network connectivity. Types of services include server administration, data center operations, security administration, database administration, etc.
- ◆ **Business Application Services** – labor related to providing, maintaining, and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization. Types of services include application development, requirements analysis, application administration, as well as custom and packaged application maintenance.
- ◆ **IT Administration** – labor relating to the day-to-day operations of the technology function at the organization. Types of services include asset management, IT procurement, project management, standards and policies development, administrative support, and departmental management.
- ◆ **IT Planning** - labor relating to the planning, research and development, business continuity, and security of the technology function at the organization. Types of services include strategic planning and governance, research and development, and business continuity/planning

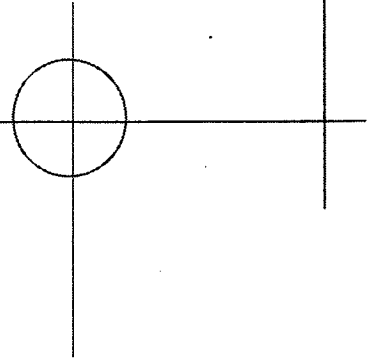
The tables on the next two pages define and contrast the alternatives as follows:

- ◆ **IT Organization Models – End State Summary:** provides an overall “snapshot” description of how IT operations will be organized when the alternative is fully implemented
- ◆ **IT Organization Models – End States by IT Functional Areas :** provides a more detailed end-state view, using the IT functional areas as a framework



IT ORGANIZATION MODELS END STATE SUMMARY

Model A – Status Quo	Model B – Complete Centralization	Model C – Distributed Application Support
<p>This is the current operating status of King County, with no significant changes to the organization of IT labor or the County's server architecture and workstation management capabilities.</p> <p>Correspondingly, in this model:</p> <ul style="list-style-type: none"> ◆ All IT service delivery remains highly distributed ◆ There are no changes to IT staffing or reporting relationships ◆ There are no alterations to the current workstation and server architecture 	<ul style="list-style-type: none"> ◆ All IT functions are managed and performed under the direct supervision of a central IT agency ◆ Labor efficiencies are assumed in Customer Services, System Administration ◆ Servers are centralized into a small number of data centers and consolidated to reduce their overall numbers and cost ◆ Desktop configurations are standardized and remote management tools are implemented to improve help desk service 	<ul style="list-style-type: none"> ◆ Support staff for business applications report to appropriate business areas – agencies can contract with the central provider for these services if desired ◆ Like Model B, all other functions are managed and performed under the direct supervision of a central agency ◆ Labor efficiencies are assumed in Customer Services, System Services, IT Planning, and IT Administration ◆ Overall Business Application Services staffing levels are not impacted, with no associated cost savings in this arena ◆ Also as in Model B, desktop configurations are standardized and servers are centralized and consolidated to reduce the overall numbers and cost – and remote management tools are implemented to improve help desk service



IT ORGANIZATION MODELS END STATES BY IT FUNCTIONAL AREA

IT Functional Area	Model A – Status Quo	Model B – Complete Centralization	Model C – Distributed Application Support
Customer Services	Remains highly distributed	<ul style="list-style-type: none"> ◆ Tier 1 (help desk) staff are centralized and report to a central organization ◆ Tier 2 (on-site assistance) staff will also report to a central organization, but are co-located in end-user facilities as appropriate 	<ul style="list-style-type: none"> ◆ Tier 1 (help desk) staff are centralized and report to a central organization ◆ Tier 2 (on-site assistance) staff will also report to a central organization, but are co-located in end-user facilities as appropriate ◆ Business training and support staff remain in the business units
Business Application Services	Remains highly distributed	<ul style="list-style-type: none"> ◆ IT staff report to a central organization, but are co-located within agencies as appropriate 	<ul style="list-style-type: none"> ◆ Staff that support business applications continue to report to the appropriate agencies
System Services	Remains highly distributed	<ul style="list-style-type: none"> ◆ IT staff report to a central organization, but are co-located with hardware as appropriate 	<ul style="list-style-type: none"> ◆ IT staff report to a central organization, but are co-located with hardware as appropriate
IT Planning	Remains highly distributed	<ul style="list-style-type: none"> ◆ Planning functions are staffed and led centrally with significant agency participation ◆ <i>Communities of interest</i> guide major application strategies and decisions¹ 	<ul style="list-style-type: none"> ◆ End state is the same as Model B ◆ Planning functions are staffed and led centrally with significant agency participation ◆ Communities of interest guide major application strategies and decisions
IT Administration	Remains highly distributed	<ul style="list-style-type: none"> ◆ Functions will be managed centrally 	<ul style="list-style-type: none"> ◆ End state is the same as Model B ◆ Functions will be managed centrally with the exception of project management, where applications projects may be managed by the business area

¹ Communities of Interest are cross-agency governance groups with a need for highly-coordinated sharing of information (e.g., public safety, land, transportation, health, etc.). This topic is covered in greater detail within the governance discussion in Chapter 4 – Recommendations.

B. DISCARDED MODELS

Five additional models were also initially considered but later discarded for a variety of reasons. The rejected models are listed below, along with end-state assumptions and the rationale for dismissal from further consideration:

Model D – Additional Decentralization

End state: Further decentralization of servers, support staff, and IT responsibilities within the agencies

Reasons for dismissal:

- Does not align with County IT vision and goals
- Does not address fundamental problems identified with countywide IT service delivery
- Does not improve efficiency of IT service delivery

Model E – Outsourcing

End state: Designated IT functions would be outsourced² as a means of cost savings

Reasons for dismissal:

- Bargaining unit and state labor law considerations make outsourcing very difficult to accomplish
- Historically, it has proven very difficult to achieve long-term cost savings with outsourcing

Model F – Large Agency Autonomy

End state: The largest agencies of the County (i.e. DNRP, DOT, etc.) would remain as is, managing their own information technology tasks

Reasons for dismissal:

- Does not fully address fundamental problems identified with countywide IT service delivery
- Does not align well with IT vision and goals
- Potentially difficult to centralize independently-elected agencies while leaving executive agencies alone
- Opens door for additional exceptions
- Likely to offer significantly lower financial benefits

Model G – Optimized Architecture Only

End state: Agencies would implement best practices for countywide architecture to establish a standardized infrastructure

Reasons for dismissal:

- Only partially addresses IT vision and goals
- Does not fully address fundamental problems identified with countywide IT service delivery
- Offers significantly lower financial benefits
- Difficult to achieve in a highly-distributed service delivery environment

² We define *outsourcing* as contracting with a third-party provider to deliver an IT service in entirety. Under this scenario, the County manages only the service level and the contract.

Model H – Independent-Elected Autonomy

End state: Independently-elected agencies would remain staffed as they are – all other agency IT support staff would be centralized

Reasons for dismissal:

- Does not fully address fundamental problems identified with countywide IT service delivery
- Does not align well with IT vision and goals
- Opens door for additional exceptions
- Likely to offer significantly lower benefits

C. STUDY EVALUATION METHODOLOGY

After reviewing and rejecting several of the models, we subjected the remaining models to a more rigorous examination. This consisted of an evaluation based on specific criteria and a subsequent scoring of the models.

PTI identified six criteria to use as a basis for evaluating the IT organization alternatives. Each individual criterion was assigned a weight, or point value. More important criteria received higher point values and less important ones received lower point values – effectively weighting the criteria. These criteria and weights were reviewed by the County’s IT governance body, updated based on input received, and accepted by the project’s sponsors for use by the consultant.

The table on the following page defines the criteria³ and associated weights. Appendix D presents a complete description of the scoring methodology and the specific rationale for each score:

³ Evaluation criteria were reviewed by stakeholders. As a result of this review, the Superior Court suggested adding three additional criteria: Quality of Justice, Confidentiality, and Continuity of Business Practice. The consulting team believes that the defined criteria already encompass these elements and have applied them accordingly:

- Criterion C – Security/Privacy, speaks to the need to deliver appropriate application and data confidentiality
- Criterion D – Responsive and Accountable Service, speaks (overall) to addressing the agencies’ business missions (in this particular case – quality of justice and continuity of business practice supported by trained and authorized staff)



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ORGANIZATION MODEL EVALUATION CRITERIA AND WEIGHTS

Criteria	Weight (Points)
A. Cost Efficiency: relative savings of the alternative models compared to the Status Quo – based on end-state labor forecasts and assumptions regarding architecture standardization and consolidation	100
B. Consistent Countywide IT Service & Mgt: ability of the option to effectively manage and govern IT assets, standards, policies and service quality from an entire County perspective	70
C. Countywide Security/Privacy: ability of the option to reliably and effectively deliver physical, desktop, application, and file security	80
D. Responsive and Accountable Service: ability of the option to flexibly enable agency business needs and provide accountable IT service to the business units	100
E. Skilled Workforce: ability of the option to provide viable career paths and appropriate specialization for County IT professionals	80
F. Long-Term Position: ability of the option to provide an enduring, sustainable model for public access, regional initiatives, and implementation of best practices in alignment with the County’s IT vision and goals	70

It is important to note that, while important, *potential cost savings represent only one component in the overall evaluation*. Factors related to consistent countywide IT service and management, security and privacy, and future positioning drove the selection process in concert with the potential cost savings. Accordingly, PTI strived to balance IT cost efficiencies with County service effectiveness.

PTI rated each model against all six criteria. For a given criterion, we assigned a score of 0 to 10 – where 10 represented the best score. Scores for a specific criterion reflected how well that model’s end state achieves the criterion’s primary objectives.

For each criterion, the score was then multiplied by the criterion weight. From these individual weighted scores, a single weighted score was calculated for each model, with the highest total score indicating the best overall model

The following table presents the scores for the three models:

Evaluation Criteria	Criterion Weight	Model A: Status Quo		Model B: Complete Centralization		Model C: Distributed Application Support	
		Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Cost Efficiency	100	5	500	6	600	6	600
Consistent County-wide IT Service and Management	70	3	210	9	630	6	420
Enterprise Security and Privacy	80	3	240	9	720	7	560
Responsive/Accountable Service	100	8	800	3	300	7	700
Skilled Workforce	80	5	400	8	640	7	560
Long-Term Position	70	4	280	8	560	9	630
Total Score		28	2,430	43	3,450	42	3,470

The results clearly indicate that either Model B or C will be superior to the Status Quo at meeting the County's overall goals.

While the scores for Models B and C are very close, Model C slightly outscores Model B. In addition to scoring higher on the evaluation criteria, we also believe that Model C will have a greater likelihood of successful implementation, as it leaves application support staff in the business units – addressing a major concern of the impacted agencies.

In fact, we believe that this model offers broad benefits to King County well beyond the cost savings, including:

- ◆ **More reliable, consistent, and standardized IT infrastructure** through the establishment of data centers, server consolidation activities, network upgrades and the implementation of an enterprise architecture enhancements
- ◆ **Improved ability to manage overall cost efficiencies and service levels** through a well managed and staffed Central IT Department, server consolidation and data center management, workstation standardization, and service level agreements with service reviews and feedback
- ◆ **Enhanced IT security** through the standardization of server and desktop configurations and the implementation of central oversight and enforcement of standards
- ◆ **Focuses agencies on business-based, value-added IT activities** by allowing them to retain business application support and training while removing commodity services such as server and networking infrastructure support
- ◆ **Enhanced information sharing** through the reduction of infrastructure barriers across agencies and the consolidation of servers and multi-agency applications, network enhancements, and application standardization via the enterprise architecture effort and establishment of Communities of Interest
- ◆ **Improved ability to incorporate advances in Improved IT governance, performance management, and accountability** through restructured governance bodies, the addition of cross-agency governance bodies, and a central IT management body
- ◆ **Ability to standardize policies, procedures, and business practices related to IT service delivery** through governance improvements, Central IT Department service and personnel management
- ◆ **New technology** through a centralized IT process for research and development with agency/department involvement
- ◆ **Positions King County for enhanced regional cooperation and leadership opportunities in regional initiatives** by assigning responsibilities for this activity within the Central IT Department

In total, these benefits fundamentally address **ALL ASPECTS** of the significant problems identified with IT service delivery at the County today.

D. PREFERRED ALTERNATIVE

The Preferred Alternative (Model C – Distributed Application Support) entails the creation of a central IT body within King County – essentially *building a new organization from a clean slate to provide IT services to all agencies and departments*, with the exception of business application support and training.

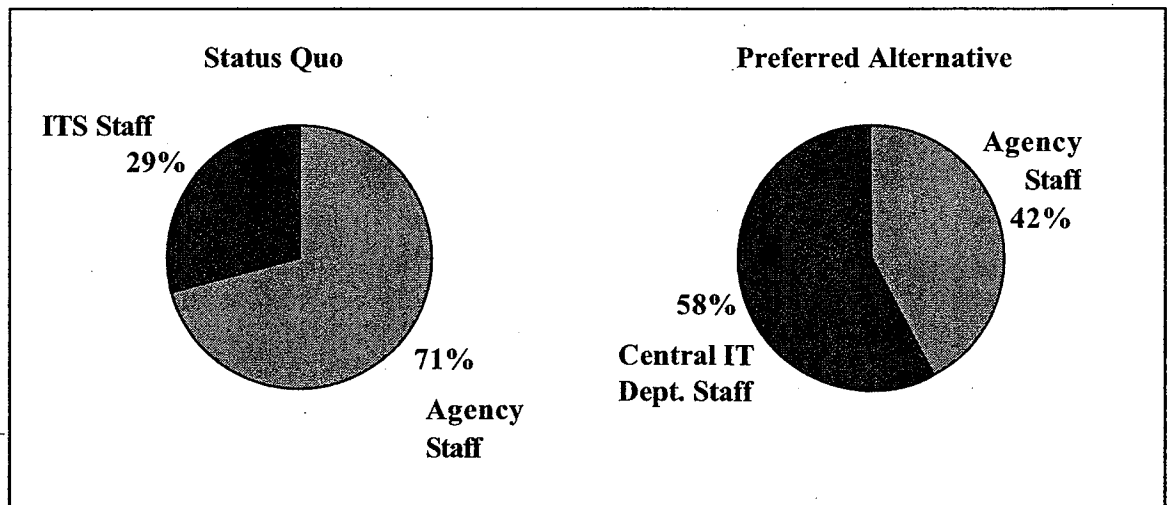
Several factors contributed to our decision not to centralize business application support labor under the Preferred Alternative. Foremost is the fact that cost savings are difficult to achieve in this arena. In contrast to technical architecture services, economies of scale are not readily available in business application support. For the most part, application support costs are demand-driven, with business units determining the demand. If 2,000 hours of support are required for a given application, there is no efficiency to be had by using a central provider to meet this need. In essence, the fundamental body of work required to support the County's business software would be the same in a centralized or distributed environment.

In a highly-standardized application environment, theoretical efficiencies might be gained by using a pool of staff with common technical skills. In practice, these savings are difficult to realize, as business context represents a critical component of cost-effective application support, and pooled staff often lack this knowledge. In any event, these savings would not be available at the County, as the County's existing application environment is not standardized and would not lend itself to such an approach.

Over the long term, the County may be able to save money by consolidating business software application licenses and using common software for functions performed by multiple business units (e.g., document management, maintenance management, etc.). It is likely that this effort would yield IT labor efficiencies, as reducing the number of applications should also decrease support labor demands. Unfortunately, this is not a simple task. In most instances, business process reengineering will be required in concert with the software changes, and new licenses will need to be purchased. In addition, some business areas may be asked to compromise application functionality for the sake of standardization. Making these determinations requires reviewing specific applications in the County's business software portfolio and developing business cases for each instance – a worthwhile effort, but one that was not within the scope of this project⁴. Ultimately, PTI believes it is most prudent **to allow agencies to ascertain software support economic efficiencies on a case-by-case basis – utilizing a central IT department when it makes sense.**

While Model C posits an organizational shift from the current state, it is far from a complete centralization, as the following chart indicates:

CHANGES IN IT STAFF REPORTING RELATIONSHIPS



⁴ It should be noted that costs for developing these business cases are included in the CBA.

The table below highlights the proposed changes to the IT staff allocation, by major functional areas. Note that Business Application services staff distribution and effort levels remain unchanged in the Preferred Alternative.

Additionally, it is important to note that this recommendation assumes *co-location*⁵ of centralized IT support staff for “utility” services (e.g., workstation support and server administration) where it is warranted.

PROPOSED CHANGES TO IT FTE ALLOCATIONS BY IT FUNCTIONAL AREA

	Status Quo	Preferred Model	Percent Change
Customer Services	95.86	76.22	-20%
Agency Staff	74.86	24.43	
Central Org. Staff	21.00	51.79	
System Services	129.65	108.11	-17%
Agency Staff	83.70	0.00	
Central Org. Staff	45.95	108.11	
Business App Services	149.51	149.51	0%
Agency Staff	113.35	113.35	
Central Org. Staff	36.16	36.16	
IT Planning	23.58	17.74	-25%
Agency Staff	19.18	7.92	
Central Org. Staff	4.40	9.82	
IT Administration	83.40	70.15	-16%
Agency Staff	48.88	31.46	
Central Org. Staff	34.52	38.69	
Total	482.00	421.73	-12%
Agency Staff	339.97	177.16	
Central Org. Staff	142.03	244.57	

There is a reduction in overall IT labor effort of 12% (approximately 60 FTEs) if the necessary changes are fully implemented. Implementation of the Preferred Alternative relies on:

- ◆ **Labor Adjustments:** The labor reductions are based on changes in ratios of support staff to workstations and servers, and in efficiency gains through provision of services via a central organization. Each of these is examined in the cost-benefit analysis that follows, with additional detail provided in Appendices E, F and G. PTI bases projected labor efficiencies on our experience with high-performing IT organizations. Key factors that influence the ability to achieve assumed service ratios include: a standardized technical architecture, utilization of remote systems management tools, a functional IT service desk, and a reasonably concentrated geographic base.
- ◆ **Server Consolidation:** moving servers into a few geographic locations in data centers to provide a greater level of security to these resources as well as to allow for the consolidation of server types to reduce overall numbers from the current 817 down to 537. Standardization of server configurations will also occur, allowing an increase in the ratios of servers to support staff (i.e., fewer support staff are needed.)

⁵ *Co-located staff* means that the IT staff would be located in a facility where there is a sufficient workload to justify staff presence, but would be managed by the Central IT Department. For example, a Tier 2 IT staff would be justifiably co-located in a facility with 1,000 workstations but would handle requests processed through the Service Center – and be managed under the Central IT Department.

- ◆ **Workstation Standardization:** standardizing workstations on a set of operating systems, remote management tools, core applications and desktop security configurations to increase the efficiency of management and maintenance, allowing an increase in the ratio of workstations to support staff (i.e., fewer support staff are needed).
- ◆ **Service Center Development:** the creation of a centralized service center comprised of a call center with highly-automated support tools. This group will focus on real-time problem resolution and allow for more consistent end-user support countywide through standard management of issues and by acting as a clearinghouse for referrals to other IT related functions.

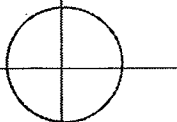
E. COST-BENEFIT ANALYSIS

The cost-benefit analysis compares the relative cash flows of the Status Quo (Model A) which serves as a baseline, to the Preferred Alternative (Model C). A fifteen-year period was selected for the CBA. This period is consistent with standard practices in establishing CBA timeframes, which match the analysis period with the asset life. In this case, the asset under analysis is an organization change. Presumably, this change would have a very long life. Correspondingly, a fifteen year period seems reasonable.

The CBA compares the two models across five discrete areas:

- ◆ **Labor Adjustments:** Changes in labor due to the centralization and tighter adherence to industry standards for administrative and technical support of IT functions – note that these savings depend upon the following activities, which establish the foundation for achieving overall labor savings
- ◆ **Server Consolidation Activities:** Migration and reduction in the number of geographically-dispersed servers into a few data centers, associated costs, (including increased networking bandwidth, facilities, labor and detailed planning costs) and long-term savings due to reduced equipment replacement costs
- ◆ **Workstation Standardization Efforts:** Costs to standardize desktop configurations of all King County workstations, including associated one-time labor costs for detailed planning and implementation, and costs for acquisition of software (e.g., imaging and management tools) to facilitate the effort
- ◆ **Service Center Build-Out:** Facilities and equipment costs associated with establishing a centralized Service Center, inclusive of changes in software used for providing services and end-user support as well as new space for the staff
- ◆ **Enterprise Architecture and Transition Activities:** Labor and implementation costs associated with developing the County's enterprise architecture and managing its implementation, organizational change management, and related transition management activities

Please see Appendices E and F for additional information about the CBA. Note that the model itself does not easily lend itself to text presentation. Correspondingly, we have provided the County with an electronic copy of the workbook.



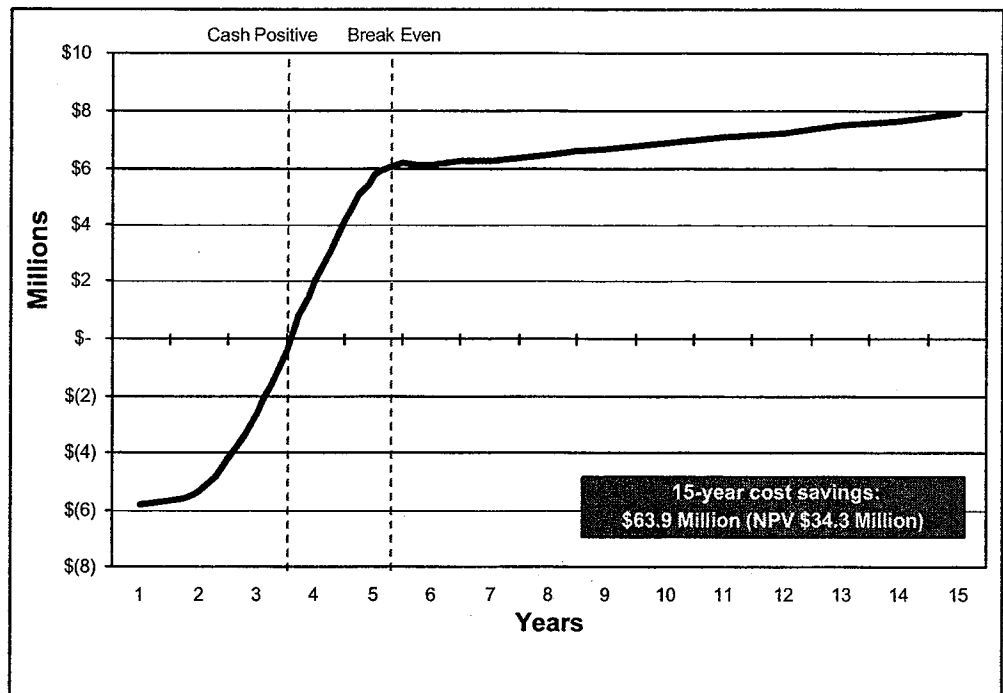
SUMMARY OF CBA RESULTS

Our cost-benefit analysis indicates a **positive return of approximately \$63.9 million over a 15 year period. This translates to a net present value of \$34.3 million with an internal rate of return of 27%.⁶** Early in the fourth year, a positive cash flow begins, and break-even is reached during the fifth year. At the end of 10 years, the estimated savings are \$26.6 million (with an NPV of \$15.2 million and an IRR of 22%).

It must be noted that it will be difficult to achieve the full labor savings in the form of reduced budgets. While we believe it is achievable for the County to reduce total IT effort by 60 FTEs, some percentage of the associated savings will likely occur as a productivity benefit (i.e., staff who relinquish a portion of their job responsibilities to the central IT organization are then able to devote this “time saved” to other activities). The magnitude of the labor savings ultimately realized as budget cuts will depend upon how aggressively the County pursues headcount reductions⁷. Please see the final subsection of this chapter and Appendix G for more detail.

The following graph summarizes costs and savings of implementing Model C over a 15-year period:

CASH FLOW RELATIVE TO THE STATUS QUO



⁶ Net present value is a financial calculation that expresses the lifetime return of an investment in today's dollars, discounting the value of revenue streams in the future to account for the time value of money. Internal rate of return indicates the discount rate (i.e., interest rate) that would make the net present value of the investment equal to zero. Both are commonly used to compare investment alternatives. PTI uses them here to provide a financial comparison between the Status Quo and Model C.

⁷ If the County considers all the staff that spend 50% or more of their time on activities to be centralized as candidates for consolidation or position elimination, then the vast majority of the savings should be achievable as budget reductions. If the County chooses to establish a cutoff of greater than 50%, or does not aggressively pursue elimination of positions, the budget savings diminish accordingly.

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As stated previously, an initial expenditure is required to realize the cost savings. This investment is spread over five years and results in a gradual realization of savings during the second, third and fourth years of implementation. From the fifth year on, projected costs and savings increase with inflation.

In any CBA, cash flows depend heavily upon the timing of key activities. Major assumptions surrounding the timing in this CBA include:

- ◆ Labor adjustments as a result of the above activities are realized starting at the middle of year two and continue through the end of the fifth year
- ◆ Server consolidation activities start in the middle of the first year (with planning and prep work) and are completed by the end of the third year
- ◆ Workstation standardization efforts start in the middle of the first year (with planning and prep work) and are completed by the end of the third year
- ◆ The Service Center build-out (Call Center/Help Desk and centralization of associated IT support staff) begins during the second year, with the facility fully operational by the end of the third year
- ◆ Enterprise architecture⁸ and transition activities begin during the first year and are spread over the first four years with final work being completed during the beginning of the fifth year

The following graphically summarizes the above:

TIMING OF MAJOR ASSUMPTIONS

Task Name	Year 1	Year 2	Year 3	Year 4	Year 5
Labor Adjustments					
Server Consolidation Activities					
Workstation Standardization Efforts					
Service Center Build-Out					
Enterprise Architecture and Transition Activities					

The following tables summarize the one-time and recurring costs, as well as the associated savings, for the Status Quo and Preferred Alternative:

Costs Related to the Status Quo

Status Quo Costs		
Costs	One-Time	15 Year Total Recurring
IT Labor	\$ -	\$ 757,970,386
Server Consolidation	\$ -	\$ 93,535,567
Workstation Standardization	\$ -	\$ -
Service Center[*]	\$ -	\$ 260,621
Enterprise Architecture and Transition Activities	\$ -	\$ -
Total Costs	\$ -	\$ 851,766,574

* Cost accounts for annual maintenance fee on existing Help Desk software

⁸ Enterprise architecture costs include resources necessary to develop server and workstation standards, develop a server architecture and consolidation plan, develop application standards and an overall application architecture, optimize the network, and establish other countywide IT architecture standards.

Costs Related to the Preferred Alternative

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Preferred Alternative Costs		
Costs	One-Time	15 Year Total Recurring
IT Labor	\$ -	\$ 678,447,412
Server Consolidation	\$ 1,362,371	\$ 83,102,260
Workstation Standardization	\$ 4,066,391	\$ -
Service Center Build-Out	\$ 781,104	\$ 7,910,476
Enterprise Architecture and Transition Activities	\$ 12,227,122	\$ -
Total Costs	\$ 18,436,988	\$ 769,460,147

The final table in this subsection highlights the costs and savings of the Preferred Alternative relative to the Status Quo.

Costs and Savings of the Preferred Alternative over the Status Quo

Costs and Savings	
IT Labor Savings	\$ 79,522,974
Server Consolidation Savings	\$ 9,070,936
Sub-total savings	\$ 88,593,911
Workstation Standardization Cost	\$ (4,066,391)
Service Center Build-Out Cost	\$ (8,430,959)
Enterprise Architecture and Transition Activities Cost	\$ (12,227,122)
Sub-total Costs	\$ (24,724,471)
Net Savings	\$ 63,869,439

The remaining sub-sections offer additional information related to each of the five previously described areas. **These are provided in the reverse order of the above, since the labor impacts are dependent on the other four and are best understood within the context of the other activities:**

- ◆ Enterprise Architecture and Transition Activities
- ◆ Service Center Build-Out
- ◆ Workstation Standardization
- ◆ Server Consolidation
- ◆ Labor Adjustments

For each area, we provide more complete descriptions with key assumptions, and associated benefits. See Appendices E and F for additional assumption detail, including data sources for costs associated with the CBA. This chapter concludes with a discussion of our sensitivity analysis and a look at the potential impact on IT staff of implementing the preferred alternative.

ENTERPRISE ARCHITECTURE AND TRANSITION ACTIVITIES

The work necessary to ensure a smooth transition requires a dedicated team to manage the transition. It also requires that IT staff be trained to ensure effective service delivery once the

transition is completed, and that due consideration is given for enterprise architecture and other organizational transition activities planning and implementation needs.

The table below presents a summary of enterprise architecture and transition activity costs.

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Enterprise Architecture and Transition Activity Cost Summary

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Activity	Cost
One-Time	
Staff Training ⁹	\$ 490,000
Transition Management Labor	\$ 2,987,122
Enterprise Architecture Labor	\$ 5,500,000
Organization Transition Labor	\$ 2,500,000
Documenting Current Service Levels	\$ 750,000
Total One-Time Costs	\$ 12,227,122

KEY ASSUMPTIONS

- ◆ Transition to the Central IT Department will occur over a four year period
- ◆ Enterprise architecture planning and implementation, and other organization transition services, occur over three years during the transition period
- ◆ IT related staff, both moving into the central organization and remaining within the business units, will require additional training to bring them “up to speed” to maintain continuity of service, and to ensure service levels and service coordination
- ◆ Transition management labor costs will be greater for the first two years of the transition period, with fewer staff required as the Central IT Department comes “on-line” during the third and fourth years of the transition (see Chapter 4 for additional information surrounding transition management labor)

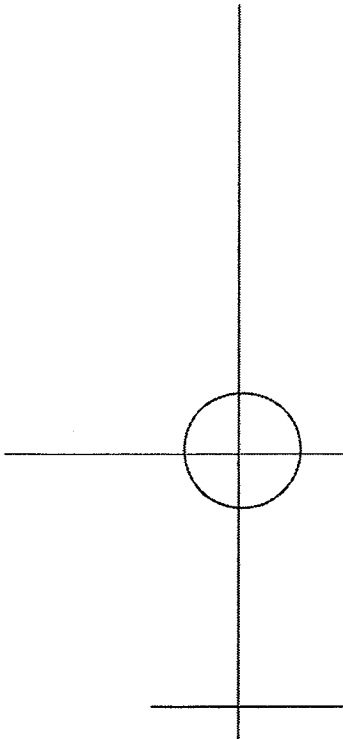
ASSOCIATED BENEFITS

- ◆ Staff in the new Central IT Department will be able to provide consistent, quality service
- ◆ The transition process will be well managed with due consideration to impacted areas of operation and proactive exception handling
- ◆ Enterprise architecture and other organizational transition needs will be handled appropriately with due consideration to the complexity of changes being made and their impacts on on-going operations

SERVICE CENTER BUILD-OUT

A service center staffed with IT professionals who are involved in supporting use of countywide applications and technology, would likely result in better overall customer technical support than currently exists. The service center will serve as the first point of contact for all customer calls, with the exception of calls related to business applications.

⁹ Training costs are predicated on IT FTE labor reductions for IT staff transitioned into the Central IT Department.



The table below presents service center build-out costs.

Service Center Build-out Costs

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Activity	Cost
One-Time	
Phone system upgrades	\$ 10,000
Support Software & Deployment	\$ 771,104
Total One-time Cost	\$ 781,104
Annual Recurring¹⁰	
Facilities	\$ 357,356
Phone system upgrade maintenance	\$ 2,000
Support Software & Deployment	\$ 140,221
Total Annual Recurring Cost	\$ 499,577

KEY ASSUMPTIONS

- ◆ A service center would be setup “from scratch” with associated start-up costs
- ◆ The existing phone system would be either supplemented or replaced to accommodate call center needs
- ◆ Additional resources will be required to help establish the service center, with corresponding costs included in the CBA
- ◆ Some resources would be co-located in the agencies to provide tier 2 (i.e., desk-side) service
- ◆ The Service Center (Call Center/Help Desk and centralization of associated IT support staff) is setup during the second year and is fully operational by the end of the third year

ASSOCIATED BENEFITS

- ◆ Ability to reduce labor costs due to economies of scale and efficiencies related to shorter problem-resolution times
- ◆ Pooling of knowledge and skills of current IT support staff
- ◆ Cross-training of support staff through informal contact on a daily basis
- ◆ Creation and maintenance of a repository of common problems and solutions which could be accessible to non-IT staff for self-access as well as by technicians and other IT staff for more efficient service
- ◆ The ability to track and monitor problem frequencies, problem resolutions, possible security breaches, etc. (i.e., ability to performance manage the environment)
- ◆ Empowers agency/departmental staff to improve performance through the use of technology since they can focus on business objectives and spend less time dealing with technology issues
- ◆ Provides a single point source of contact for other IT-related needs for departmental and agency staff

¹⁰ Recurring costs appear here in 2004 dollars – 15-year totals presented elsewhere include an annual inflation factor.

- ◆ Decisions regarding useful life of workstations can take into account the actual support costs, allowing more effective decisions to be made

WORKSTATION STANDARDIZATION EFFORTS

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Standardizing the County’s workstations enables the use of imaging and remote management tools, thereby allowing fewer staff to service a greater number of workstations across the network to any site. This would allow geographically-centralized support staff to manage and maintain workstations throughout the County, minimizing the need for more expensive desk-side service calls. Costs reflect activities associated with planning, designing, testing, and implementing the workstation images.

The table below presents standardization costs.

Workstation Standardization Costs

Activity	Cost
One-Time	
Imaging and Remote Management Software	\$ 1,844,818
Standardization Labor Effort	\$ 2,221,573
Total One-time Costs	\$ 4,066,391

KEY ASSUMPTIONS

- ◆ The County can agree on a relatively small number of standard desktop configurations for its workstations¹¹
- ◆ Workstation replacement costs are consistent between the current state and that of the centralized model
- ◆ Client (workstation) licenses for server access are covered by existing countywide and/or departmental/agency software licenses¹²
- ◆ Standardizing workstation configurations has a consistent and predictable average labor cost per workstation
- ◆ Workstation standardization starts in the middle of the first year (with planning and prep work) and is completed by the end of the third year

¹¹ We define a “standard desktop configuration” as a workstation configuration around a common operating system coupled with a “core” set of productivity applications (e.g., Microsoft Office suite, mainframe access applications, etc.), remote management, administration and security tools, and standard security settings for desktop “lock down” taken independently of hardware configurations. No assumption is made regarding a “one size fits all” approach as there will be several standard configurations that suit productivity/business needs taking into account existing workstation hardware limitations. The key to cost savings and increased efficiency of services is to minimize the number of “standards” deployed and ensure a consistent remote management/service capability.

¹² Determining the necessary number of Client Access Licenses (CALs) for each server type by agency/department and/or business function is beyond the scope of this study – however, existing CAL agreements should be able to be leveraged during the centralization effort to minimize upfront costs (e.g., department/agencies will retain existing client access levels and current countywide levels will be maintained.) Any new servers acquired during server replacement cycles would include CAL costs in the initial purchase costs (see the Server Consolidation section that follows) and is factored into the analysis (additional CAL expenses could be easily taken into account by increasing per server costs.)

ASSOCIATED BENEFITS

- ◆ Fewer administrators are required to manage workstations, as the complexity of maintenance is reduced substantially and remote control tools improve productivity
- ◆ Standardized configurations allow for the implementation of remote software update, assistance and management tools, which reduces downtime and allows for an efficient proactive approach to workstation maintenance
- ◆ All staff would be able to seek assistance from a centralized service center that maintains a database of common problems and their solutions
- ◆ Direct assistance would be available to all staff via phone as well as direct intervention by Service Center staff through remote workstation management and assistance tools
- ◆ Self-service capabilities would be available to all staff via the Web for assistance with common issues
- ◆ Better ability to manage desktop asset life, potentially extending the useful asset life of some workstations

SERVER CONSOLIDATION ACTIVITIES

As servers are consolidated into a few data centers and server configurations are standardized, the ratio of administrators to servers can increase (e.g., each administrator could handle more servers). Additionally, server consolidation results in a decrease in the overall number of servers since under-utilized servers can be removed and less powerful servers can be replaced with more powerful servers capable of handling a greater overall load.

The table on the following page presents server consolidation costs.

Server Consolidation Costs

Activity	Cost
One-Time	
Server Moves	\$ 1,157,883
Networking Upgrades	\$ 204,488
Total One-time Cost	\$ 1,362,371
Annual Recurring¹³	
Facilities	\$ 1,307,501
Server Maintenance ¹⁴	\$ 413,432
Server Replacements	\$ 2,067,160
Networking Upgrade Connectivity ¹⁵	\$ 882,000
Total Annual Recurring Cost	\$ 4,670,093

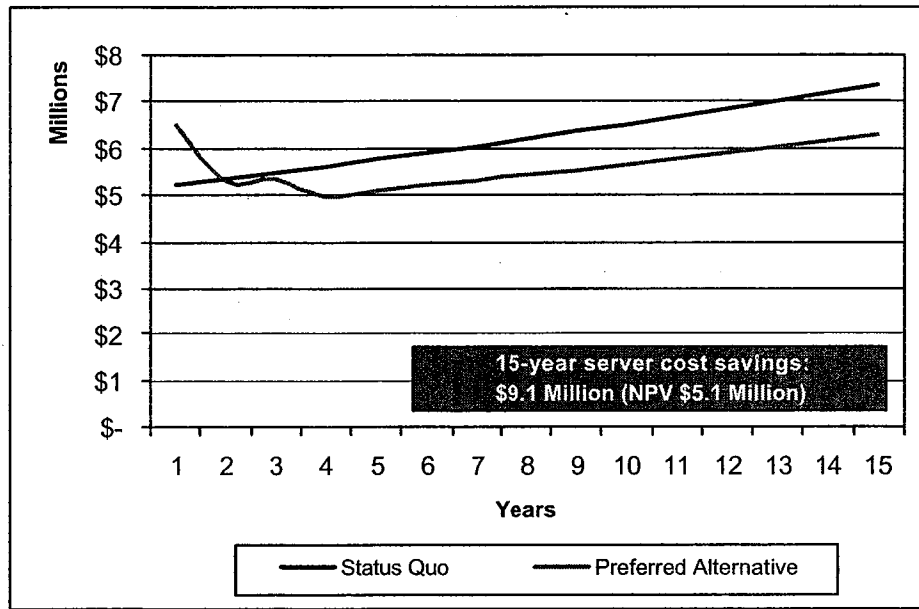
The following chart illustrates the cost of centralizing servers within data centers (Model C) over the Status Quo (Model A).

¹³ Recurring costs appear here in 2004 dollars – 15-year totals presented elsewhere include an annual inflation factor.

¹⁴ Server maintenance costs listed here are based on total number of servers after consolidation has occurred under the Preferred Alternative (i.e., after the entire reduction in the number of servers has occurred.)

¹⁵ Annual network connectivity costs are for network upgrades above the costs associated with the Status Quo – these costs are in addition to existing networking costs.

RELATIVE COSTS OF SERVERS



As the graph above illustrates, there is an initial increase in expenses that is followed by a drop in overall costs related to a gradual reduction in the number of servers and the build-out of data center facilities. Ongoing server costs in terms of connectivity, maintenance and space expenditures are projected to rise with inflation after initial savings are realized, with expected periodic increases in networking costs. The gap between the two lines on the graph gives an indication of the cost savings – which are due to an overall reduction in the number of servers.

KEY ASSUMPTIONS

- ◆ The average life cycle of a server system is five years – after five years, a server is typically replaced – and replacements occur on an annual basis with, on average, 1/5th of the servers being replaced each year¹⁶
- ◆ Server consolidation and subsequent reductions will occur over a three year period.
- ◆ License costs for servers and some level of client side access are included in server cost estimates¹⁷
- ◆ Server standardization will result in a decrease in labor needs as more servers are able to be managed by fewer server administrators
- ◆ Additional costs for space to house the servers will be incurred
- ◆ Network improvements¹⁸ may be needed to support consolidation:

¹⁶ Industry standards for server life cycles vary and depend on server type and estimated usage. A range of between three and seven years is typically used as an average age range for replacement. We selected a midpoint of that range for use in the analysis.

¹⁷ The assumption of bundled client access licenses complements a similar assumption presented in the prior Workstation Standardization section.

¹⁸ The analysis includes a contingency for overall networking improvement costs.

- Prospective data center locations (e.g., core areas) may need investment for additional network capacity
- Some remote sites (e.g., facilities in rural areas or geographically distant areas) would need to have an increase in network bandwidth to accommodate remote access of servers
- ◆ Additional resources will be required for server consolidation analysis, architecture planning and analysis, and phased implementation, with corresponding costs included
- ◆ Server consolidation starts in the middle of the first year (with planning and prep work) and is completed by the end of the third year

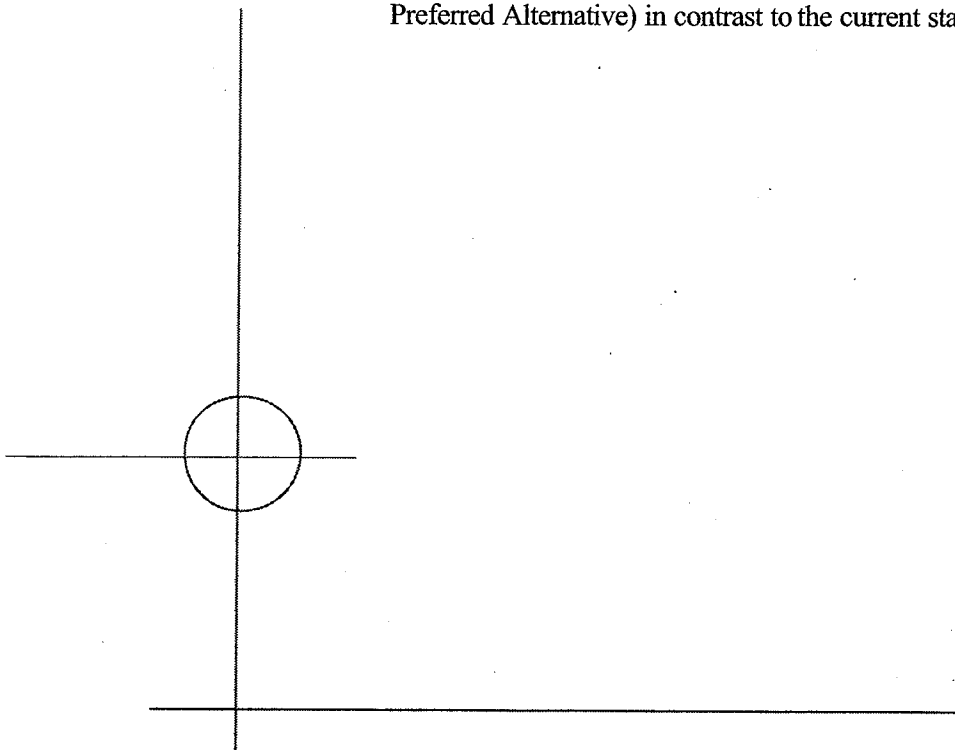
ASSOCIATED BENEFITS

- ◆ Ability to reduce labor costs due to more efficient server management
- ◆ Lower server costs due to an overall reduction in the number of servers
- ◆ Improved physical and logical security for servers and associated hardware due to use of standards and physical consolidation into appropriately secured areas
- ◆ Better ability to manage server asset life, perhaps extending the useful life of some servers

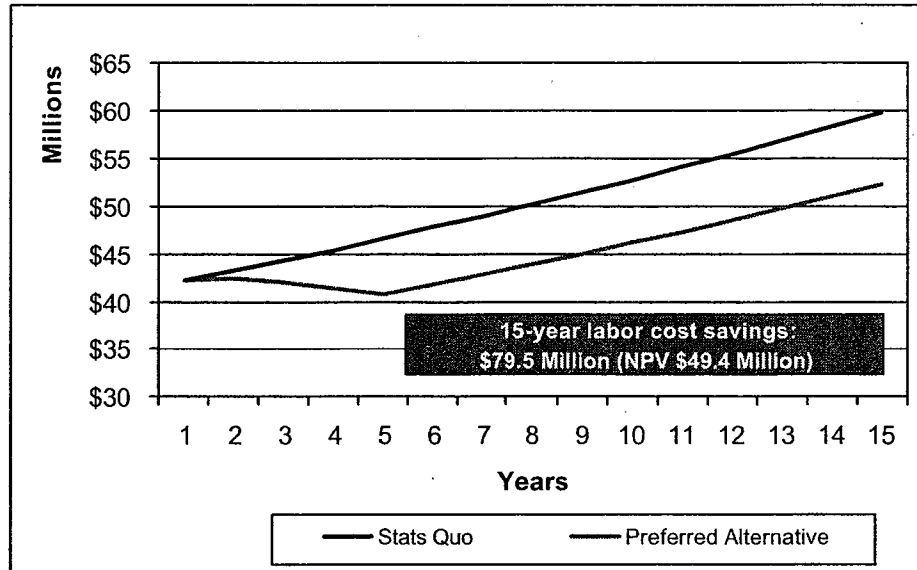
LABOR ADJUSTMENTS

By far the greatest financial impact of centralization is labor savings. As previously noted, savings are fully achieved in this area only after the other activities have been completed. **PTI arrived at the savings amount by aggregating the value of ALL potential labor savings associated with the Model C, including amounts associated with loss of fractional FTEs. Some of these savings may be difficult to realize in the form of budget reductions, and will more likely be captured as productivity gains.** Please see the labor impact subsection at the end of this chapter and Appendix G for additional explanation.

The chart on the following page illustrates the projected labor cost of the centralization (the Preferred Alternative) in contrast to the current state (the Status Quo):



RELATIVE COSTS OF LABOR



After an initial five-year transition period for labor reductions, the cost per year is fairly consistent and rises at the rate of inflation in this projection. The gap between the line representing the higher Status Quo costs and the lower costs of the Preferred Alternative model illustrates the savings. Note that real-world savings will be greater if periodic raises in wages and benefits are greater than the rate of inflation.

KEY ASSUMPTIONS

- ◆ Labor data contained in prior reports is sufficiently accurate for modeling purposes
- ◆ Average IT activity labor costs per FTE are sufficient for cost calculations¹⁹
- ◆ Labor efficiencies will occur for IT-titled staff as a result of centralization efforts
- ◆ Some portion of labor efficiencies will be true cost savings (i.e., related budget reductions will occur) while some portion will be in productivity benefits (i.e., staff time is made available for other activities)
- ◆ Staff transitions will begin in the middle of the second year, will take three-and-a-half years to accomplish, and will occur in roughly equal parts per quarter each year once initial transition strategies are in place
- ◆ Additional resources will be needed to assist business planning and change management efforts during the transition, with associated costs included in the CBA²⁰
- ◆ Labor reductions as a result centralization activities are realized starting at the middle of year two and continue through the end of the fifth year

¹⁹ Note that calculations do not take into account the anticipated one-time increase in base compensation. This raise, if effective, will *increase* the projected savings resulting from the labor reductions.

²⁰ These transition costs are accounted for in the *Enterprise Architecture and Transition Activities* section prior to this. This assumption is included here for the sake of completion where labor efforts are highlighted. These costs are not accounted for in the associated *Relative Costs of Labor* illustration.

ASSOCIATED BENEFITS

- ◆ Enhanced IT security
- ◆ Improved IT governance, performance management, and accountability
- ◆ Ability to standardize and improve policies, procedures, and business practices related to IT service delivery
- ◆ Focuses agencies on value-added IT functions, not provision of commodity services
- ◆ Cost savings and associated increase in non-IT related productivity
- ◆ Enhanced IT professional development as the restructure expands opportunities for upward mobility for IT professionals and fosters deeper skill specialization

SENSITIVITY ANALYSIS

While a multitude of factors were considered in the development of the CBA, three in particular are highly influential in determining the final cost-savings. These three are:

- ◆ Network upgrades and associated costs
- ◆ Server reductions and associated costs
- ◆ Labor reduction levels

Changes to the assumed values of the model in any of these three areas could have a substantial impact on total cost-savings²¹.

NETWORK UPGRADES

Upgrades to existing network bandwidth are critical to the server consolidation component of the recommendations. An increase in the number of circuits required (expressed as I-Net circuits at 1.5 Mps increases in bandwidth per cost increment) and/or an increase in the annual cost per additional circuit will reduce the overall benefits as modeled. Currently, the model assumes the need for 100 additional circuits. If the number of additional circuits were increased by 2.5 times the modeled estimated, approximately \$14.4 million (NPV) in projected savings would be lost over 15 years. Likewise, if the annual cost per circuit were greater by a factor of two, the net present value of approximately \$27.3 million in projected savings would be lost. Combining these two factors at the same magnitudes as expressed would eliminate any savings and result in an actual increase in costs over the Status Quo.

SERVER REDUCTIONS

A substantial cost savings is gained from reductions in the number of "File/Print" and "Other" servers deployed within King County, independent of staffing changes due to consolidation efforts. If server reductions are not fully realized and there are 50% more of these server types than modeled, approximately \$8.1 million (NPV) in savings are lost. Likewise, if server costs are doubled, \$22.7 million (NPV) in savings are lost, and if facilities costs are similarly increased, then \$14.3 million (NPV) in savings are potentially lost. Combining these three costs, more servers with a greater server costs in more expensive facilities, the overall projected savings are eliminated and additional costs would incurred.

²¹ This section provides an overview of the major factors impacting the CBA in terms of the Net Present Value – Please see appendix F for a detailed sensitivity analysis illustrating various scenarios and their impact on both the NPV and IRR of the model.

LABOR REDUCTIONS

By far the area of greatest impact is in the area of labor reductions. If there are 50% fewer reductions than recommended in impacted IT functions, the net present value of the savings anticipated drops by \$26.5 million. While delaying labor reductions by a year or more also has an impact, the impact is small when compared to overall reductions (a net present value of approximately \$4.6 million in lost savings.)

POTENTIAL IMPACT ON AGENCY STAFF

The following table summarizes the staffing impact of Model C on each agency. It reflects the application of the recommended reductions to current agency staff allocations as reported in the TOCT study.

IT FTE Impact by Agency

Agency/Department	Totals			
	Status Quo	Preferred Alternative	Difference	% Reductions
DOA	14.00	10.45	-3.55	-25%
KCC	2.00	0.43	-1.57	-78%
PAO	8.50	2.85	-5.65	-66%
KCSC	10.00	3.96	-6.04	-60%
KCDC	4.02	1.87	-2.14	-53%
KCSO	29.00	11.15	-17.85	-62%
Budget & KCEO	7.00	3.56	-3.44	-49%
DGHS	18.75	9.96	-8.79	-47%
DAJD	6.00	2.91	-3.09	-51%
DJA	8.00	4.56	-3.44	-43%
DDES	16.00	11.62	-4.38	-27%
DPH	53.00	26.13	-26.87	-51%
DNRP	50.50	24.11	-26.39	-52%
DOT Transit	58.49	31.30	-27.19	-46%
DOT AFR	20.25	10.95	-9.30	-46%
DES Finance	13.90	10.51	-3.39	-24%
DES HR	7.47	4.55	-2.92	-39%
DES ITS	142.03	0.00	-142.03	-100%
DES Other	13.10	6.27	-6.83	-52%
Totals	482.00	177.16	-304.84	

Note that to arrive at the figures in the table above, the following reduction factors were applied:

Reduction % by IT Functional Area²²

IT Function	Reduction %
Customer Services	-67%
System Services	-100%
Business Application Services	0%
IT Planning	-59%
IT Administration	-36%

²² The reduction percentages applied were based on Status Quo agency and DES ITS organization IT FTEs compared to the Preferred Alternative agency and central organization IT FTEs in the major IT functional areas.

The above figures were used for all agencies except ITS, which experiences a de-facto 100% reduction. See Appendix G for additional detail.

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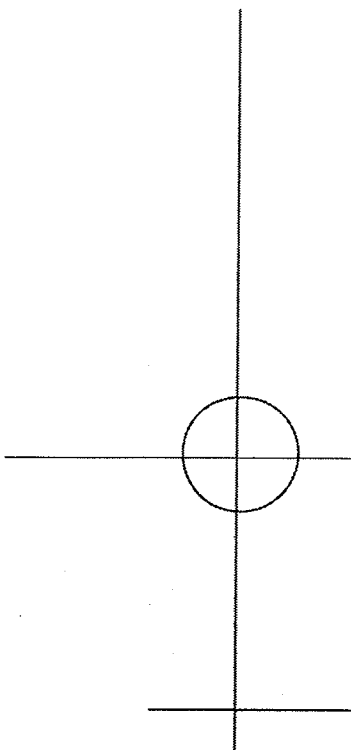
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REALIZING LABOR SAVINGS

While the potential changes in labor seem rather dramatic, we believe that they are highly achievable – keeping in mind that the end state IT labor effort reduction differs from the Status Quo by only 12%. However, realizing labor reductions as budget savings presents its own challenges. As previously noted, some percentage of these savings will likely occur as a productivity benefit, with staff relinquishing a portion of their job responsibilities to the central IT organization able to devote this “time saved” to other activities. The magnitude of the labor savings ultimately realized as budget cuts will depend upon how aggressively the County pursues headcount reductions.

To assist in understanding the options for headcount reductions, the table on the following page indicates the potential impact of our recommendations on agency staff by identifying **the total number of individuals** in each agency who spend a significant portion of their time on IT activities that will be moved to the central organization under the Preferred Alternative. It has four columns:

- ◆ **Agency** – indicates the abbreviation of the agency to which the staff currently report
- ◆ **Individuals Spending 50%-100% on Impacted Activities** – the total number of individuals who spend half their time or more on IT activities that will be centralized under the Preferred Alternative
- ◆ **Individuals Spending 75%-100% on Impacted Activities** – the total number of individuals who spend three-quarters of their time or more on IT activities that will be centralized under the Preferred Alternative (this figure represents a subset of the previous column)
- ◆ **Individuals Spending 100% on Impacted Activities** – the total number of individuals who spend ALL their time on IT activities that will be centralized under the Preferred Alternative (this figure represents a subset of the previous two columns)



Count of Individuals Spending Significant Time on IT Activities to be Centralized Under the Preferred Alternative

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Agency	Individuals Spending 50%-100% on Impacted Activities	Individuals Spending 75%-100% on Impacted Activities	Individuals Spending 100% on Impacted Activities
DOA	4	1	1
KCC	2	2	0
PAO	7	6	2
KCSC	7	7	6
KCDC	3	1	0
KCSO	26	26	13
Budget & KCEO	7	7	7
DCHS	11	9	7
DAJD	5	2	0
DJA	6	4	0
DDES	5	5	4
DPH	30	28	11
DNRP	33	28	15
DOT Transit	35	27	11
DOT AFR	14	7	3
DES Finance	4	4	2
DES HR	4	3	1
DES ITS	105	101	62
DES Other	8	4	2
Total	316	272	147

Under the Preferred Alternative, the Central IT Department would require approximately 209 FTEs to accomplish this body of work.²³

Analysis of the 209 FTEs necessary for the Central IT Department and the desired decrease in IT labor effort can help provide an indicator of how aggressively the County would have to pursue headcount reductions in order to fully realize the projected labor savings as budget cuts.

Recall that the Preferred Alternative requires an overall reduction of 12% in IT labor at the County. This translates to the loss of approximately 60 FTEs²⁴. Correspondingly, in order to fully realize the projected labor savings as budget reductions, the County will have to eliminate 60 positions.

The following table illustrates the impact of decisions to centralize or eliminate current IT positions based on the percent of time that individuals perform functions to be centralized under the Preferred Alternative.

²³ The central IT organization asks for approximately 245 FTEs, however approximately 36 of these provide business application services, a function that will not be centralized. Deducting these from the total leaves 209 FTEs to handle the remaining central services workload.

²⁴ Calculated as the difference between the Status Quo FTEs and the Preferred Alternative FTEs (482.00 FTE – 421.74 FTE = 60.26 FTE)

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Staff Transition based on % of time spent on centralized IT functions	Positions available to eliminate or repurpose	Can full budget reductions be achieved?	Estimated financial impact over 15 years
At 50% cut-off	107 (i.e., 316-209=107)	Yes	Savings of up to \$79.5 million (NPV \$49 Million)
At 75% cut-off	63 (i.e., 272-209=63)	Yes	Savings of up to \$79.5 million (NPV \$49 Million)
At 100% cut-off	None, must add 62 (i.e., 147-209=-62)	No	Increased cost of approximately \$17.3 Million ²⁵

The table indicates that the County could fully achieve the labor savings as budget reductions using a 50% cut-off by:

- ◆ Moving 209 of the individuals who currently spend 50% or more of their time on impacted activities to the Central IT Department
- ◆ Eliminating 60 positions
- ◆ Repurposing the labor effort of 47 remaining positions, in part to absorb workload of staff moved from the business units to the Central IT Department

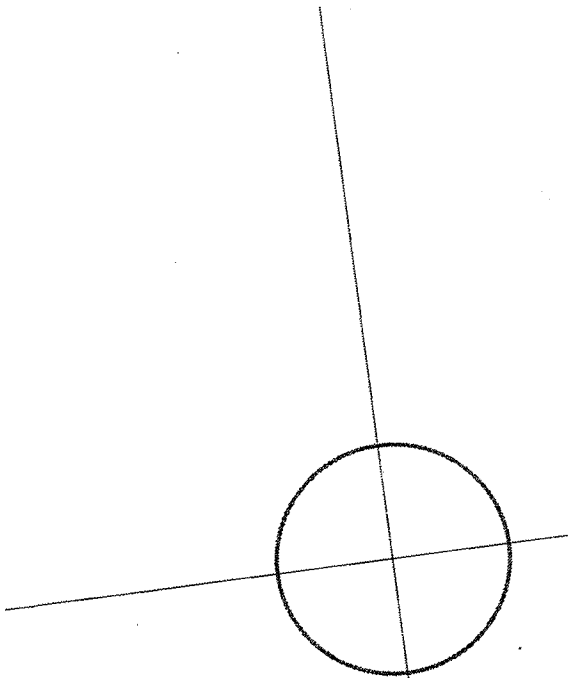
It also tells us that the County could fully achieve the labor savings as budget reductions using a 75% cutoff by:

- ◆ Moving 209 of the individuals who currently spend 75% or more of their time on impacted activities to the Central IT Department
- ◆ Eliminating 60 positions
- ◆ Repurposing the labor effort of 3 remaining positions, in part to absorb workload of staff moved from the business units to the Central IT Department
- ◆ Note that this would likely leave some labor deficit in the business units, as not enough staff would remain to absorb the work that did not move to the Central IT Department, but was performed by staff who did move (or whose positions were eliminated)

Finally, it indicates that the County can not fully achieve the labor savings as budget reductions using a 100% cutoff, as not enough staff will be available to handle the workload of the Central IT Department. In fact, under this scenario, the County would have to hire 62 additional individuals, significantly increasing costs over the Status Quo.

²⁵ Additional costs were calculated by distributing additional FTE increases across all impacted IT functional areas.

CHAPTER 4



recommendations

This chapter presents Pacific Technologies' IT organization, transition and management recommendations, organized as follows:

- A. Organization Recommendations
- B. Roles and Responsibilities
- C. Governance Considerations
- D. Transition Strategy
- E. Benefits and Risks

A. ORGANIZATION RECOMMENDATIONS

The recommendations outlined in this section are specifically crafted to address the problems articulated in Chapter 2 of this report. Notably, they center on improving infrastructure management, enhancing security, reducing service and infrastructure redundancies, achieving greater cost efficiencies, and implementing quantitative measures related to IT performance.

Moreover, these recommendations are directed toward meeting the County's revised IT vision of utilizing information and technology to *enable effective public services and streamline operations*. In alignment with King County's associated IT goals, the organizational recommendations defined herein will enable the County to:

- ◆ Create IT efficiencies countywide for common business functions and infrastructure
- ◆ Improve the reliability – and decrease overall costs – of the County's technical and application architectures
- ◆ Provide responsive core IT services – allowing King County agencies and departments to focus more exclusively on the business applications that serve the public and other jurisdictions
- ◆ Improve IT security and privacy via effective standards and enforcement
- ◆ Enhance IT governance, accountability and communications
- ◆ Facilitate internal and external information sharing
- ◆ Enhance the County's environment for recruiting, deploying and retaining a skilled IT workforce

Based on Model C as the Preferred Alternative, **PTI recommends that King County create a new Central IT Department** – rather than attempt to simply recast the current OIRM and ITS organizations.

The new department would be responsible for the majority of IT “utility” services (e.g., activities related to supporting the County's networks, servers, and workstations). At the same time, **the provision of business application services would not be altered**. Individual agencies and departments would still be responsible for their own application support and associated internal staff training – the areas of greatest *business* value.

The new department would also be responsible for overall IT planning and governance – functions managed by the Office of Information Resource Management today. With the County's existing, highly-distributed approach to IT planning, maintaining a separate organization devoted exclusively to IT governance makes sense. Under a more centralized service delivery model, we believe that folding these responsibilities into the Central IT Department will improve both the efficiency and overall effectiveness of the County's IT

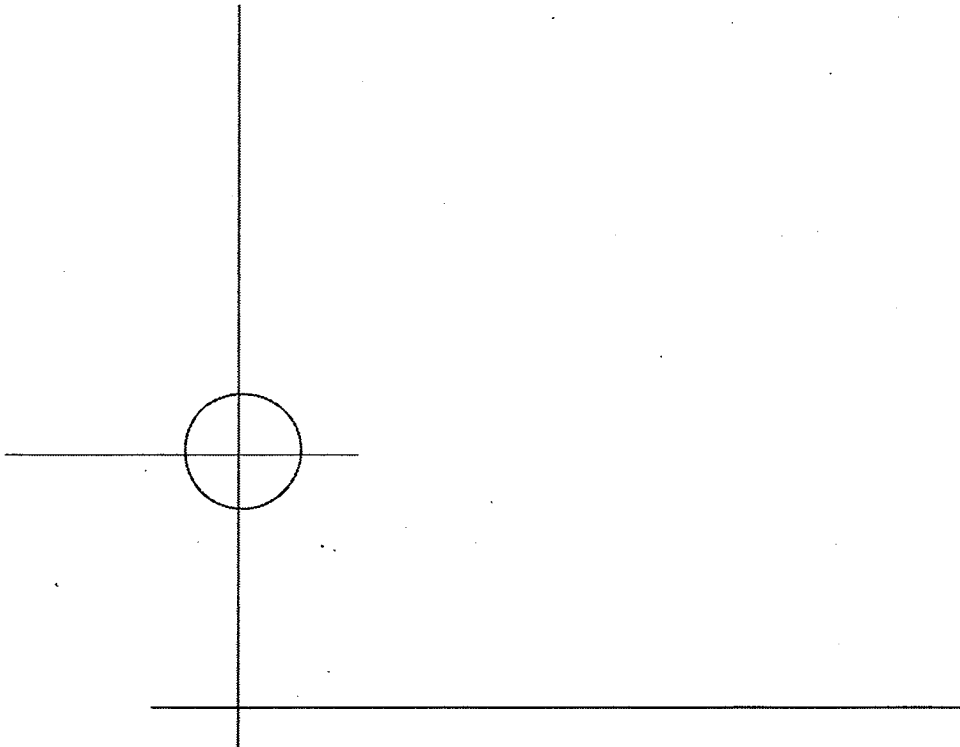
planning efforts. The peer survey also supports this approach, as six of the seven responding chief information officers indicated that they had direct operational responsibilities.

We understand that creating a new department represents a major undertaking for the County. Given the magnitude of this organization's responsibilities, and the need for its leadership to be able to work effectively with senior management from other County agencies, we believe that Department status is appropriate.

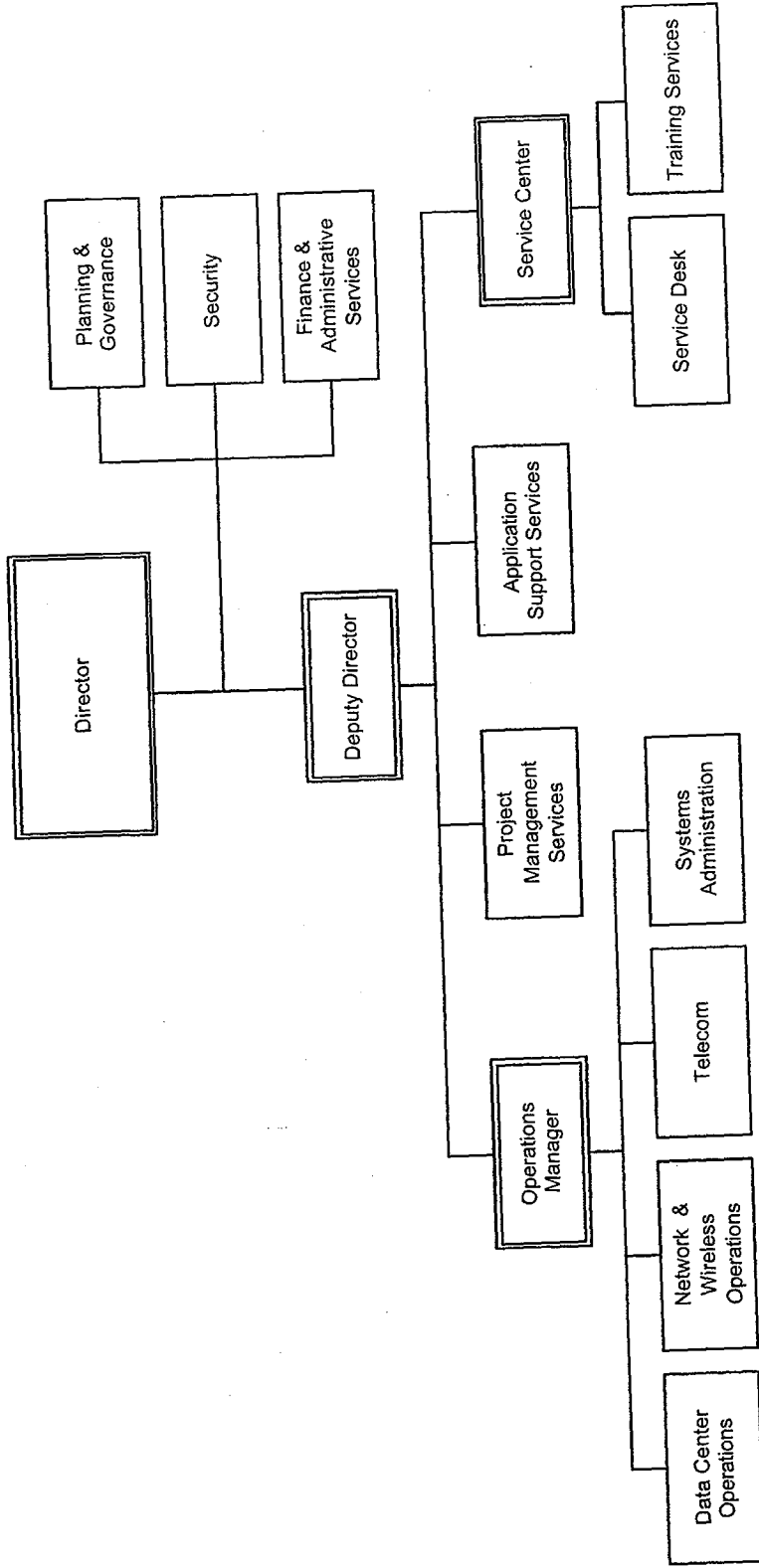
We further recommend that the County fill senior management positions in the new IT department – particularly the director position – through a competitive hiring process. This recommendation is not intended to reflect on the capabilities of current senior IT management at the County. Rather, it recognizes the fact that the new director position has broader responsibilities than any existing County IT position. This approach will also help encourage development of a new organization from a clean slate, which may ease concerns that some agencies have expressed about the ability of existing service providers to supply adequate service levels.

ORGANIZATION CHART

The following pages present PTI's recommended configuration for the new Central IT Department, a sample agency/department IT support model, and attendant responsibilities within each organization. Note that, while we believe the suggested organization construct would adequately serve the County's needs, the new Central IT Department Director – as well as agency directors – should have input regarding the ultimate organizational structures, as authorized by the Council.



CENTRAL IT DEPARTMENT: RECOMMENDED ORGANIZATION CHART



- ◆ A new Central IT Department is created, with an open recruitment effort for a new management team
- ◆ Existing agency/department support staff not responsible for business applications are moved to the new department, as appropriate
- ◆ Agencies/departments will need to reorganize to accommodate migration to the Preferred Alternative

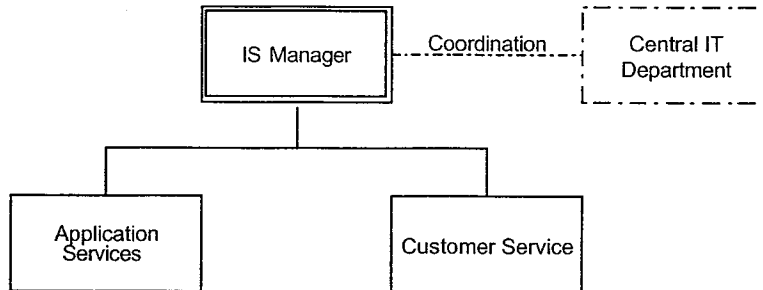
The following page summarizes the major responsibilities for each component of the new Central IT Department. A sample agency/department IT organizational structure follows the Central IT Department responsibility descriptions.

Central IT Department: Organization Overview

Organizational Component	Responsibility
Director	Oversight of organization, planning, budgeting, outreach, governance and strategic direction; reports to the King County Executive
Security	Establishes and enforces minimum IT security standards for all agencies/units handles exceptions, develops and communicates "best practices," conducts threat assessments and incidence response planning, coordinates incidence response with agencies/departments; reports to the Director
Planning & Governance	Provides regional and internal planning, assists with agency/departments IT planning, coordinates IT research and development, coordinates Communities of Interest, and facilitates interagency communications; reports to the Director
Finance & Administrative Services	Management of finance and administrative functions of the Central IT Department, procurement and asset management, budgeting; reports to the Director
Deputy Director	Oversight of organizational units, budgeting; reports to the Director
Operations Manager	Oversight of Data Center Operations, Network and Wireless Operations, Telecommunications and Systems Administration; budgeting; reports to the Director
Data Center Operations	Day-to-day data center operations, service and support
Network & Wireless Operations	Day-to-day network, wireless and radio infrastructure and equipment support
Telecommunications	Day-to-day administration of servers
Systems Administration	Oversight/management of central IT projects; management of IT projects on behalf of agencies, coordination with agencies/departments on IT related projects, budgeting, and staff assignments; reports to the Deputy Director
Project Management Services	Oversight/management of application support provided to agencies (under contract), budgeting, staff assignments and the day-to-day support of applications and related services; reports to the Deputy Director
Application Support Services	Oversight/management of Service Center operations, budgeting, and staff assignments; reports to the Deputy Director
Service Center	Day-to-day operations of the call center, delivering assistance to all agencies/departments
Service Desk	Day-to-day operations of IT training support of agency/departments staff
Training Services	

The chart on the following page presents a high-level depiction of a sample agency IT support organization under the Preferred Alternative, followed by summary descriptions of responsibilities for each organizational component.

AGENCY/DEPARTMENT IT SUPPORT: SAMPLE ORGANIZATION¹



Agency/Department IT Support: Sample Organization Overview

Organizational Component	Responsibility
IS Manager	<ul style="list-style-type: none"> ◆ Agency strategic IT planning in coordination with Central IT Department ◆ Managing agency IT staff ◆ COI representation, as applicable ◆ Manages service relationships with Central IT Department: <ul style="list-style-type: none"> • SLAs, including problem escalation and billing issues • Other contract services, as needed • First point of dispute resolution • Coordination with any co-located staff from the Central IT Department ◆ Budgeting ◆ TMB representation ◆ Agency IT governance ◆ Manage vendor relationships and contract management
Application Services	<ul style="list-style-type: none"> ◆ Business requirement and analysis ◆ Application design ◆ Project management ◆ Assist in application procurement ◆ Application maintenance and package support ◆ Data administration ◆ Testing ◆ Research and development
Customer Service	<ul style="list-style-type: none"> ◆ Business applications and processes training ◆ Telephone/desk-side business application support

B. ROLES AND RESPONSIBILITIES

This section expands upon the roles and responsibilities outlined in the previous section, including further explanation of the relationship between the agency and centralized functions. The majority of this information is presented in table format, utilizing a set of icons to facilitate comprehension and readability.






¹ A small agency/department would entail only the IT Manager and Application Development organizational units, with the Customer Services responsibilities being folded into Application Services

The section is organized as follows:

- ◆ Definition of Roles
- ◆ Summary Overview
- ◆ Responsibilities
- ◆ Conclusions

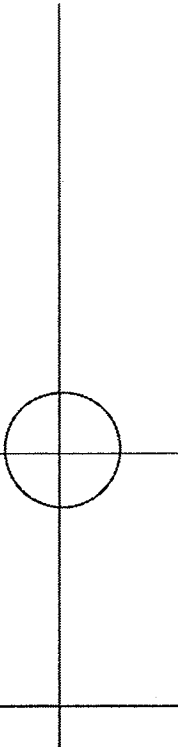
DEFINITION OF ROLES

The following list identifies the roles of the new department and those of all other agencies/departments. It also provides a key to the icons and associated labels used throughout the remainder of this section.

-  **Prioritizes** – Determines the importance/rank of an activity, project or initiative in comparison to all others currently being implemented or under consideration
-  **Provides Service** – Delivers IT service to or within agencies or departments, and monitors/adjusts service quality based on client/customer feedback, existing service standards, and internal review
-  **Sets Standards** – Determines standards for operations, customer service, equipment, security or other IT functions as required
-  **Contracts for service** – Contracts with internal or external service providers for an IT service and negotiates service level agreements appropriate to need
-  **Participates** – Is involved in the process of IT decision making or service delivery while not primarily responsible for making the final decision or for delivering services

SUMMARY OVERVIEW

The following table summarizes the roles of the Central IT Department, as well as the County's other agencies and departments. The table is organized by IT function², consistent with PTI's IT strategic planning framework and the approach to developing the staffing assumptions for the CBA.



² Refer to the glossary (Appendix G) for definitions of IT functions used in this study.

Roles and Responsibilities Summary Table

Icon Key	
Prioritizes	Provides Service
Sets Standards	Contracts for service
Participates	

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IT Function	Responsible Unit	
	Central IT Department	Agency/ Department
Customer Service		
Tier 1 (Help Desk)		
Tier 2 (Hardware/Device Support)		
Business Application Support ³ (Help Desk)		
Training		
System Service		
Network Connectivity		
Workstation Administration		
Server Administration		
Mainframe Operations & Administration		
Data Center Operations		
Database Administration		
Security Administration		
Telephone Systems Support		
Business Application Services		
Agency Business Application Support		
IT Planning		
Strategic Planning & Governance		
Research & Development		
Business Continuity Planning		
IT Administration		
Asset Management		
IT Procurement		
Project Management		
Standards & Policy Development		
Administrative Support		
Department IT Management		

The following section provides a full description of each of the above functional areas by responsible unit.












³ NOTE: Customer service-oriented *Business Application Support* refers to addressing inquiries and trouble calls related to business software via the Help Desk. This differs from *Business Application Services*, which center on software development, maintenance and administration.

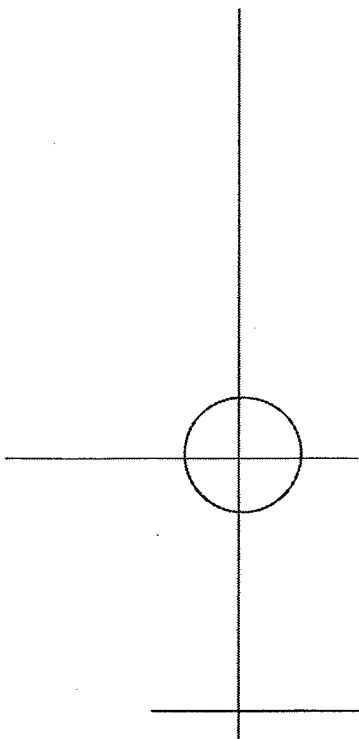
RESPONSIBILITIES

The following tables provide a more detailed definition of responsibilities, by IT functional area and functions, for both the Central IT Department and the other County agencies/departments.



CUSTOMER SERVICES

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Customer Services	Responsible Unit	
	Central IT Department	Agency/ Department
Tier 1 (Help Desk)	<p> Prioritizes Fields service calls and prioritizes requests</p> <p> Provides Service Responds appropriately to service requests based on priorities, routes calls to appropriate central IT groups, dispatches Tier 2 staff as necessary</p>	<p> Contracts Contracts with the Central IT Department for service level agreements (SLAs)</p> <p> Participates Participates with the Central IT Department and IT governance bodies on setting service standards and identifying feedback mechanisms</p> <p> Prioritizes Works with Service Center staff to prioritize critical trouble calls</p>
Tier 2 (Hardware/Device Support)		
Business Application Telephone Support	<p> Provides Service Provides service/support for business applications as contracted</p>	<p> Provides Service Provides service/support for business applications</p> <p> Contracts Contracts with the Central IT Department for support as needed</p>
Training	<p> Provides Service Provides IT training services and training support opportunities and/or coordination of training for agencies and departments</p>	<p> Provides Service Provides training on business applications</p> <p> Contracts Contracts with the Central IT Department for other IT training as needed</p>

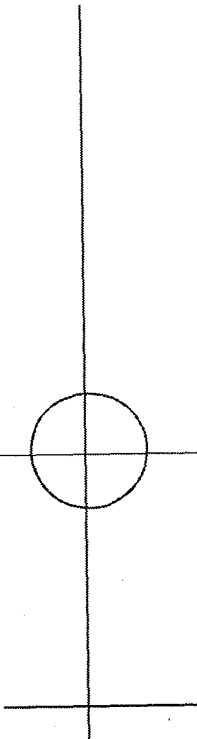


SYSTEMS SERVICES

Systems Services	Responsible Unit	
	Central IT Department	Agency/ Department
Network Connectivity	<p> <u>Provides Service</u> Provides direct service and support to all agencies within King County, manages/maintains all related hardware, infrastructure and equipment; monitors service agreements and customer service in partnership with agency representatives</p>	<p> <u>Contracts</u> Contracts with the Central IT Department for services utilizing appropriate SLA s; provides feedback on service quality</p>
Workstation Administration		
Server Administration		
Mainframe Operations & Administration		
Data Center Operations		
Database Administration		
Security Administration		
Telephone Systems Support		

BUSINESS APPLICATION SERVICES

Business Application Services	Responsible Unit	
	Central IT Department	Agency/ Department
Agency Business Application Support	<p> <u>Provides Service</u> Provides agency business application support for agencies that choose to contract for this service from the Central IT Department</p> <p> <u>Participates</u> Participates with agencies in determining support needs</p>	<p> <u>Provides Service</u> Provides agency business application support for individual agency needs</p> <p> <u>Contracts</u> Contracts with the Central IT Department for SLAs related to application support requirements</p>



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IT Planning	Responsible Unit	
	Central IT Department	Agency/ Department
Strategic Planning & Governance	<p>✘ Provides Service Develops and implements approved countywide IT plans in conjunction with agency participation</p> <p>★ Sets Standards Identifies and enforces IT standards for the County (e.g., desktop, server, application architectures)</p> <p>! Prioritizes Works with agencies to establish priorities for major initiatives</p>	<p>⊙ Participates Works in partnership with the Central IT Department through participation in the Business Management Council (BMC), Communities of Interest (COI) and other governing/planning bodies⁴</p> <p>✘ Provides Service Develops individual agency IT plans</p> <p>! Prioritizes Works with Central IT Department to establish priorities for major initiatives. Sets priorities for agency initiatives.</p>
Research & Development	<p>✘ Provides Service Investigates, tests and documents products and services that may be applicable for deployment within the Central IT Departments as well as those that may have countywide utility</p>	<p>✘ Provides Service Investigates, tests and documents application-related products and services specific to the agency that may improve the overall service delivery and operational efficiency of the agency</p>
Business Continuity Planning	<p>✘ Provides Service Researches, drafts and circulates disaster planning documentation for all IT efforts; tests/implements plans as appropriate</p>	<p>⊙ Participates Coordinates with Central IT Department on business continuity planning and participates in recovery-related planning efforts as required (e.g., business impact analysis)</p>

⁴ Governance is addressed in section C of this chapter.

IT ADMINISTRATION

IT Administration	Responsible Unit	
	Central IT Department	Agency/ Department
Asset management	<p>✘ <u>Provides Service</u> Tracks, manages, and reports upon IT assets countywide</p>	<p>✘ <u>Participates</u> Communicates with the Central IT Department on asset status and procurement needs</p>
IT Procurement	<p>✘ <u>Provides Service</u> Develops procurement strategy for IT-related goods and services, determines upgrade/replacement cycles in conjunction with other agencies/departments/units, places orders, and tracks warranties and service agreements</p>	
Project Management	<p>✘ <u>Provides Service</u> Manages central IT projects and multi-agency projects, and provides expert project management assistance to agency/department IT projects</p>	<p>✘ <u>Provides Service</u> Manages business projects, with coordinating assistance from the Central IT Department as appropriate</p>
Standards & Policy Development	<p>✘ <u>Provides Service</u> Researches and drafts standards for hardware, software, services, operations and operating policies and procedures for IT countywide</p>	<p>✘ <u>Participates</u> Works in partnership with appropriate governance bodies and by providing feedback based on individual agency needs</p>
Administrative Support	<p>✘ <u>Provides Service</u> Provides IT administrative support within the Central IT Department, as well as ad hoc clerical support for inter-agency IT projects</p>	<p>✘ <u>Provides Service</u> Provides individual agency/department-specific IT administrative support</p>
Department IT Management	<p>✘ <u>Provides Service</u> Manages the Central IT Department</p>	<p>✘ <u>Provides Service</u> Manages IT within individual agencies/departments</p>

C. GOVERNANCE CONSIDERATIONS

This section presents governance considerations pertaining to the recommended IT organizational model. It includes material related to overall IT governance, along with recommendations related specifically to transitioning to the new IT organization model

In general, ongoing IT governance largely would be handled by existing bodies (e.g., the Business Management Council, Strategic Advisory Council, etc.) with some modifications to their operating charters to accommodate necessary changes – and to address concerns expressed during interviews with County management. In addition to these groups, new sub-groups would be created around Communities of Interest (COI) to optimize the application portfolio and improve cross-functional, application-related decision making.

In the following subsection we present the “current state” of existing governance bodies contrasted by their future “end states” in the context of the Preferred Alternative. Governance recommendations for transitioning to the new IT organizational model follow that discussion.

OVERALL IT GOVERNANCE

PTI’s interviews with County directors and managers identified the following chief concerns surrounding current IT governance:

- ◆ The process is very resource- and overhead-intensive; correspondingly, it is expensive – as high-cost personnel attend the meetings
- ◆ Representatives of the BMC and TMB often feel uncomfortable making decisions outside their individual areas of expertise (e.g., someone from the court making software decisions about transportation projects, etc.)
- ◆ The perceived conflict between OIRM and ITS has negatively impacted the effectiveness of IT governance at the County
- ◆ Current IT governance processes are, to some degree, an over-reaction to problems associated with the original financial system replacement project
- ◆ Some are frustrated with the advisory nature of the governance committees and would like them to have more authority

With this in mind, the following presents a summary of “current-state” governance bodies⁵ and related “future-state” considerations.

⁵ Information on the existing governance bodies is quoted from the King County Office of Information Resource Management web site and appropriate sub-sections of the site at <http://www.metroKingCounty.gov/oirm/governance.aspx>.

Chief Information Officer

Current State

The Chief Information Officer (CIO) advises all branches of the County government on IT issues and provides vision and coordination in IT management and investment across the County. Currently, the CIO directs the OIRM, chairs the various related IT governing bodies, reports to the King County Executive and advises independent electeds and agencies/departments on IT related matters.

Future State

In the future state, the new Director of the Central IT Department effectively replaces the CIO, expanding the current role to include responsibility for a much larger and more comprehensive IT services organization than the current OIRM. In this capacity, the Director of the Central IT Department would have oversight and management authority of this new organization – which would include day-to-day IT operations responsibilities, currently under the aegis of ITS.

Business Management Council (BMC)

Current State

The current stated role of the BMC is “to advise the County’s Chief Information Officer in developing short-term, mid-term and strategic business objectives for information technology at the agency level and in recommending business application proposals for funding.”

Future State

The BMC would continue to function as an advisory group, with the same scope of responsibilities. Additionally, in the future state, the BMC would direct and manage a small set of sub-committees organized around specific Communities of Interest⁶ (COI). The COI would provide business application-specific expertise and analysis to address key, cross-functional software needs at the County. This will assist the BMC members in making application-related decisions regarding areas outside of their business focus/understanding – and help highlight opportunities for cross-agency/department cooperation on major IT initiatives.

Technology Management Board (TMB)

Current State

The TMB is responsible for “advising the County’s Chief Information Officer on technical issues including policies and standards for privacy and security, application, infrastructure and data management.”

Future State

The role of the TMB will be greatly reduced over time – as previously indicated, infrastructure and security-related policies and standards will be handled by the Central IT Department. Ultimately, the remaining responsibilities of the current TMB (i.e., policies and standards for applications and data management) would be absorbed by the Communities of Interest – reporting to the BMC, as directed. Doing so will help streamline existing bureaucracy, reduce governance time and expense, and help the BMC make informed IT decisions around software and information sharing.

⁶ Communities of Interest (COI) are detailed later in this section.

Strategic Advisory Committee (SAC)

Current State

The current responsibilities of the SAC entail “advising the County’s Chief Information Officer in developing long-term strategic objectives for IT deployment countywide.”

Future State

The SAC would continue to function in the same manner, advising the Director of the Central IT Department.

Project Review Board (PRB)

Current State

The PRB is involved in “advising the County’s Chief Information Officer in implementing the project management guidelines developed by the central information technology project management office” and “may assume the project oversight role assigned to the project management office.”

Future State

The PRB would continue to function in the same manner, advising the Director of the Central IT Department.

Overall, PTI believes it makes sense to retain the current advisory nature of the County’s governance committees – rather than charter them with more authority. In our view, this approach will enable the new Central IT Department Director to appropriately receive key stakeholder input without hampering his or her ability to effectively steward the new department – and countywide-deployed, centrally-managed IT resources.

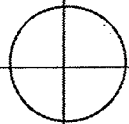
COMMUNITIES OF INTEREST (COI)

Communities of Interest do not currently exist within the IT governance structure of King County. They represent a shift from the present IT governance model.

As previously indicated, the BMC and TMB currently segment business-related IT issues from the technical/infrastructure issues of IT governance. In the future state, the majority of technology infrastructure policies and standards will be addressed by the Central IT Department. The software needs of individual agencies would still surface in the BMC. Communities of Interest, ultimately, would fill the advisory gap that remains by serving as technically-literate subcommittees to the BMC regarding the County’s cross-functional business application needs.

COIs would form around broad areas of common or related business activities, comprised of staff drawn from individual agencies/departments involved in business application support within those areas. As a starting point, groups could center on the following general categories of interest:

- ◆ Justice
- ◆ Land
- ◆ Transportation
- ◆ Health
- ◆ Administration



Each of these Communities of Interest would be charted under the BMC to analyze and surface high-priority areas for investment, highlighting potential opportunities for integration of applications and data, as well as the potential for pooling resources (i.e., capital, hardware, software, and personnel). To be more specific, the Communities of Interest would be responsible for:

- ◆ Recommending solutions to business concerns that cross agency/departmental boundaries
- ◆ Improving data flow and application integration across related business areas
- ◆ Providing input on potential costs, benefits and risks (e.g., business case development)
- ◆ Identifying opportunities and developing strategies for potential application consolidation and IT resource sharing to better address business needs, extend/enhance service levels, and streamline operations
- ◆ Educating and informing the BMC regarding cross-functional IT policies, procedures and standardization

It is worth noting that the **Communities of Interest would not be operational entities** with separate budget, resource and/or project implementation responsibilities. Rather, they would function as advisory groups in support of the BMC – representing an informed cross-section of stakeholder perspectives sharing common service objectives – to fill an unmet governance need at the County.

Under the aegis of the BMC, COI groups will also develop business cases aimed at rationalizing and enhancing the County's business application portfolio. As the transition plan outlined later in this chapter indicates, the initial business cases will focus on potential "high yield" applications that may benefit from consolidation efforts. These studies will surface opportunities to eliminate redundancies, enhance integration, and achieve long-term cost efficiencies. Accordingly, our cost assumptions include a \$1 million budget allocation directed toward this effort to fund the active involvement of COI representatives in the analysis and development of these application-oriented studies.

TRANSITION PROJECT GOVERNANCE

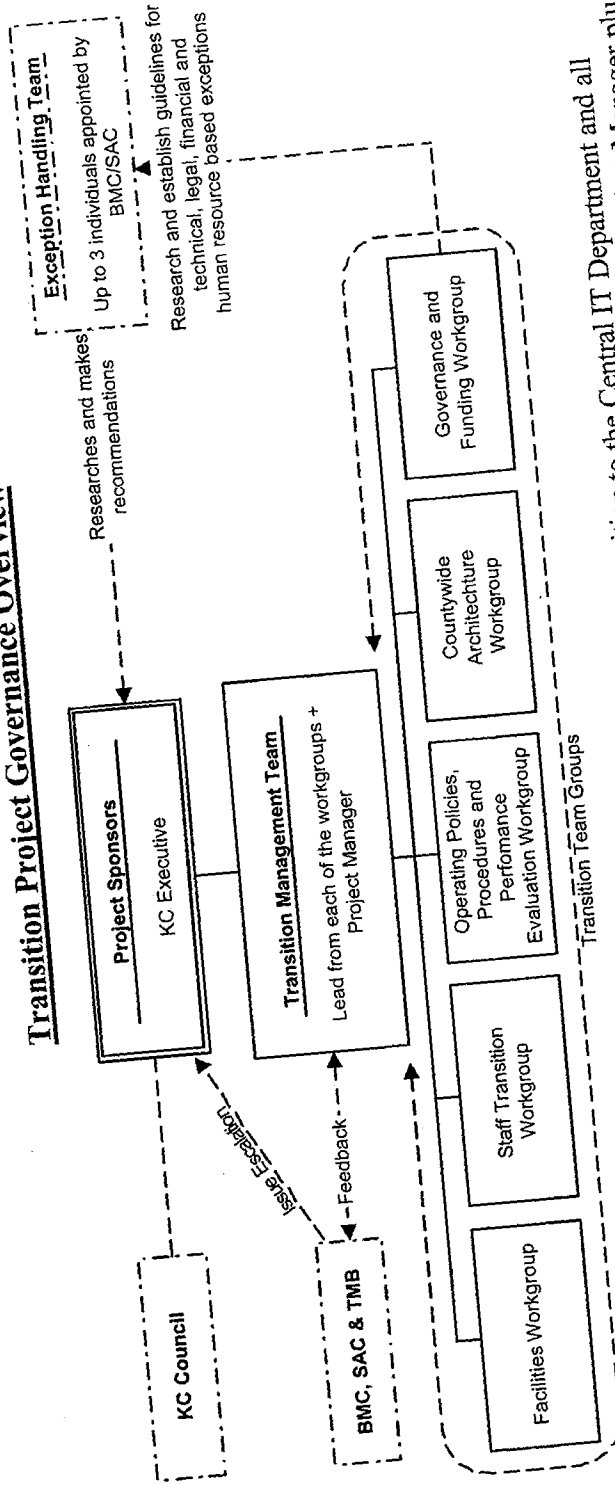
The preceding subsection addressed governance considerations surrounding the new IT organization *end-state*. This subsection speaks to the need for governance structures that will effect a smooth *transition* to the recommended model.

In broad terms, the governance structures for transitioning to the new IT model should include:

- ◆ Clear lines of authority for day-to-day project management, policy issue resolutions, and exception approval
- ◆ A detailed exception process, including cogent guidelines for handling exception requests and mechanisms for their research, review and approval
- ◆ Streamlined decision making, with clearly-articulated responsible parties
- ◆ Ample opportunity for stakeholder input through existing King County governance mechanisms – including escalation processes as necessary for directors/independent electeds
- ◆ A defined end-state with associated measures, reporting, and feedback mechanisms

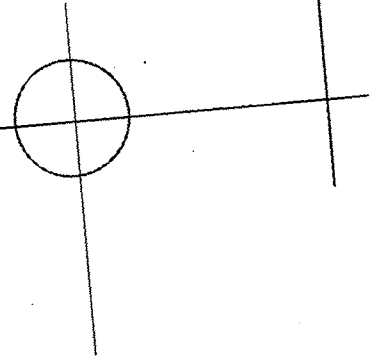
The illustration on the following page provides an overview of Transition Project Governance.

Transition Project Governance Overview



In the graphic above, the Project Sponsors are responsible for directing the transition to the Central IT Department and all associated projects. Project Sponsors manage the Transition Management Team which is comprised of a Project Manager plus a lead from each of the Transition Team workgroups. The Transition Team workgroups are staffed from the agencies/departments with individuals who have relevant experience in the activities of the specific workgroups. These groups "do the work" of coordinating transition activities. The BMC, SAC and TMB are involved in providing feedback to the Transition Management Team and for providing endorsement of project activities to the Project Sponsors – as well as escalating issues raised by agencies/departments that are unresolved by the Exception Handling Team. The Exception Handling Team researches issues and makes recommendations to the Project Sponsors regarding exceptions to transition projects being implemented by the workgroups. The King County Council is kept informed of the progress of the transition by the Project Sponsors. Departments/agencies are involved in the transition process through the IT governing bodies, transition team representation, and may also surface concerns to be actively addressed through the Exception Handling Team, when appropriate.

The tables on the following two pages further describe the primary responsibilities of each participant in this transition model.



Transition Group Descriptions

Transition Participant	Responsibilities
Project Sponsors King County Executive	<ul style="list-style-type: none"> ◆ Provide overall leadership for the transition ◆ Keep abreast of progress and communicate with the King County Council to keep the Council informed of progress ◆ Make final decisions on major project issues, including final approval of exceptions
Transition Management Team Project Manager and leads from each of the Transition Team Groups	<ul style="list-style-type: none"> ◆ Oversees transition process through planning and implementation ◆ Develops project policies and procedures ◆ Guides team groups ◆ Coordinates with the BMC, SAC and TMB governing bodies by keeping them informed of progress, and soliciting feedback from these groups ◆ Provides outreach and coordination with agencies when required ◆ Hires and manages resources supporting the transition ◆ Participates in exception processes
Transition Team Groups Staff drawn from existing IT and other groups within King County who have the relevant experience and knowledge to effect a smooth transition in each of the designated specialized areas listed below. Augmented with additional resources as necessary.	<ul style="list-style-type: none"> ◆ Implements in whole or in part activities associated with the transition, with leads participating on the Transition Management Team. Individual Transition Team Workgroup descriptions follow.
Facilities Workgroup Staffed as needed	<ul style="list-style-type: none"> ◆ Implements activities requiring facilities and associated needs (e.g., a new data center) related to the transition
Staff Transition Workgroup Staffed as needed	<ul style="list-style-type: none"> ◆ Implements HR-oriented activities and addresses associated issues (e.g., bargaining unit considerations) related to the transition ◆ Effects staff transitions
Operating Policies, Procedures and Performance Evaluation Workgroup Staffed as needed	<ul style="list-style-type: none"> ◆ Develops operating policies and procedures, performance standards ◆ Develops service baseline measures ◆ Establishes performance evaluation milestones for the transition ◆ Conducts a post-implementation review to assess attainment of desired transition goals

Transition Participant	Responsibilities
Countywide Architecture Workgroup Staffed as needed	<ul style="list-style-type: none"> ◆ Implements activities related to telecommunications, wireless and network/data communications necessary for the transition ◆ Manages enterprise architecture review and standardization
Governance and Funding Workgroup Staffed as needed	<ul style="list-style-type: none"> ◆ Implements activities related to transition governance, including development of the exception process, securing of funding for the transition, and development of funding mechanisms for the new Central IT Department (e.g., charge-back algorithms)
King County Council Elected representatives	<ul style="list-style-type: none"> ◆ Kept apprised of transition activities and overall transition progress ◆ Conducts legislative review/revision as appropriate and necessary to ensure a successful transition
BMC, SAC, TMB, etc. Composed as chartered	<ul style="list-style-type: none"> ◆ Kept updated on transition status ◆ Provides feedback on activities related to their governing areas and expertise to inform the Transition Management Team on any key issues or concerns
Exception Handling Team Three individuals appointed by project sponsor with recommendation from BMC	<ul style="list-style-type: none"> ◆ Processes exception requests from agencies and departments by conducting relevant research ◆ Forwards recommendations for approval to the Project Sponsors

D. TRANSITION STRATEGY

This section outlines the major transaction activities and an associated schedule for successfully migrating to the new IT organizational model.

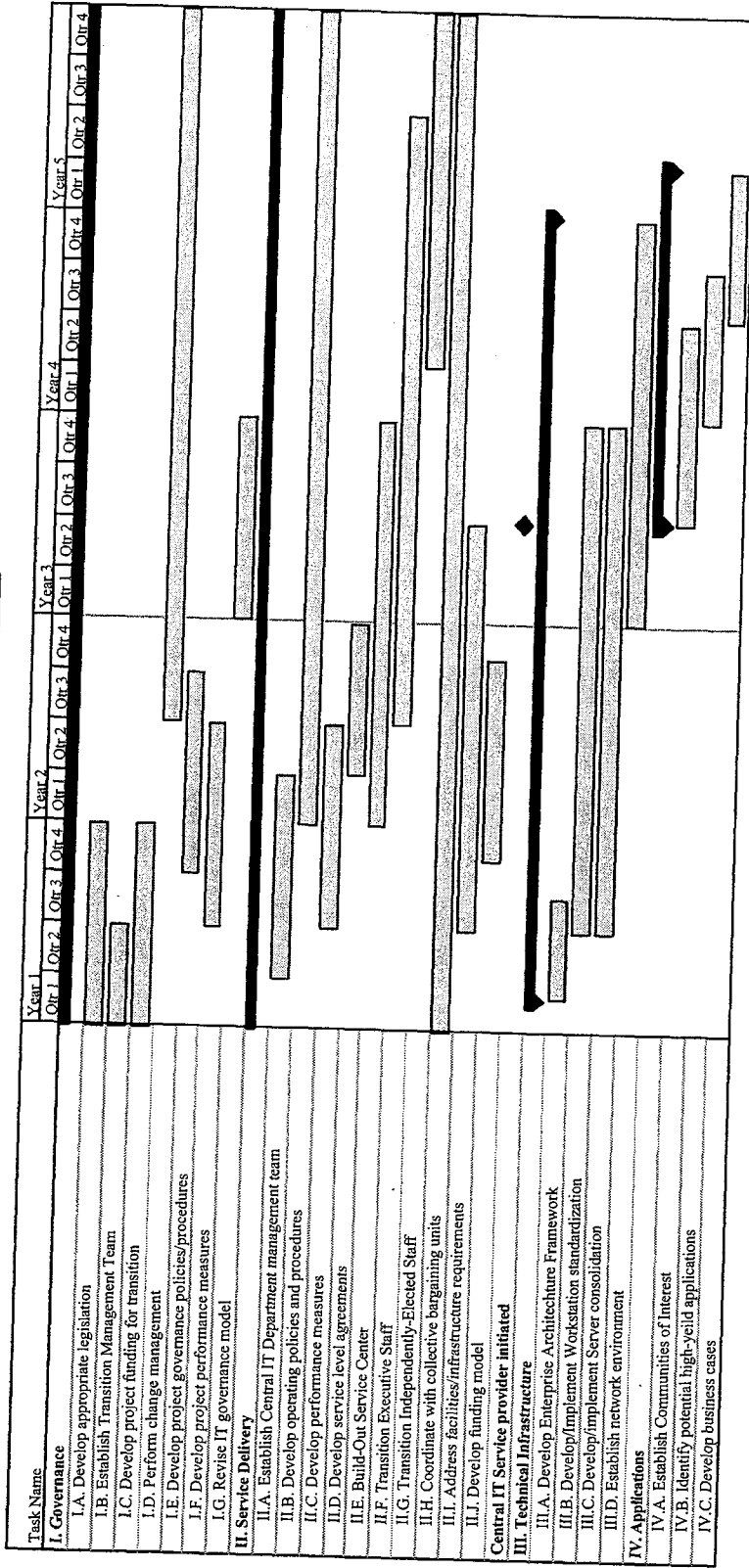
Given the potentially divisive nature of the transition, and the politics involved in any radical organizational change, **King County should start the transition process where the project sponsors have the greatest possible success: agencies and departments that directly report to the King County Executive.** In doing so, the Central IT Department could be created relatively quickly to demonstrate the efficacy of the model, build service credibility, and prove the cost-effectiveness of the new department. Once established – and the benefits are well-communicated – centralized IT services could be extended to the other branches of government in a planned, phased manner.

A key component of the transition strategy is a thoughtful and well-executed approach to change management. As described later in this section, these efforts must focus on engendering commitment to, belief in, and excitement around a new, countywide IT culture.

PROPOSED TIMELINE

The following Gantt chart depicts the major transition activities and their timing, addressing all three branches of government.

Proposed Transition Timeline



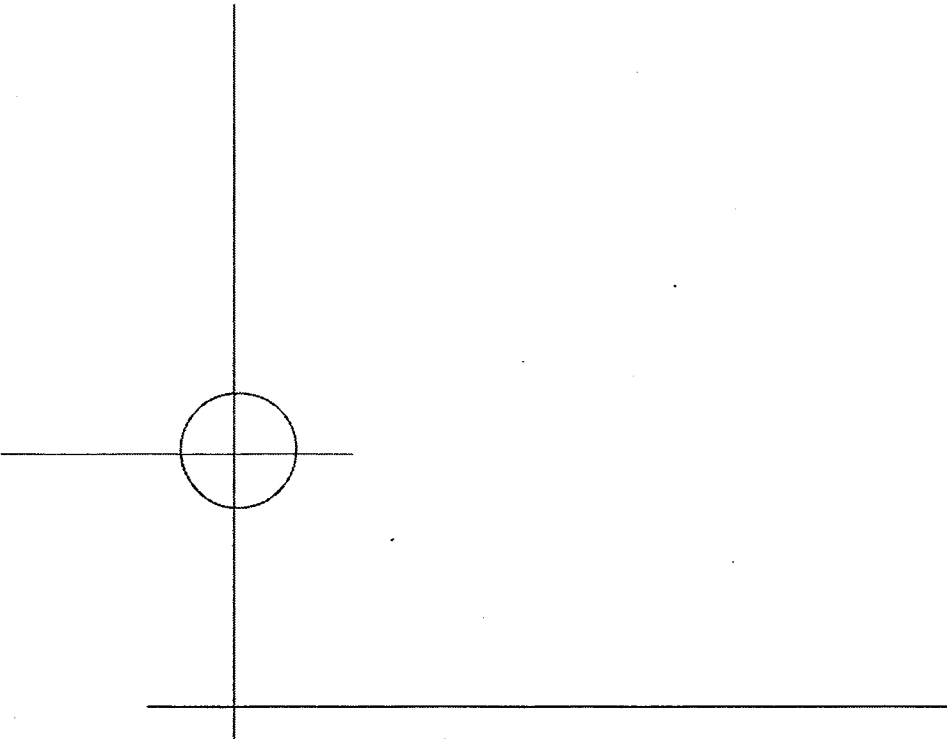
The remainder of this section offers a more detailed description of each transition activity. King County will need to refine the overall timeline predicated on more in-depth analysis, other King County initiatives, and resource constraints.

TRANSITION ACTIVITIES

As the Gantt chart indicates, we organized the activities required to make a successful transition to the new IT organization model as follows:

- ◆ **Governance** – the establishment of IT decision-making structures, policies, and operations
- ◆ **Service Delivery** – the establishment of the Central IT Department and related staff transitions
- ◆ **Technical Architecture** – the standardization of the County IT architecture and related technical projects
- ◆ **Applications** – the establishment of COIs and identification of applications for potential consolidation

The tables on the next several pages define the major activities within each of these transition project “threads,” with brief descriptions of each underlying activity.





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Transition Activities Summary

Transition Activity	Description
1. Governance	Review of existing legislation for applicability and draft new legislation where appropriate to facilitate creation of the Central IT Department and transition to the new organizational model.
A. Develop appropriate legislation	
1. Identify existing legislative issues regarding establishment of new department	
2. Seek legislation as required	Put in place the transition team leaders (appointed by the project sponsor), and staff the associated workgroups to initiate transition planning efforts ⁷ .
B. Establish the Transition Management Team	
1. Appoint the transition team manager and leads for each workgroup	
2. Staff the workgroups as needed	Seek to obtain funding sources for key projects related to the transition project (e.g., workstation standardization, server consolidation, etc.), and staffing/training needs.
C. Develop project funding for transition	
1. Build Council support	Develop and implement change management plans to support a successful transition.
2. Identify funding sources	Put in place the decision-making structures and processes related to the transition effort.
3. Secure funding for full transition	Draft and implement transition and end-state performance measures to track and report upon transition project progress.
D. Perform change management	
E. Develop project governance policies and procedures, including exception handling	
F. Develop project performance measures	

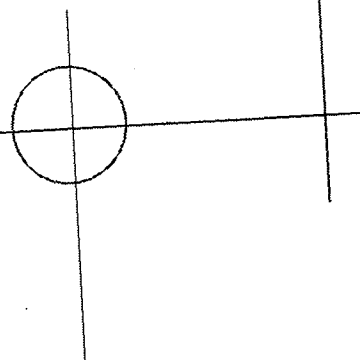
⁷ Staffing levels of the transition team workgroups will decrease through the transition period as the Central IT Department becomes active and takes on the work originally started by the workgroups – essentially, once the requisite portions of the Central IT Department become active, the workgroup originally handling similar duties is phased out.



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Transition Activity	Description
<p>G. Revise County IT governance model to support new organizational model</p>	<p>Review current IT governance and rework applicable structures – refer the section in this chapter on IT governance for more detail.</p>
<p>II. Service Delivery</p>	
<p>A. Establish management team</p>	<p>Initiate a search for open management positions for the new Central IT Department, recruit and retain qualified candidates. On an interim basis, put in place an Acting Director to ensure that progress occurs in the interim.</p>
<p>1. Develop senior IT management position descriptions</p>	
<p>2. Conduct search and staff the team</p>	
<p>B. Develop operating policies and procedures</p>	<p>Draft and implement operating parameters and associated metrics for centralized IT operations and countywide impacts (e.g., security policies, end-user support parameters, etc.).</p>
<p>1. Utilize governance bodies to provide input on policies and procedures for the transition</p>	
<p>C. Develop performance measures</p>	<p>Draft and implement metrics for tracking transition and service performance before, during and after the establishment of the Central IT Department.</p>
<p>1. Establish pre-transition baseline</p>	
<p>2. Establish metrics for transition progress</p>	
<p>3. Establish post-transition benchmarks</p>	
<p>4. Conduct comparative measures</p>	
<p>D. Develop Service Level Agreements</p>	<p>Draft and implement SLAs for each department/agency detailing scope and priority of service delivery, standards for technical, infrastructure and/or customer service, and customer communications, escalation procedures, and remediation strategies.</p>
<p>1. Draft agreements in coordination with agencies/departments</p>	
<p>2. Subject agreements to agency, departmental, council and/or legal review as necessary</p>	
<p>3. Finalize agreements</p>	



Transition Activity	Description
E. Build-out Service Center⁸	Draft plan for build-out of Service Center inclusive of identification and securing of facilities, required equipment, software and staffing needs, and implement plan.
1. Develop service center operating parameters and deployment plan	
2. Identify necessary staff, facilities, equipment and software	
3. Implement plan and build-out Center	
F. Transition Executive Staff	Draft plan that addresses potential staff moves/reductions, timetables for moves/reductions, training needs, and implementation approach.
1. Develop staff transition plan	
2. Address skill needs of new IT units	
3. Move/reduce staff as appropriate	
G. Transition Independently Elected Staff	
1. Develop staff transition plan	
2. Address skill needs of new IT units	
3. Move/reduce staff as appropriate	
H. Coordinate staff moves/reductions with collective bargaining units	Develop and implement a strategy to address any bargaining unit issues and ensure a viable transition to the Central IT Department.
1. Communicate transition plans with collective bargaining units	
2. Gather feedback and address concerns as appropriate	
3. Negotiate changes to contracts and to legislation as needed	
4. Finalize contracts and legislation as appropriate	

⁸ An operational service center as outlined in Chapter 3 can assist departments/agencies with the transition process as well as be a viable channel of communications for updating these constituents on progress, gathering feedback and implementing progress metrics. With this in mind, initial support can be provided by existing IT support structures until the new service center is operational.

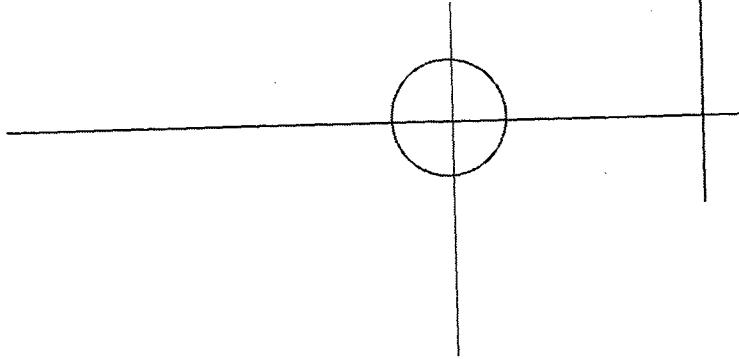
Transition Activity **Description**

<p>I. Address facilities/infrastructure requirements for housing central IT staff and equipment</p>	<p>Identify space for personnel and equipment, facilities requirements for networking, hardware and software, and build-out service center, data center and personnel offices.</p>
<p>1. Assess Service Center space and infrastructure needs</p>	
<p>2. Assess Data Center space and infrastructure needs</p>	
<p>3. Assess personnel office and other space needs</p>	
<p>J. Develop funding model for ongoing operations</p>	<p>Draft budget estimates for Central IT Department operations and identify potential funding sources, including mechanisms for cost-recovery (e.g., charge-backs).</p>
<p>III. Technical Architecture</p>	
<p>A. Develop enterprise architecture framework</p>	<p>Develop, plan and implement an enterprise architecture framework for applications, data centers and server, network, and workstation standards within the County.</p>
<p>B. Develop and implement workstation standardization plan</p>	<p>Write and execute a standardization plan for workstations, including coordination with agencies/departments and feedback mechanisms to minimize impact on business operations.</p>
<p>C. Develop and implement server consolidation plan</p>	<p>Develop and implement a server consolidation plan to minimize disruption of services and downtime, with a clear communication plan for keeping all agencies and departments informed of project status.</p>
<p>D. Establish network environment</p>	<p>Draft requirements for networking and service levels for countywide and server-based application delivery, and build out network bandwidth as appropriate</p>



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Transition Activity	Description
<p>IV. Applications</p>	
<p>A. Establish Communities of Interest (COI)</p>	<p>Develop governance charter, operating policies and procedures for COI groups to guide IT planning and ongoing communications within areas of common applications interest between agencies. Refer to the section on Communities of Interest in this chapter for more detail.</p>
<p>B. Identify potential high-yield applications</p>	<p>COI groups examine the County's application portfolio for business software that share common functions across agencies as possible candidates for consolidation, with an eye toward eliminating duplication, enhancing integration, and achieving long-term cost-efficiencies.</p>
<p>C. Develop business cases</p>	<p>COI groups develop business cases related to identified applications for consolidation, highlighting attendant costs, benefits, and risks.</p>

CHANGE MANAGEMENT

Simply put: change is difficult. Good intentions, extensive analysis, and sound strategies can too-easily devolve into chaos and failure in the face of organizational resistance, poor planning, and ineffective communication. Clearly, a proven and professional approach to managing change is instrumental to successfully transitioning to a new countywide IT culture. With this in mind, we recommend that King County pay particular attention to change management.

Key components of change management that must be addressed include:

- ◆ **Planning for change**
 - Establishing a change management team
 - Defining change management plans, milestones, success measures, and timelines
 - Assessing transition risks and developing remediation strategies
- ◆ **Managing the change**
 - Establishing two-way channels of communication and feedback
 - Establishing an effective conflict resolution process
 - Implementing the change management plan – including a readiness assessment to ensure that the Central IT Department is functional and likely can fulfill commitments made in the service level agreements
- ◆ **Monitoring effectiveness of the change**
 - Gathering and analyzing feedback information (e.g., surveys, “brown bag” sessions)
 - Assessing the gaps between intended outcomes and reality
 - Effecting requisite corrective actions

To be effective, the County must have **strong executive leadership** throughout the process – focused on long-term *results*. The project sponsor and King County management must be *involved* in the process to provide a clear and consistent message to County employees that there truly is a commitment to the transition effort.

In addition, the importance of **effective communication** cannot be overemphasized. The County will need to have a cogent plan for employee communication – and use it. Along these lines, communication surrounding the transition must reinforce key messages (e.g., attainment of the County’s IT vision and goals). Communication must also be tailored to meet the needs of the County’s diverse workforce segments – keeping in mind that “one size doesn’t fit all.” Additionally, it is **imperative** that communications include *actively listening* to better understand concerns as they arise and develop appropriate strategies to minimize passive – or active – resistance.

PERFORMANCE MANAGEMENT

Pacific Technologies recommends implementing a manageable set of performance metrics to monitor IT service delivery, operations, and expenditures and enhance IT-related governance.

Performance-based decision making relies heavily on data collection and analysis. The effort to do this can be significant, and should not be underestimated. However, such analysis is required to truly understand the value being achieved from IT investments. Within the context of our recommendations, it is the only way to objectively determine the impact of the suggested changes.

To put in place a process for performance measurement, King County will need to identify areas for measurement, expected or desired targets for those metrics, and a method for collecting the data. The following outlines PTI's specific recommendations in this regard.

AREAS FOR MEASUREMENT

- ◆ IT Customer Support and Satisfaction
- ◆ IT Financial and Management Performance
- ◆ IT Project Performance
- ◆ Transition Progress Performance

IT CUSTOMER SUPPORT AND SATISFACTION

These measures help the County determine how well the Central IT Department meets agency and departmental needs, while also providing a basis for a before/after comparison of service levels. Metrics for customer-centric services (e.g., the Service Center) also help IT providers and customers understand service trends and areas of concern. Service level target commitments must be determined in a collaborative effort between customers and IT staff to ensure measures address customer demand, and that these commitments are attainable.

Suggested measures include:

- ◆ Customer satisfaction survey (expanding on any that are currently conducted by OIRM and ITS)
- ◆ Tier 1 and Tier 2 service metrics:
 - Nature of problems currently resolved by Tier 1 and Tier 2 staff, respectively (e.g., hardware failure, configuration problem, training issue, application failure, etc.)
 - Percentage of problems resolved by Tier 1 staff
 - Percentage of problems resolved within a fixed time frame (e.g., 30 minutes)
 - Percentage of Tier 2 problems resolved within a fixed time frame of the initial Tier 1 response (e.g., 2 hours)
 - IT incidents per workstation, agency/department, service type, etc.
 - Cost per incident

When the Service Center is implemented with a phone system that supports call queuing and related features, additional measures might include:

- ◆ Percentage of phone calls answered within 20 seconds (or other appropriate timeframe)
- ◆ Call abandonment rate

Whenever possible, data needs to be gathered and analyzed before, during and after the transition period.

IT FINANCIAL AND MANAGEMENT PERFORMANCE

Financial and management performance measures help decision makers take a broad look at IT service delivery and efficiency. Suggested measures include:

- ◆ IT Labor Expenditures by category (as defined by IT function in this study):
 - Customer Service
 - System Services

- Business Application Services⁹
- IT Planning
- IT Administration
- ◆ Goods and Services expenditures:
 - Software licenses
 - Hardware by major category
 - Contract labor
- ◆ IT operating budget as a percentage of total countywide operating budget
- ◆ IT expenditures per King County resident
- ◆ Workstation to workstation-support-staff ratios
- ◆ Server to server-administration-staff ratios
- ◆ Major IT cost drivers (combined labor and goods & services costs¹⁰)
 - Workstations
 - Mainframe and servers
 - Network
 - Mobile devices
 - Other system services
 - Applications
 - Project management
 - IT planning
 - IT administration
 - Telecommunications
 - All other

TRANSITION PROGRESS AND PERFORMANCE

The measures presented in the previous paragraphs are expected to be evaluated on an ongoing basis – most likely annually. Additionally, we recommend that the County gather performance measures on a quarterly basis to track progress toward completing the recommendations in this report. Suggested measures include:

- ◆ Percentage of defined primary tasks completed from the transition plan
- ◆ Percentage of workstation support services delivered centrally (by FTE)
- ◆ Percentage of workstations deployed with a standard configuration
- ◆ Total number of servers
- ◆ Percentage of servers managed centrally
- ◆ Ratio of users to file/print and e-mail servers

⁹ Even though Business Application Services would remain within individual agencies/departments, it is still important to monitor fiscal and service levels at a greater organizational level as part of the governance process. Note that this would also include business application support for multi-agency applications as well as countywide application support that would be managed centrally.

¹⁰ These major cost drivers are referenced in Chapter 1 and Appendix E of the King County Total Operating Cost of Technology report.

DESIRED TARGETS

In establishing the performance measures, the County must:

- ◆ Define performance targets (e.g., ratio of workstations to support-staff-FTE's, etc.) as recommended
- ◆ Capture baseline measures as services and deployments exist now to ensure an accurate picture of current performance

E. BENEFITS AND RISKS

This section highlights the primary benefits and risks associated with the new IT organizational model.

BENEFITS

Major benefits include¹¹:

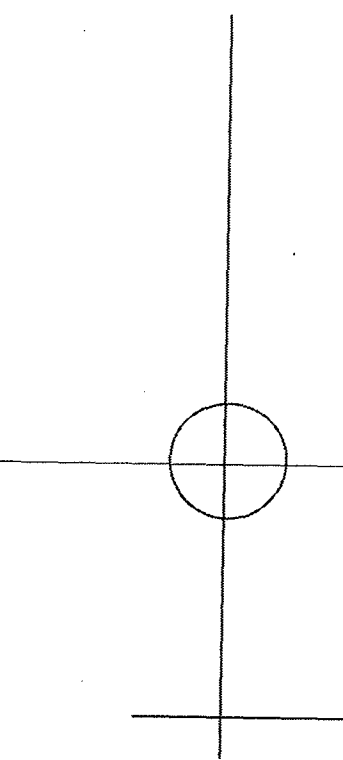
- ◆ **Improved IT governance, performance management, and accountability, including enhanced ability to manage service quality through centralization of responsibility and collection of performance measures**
- ◆ **Ability to standardize policies, procedures, and business practices related to IT service delivery through centralization of responsibility and development of enterprise standards**
- ◆ **Enhanced information sharing through the reduction of infrastructure barriers across agencies**
- ◆ **Agency focus on business-based, value-added IT activities – not commodity services**
- ◆ **Enhanced IT security through centralization of responsibility, consolidation of assets, and implementation of standards**
- ◆ **More reliable, consistent, and standardized IT infrastructure through centralization of responsibility, and consolidation and standardization of assets**
- ◆ **Improved ability to incorporate advances in new technology through implementation of standards and focused research and development efforts**
- ◆ **Positions King County for enhanced regional cooperation and leadership opportunities in regional initiatives through specific assignment of these responsibilities in the Central IT Department**

RISKS AND MITIGATION STRATEGIES

Proactively addressing potential risks minimizes the possibility that they will derail the IT reorganization effort and the attendant benefits to be realized. The following highlights major risks and attendant mitigation strategies related to the new IT organizational model.

¹¹ Refer to Chapter 3 for a more detailed description of benefits, outlined in the business case.

Risks	Mitigation Strategies
<p>A. Service degradation occurs during and after the transition:</p> <ul style="list-style-type: none"> ◆ Server downtime increases ◆ Problem resolution takes longer 	<p>Baseline service levels need to be established, with services being compared over time to this baseline. Service level agreements need to be created that define expectations for both service delivery and receipt. Upgrades to the network may be required. Investment in desktop and server management technology will be necessary. The Central IT Department must be developed as a capable, credible, and accountable provider of IT services. All parties must be held accountable for their responsibilities. This necessitates strict attention to performance management. The central provider must also recognize the need for different levels of service (i.e., "one size doesn't fit all"), and be prepared to provide higher levels of service as necessary.</p>
<p>B. The transition from the current state to the recommended state is not sufficiently funded</p>	<p>Costs for the transition need to be validated and justified, with appropriate funding secured for all phases of implementation.</p>
<p>C. Organizational resistance to changes prevents full implementation</p>	<p>An effective governance process needs to be put in place to manage the transition. The Central IT Department must demonstrate that it is a capable, credible, and accountable service provider. Bargaining unit concerns must be addressed. Readiness evaluations should be conducted to rate capability before services are shifted to the Central IT Department. Incentives, such as reinvesting some portion of the savings back into the business units, could be explored. Benefits need to be documented and communicated to the agencies.</p>



Risks	Mitigation Strategies
D. Security and privacy concerns make agencies reluctant to participate	Security and privacy requirements need to be clearly documented. Central IT Department staffs need to have appropriate security clearances, and technology needs to be utilized to meet security and privacy requirements to the fullest extent possible. An exception process must be in place to allow agencies to retain control over their assets if the Central IT Department cannot meet defined security and privacy requirements.
E. Predicted benefits are not fully achieved	A clear set of expected benefits needs to be defined and communicated, along with associated quantitative measures. Current-state values for these measures need to be taken to serve as a baseline. Measures need to be repeated periodically, with adjustments made if results do not appear to be on track with expectations.
F. Necessary legislation is not passed	The King County Council needs to be kept informed about the planned changes and the potential need for legislation. Legal precedents from other jurisdictions can be examined and used to help make appropriate changes.
G. Leadership and/or management is ineffective during the transition and after the change	Effective management of both the transition and the new Central IT Department are critical to ensuring effective service delivery and instilling trust in the new organization. The County can help mitigate this risk by competitively filling key management positions and providing training as appropriate for management staff of the new Central IT Department.
H. The new central IT service provider becomes a target for budget cuts that degrade service	To the extent possible, quantitative service levels measures should be used so that the impact of budget reductions can be objectively evaluated. The importance of maintaining adequate service levels needs to be communicated to individuals with budget authority.

While these risks present significant challenges, we believe that the potential benefits clearly outweigh the possible hazards. Nevertheless, the County must effectively manage these concerns to ensure a successful transition.

CONCLUSION

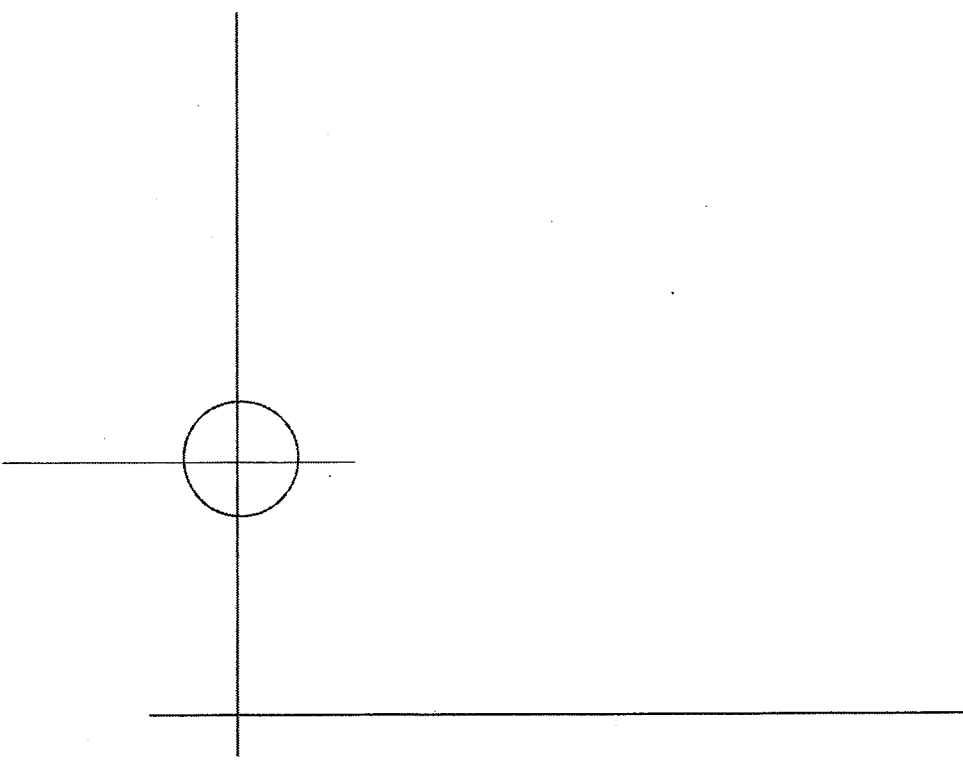
The roles and responsibilities depicted for both the Central IT Department and the other agencies and departments pivot around two primary themes: allowing the central service

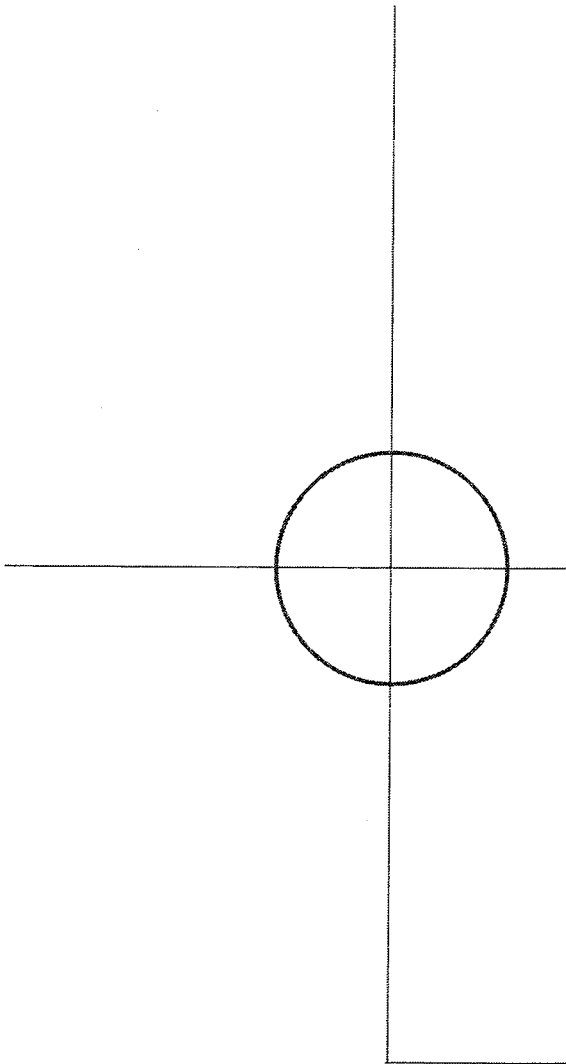
provider to provide commodity IT services as a countywide “utility,” and focusing limited IT resources in the agencies on higher-value, business-based application support. An implied two-way communication transcends these organizational boundaries – centering on *partnership* and *accountability*.

Service level agreements foster an explicit covenant around agency/department needs, expectations and attendant Central IT Department resource demands and limitations. Additionally, IT governance plays an important role in assuring that IT is effectively performance-managed and capable of supporting critical County services in a credible, cost-effective manner.

Transition to the Central IT Department will be complex – and politically challenging. That said, the complexity and challenges inherent in this change can be addressed by a clearly-delineated transition plan, effective change management, and a quantitative approach to managing performance to ensure that IT service providers deliver on their promises.

The recommendations outlined in this report serve as a starting point for the more detailed planning (and hard work) that lies ahead.





interview log



This appendix lists the individuals within King County who were interviewed as part of this study.

A. INTERVIEW LOG

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Appendix A:
Interview Log

Name	Title	Department
Gedeon, Michael	Interim - Chief of Operations	DAJD
Longley, Tim	Information Systems Manager	DAJD
Maves, Larry	Interim Director	DAJD
MacLean, Jackie	Director	DCHS
Mark, Terry	Assistant Director	DCHS
Nguyen, Diep	IS Coordinator/Programming Analyst IV	DCHS
Solemsaas, Rachel	Chief Financial Officer	DCHS
Pahl, Michael	Information Services Manager	DDES
Warden, Stephanie	Director	DDES
Kearns, Kevin	Division Director	DES
Tanaka, Paul	County Administrative Officer	DES
Whalen, Caroline	Deputy County Administrative Officer	DES
Bailey, Teresa	Deputy Director	DJA
Miner, Barbara	Director & Superior Court Clerk	DJA
Shuster, Joe	Technology Division Manager	DJA
Hansen, Rod	Deputy Director	DNRP
Hocking, Gary	Technology Unit Manager	DNRP
Medved, Rich	Administrative Services Director	DOA
Desmond, Kevin	General Manager	DOT
Peterson, Mary	Deputy Director	DOT
Scharrer, Greg	Budget & Systems Manager	DOT
Taniguchi, Harold	Director	DOT
Willis, Peggy	Manager	DOT
Kipp, Gregg	Chief Administrative Officer	DPH
Nguyen, Hoang	Health Program Assistant I	DPH
Peter, Dorothy	Chief of Health Operations	DPH
Plough, Alonzo	Director	DPH
Schwendeman, Patty	Information Systems Analyst	DPH
Unlorn, Kathleen	Administrative Services Director	DPH
Constantine, Dow	Councilmember - District 8	KCC
Hague, Jane	Councilmember - District 11	KCC
Crozier, Tricia	Chief Administrative Officer	KCDC
Grindle, Cathy	Technology Director	KCDC
Harn, Corinna	Chief Presiding Judge	KCDC
Call, Steve	Director, Office of Management & Budget	KCEO
Martinez, David	Chief Information Officer	KCEO
Sims, Ron	County Executive	KCEO
Walsh, Jim	County Executive Assistant II	KCEO
Hopper, Betty	Director, Information Services	KCSC
Sherfey, Paul	Chief Administrative Officer	KCSC
Dzell, Charlotte	Technology Manager	KCSO
Lee, Pat	Criminal Investigation Division	KCSO
Turner, Denise	Technical Services Division	KCSO
Flickinger, Fred	Computer Services Manager	PAO
Maleng, Norm	King County Prosecuting Attorney	PAO
Ryan, David	Director of Information and Technology	PAO
Satterberg, Dan	Chief of Staff	PAO



data collection log

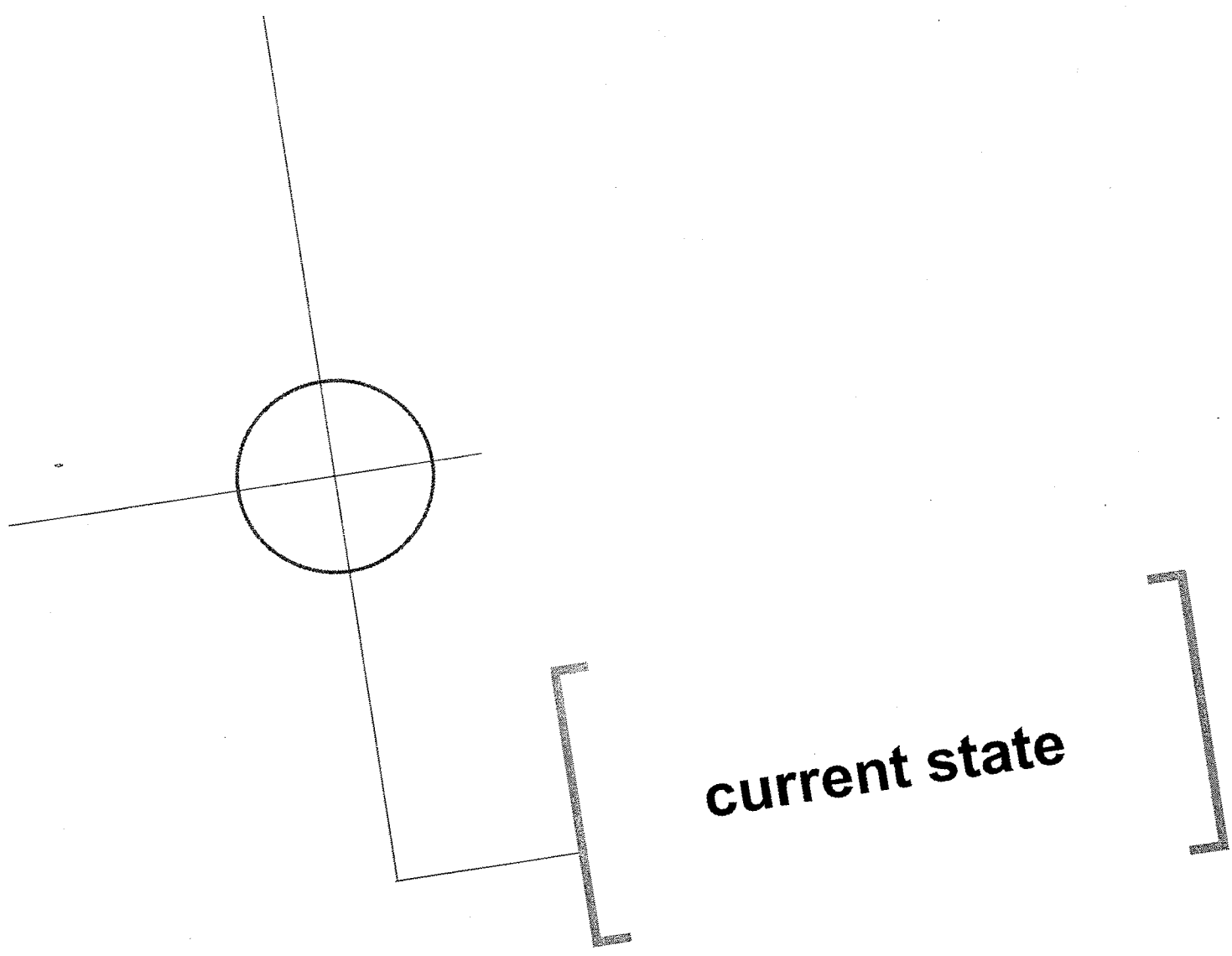
This appendix details PTI's data collection efforts during this study.

A. DATA COLLECTION LOG

Org Charts	IT Initiatives	Budgets	Budget planning documents	Business Plans	Technology Plans	Enabling Code	Server Uptime	Network Uptime	Help Desk volumes and call-types	Average Time to resolution	Customer Satisfaction	Customer Service contracts	Geography Info Request
V				V		V							V
BEE0	V		V	V		V						V	V
Council	V												V
DAJD	V			V		V							V
DCHS	V			V		V							V
DDES	V			V	V	V							V
DES Fin	V					V			V ¹	V ¹			V
DESHR	V			V		V							V
DES/ITS	V			V		V			V	V	V		V
DES_Other	V			V	V	V						V	V
District Court	V					V							V
DJA	V			V			V	V	V ²	V ²	V	V	V
DNRP	V		V	V		V							V
DOT AFR	V		V	V		V	V		V				V
PAO	V			V									V
Pub Health	V			V		V			V ¹	V ¹			V
Sheriff	V			V	V	V							V
Superior Court	V			V		V							V
Transit	V			V	V	V	V	V	V ²				V

1 From King County Strategic Technology Plan 2002 'Navigating the Future'
 2 Provided estimates

APPENDIX **C**



This material summarizes PTI's findings regarding information technology (IT) organizational structures, geographic distribution of IT assets and staff, and survey responses from comparable jurisdictions.

PTI developed these findings based on data gathered from King County documents, a staffing questionnaire answered by agency personnel, interviews with representatives from each County agency, and surveys with IT representatives from seven other Counties. We also relied heavily on the staffing data from the County's recent IT Total Operating Cost of Technology (TOCT) study.

The remainder of this appendix presents our "current state" findings, organized as follows:

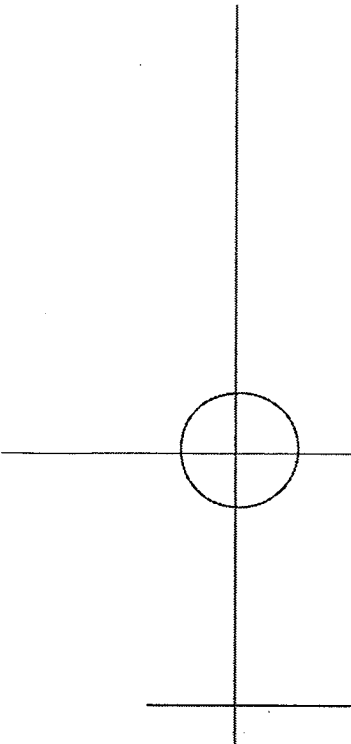
- A. Summary of Findings
- B. IT Staffing and Organization
- C. Current Geographic Distribution
- D. Survey Results

A. SUMMARY OF FINDINGS

This section provides a distillation of our key findings. The following table and chart outline additional highlights from our analysis.

SUMMARY ANALYSIS OF IT STAFFING AND ASSET DISTRIBUTION

	Count	Percentage of Total Count
Total number of agency locations	217	
Concentration of IT-titled FTEs – by service location:		
Seattle core	408.78	Representing 85% of the total
Renton core	23.10	Representing 5% of the total
Kent core	8.00	Representing 2% of the total
All others	42.12	Representing 9% of the total
Total	482.00	
Concentration of workstations – by facility:		
200+ workstations	16	Representing 53% of total workstations
100 – 199 workstations	16	Representing 18% of total workstations
21 – 99 workstations	58	Representing 23% of total workstations
1 – 20 workstations	120	Representing 6% of total workstations
0 workstations	7	Representing 0% of total workstations
Total	217	



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	Count	Percentage of Total Count
Concentration of workstations – by service location:		
Seattle core	6,910	Representing 57% of the total
Renton core	1487	Representing 12% of the total
Kent core	1064	Representing 9% of the total
All others	2,712	Representing 22% of the total
Total	12,173	
Concentration of servers – by facility:		
100+ servers	1	Representing 14% of the total servers
40 – 99 servers	4	Representing 28% of the total servers
10 – 39 servers	12	Representing 31% of the total servers
1 – 9 server	88	Representing 28% of the total servers
0 servers	112	Representing 0% of the total servers
Total	217	
Concentration of servers – by service location:		
Seattle core	553	Representing 68% of the total
Renton core	77	Representing 9% of the total
Kent core	56	Representing 7% of the total
All others	131	Representing 16% of the total
Total	817	

The following chart provides a farther breakdown of workstations, servers and IT FTEs by major geographic service areas across the County.

IT TITLED STAFF AND ASSETS BY CORE SERVICE AREA

Core Service Location	Zip Code	Total Workstations	Total Servers	Total IT FTEs
Seattle Core	98104	6,706	546	406.78
	98121	87	1	1.00
	98134	117	6	1.00
Seattle Core Sub Total		6,910	553	408.78
Renton Core	98055	1076	40	20.10
	98056	411	37	3.00
Renton Core Sub Total		1487	77	23.10
Kent Core	98031	6	0	0.00
	98032	1058	56	8.00
Kent Sub Total		1064	56	8.00
All other		2,712	131	42.12
Grand Total		12,173	817	482.00

We find that contiguous zip codes within Seattle, Renton, and Kent contain the majority of the County's IT labor and hardware assets. These zip codes are grouped together and designated as core service areas. Seattle core consists of Seattle zip codes 98104, 98121, and 98134. Renton core zip codes consist of 98055 and 98056. Kent core zip codes consist of

98031 and 98032. The remainder of this appendix uses these core service area groupings as one of its primary lines of analysis.

In addition, our survey of comparable jurisdictions yielded the following major findings:

- ◆ King County's overall approach to IT service delivery is less centralized than most of the surveyed counties
- ◆ Notably, King County's approach to customer service and IT planning-related activities is significantly less centralized than all other surveyed jurisdictions

B. CURRENT GEOGRAPHIC DISTRIBUTION

This section summarizes the County's current geographic distribution of IT labor, workstations and servers.

The following subsections include:

- ◆ Overall IT labor distribution
- ◆ Workstation distribution
- ◆ Server distribution

OVERALL IT LABOR DISTRIBUTION

PTI's IT strategic planning framework organizes IT labor in to five separate functional areas: Customer Services, System Services, Business Application Services, IT Administration, and IT Planning. As a means of providing consistent structure, our labor distribution analysis also employs these major categories of IT service delivery.

Brief definitions of the functional areas follow:

- ◆ Customer Services – labor related to directly supporting users of IT systems and services
- ◆ System Services – labor related to implementing, maintaining and supporting the organization's computers, systems software, and network connectivity
- ◆ Business Application Services – labor related to providing, maintaining, and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization
- ◆ IT Administration – labor related to the oversight of the technology function at the organization
- ◆ IT Planning – labor related to the planning, research and development, disaster recovery, and security of the technology function at the organization

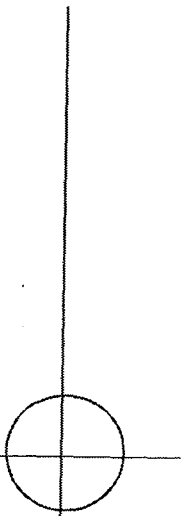
Utilizing this framework, we then look at the distribution of County IT labor and assets across two major dimensions:

- ◆ **Facility** – a building that houses County agency staff and assets
- ◆ **Core Service Area** – a geographic area, based on zip codes, that represents a meaningful concentration of labor and/or assets

The following tables present our analysis of IT labor categories, first by facility – then by core service area. The first chart, IT Labor – by Facility, lists the ten facilities with the highest IT FTE counts based on the “primary location” in the geography data provided by the agencies.

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IT TITLED LABOR – BY FACILITY

Facility Name	Total Customer Services FTE	Total System Services FTE	Total Business Services FTE	Total IT Planning FTE	Total IT Administration FTE	Total IT FTEs per Facility
Seattle Municipal Tower	20.95	46.10	33.44	4.55	34.27	139.31
King Street Center	21.71	25.48	30.97	7.86	18.27	104.29
Wells Fargo Center	7.50	11.93	16.32	2.70	4.55	43.00
Exchange Building	2.74	6.63	18.68	1.12	2.99	32.15
King County Administration Building	5.43	4.85	15.97	0.97	2.95	30.17
King County Courthouse	6.15	8.93	2.39	0.66	1.87	20.00
* King County Unincorporated	7.40	2.30	1.45	0.05	5.10	16.30
Yesler Building	3.45	2.43	6.67	1.26	2.34	16.15
Blackriver Corporate Park	1.65	2.50	9.95	0.40	1.50	16.00
Bank of America Tower	2.06	2.09	0.72	2.25	4.60	11.72
Subtotal	79.04	113.24	136.56	21.81	78.44	429.09
All other	16.82	16.41	12.95	1.77	4.97	52.92
Grand Total	95.86	129.65	149.51	23.58	83.40	482.00

*Includes KCSO IT staff with no location assigned to them.

The following IT Labor – by Core Service Area chart lists the IT labor categories by geographic areas that contain the highest concentration of FTEs for the County.

IT TITLED LABOR – BY CORE SERVICE AREA

Core Service Location	Total Customer Services FTE	Total System Services FTE	Total Business Services FTE	Total IT Planning FTE	Total IT Admin FTE	Total of IT Labor
Seattle Core	74.54	111.67	128.02	21.81	72.74	408.78
Zip Codes: 98104, 98121, 98134						
Renton Core	2.82	5.00	11.72	1.01	2.55	23.10
Zip Codes: 98055, 98056						
Kent Core	3.15	2.71	1.80	0.20	0.14	8.00
Zip Codes: 98031, 98032						
Subtotal of Core Service Locations	80.51	119.38	141.54	23.02	75.43	439.88
All Other Zip Codes	15.35	10.27	7.97	0.56	7.97	42.12
Grand Total	95.86	129.65	149.51	23.58	83.40	482.00

The Seattle core service location has the largest number of FTEs of all IT service areas, comprising 85% of the County's total IT service FTEs.



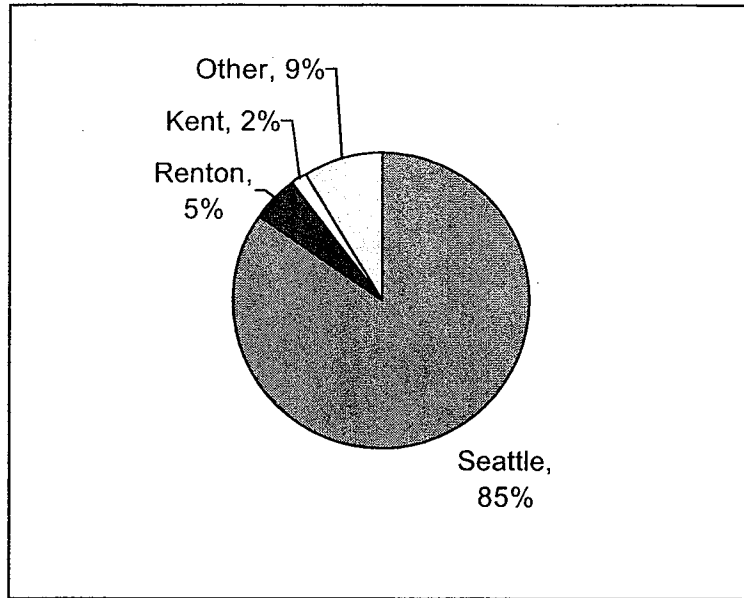
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DISTRIBUTION OF FTES FOR IT SERVICES BY CORE AREA



The next table provides an analysis of shift staff IT labor and also shows the average number of hours in a year that staff members perform actual support work while on call. For example, if a staff member is on call for 120 hours in a year and performs 10 hours of actual work in response to a user's problem or trouble ticket, 10 hours were counted. Hours that a staff member is on call but performs no work are **not** included in the totals.

SHIFT ANALYSIS AND ANNUAL ON CALL HOURS

Agency	Second Shift FTEs	Third Shift FTEs	Rotating Shift FTEs	Annual Average Hours of Work While on Call
BEEO				0
KC Council				0
DAJD				1,049.0
DCHS				0
DES FBOD				0
DES HR				0
DES ITS	3	3	3	2,450.0
DES Other				0
DJA				0
DNRP				556.0
DOA				26.0
DOT				Data not available
DOT - Transit				2,057.0
KCDC				50.0
KCSC				340.0
DDES				120.0
PAO				0.0
DPH		2		2,548.0
KCSO				Data not available
Totals	3	5	3	9,196.0

Note that:

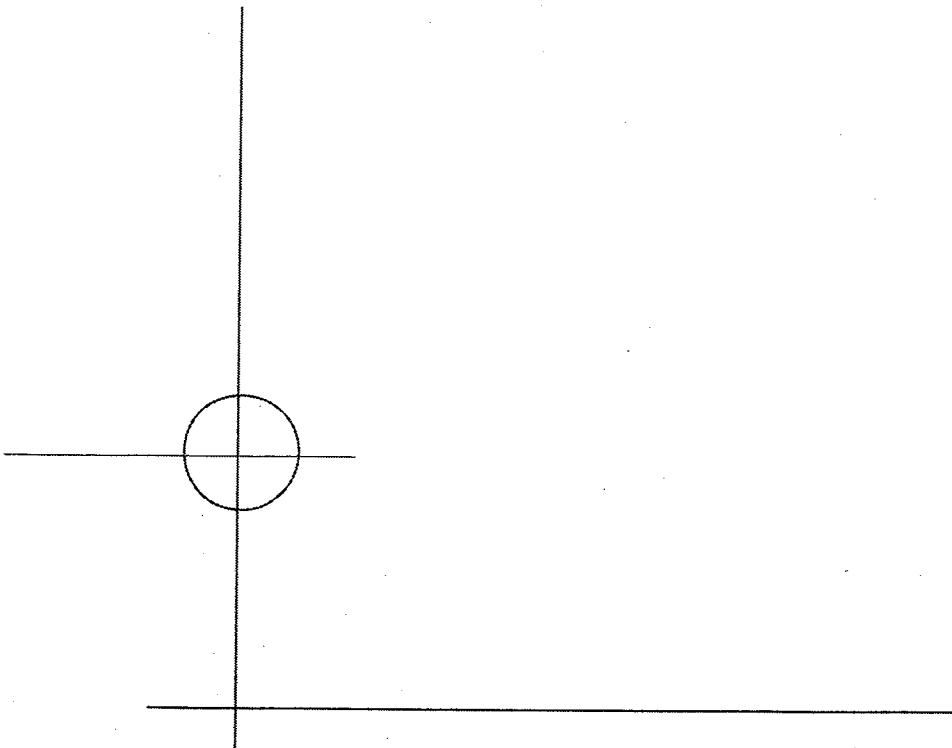
- ◆ The vast majority of the County's IT staff work first shift
- ◆ ITS and the Department of Public Health are the only agencies that have reported any shift work
- ◆ The Department of Public Health, Department of Transportation-Transit, Department of Executive Services and the Department of Adult and Juvenile Detention all report an annual average of over 1,000 hours of work while on call

WORKSTATION DISTRIBUTION

This subsection presents our analysis of workstation distribution across the County.

For the purposes of this study, we define a *workstation* as a single-user computing device, such as desktop personal computers and laptops.

The table on the following page outlines the number of workstations by facility within the County, highlighting facilities with workstation counts of 150 or more.





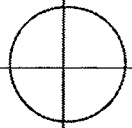
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WORKSTATION COUNTS BY FACILITY

Facility Name	Zip Code	Agency	Total
King Street Center	98104	DNRP	924
		DOT	270
		DOT-Transit	715
King Street Center Subtotal			1,909
King County Courthouse	98104	DAJD	57
		DES Other	0
		DJA	205
		KCC	170
		KCSC	314
		KCSO	239
		PAO	4
King County Courthouse Subtotal			989
King County Administration Building	98104	DES FBOD	98
		DES HR	71
		DES Other	474
		DOA	178
		ITS	0
		KCC	9
		PAO	94
King County Administration Building Subtotal			924
Regional Justice Center	98032	DAJD	150
		DCHS	3
		DES Other	2
		DJA	88
		DPH	50
		KCDC	27
		KCSC	191
		KCSO	128
		PAO	83
Regional Justice Center Subtotal			722
Wells Fargo Center	98104	DPH	584
Wells Fargo Center Subtotal			584
Exchange Building	98104	DCHS	206
		DES FBOD	185
		DES HR	10
		DPH	16
		DOT-Transit	89
Exchange Building Subtotal			506
Blackriver Corporate Park	98055	DDES	383
		DOA	103
Blackriver Corporate Park Subtotal			486
King County Unincorporated*		DES Other	0
		KCSO	360
King County Unincorporated Subtotal			360
Bank of America Tower	98104	BEE0	128
		DES Other	15
		ITS	0
		PAO	208
Bank of America Tower Subtotal			351
WorkSource - Renton	98055	DCHS	345
WorkSource - Renton Subtotal			345
Yesler Building	98104	DAJD	24
		DES HR	29
		DES Other	20
		DPH	93
		KCC	8
		KCSC	0
		KCSO	9
DOT-Transit	132		
Yesler Building Subtotal			315
Seattle Municipal Tower	98104	DES HR	0
		DES Other	0
		DJA	0
		ITS	234
		PAO	15
Seattle Municipal Tower Subtotal			249
King County Correctional Facility	98104	DAJD	150
		DPH	76
		KCDC	2
King County Correctional Facility Subtotal			228
Renton Roads Maintenance	98056	DOT	150
Renton Roads Maintenance Subtotal			150
All Other			4,541
Grand Total			12,173



Overall we find that:

- ◆ 16 facilities are responsible for 200+ workstations (53% of the total workstations)
- ◆ 16 facilities are responsible for 100 – 199 workstations (18% of the total workstations)
- ◆ 58 facilities are responsible for 21- 99 workstations (23% of the total workstations)
- ◆ 127 facilities are responsible for 20 or fewer¹ workstations (6% of the total workstations)

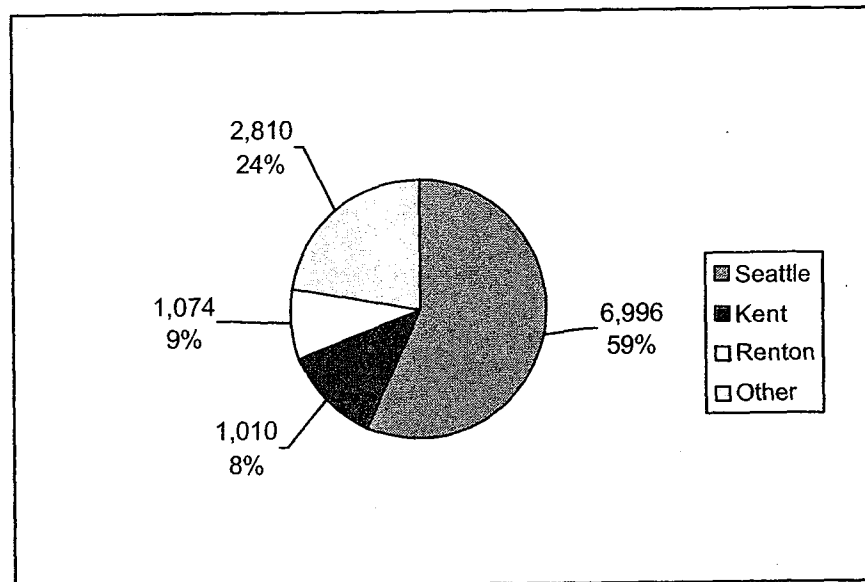
The table below shows the groupings of workstations by location:

WORKSTATION COUNTS GROUPED BY FACILITY LOCATIONS

# of Workstations	# of Facilities by Location				Total
	Seattle	Renton	Kent	Other	
200 or more	9	2	1	4	16
100 to 199	8	3	3	2	16
21 to 99	21	7	4	26	58
20 or fewer	23	6	10	88	127

The chart below displays the percentages of workstations by core geographic area.

WORKSTATION COUNTS BY CORE GEOGRAPHIC AREA



As the chart clearly indicates, 59% of the County's workstations reside in the core downtown Seattle service location.

¹ This "20 or fewer" category includes facilities with no workstations.

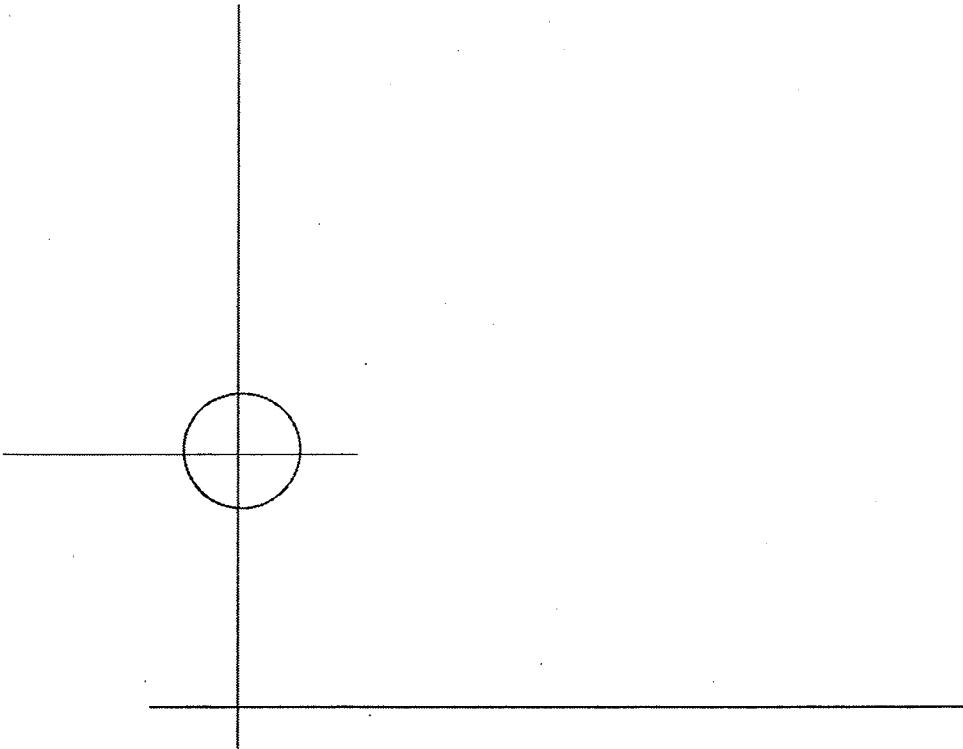
SERVER DISTRIBUTION

This subsection presents our analysis of server distribution across the County.

The table on the following page outlines the number of servers, by facility, within the County.

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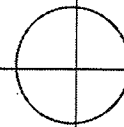


SERVER COUNTS BY FACILITY

Facility Name	Total File/Print Servers	Total Email Servers	Total Application Servers	Total Other Servers	Total Servers for Facility
King Street Center	49	0	70	55	174
Seattle Municipal Tower	3	13	42	60	118
King County Courthouse	9	0	13	57	79
King County Administration Building	9	0	24	18	51
Exchange Building	23	2	8	12	45
Wells Fargo Center	5	0	8	30	43
Regional Justice Center	5	0	6	17	28
Juvenile Hall	12	0	9	3	24
King County Office of Emergency Management	21	0	1	1	22
Cedar Hills Regional Landfill	1	0	10	9	20
West Point Treatment Plant	2	0	2	12	16
Blackriver Corporate Park	4	0	5	6	15
Renton Treatment Plant-Operations Bldg	2	0	3	4	9
Environmental Lab	2	0	5	2	9
Canal Place	4	0	3	1	8
WorkSource - Renton	4	0	1	2	7
East Division Bellevue Courthouse	1	0	0	6	7
Yesler Building	2	0	0	4	6
King County Airport	2	0	2	2	6
Sheriff - Precinct #2	1	0	0	4	5
All other	61	2	12	50	125
Grand Total	222	17	223	355	817

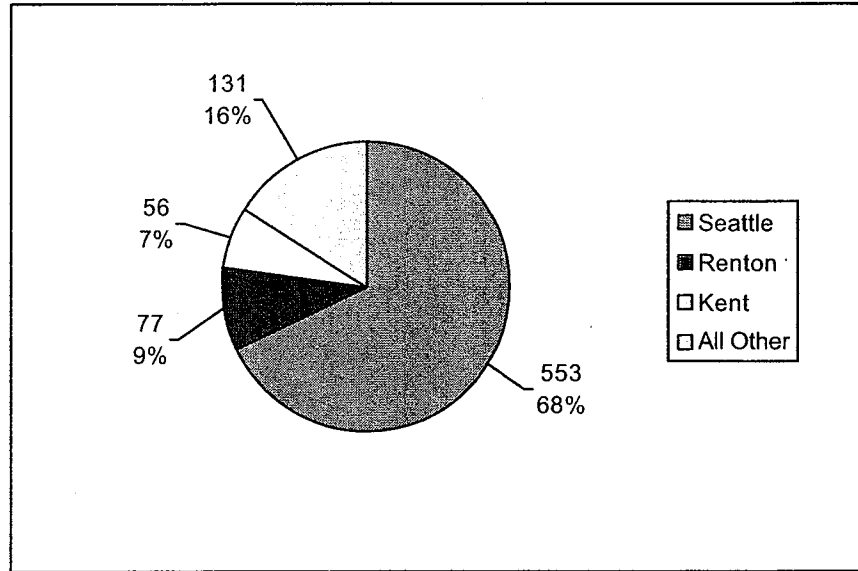
Overall we find that:

- ◆ King Street Center and Seattle Municipal Towerhouse the most servers, representing 21% and 14% of the total amount of servers, respectively
- ◆ King Street Center has the largest count of both application servers and file/print servers



Again utilizing our analysis by zip codes, the following chart displays the percentages of servers by core service area.

SERVER COUNTS BY CORE SERVICE AREA



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We found that **68% of the County's servers are located within the Seattle core service area.**

We also found that all server types are distributed throughout various agencies as illustrated in the following table.

SERVER COUNTS BY AGENCY

Agency	File/Print Servers	Email Servers	Application Servers	Other Servers	Total Servers per Agency
DNRP	52	0	52	66	170
ITS	5	15	39	60	119
DOT-Transit	18	2	31	26	77
DES Other	26	0	19	27	72
DPH	26	0	9	32	67
KCSO	4	0	12	46	62
DOT	16	0	14	13	43
DJA	5	0	10	25	40
KCSC	20	0	12	8	40
DCHS	20	0	4	14	38
DES FBOD	10	0	6	0	16
PAO	8	0	3	4	15
DDES	2	0	5	6	13
KCDC	1	0	0	10	11
DES HR	5	0	3	3	11
DAJD	2	0	2	6	10
DOA	2	0	1	5	8
KCC	0	0	1	4	5
Grand Total	222	17	223	355	817

From this, we determined that 6 King County agencies were responsible for 50 or more servers. These agencies comprise 69% of the County's total servers. A breakdown of this count follows:

KING COUNTY AGENCIES WITH 50+ SERVERS

Agency	Total File/Print Servers	Total Email Servers	Total Application Servers	Total Other Servers	Total Servers per Agency
DNRP	52	0	52	66	170
ITS	5	15	39	60	119
DOT-Transit	18	2	31	26	77
DES Other	26	0	19	27	72
DPH	26	0	9	32	67
KCSO	4	0	12	46	62
Total	131	17	162	257	567

C. SURVEY RESULTS

In addition to reviewing the County's IT service delivery model, PTI surveyed other counties to determine current states and future trends regarding allocation of IT services. PTI contacted 17 other counties. A total of seven responded. Participants (either the CIO/CTO or their designate) were surveyed by telephone and by mail. We received responses from:

- ◆ Broward County, FL
- ◆ San Bernardino County, CA
- ◆ Harris County, TX
- ◆ Tarrant County, TX
- ◆ Fairfax County, VA
- ◆ Santa Clara County, CA
- ◆ Los Angeles County, CA

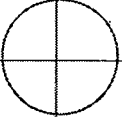
To analyze and trend each County's levels of centralization, once again we summarized survey data across five major service categories of:

- ◆ Customer Services
- ◆ System Services
- ◆ Business Application Services
- ◆ IT Administration
- ◆ IT Planning

The remainder of this section provides a summary of our analysis.

TRENDS WITHIN IT SERVICE DELIVERY

We asked participants to provide current measures and future trends of centralization and decentralization within the specified IT service categories.



Overall, the survey indicates that most counties have recently become (or are in the process of becoming) more centralized— with some counties pursuing almost complete centralization of IT service delivery. In most instances where no change was expected to occur in service delivery, significant centralization had already occurred. Business Application Services represents the only area where decentralization is planned and the level of change is slight. The following table offers a summary view.

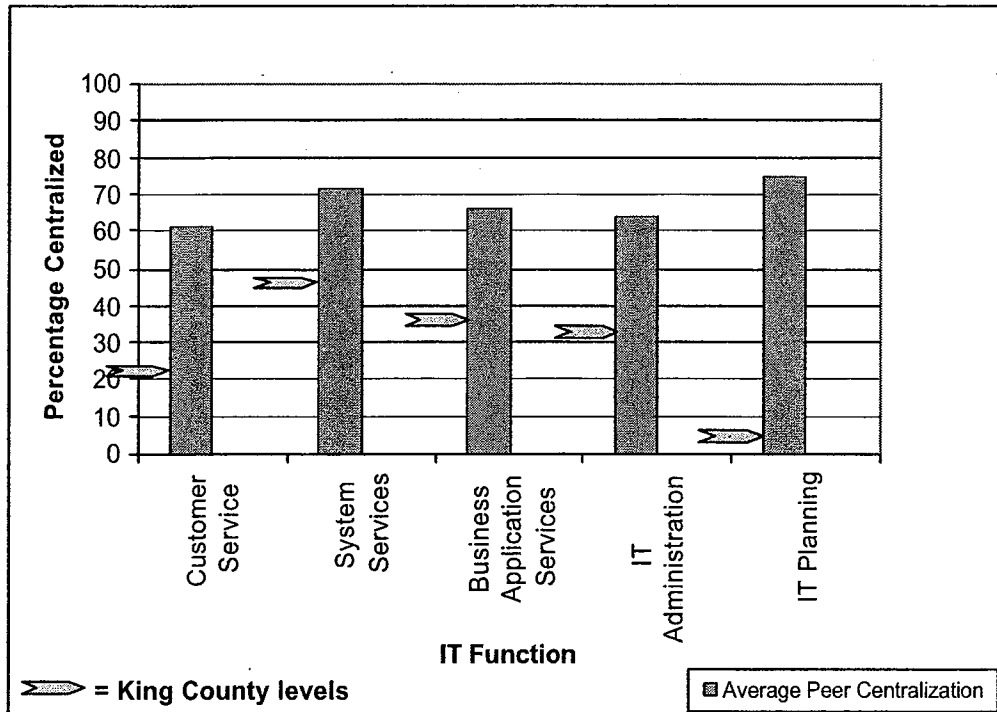
SUMMARY TRENDS IN COUNTY IT SERVICE DELIVERY

Appendix C:
 Current State

IT Function	Number of Survey Participants		
	Decentralizing	No Change	Centralizing
Customer Services	0	4	3
System Services	0	3	4
Business Application Services	2	2	3
IT Administration	0	5	2
IT Planning	0	4	3

The chart below depicts the relative levels of centralization of respondents' IT service delivery by major IT function. The yellow arrow indicates King County's position relative to the average level of centralization for each IT function.

AVERAGE LEVEL OF CENTRALIZATION/DECENTRALIZATION OF IT SERVICE DELIVERY²



² PTI surveyed seven other counties identified by King County as comparables. This chart depicts the summarized results of that work. Appendix C contains additional detail. It may be worth noting that several King County agencies conducted follow-up surveys on an agency-specific bases (in contrast to PTI's aggregated, countywide analysis). In doing so, they found that replies from individual agencies in some of the same comparable counties appeared to conflict with PTI's findings. (i.e., they reported a higher level of decentralization in the comparables than PTI found).

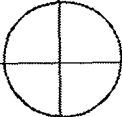
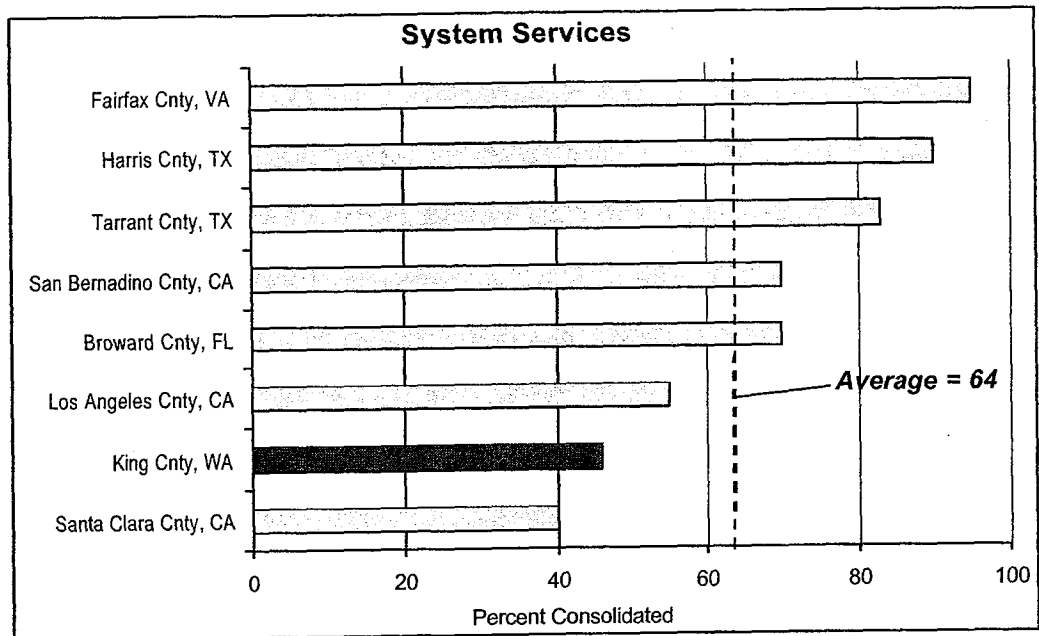
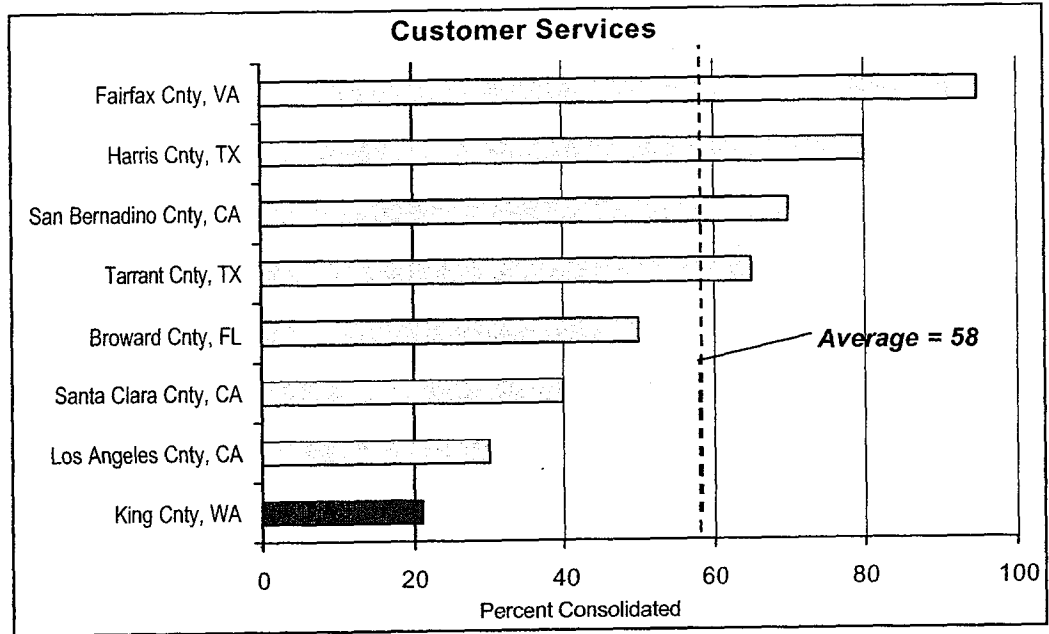
The following graphs offer a more detailed look into each IT service area, along with associated average scores.

SERVICE DELIVERY DETAIL

The following charts present levels of centralization across each of the five major IT functional areas for the surveyed counties, along with an averaged score and King County's position on this continuum.

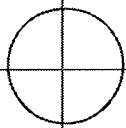
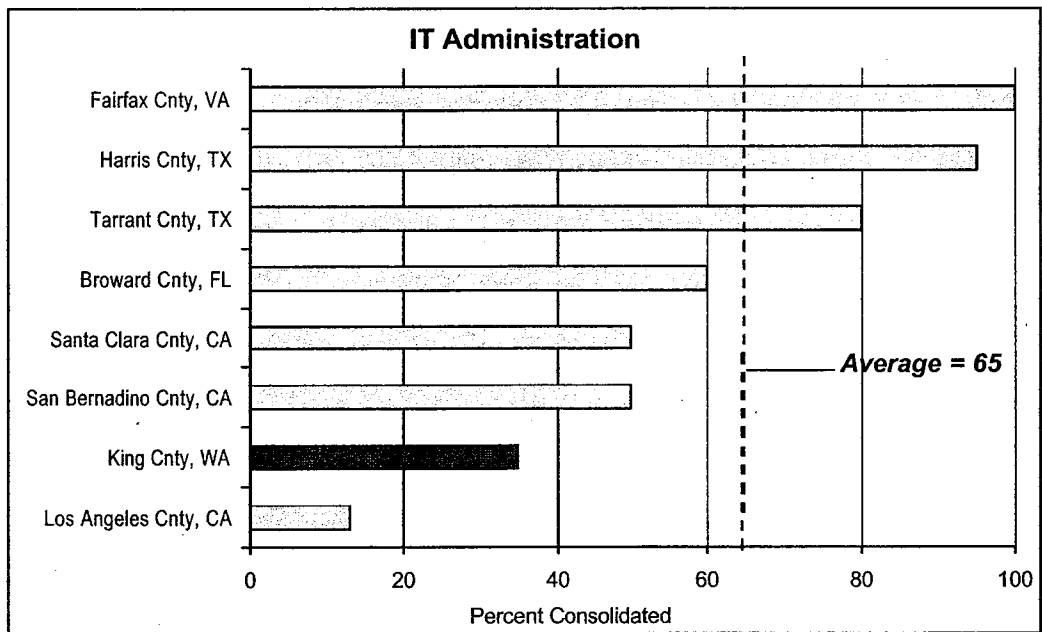
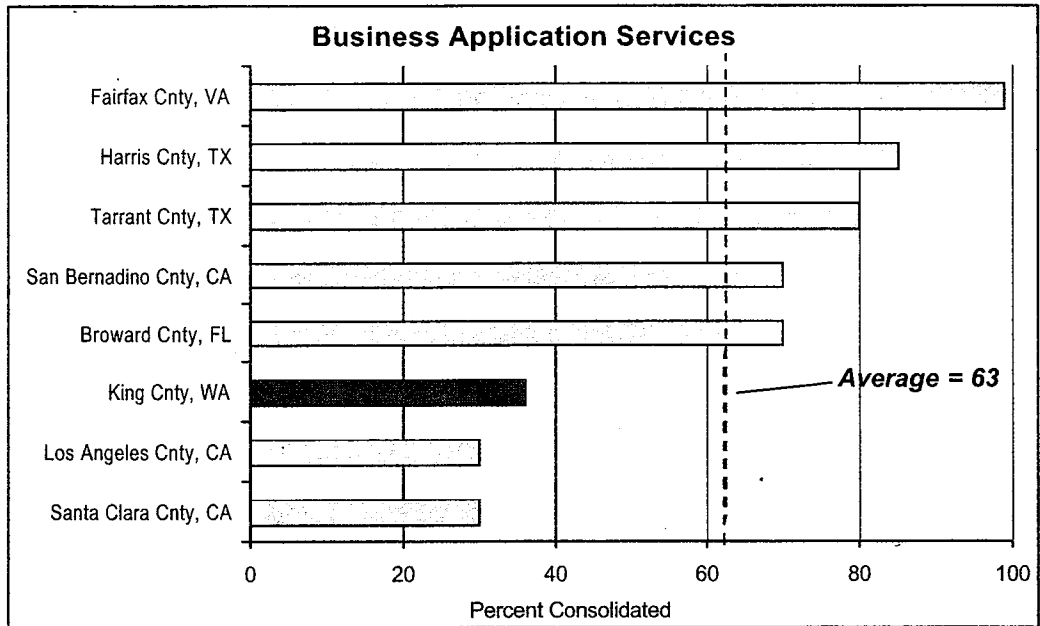
LEVELS OF CENTRALIZATION

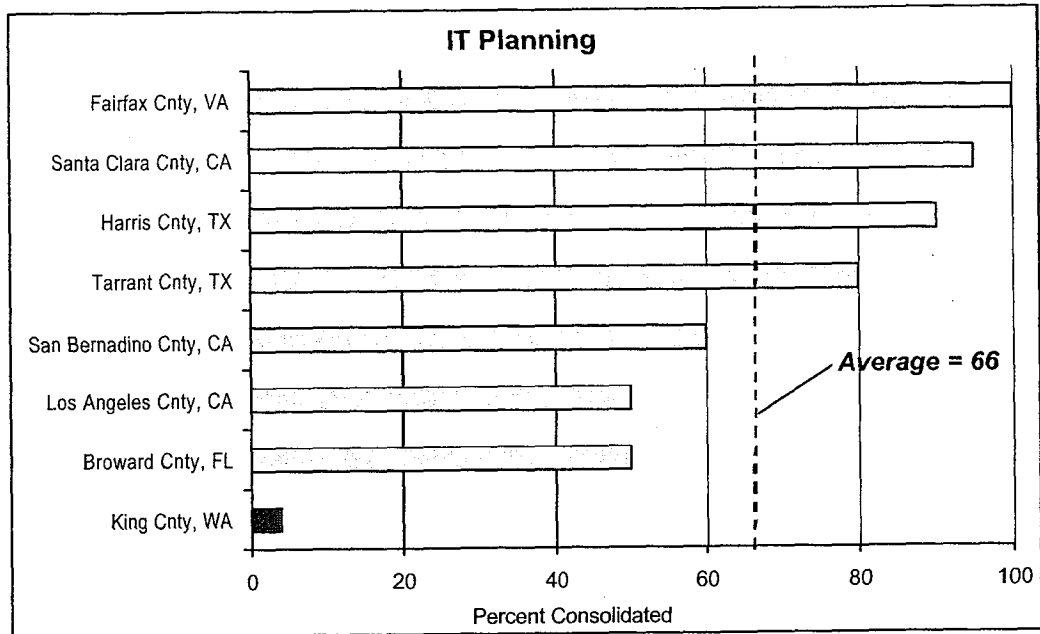
Appendix C:
 Current State



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Appendix C:
Current State





ADDITIONAL SURVEY DATA

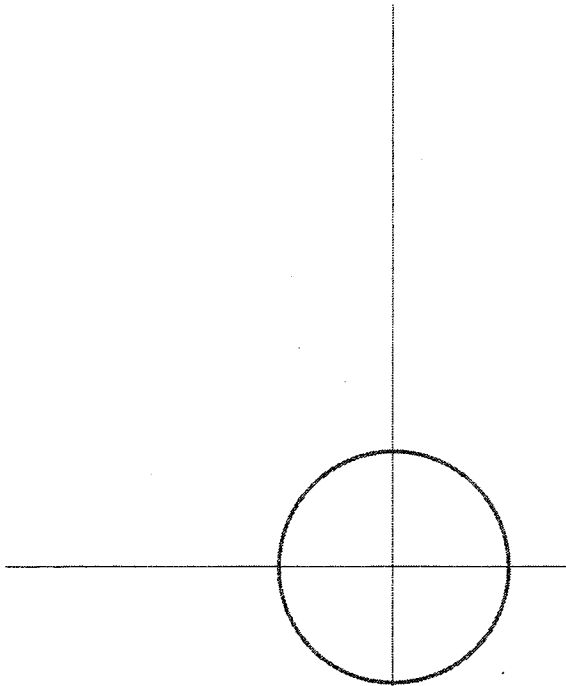
PTI also gathered general information concerning the standardization of desktops, enterprise architecture, remote control tools, and organization structure – summarized in the following table.

SURVEY RESULTS – ADDITIONAL INFORMATION

Survey Questions	Broward Cnty, FL	San Bernardino Cnty, CA	Harris Cnty, TX	Tarrant Cnty, TX	Fairfax Cnty, VA	Santa Clara Cnty, CA	Los Angeles Cnty, CA	King Cnty, WA
Has the county performed an architecture optimization?	Y	Y	N	Y	Y	Y	Y	N
Are all the county's desktops standardized?	N	Y	N	Y	Y	N	N	N
Does the county have and utilize remote control tools?	N	Y	N	Y	Y	Y	Y	N
Does your county have a CIO/CTO position established?	Y	Y	Y	Y	Y	Y	Y	Y
Does the CIO/CTO position have direct IT operational responsibility?	Y	Y	Y	Y	Y	Y	N	N

Findings:

- ◆ **King County is behind the curve regarding centralization in all IT services areas**
- ◆ **Only one other county reported a CIO who does not have authority over for IT operations**



**scoring
methodology details**

This appendix describes PTI’s approach to scoring the three final models and provides the rationale behind our specific scores.

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Appendix D:
Scoring
Methodology
Details

A. SCORING METHODOLOGY

After reviewing and rejecting several of the models, we subjected the remaining models to a more rigorous examination. This consisted of an evaluation based on specific criteria and a subsequent scoring of the models.

PTI identified six criteria to use as a basis for rating the IT organization alternatives. Each individual criterion was assigned a weight, or point value. More important criteria received higher point values and less important ones received lower point values – effectively weighting the criteria. These criteria and weights were reviewed by the BMC, TMB, and Project Advisory Committee¹, updated based on input received, and accepted by the project’s sponsors for use by the consultant.

The table below defines the criteria and associated weights:

ORGANIZATION MODEL EVALUATION CRITERIA AND WEIGHTS

Criteria	Weight (Points)
A. <u>Cost Efficiency</u>: relative savings of the alternative models compared to the Status Quo – based on end-state labor forecasts and assumptions regarding architecture standardization and consolidation	100
B. <u>Consistent Countywide IT Service & Mgt</u>: ability of the option to effectively manage and govern IT assets, standards, policies and service quality from an entire County perspective	70
C. <u>Countywide Security/Privacy</u>: ability of the option to reliably and effectively deliver physical, desktop, application, and file security	80
D. <u>Responsive and Accountable Service</u>: ability of the option to flexibly enable agency business needs and provide accountable IT service to the business units	100
E. <u>Skilled Workforce</u>: ability of the option to provide viable career paths and appropriate specialization for County IT professionals	80
F. <u>Long-Term Position</u>: ability of the option to provide a long-term sustainable model for public access, regional initiatives, and implementation of best practices in alignment with the County’s IT vision and goals	70

PTI rated each model against all six criteria. For a given criterion, we assigned a score of 0 to 10 – where 10 represented the best score. Scores for a specific criterion reflect how well that model’s end state achieves the criterion’s primary objectives.

¹ As a result of this review, the Superior Court suggested adding three additional criteria: Quality of Justice, Confidentiality, and Continuity of Business Practice. The consulting team believes that the defined criteria already encompass these elements and have applied them accordingly:

Criterion C – Security/Privacy, speaks to the need to deliver appropriate application and data confidentiality

Criterion D – Responsive and Accountable Service, speaks (overall) to addressing the agencies’ business missions (in this particular case – quality of justice and continuity of business practice supported by trained and authorized staff)

For each criterion, the score was multiplied by the criterion weight. From these individual scores, a single total weighted score was calculated for each model – with the highest score indicating the best overall model.

These points were calculated as follows:

$$(\text{Option Score}) \times (\text{Criterion Weight}) = \text{Weighted Score}$$

For instance, assume a criterion has a weight of 80 points available. Model X rates a 7 for that criterion, while Model Y rates a 3. Model X will be awarded a weighted score of 560 (i.e., 7 x 80), while Model Y will receive a weighted score of 240 (i.e., 3 x 80).

Weighted scores for each option were summed to attain a total score.

B. SCORING RESULTS AND RATIONALE

The results of this scoring effort follow for each of the three models considered:

- ◆ Model A – Status Quo
- ◆ Model B – Complete Centralization
- ◆ Model C – Distributed Application Support

WEIGHTED SCORES OF ORGANIZATION MODELS

Evaluation Criteria	Criterion Weight	Model A: Status Quo		Model B: Complete Centralization		Model C: Distributed Application Support	
		Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Cost Efficiency	100	5	500	6	600	6	600
Consistent County-wide IT Service and Management	70	3	210	9	630	6	420
Enterprise Security and Privacy	80	3	240	9	720	7	560
Responsive/Accountable Service	100	8	800	3	300	7	700
Skilled Workforce	80	5	400	8	640	7	560
Long-Term Position	70	4	280	8	560	9	630
Total Score		28	2,430	43	3,450	42	3,470

Note that potential cost savings represent a relatively small component of the differential between the weighted scores. Factors related to consistent countywide IT services and management, security and privacy, and long-term position drove the selection of Model C over Model A.²

The following tables provide the scoring rationale for each model.

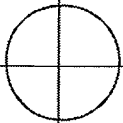
² Some readers may be surprised that PTI rated “cost efficiency” identically for models B and C – attributing no additional savings for complete centralization of application support. We base this evaluation on the assumption that *the fundamental body of work (i.e., labor) required to support the County’s business software would be the same in a centralized or distributed environment.* Unlike economies of scale associated with server or IT service desk consolidation, we believe that the labor requirements would not be altered by centralizing application support. Along similar lines, we also perceive no discernable benefit in distributing application support currently performed by King County’s central IT service provider.

SCORING RATIONALE
MODEL A – STATUS QUO

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Appendix D:
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Criteria	Score	Scoring Factors
Cost Efficiency	5	<ul style="list-style-type: none"> Scored at the mid point to provide a reference for scoring the other models
Consistent Countywide IT Service and Management	3	<ul style="list-style-type: none"> Wide distribution of labor force is difficult to manage consistently and effectively Lack of standard processes across all agencies results in varying service levels Silo approach to IT labor management makes it difficult to establish countywide service policies
Countywide Security and Privacy	3	<ul style="list-style-type: none"> Lack of centralized security management and enforced standards for security means no unified security strategy Expansive WAN provides many entry points for unauthorized access Current environment lacks security standards/compliance when using third party tools and software to access the County's networks
Responsive/Accountable Service	8	<ul style="list-style-type: none"> On-site staff flexible to individual agency requirements After-hours response processes are in place Help desks are not coordinated at an enterprise level, so efforts may be duplicated Limited number of service-level agreements which hinders accurate performance measurement No significant quantitative measures of service quality exist, making objective assessment difficult
Skilled Workforce	5	<ul style="list-style-type: none"> Scored at the mid point to provide a reference for scoring the other models
Long-Term Position	4	<ul style="list-style-type: none"> Does not provide the stability of infrastructure required to most effectively sustain broad public access, regional initiatives, and implementation of best practices in alignment with IT vision and goals

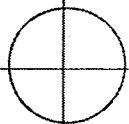


SCORING RATIONALE
MODEL B – COMPLETE CENTRALIZATION

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Criteria	Score	Scoring Factors
Cost Efficiency	6	<ul style="list-style-type: none"> Centralization of IT staff leads to labor efficiencies Consolidation of servers reduces replacement costs and workload for server administration Standardizing servers and workstations increases the productivity of related support staff
Consistent Countywide IT Service and Management	9	<ul style="list-style-type: none"> Centralizes labor force for more effective management With centralized management of IT staff and equipment, implementation of countywide initiatives is easier and more efficient Conducive to establishing and supporting countywide standards and practices Provides a more unilateral approach to sharing technology across the County's agencies Centralized environment is more conducive to developing service-level agreements for accurate performance measures
Countywide Security and Privacy	9	<ul style="list-style-type: none"> Consolidation and standardization of servers reduces the level of exposure to information loss and unauthorized access – both physically and logically Centralized security staff to provide better specialization and consistent enforcement of policies and procedures
Responsive/Accountable Service	3	<ul style="list-style-type: none"> IT staff will not report to the agencies, making them less accountable to agency needs Agencies that are farthest from a core service location may have longer network response times than agencies that are closer A less complicated network created by centralization means a network that is easier to manage and configure
Skilled Workforce	8	<ul style="list-style-type: none"> Provides better career paths for IT staff Supports greater technical depth and specialization Greater opportunity for peer-to-peer cross training
Long-Term Position	8	<ul style="list-style-type: none"> Implementing countywide improvements to systems and technology will be more efficient and economical because of centralized IT staff and equipment Conducive to enhanced asset management, planning, and monitoring Provides a better foundation for sustaining public access, regional initiatives, and implementation of best practices in alignment with IT vision and goals

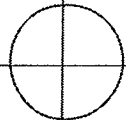


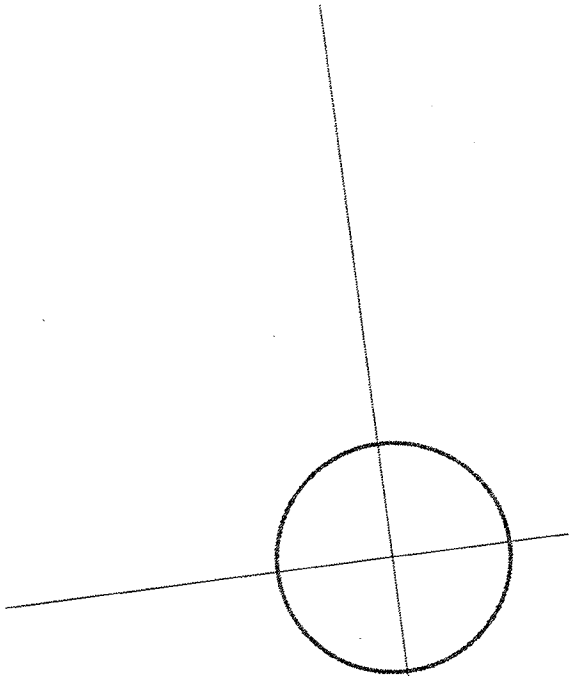
SCORING RATIONALE
MODEL C – DISTRIBUTED AGENCY APPLICATION SUPPORT

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Appendix D:
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Criteria	Score	Scoring Factors
Cost Efficiency	6	<ul style="list-style-type: none"> • Scores the same as Model B because it has the same end-state labor and infrastructure costs
Consistent Countywide IT Service and Management	6	<ul style="list-style-type: none"> • Scored lower than Model B because decentralization of application staff will make consistent use of tools and standards more difficult • Scored higher than Model A because most benefits of centralization do accrue
Countywide Security and Privacy	7	<ul style="list-style-type: none"> • Scored slightly lower than Model B because decentralization will make it more difficult to consistently enforce application security • Scored higher than model A because most benefits of centralization do accrue
Responsive/Accountable Service	7	<ul style="list-style-type: none"> • Scored higher than Model B because application staff report to the business units, making them directly responsible to customer needs • Scores lower than Model A because infrastructure support staff are centralized and may not be as responsive to local needs
Skilled Workforce	7	<ul style="list-style-type: none"> • Scored lower than Model B because it does not provide the same potential for cross-training and career advancement for application support staff • Scored higher than Model A because it does provide better depth of skill, cross-training, and career opportunities than the Status Quo
Long-Term Position	9	<ul style="list-style-type: none"> • Scored higher than Model A and B because it provides a more effective balance between IT commodity services and the need for agency autonomy over the long-term





**detailed
assumptions**

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Appendix E:
 Detailed
 Assumptions

This appendix presents the major assumptions that form the foundation of the cost-benefit analysis. These assumptions provide the basis for assigning both costs and benefits to the Status Quo and the Preferred Alternative. Correspondingly, significant changes to the assumptions may impact the results of the financial analysis. As necessary, an explanatory rationale accompanies each assumption.

Assumptions, with respective rationale, are presented in three tables:

- A. Global Assumptions – apply to both the Status Quo and the Preferred Alternative
- B. Preferred Alternative Assumptions – apply only to the Preferred Alternative
- C. Status Quo Assumptions – apply only to the Status Quo

A. GLOBAL ASSUMPTIONS

Assumption	Rationale/Explanation
A. Labor data contained in the TOCT is sufficiently accurate for planning purposes.	The data is the most recent available from King County. Stakeholders have had ample time to review and correct the information.
B. The CBA will use the average IT activity labor costs from the TOCT as the initial per-FTE annual labor cost for all cost calculations related to IT labor.	This represents a conservative IT labor cost numbers, as average compensation will undoubtedly increase before implementation of these recommendations. An increase in average compensation will correspondingly INCREASE the magnitude of the savings from staff reductions.
C. Geography data is sufficiently accurate for planning purposes: <ul style="list-style-type: none"> • Facility list is accurate and includes a single unique name for each facility • Facility list accurately reflects department/agency locations • Allocation of staff to facilities is accurate • Allocation of workstations and servers to facilities is accurate 	The data is assumed “good” at time of compilation based on King County-supplied and PTI-acquired data, and data verification that has occurred since initial collection.
D. Average server life span is five years.	Assumption based on common IT practice of redeploying, upgrading and/or replacing servers on a 3 to 7 year cycle.
E. An average server replacement cost is sufficient for calculations of server and server related costs	Sensitivity analysis indicated no change in net present value when costs specific to server types were substituted. Server costs used are based on Dell and Compaq server configurations that are highly robust and scalable. County staff was consulted as these costs were developed.



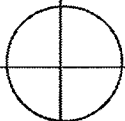
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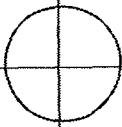
Appendix E:
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Assumption	Rationale/Explanation
<p>F. Average annual server maintenance is 4% of server replacement costs.</p>	<p>While using 10% of replacement costs as an annual figure for server support and maintenance expenses is a commonly accepted practice when modeling these expenditures, we've chosen a lower percentage. This figure was reduced to take into account that three year warranties/service contracts are often bundled with new servers. Some maintenance overhead is necessary to cover costs associated with upgrades to accommodate additional growth load and component repairs/replacement as a server nears the end of its lifecycle (after the warranty coverage has usually expired).</p>
<p>G. Costs for workstation replacements will not be included in the analysis, as it is assumed that these expenditures would occur anyway and that there will be no difference in these expenditures between the Status Quo and the Preferred Alternative.</p>	<p>King County procures, deploys and recycles workstations in a manner that is independent of this study. Changes to these processes will have exactly the same impact on either model and therefore do not need to be included in a financial comparison of the models.</p>
<p>F. Costs for client access licenses to file/print servers will not be included in the analysis.</p>	<p>The County's current licensing arrangement for this software is independent of the IT service delivery model. Changes to these processes will have exactly the same impact on either model and therefore do not need to be included in a financial comparison of the models. In addition, procurement of servers at the cost levels specified bundle some overhead for client access licenses into the model.</p>
<p>G. The CBA is assumed to include 15 years.</p>	<p>Typically, the term of a CBA is matched to the asset life. As the organizational changes will be long-term, a 15 year analysis is appropriate.</p>
<p>H. The CBA assumes an inflation rate of 2.5%.</p>	<p>King County provided this figure as their planning figure effective through 2006. We have extended it throughout the life of the CBA due to a lack of better data. Note that any change to the rate of inflation will be offset to a degree by calculations involving the cost of capital, making the study somewhat less sensitive to fluctuations in the inflation rate.</p>
<p>I. The CBA assumes a cost of capital of 5.25%.</p>	<p>This figure was provided by King County as the current rate for a 20 year bond. While a lower figure was also provided for a 10 year bond, the higher percentage was taken for a more conservative analysis.</p>



B. PREFERRED ALTERNATIVE ASSUMPTIONS

Assumption	Rationale /Explanation
<p>J. Server consolidation will occur as part of the labor centralization effort.</p> <p>See Appendix D for additional detail.</p>	<p>The County has too many servers, particularly file and print servers. An architecture optimization effort, in concert with the consolidation of staff into a centralized organization within King County, will enable the consolidation of servers to occur. Estimated labor costs for planning and implementing this consolidation are included in the model.</p>
<p>K. Workstation configurations will be standardized as part of the consolidation effort – with an assumed labor cost per workstation.</p>	<p>In order to realize the maximum benefits of consolidation, workstation configurations (not necessarily hardware) must be standardized and secured. Workload and hourly labor costs (either in-house provided or contracted) associated with this effort are included in the model.</p>
<p>L. Remote control software to enable remote administration of servers and workstations will be purchased and deployed as part of the consolidation effort.</p>	<p>In order to realize the maximum benefits of consolidation, remote management software must be deployed. Associated cost estimates are included in the model.</p>
<p>M. Labor efficiencies will occur for IT-titled staff as a result of the consolidation and the architecture improvements.</p> <p>See Appendix F for additional detail.</p>	<p>The consolidation effort and architecture improvements will allow for some economies of scale in service delivery. IT staff will benefit from increased specialization as they dedicate more time to specific IT-related functions as well as gain a greater support base from associated IT staff being located in closer proximity.</p>
<p>N. For benefit-calculation purposes, all labor savings will be considered “tangible” benefits, even though some portion of the labor savings will likely accrue as productivity benefit (i.e., staff time is made available for other activities) rather than as budget reductions.</p>	<p>Labor savings attributed to loss of “partial FTE” responsibilities represent a valid tangible benefit. The County’s ability to turn this productivity savings into a budget reduction depends upon how aggressively actual headcount reductions are pursued.</p>



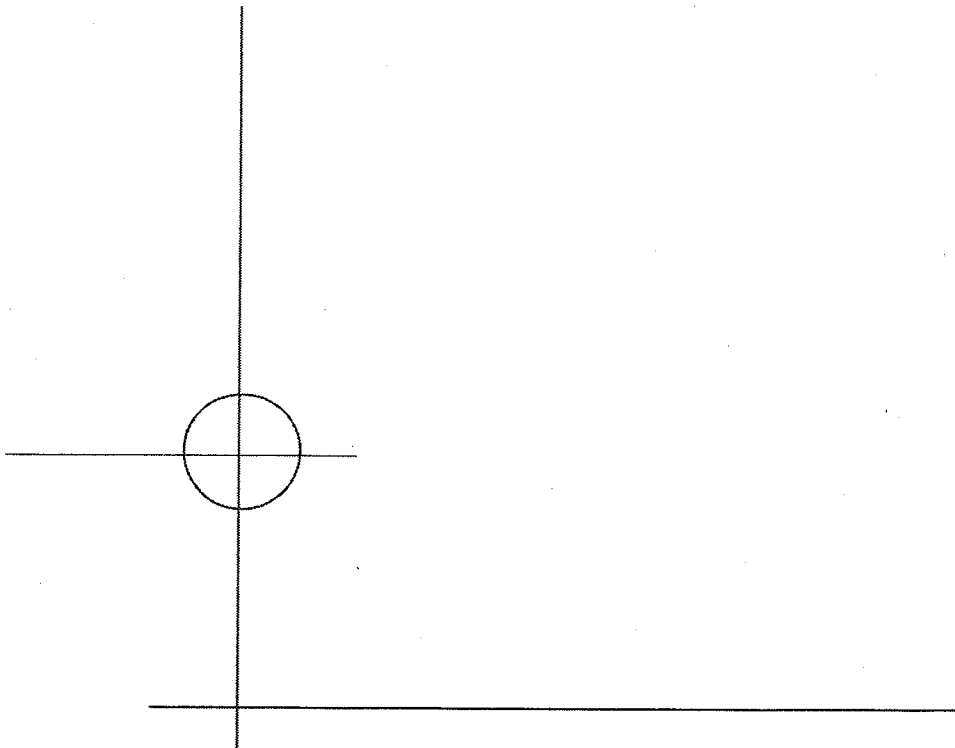
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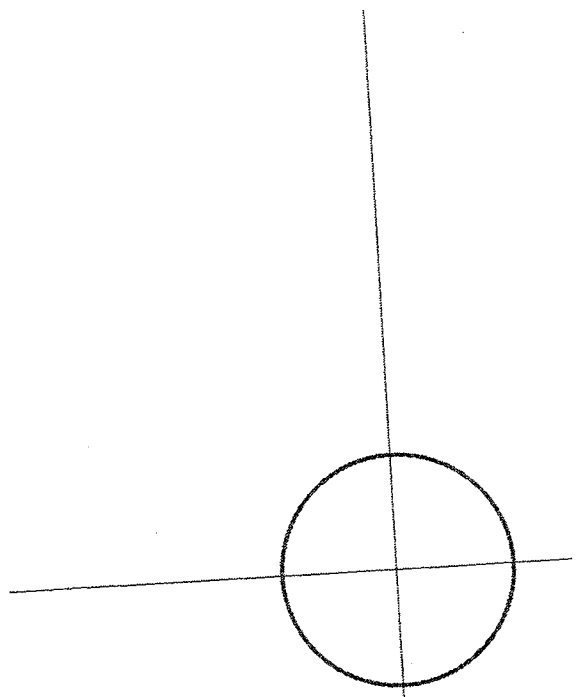
Appendix E:
 Detailed
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Assumption	Rationale /Explanation
O. A call center facility will be created, including purchase of necessary phone systems, help desk software, and other automation tools as necessary.	The existing ITS Help Desk is loosely organized with no direct link between the existing help desk software and the phone system. In addition, existing Tier 1 and Tier 2 support staff are scattered throughout the County, resulting in the lack of a shared knowledge base. Bringing these individuals under “one roof” will enable more efficient and timely support across agencies, as well as reducing labor costs.
P. Space will need to be acquired for data centers and central service provider staff.	This conservative assumption presumes that the County does not currently have sufficient space under lease to support the recommended changes. Space costs are therefore included in the expenses associated with the Preferred Alternative.
Q. Network bandwidth between Seattle locations is sufficient to support existing service levels, but may not be sufficient to support consolidation of servers	Server consolidation may place demands on the network that exceed current capacity. In addition, facilities in remote or more rural sites may need to have their network bandwidth increased to allow “human tolerable” access to a data center. Note that, while the analysis of the current state identifies Seattle, Renton, and Kent as “core” with the logical potential to house data centers, the CBA does not necessarily require establishment of data centers in these specific locations. Furthermore, the CBA model does not limit the number of potential data centers to three. If the County were to consolidate servers into an area that had insufficient bandwidth, additional costs would be incurred – potentially beyond those estimated in the CBA.
R. Network bandwidth between Renton buildings is sufficient to support existing service levels, but may not be sufficient to support consolidation of servers	
S. Network bandwidth between Kent buildings is sufficient to support existing service levels, but may not be sufficient to support consolidation of servers	
T. Where necessary to support server consolidation, additional bandwidth will be available at currently available prevailing market prices	The CBA includes costs for additional bandwidth (I-Net circuits were used as an estimate for market rates related to networking – <i>use of I-Net circuits is not meant to imply extending or adding I-Net circuits, though this is an option in areas already wired for I-Net</i>).
U. Additional labor resources will be needed to implement the server consolidation and workstation standardization as well as to staff the transition management effort	The recommended changes are complex and existing staff are busy. A significant cost allowance is made for enterprise architecture and organizational transition work.

C. STATUS QUO ASSUMPTIONS

Assumption	Rationale/Explanation
V. No significant improvements to the efficiency of IT service delivery will occur over the period of the CBA	In the Status Quo, nothing changes.
W. No significant consolidation of server architecture will occur over the period of the CBA	





**cost-benefit analysis
detail**

This appendix provides additional supporting information for the cost-benefit analysis. It includes:

- A. Summary Cash Flow and Costs
A summary of the net cash flow resulting from the comparison of the Preferred Alternative to the Status Quo is presented along with a break-out of costs
- B. Preferred Alternative End-State Assumptions
The detailed assumptions used to arrive at the end-state staffing levels and server counts in the Preferred Alternative
- C. Values and Cost Estimates
A detailed summary of the data sources for the values and cost estimates used within the CBA
- D. Sensitivity Analysis
A sensitivity analysis that examines the variables impacting the CBA and anticipated cost-savings
- E. Comparison of Staffing Levels
A more detailed comparison of Status Quo and Preferred Alternative staffing levels used in CBA calculations

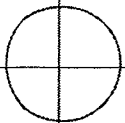
Note that the CBA itself is a spreadsheet that does not render well in a printed format. The electronic file has been provided to the County in addition to this report; it documents additional material surrounding our assumptions.

A. SUMMARY CASH FLOW AND COSTS

The tables on the following pages use major expenditure categories to summarize the net cash flow of Preferred Alternative relative to the Status Quo. **Note that negative values in the table indicate a cost savings over current costs (i.e., the Preferred Alternative is LESS EXPENSIVE than the Status Quo) while positive values indicate a net additional expenditure over current costs (i.e., the Preferred Alternative is MORE EXPENSIVE than the Status Quo).**

Net Present Value in this analysis represents the sum total savings expressed in today's dollars over the period of the analysis. A portion of this savings is due to productivity gains in labor.

Internal Rate of Return in this analysis represents the return on the investment of making changes expressed as a percentage.



PREFERRED ALTERNATIVE SUMMARY CASH FLOW
15 YEAR DURATION

Year	Cost Category							Total Cash Flow
	Labor Adjustments	Enterprise Architecture & Transition Costs	Server Consolidation	Workstation Standardization	Service Center Build-Out			
1	\$ -	\$ 3,673,333	\$ 1,288,524	\$ 797,332	\$ -	\$ -	\$ 5,759,188	
2	\$ (768,847)	\$ 3,204,583	\$ (43,031)	\$ 1,634,530	\$ 1,268,812	\$ -	\$ 5,296,046	
3	\$ (2,364,206)	\$ 2,938,455	\$ (141,469)	\$ 1,634,530	\$ 495,980	\$ -	\$ 2,583,290	
4	\$ (4,038,851)	\$ 2,140,750	\$ (644,667)	\$ -	\$ 504,434	\$ -	\$ (2,038,334)	
5	\$ (5,795,752)	\$ 250,000	\$ (683,385)	\$ -	\$ 513,072	\$ -	\$ (5,716,064)	
6	\$ (5,940,645)	\$ -	\$ (700,469)	\$ -	\$ 521,899	\$ -	\$ (6,119,216)	
7	\$ (6,089,162)	\$ -	\$ (741,147)	\$ -	\$ 530,916	\$ -	\$ (6,299,393)	
8	\$ (6,241,391)	\$ -	\$ (782,842)	\$ -	\$ 540,128	\$ -	\$ (6,484,105)	
9	\$ (6,397,425)	\$ -	\$ (825,580)	\$ -	\$ 549,536	\$ -	\$ (6,673,469)	
10	\$ (6,557,361)	\$ -	\$ (869,385)	\$ -	\$ 559,144	\$ -	\$ (6,867,602)	
11	\$ (6,721,295)	\$ -	\$ (891,120)	\$ -	\$ 568,955	\$ -	\$ (7,043,460)	
12	\$ (6,889,327)	\$ -	\$ (937,143)	\$ -	\$ 578,972	\$ -	\$ (7,247,499)	
13	\$ (7,061,561)	\$ -	\$ (984,317)	\$ -	\$ 589,197	\$ -	\$ (7,456,681)	
14	\$ (7,238,100)	\$ -	\$ (1,032,671)	\$ -	\$ 599,633	\$ -	\$ (7,671,138)	
15	\$ (7,419,052)	\$ -	\$ (1,082,233)	\$ -	\$ 610,282	\$ -	\$ (7,891,003)	
Totals	\$ (79,522,974)	\$ 12,227,122	\$ (9,070,936)	\$ 4,066,391	\$ 8,430,959	\$ -	\$ (63,869,439)	

Note: Negative values (\$x,xxx) above represent a savings.

NET PRESENT VALUE AND INTERNAL RATE OF RETURN
15 YEAR DURATION

Cost Category	NPV
Labor Adjustments	\$ (49,406,353)
Server Consolidation	\$ (5,113,340)
Workstation Standardization	\$ 3,635,022
Service Center Build-Out	\$ 5,691,300
Enterprise Architecture & Transition Costs	\$ 10,858,512
Total Net Present Value	\$ (34,334,859)
Internal Rate of Return	27%
Cash Positive	Year 4
Break Even	Year 5

Note: Negative values (\$x,xxx) above represent a savings.

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**Appendix F: Cost-
 Benefit Analysis**

STATUS QUO COSTS
15 YEAR DURATION

Year	Enterprise Architecture & Transition Activities		Server Consolidation		Workstation Standardization		Service Center Build-Out	
	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring
1	\$ -	\$ 42,269,322	\$ -	\$ 5,216,147	\$ -	\$ -	\$ -	\$ 11,197
2	\$ -	\$ 43,326,055	\$ -	\$ 5,346,551	\$ -	\$ -	\$ -	\$ 11,869
3	\$ -	\$ 44,409,207	\$ -	\$ 5,480,215	\$ -	\$ -	\$ -	\$ 12,581
4	\$ -	\$ 45,519,437	\$ -	\$ 5,617,220	\$ -	\$ -	\$ -	\$ 13,336
5	\$ -	\$ 46,657,423	\$ -	\$ 5,757,650	\$ -	\$ -	\$ -	\$ 14,136
6	\$ -	\$ 47,823,858	\$ -	\$ 5,901,592	\$ -	\$ -	\$ -	\$ 14,984
7	\$ -	\$ 49,019,455	\$ -	\$ 6,049,131	\$ -	\$ -	\$ -	\$ 15,883
8	\$ -	\$ 50,244,941	\$ -	\$ 6,200,360	\$ -	\$ -	\$ -	\$ 16,836
9	\$ -	\$ 51,501,065	\$ -	\$ 6,355,369	\$ -	\$ -	\$ -	\$ 17,846
10	\$ -	\$ 52,788,591	\$ -	\$ 6,514,253	\$ -	\$ -	\$ -	\$ 18,917
11	\$ -	\$ 54,108,306	\$ -	\$ 6,677,109	\$ -	\$ -	\$ -	\$ 20,052
12	\$ -	\$ 55,461,014	\$ -	\$ 6,844,037	\$ -	\$ -	\$ -	\$ 21,255
13	\$ -	\$ 56,847,539	\$ -	\$ 7,015,138	\$ -	\$ -	\$ -	\$ 22,531
14	\$ -	\$ 58,268,728	\$ -	\$ 7,190,516	\$ -	\$ -	\$ -	\$ 23,882
15	\$ -	\$ 59,725,446	\$ -	\$ 7,370,279	\$ -	\$ -	\$ -	\$ 25,315
Totals	\$ -	\$ 757,970,386	\$ -	\$ 93,535,567	\$ -	\$ -	\$ -	\$ 260,621

PREFERRED ALTERNATIVE COSTS
15 YEAR DURATION

Year	Enterprise Architecture & Transition Activities		Server Consolidation		Workstation Standardization		Service Center Build-Out	
	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring
1	\$ -	\$ 42,269,322	\$ -	\$ 6,073,147	\$ 797,332	\$ -	\$ -	\$ 11,197
2	\$ -	\$ 42,557,208	\$ 3,673,333	\$ 4,838,096	\$ 1,634,530	\$ -	\$ 781,104	\$ 499,577
3	\$ -	\$ 42,045,001	\$ 3,204,583	\$ 4,873,321	\$ 1,634,530	\$ -	\$ -	\$ 508,561
4	\$ -	\$ 41,480,586	\$ 2,958,455	\$ 4,972,553	\$ -	\$ -	\$ -	\$ 517,769
5	\$ -	\$ 40,861,671	\$ 2,140,750	\$ 5,074,266	\$ -	\$ -	\$ -	\$ 527,208
6	\$ -	\$ 41,883,213	\$ 250,000	\$ 5,201,122	\$ -	\$ -	\$ -	\$ 536,883
7	\$ -	\$ 42,930,293	\$ -	\$ 5,307,984	\$ -	\$ -	\$ -	\$ 546,799
8	\$ -	\$ 44,003,551	\$ -	\$ 5,417,518	\$ -	\$ -	\$ -	\$ 556,964
9	\$ -	\$ 45,103,639	\$ -	\$ 5,529,789	\$ -	\$ -	\$ -	\$ 567,382
10	\$ -	\$ 46,231,230	\$ -	\$ 5,644,868	\$ -	\$ -	\$ -	\$ 578,061
11	\$ -	\$ 47,387,011	\$ -	\$ 5,785,989	\$ -	\$ -	\$ -	\$ 589,007
12	\$ -	\$ 48,571,686	\$ -	\$ 5,906,894	\$ -	\$ -	\$ -	\$ 600,227
13	\$ -	\$ 49,785,978	\$ -	\$ 6,030,821	\$ -	\$ -	\$ -	\$ 611,727
14	\$ -	\$ 51,030,628	\$ -	\$ 6,157,846	\$ -	\$ -	\$ -	\$ 623,515
15	\$ -	\$ 52,306,394	\$ -	\$ 6,288,046	\$ -	\$ -	\$ -	\$ 635,597
Totals	\$ -	\$ 678,447,412	\$ 12,227,122	\$ 83,102,260	\$ 4,066,391	\$ -	\$ 781,104	\$ 7,910,476

Note sum totals in the above tables may be off by +/- \$1 due to rounding.

If the summary table were terminated at Year 10 (indicative of an end-state achieved after 10 years as opposed to 15), the cash flows summarized above would remain the same, but the NPV would drop to (\$15,156,154) at an IRR of 22%. The investment would still go cash positive in year 4 and break even in year 5. This is detailed in the following tables:

**PREFERRED ALTERNATIVE SUMMARY CASH FLOW
 10 YEAR DURATION**

Year	Cost Category						Total Cash Flow
	Labor Adjustments	Enterprise Architecture & Transition Costs	Server Consolidation	Workstation Standardization	Service Center Build-Out		
1	\$ -	\$ 3,673,333	\$ 1,288,524	\$ 797,332	\$ -	\$ -	\$ 5,759,188
2	\$ (768,847)	\$ 3,204,583	\$ (43,031)	\$ 1,634,530	\$ 1,268,812	\$ -	\$ 5,296,046
3	\$ (2,364,206)	\$ 2,958,455	\$ (141,469)	\$ 1,634,530	\$ 495,980	\$ -	\$ 2,583,290
4	\$ (4,038,851)	\$ 2,140,750	\$ (644,667)	\$ -	\$ 504,434	\$ -	\$ (2,038,334)
5	\$ (5,795,752)	\$ 250,000	\$ (683,385)	\$ -	\$ 513,072	\$ -	\$ (5,716,064)
6	\$ (5,940,645)	\$ -	\$ (700,469)	\$ -	\$ 521,899	\$ -	\$ (6,119,216)
7	\$ (6,089,162)	\$ -	\$ (741,147)	\$ -	\$ 530,916	\$ -	\$ (6,299,393)
8	\$ (6,241,391)	\$ -	\$ (782,842)	\$ -	\$ 540,128	\$ -	\$ (6,484,105)
9	\$ (6,397,425)	\$ -	\$ (825,580)	\$ -	\$ 549,536	\$ -	\$ (6,673,469)
10	\$ (6,557,361)	\$ -	\$ (869,385)	\$ -	\$ 559,144	\$ -	\$ (6,867,602)
Totals	\$ (44,193,640)	\$ 12,227,122	\$ (4,143,452)	\$ 4,066,391	\$ 5,483,921	\$ -	\$ (26,559,659)

Note: Negative values (\$x,xxx) above represent a savings.

**NET PRESENT VALUE AND INTERNAL RATE OF RETURN
 10 YEAR DURATION**

Cost Category	NPV
Labor Adjustments	\$ (31,239,165)
Server Consolidation	\$ (2,585,685)
Workstation Standardization	\$ 3,635,022
Service Center Build-Out	\$ 4,174,752
Enterprise Architecture & Transition Costs	\$ 10,858,512
Total Net Present Value	\$ (15,156,564)
Internal Rate of Return	22 %
Cash Positive	Year 4
Break Even	Year 5

Note: Negative values (\$x,xxx) above represent a savings.

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**Appendix F: Cost-
 Benefit Analysis**

**STATUS QUO COSTS
 10 YEAR DURATION**

Year	Enterprise Architecture & Transition Activities		Server Consolidation		Workstation Standardization		Service Center Build-Out	
	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring
1	\$ -	\$ 42,269,322	\$ -	\$ 5,216,147	\$ -	\$ -	\$ -	\$ 11,197
2	\$ -	\$ 43,326,055	\$ -	\$ 5,346,551	\$ -	\$ -	\$ -	\$ 11,869
3	\$ -	\$ 44,409,207	\$ -	\$ 5,480,215	\$ -	\$ -	\$ -	\$ 12,581
4	\$ -	\$ 45,519,437	\$ -	\$ 5,617,220	\$ -	\$ -	\$ -	\$ 13,336
5	\$ -	\$ 46,657,423	\$ -	\$ 5,757,650	\$ -	\$ -	\$ -	\$ 14,136
6	\$ -	\$ 47,823,858	\$ -	\$ 5,901,592	\$ -	\$ -	\$ -	\$ 14,984
7	\$ -	\$ 49,019,455	\$ -	\$ 6,049,131	\$ -	\$ -	\$ -	\$ 15,883
8	\$ -	\$ 50,244,941	\$ -	\$ 6,200,360	\$ -	\$ -	\$ -	\$ 16,836
9	\$ -	\$ 51,501,065	\$ -	\$ 6,355,369	\$ -	\$ -	\$ -	\$ 17,846
10	\$ -	\$ 52,788,591	\$ -	\$ 6,514,253	\$ -	\$ -	\$ -	\$ 18,917
Totals	\$ -	\$ 473,559,354	\$ -	\$ 58,438,487	\$ -	\$ -	\$ -	\$ 147,585

**PREFERRED ALTERNATIVE COSTS
 10 YEAR DURATION**

Year	Enterprise Architecture & Transition Activities		Server Consolidation		Workstation Standardization		Service Center Build-Out	
	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring	One-Time	Recurring
1	\$ 3,673,333	\$ 42,269,322	\$ 431,524	\$ 6,073,147	\$ 797,332	\$ -	\$ -	\$ 11,197
2	\$ 3,204,583	\$ 42,557,208	\$ 465,424	\$ 4,838,096	\$ 1,634,530	\$ -	\$ 781,104	\$ 499,577
3	\$ 2,958,455	\$ 42,045,001	\$ 465,424	\$ 4,873,321	\$ 1,634,530	\$ -	\$ -	\$ 508,561
4	\$ 2,140,750	\$ 41,480,586	\$ -	\$ 4,972,553	\$ -	\$ -	\$ -	\$ 517,769
5	\$ 250,000	\$ 40,861,671	\$ -	\$ 5,074,266	\$ -	\$ -	\$ -	\$ 527,208
6	\$ -	\$ 41,863,213	\$ -	\$ 5,201,122	\$ -	\$ -	\$ -	\$ 536,883
7	\$ -	\$ 42,930,293	\$ -	\$ 5,307,984	\$ -	\$ -	\$ -	\$ 546,799
8	\$ -	\$ 44,003,551	\$ -	\$ 5,417,518	\$ -	\$ -	\$ -	\$ 556,964
9	\$ -	\$ 45,103,639	\$ -	\$ 5,529,789	\$ -	\$ -	\$ -	\$ 567,382
10	\$ -	\$ 46,231,230	\$ -	\$ 5,644,868	\$ -	\$ -	\$ -	\$ 578,061
Totals	\$ 12,227,122	\$ 429,365,714	\$ 1,362,371	\$ 52,932,664	\$ 4,066,391	\$ -	\$ 781,104	\$ 4,850,402

Note sum totals in the above tables may be off by +/- \$1 due to rounding.



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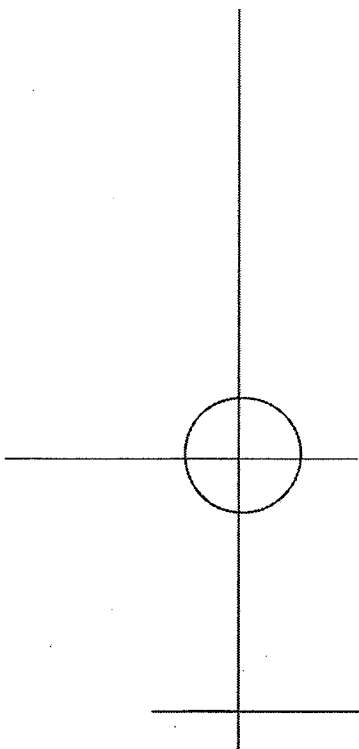
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Appendix F: Cost-
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B. PREFERRED ALTERNATIVE END STATE ASSUMPTIONS

The following table details the assumptions used to arrive at the end-state server counts and total labor effort levels. It provides both the assumption and the related end-state impact.

Assumption	End State Impact
<p>Consolidation and standardization of file/print servers will allow the ratio of workstations to file/print servers to increase from the current 57:1 to 250:1.</p> <p>PTI's experience indicates that the ratio of workstations to file and print servers continues to increase as technology advances. It is not uncommon to find ratios of 500 or more workstations per server, meaning that, on average, 250:1 should be an achievable target.</p>	<p>◆ Number of file/print servers are reduced by 78%</p>
<p>Consolidation and standardization of "other" servers will allow the number of "other" servers to be reduced by 30%.</p> <p>In our experience, high-performing organizations are aggressively consolidating servers and are moving away from "combination use" servers, which is what many of the County's "other" servers appear to be. Also, in our experience, the County has a large number of servers. A 30% reduction in this category seems conservative to us.</p>	<p>◆ 30% fewer "other" servers</p>



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Assumption	End State Impact
<p>Consolidation of Customer Services will allow the ratio of workstations to desktop services staff to increase to 235:1 (it is 138:1 today) by:</p> <ul style="list-style-type: none"> ◆ Consolidating Customer Service staff ◆ Standardizing desktop configurations ◆ Installing Remote control/access software to allow remote administration of workstations ◆ Deploying sophisticated help desk automation, including modern help desk software and a phone system that supports call queuing, analysis of hold times/dropped calls, etc. <p>PTI sees organization that have consolidated help desks (including business application support) and implemented effective remote control tools using workstation-to-staff ratios of 225:1 or more, with reasonable customer satisfaction. We have also seen this ratio trending up over time.</p> <p>Given that the consolidated help desk will not resolve business application problems (reducing the workload accordingly) and that technology will likely continue to increase the efficiency of these staff, a ratio of 235:1 was used.</p>	<p>31% reduction in labor for desktop services activities:</p> <ul style="list-style-type: none"> ◆ Tier 1 (help desk) ◆ Desktop PC support ◆ Personal productivity tool support ◆ Workstation administration
<p>Architecture consolidation and standardization¹ allows server administration staff to administer more servers per FTE:</p> <ul style="list-style-type: none"> ◆ File/print server:admin ratio increases to 30:1 (it is 17.7:1 today) ◆ Application server:admin ratio increases to 27:1 (it is 18.7:1 today) ◆ Other server:admin ratio increases to 27:1 (it is 22:1 today) ◆ Server configurations are standardized within each group of server types (file/print, application, email/calendaring and other) <p>We used ratios that reflect average performance based on our experience.</p>	<ul style="list-style-type: none"> ◆ 41% reduction in required file/print server administration FTEs for a specified number of servers ◆ 31% reduction in application server administration FTEs for a specified number of servers ◆ 18% reduction in other server administration FTEs for a specified number of servers ◆ No change in e-mail/calendaring administration FTEs

¹ Architecture consolidation and standardization is inclusive of servers hosting business applications.

Assumption	End State Impact
<p>Staff consolidation leads to a gain in overall labor efficiencies in remaining System Services areas with the exception of:</p> <ul style="list-style-type: none"> ◆ Mainframe administration, which sees no changes ◆ Security administration, which sees no changes ◆ Data Center operations, which sees an increase due to increased workload <p>PTI estimated these staffing adjustments, based on over 12 years of experience including IT staffing analysis at over 50 public sector entities.</p>	<ul style="list-style-type: none"> ◆ 20% reduction in labor in the following activities: <ul style="list-style-type: none"> • Network connectivity • Database administration ◆ No change to: <ul style="list-style-type: none"> • Mainframe administration • Security administration ◆ 20% increase in labor in: <ul style="list-style-type: none"> • Data center operations
<p>Staff consolidation leads to a gain in labor efficiencies in the IT Planning functions overall</p> <p>PTI estimated these staffing reductions, based on over 12 years of experience including IT staffing analysis at over 50 public sector entities.</p>	<ul style="list-style-type: none"> ◆ 20% reduction in labor in the following activities: <ul style="list-style-type: none"> • Strategic planning and governance • Research and development ◆ 50% reduction in labor in the following activities: <ul style="list-style-type: none"> • Business continuity
<p>Staff consolidation leads to a gain in labor efficiencies overall in the IT Administration function, with the exception of the project management activity, which remains unchanged</p> <p>PTI estimated these staffing impacts, based on over 12 years of experience including IT staffing analysis at over 50 public sector entities.</p>	<ul style="list-style-type: none"> ◆ 50% reduction in labor in the following activities: <ul style="list-style-type: none"> • Asset management ◆ 20% reduction in labor in the following activities: <ul style="list-style-type: none"> • IT procurement • Standards and policy development • Administrative support • Departmental management ◆ No change in labor in the following activities: <ul style="list-style-type: none"> • Project Management

C. VALUES AND COST ESTIMATES

The table on the following page details the cost estimates and their sources used within the CBA. The first table breaks out major categories segmented by major activities associated with a transition from the Status Quo to the Preferred Alternative. The second table presents per FTE staffing costs used in labor cost calculations.

DATA SOURCES AND VALUES USED BY CATEGORY

CATEGORY	VALUE	SOURCE/NOTES
GLOBAL		
Starting Year	2006	Assumed start year since 2005 budget cycle is in process - CBA values are inflated to account for the future start date
Duration of Analysis (years)	15	Selected by PTI based on similar cost-benefit analysis experience. To accommodate County inquiries, we also identified a cost-benefit over a 10-year time frame within the body of the report.
Annual Inflation Rate	2.5%	King County Supplied - set for 2004, 2005 and 2006
Cost of Capital (20 yr bond)	5.25%	King County Supplied - 20 year bond (10 year bond would be 4.5%)
TRANSITION COSTS		
<i>Transition costs refer to the labor effort required for the transition period and for activities related specifically to the planning and implementation of the transition from the status quo to the preferred alternative.</i>		
<i>Labor costs here refer to the King County transition team and transition workgroup staffing as outlined in Chapter 4, Section C.</i>		
Duration of Transition period (years)	4	PTI consultant estimated time duration for transition period (used as reference point in CBA, with staffing reduction after two years)
Transition Team count	10	PTI consultant estimated number of individuals composing transition team
Team reductions after 2nd year	3	PTI consultant estimated number of fewer individuals needed after year 2 as work is completed
Average Annual labor cost	\$ 85,000	PTI consultant estimated labor plus labor overhead costs for transition team staff
FTE to train	245.00	TOCT derived number of IT FTE that would be involved in training
Training (per FTE cost)	\$ 2,000	PTI consultant estimated cost per individual for training of IT staff
<i>Other Transition Activities</i>		
<i>The following "Other Transition Activities" cost estimates were based on planning and implementation costs using outside consultants - use of in-house or contract hires may cost less - or on PTI estimates of overall costs per activity</i>		

CATEGORY	VALUE	SOURCE/NOTES
Enterprise Architecture (EA)	\$ 4,500,000	Estimate provided by Deloitte, Touche & Tohmatsu based on State of Oregon and California projects
EA Duration (years)	3	PTI consultant estimated number of years for EA Activities: start Year 1
Organizational Transition Services (OTS)	\$ 2,500,000	Estimate provided by Deloitte, Touche & Tohmatsu based on State of Oregon and California projects
OTS duration (years)	3	PTI consultant estimated number for years for OTS Activities: start Year 1
Documenting Current Service Levels	\$ 750,000	PTI consultant estimated cost for 15 agencies/department at \$50,000 per agency/department
Application Assessment – Business Case Development	\$ 1,000,000	PTI consultant estimated cost for developing business cases to determine which applications would be candidates for Central IT Department management and support
SERVICE CENTER		
<i>Service Center costs include facilities, staffing, hardware and software cost estimates for staff to build out a service center.</i>		
<i>Costs specifically centered around Service Center implementation relating to staffing levels and facilities</i>		
Tier 1 & Tier 2 Helpdesk Support/Call Center		
Space Global		
Existing space overhead (annually)/person	\$ 6,900	From King County supplied data (high value) inclusive of space, existing (voice) telecom and other associated office costs
Number of Customer Support Staff (by FTE)	71.43	From TOCT – Note: includes all Tier 1 & Tier 2 less business application support and training
Number of Customer Support Staff (by FTE)	51.79	From TOCT less PTI Consultant reductions – Note: includes combined Tier 1 & Tier 2 less business application support and training
<i>Phone system costs per line are assumed to be consistent between status quo and preferred alternative - costs embedded in labor overhead</i>		
Phone System (for Call Center)		
One-Time Costs		
Phone "System" Acquisition Costs	\$ 10,000	HEAT vendor – supplied estimate for necessary telephone equipment for Call Center software
Recurring Costs		
Annual Maintenance Charge	20%	PTI consultant estimate of equipment maintenance overhead on additional phone equipment



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Appendix F: Cost-Benefit Analysis

VALUE SOURCE/NOTES

CATEGORY	VALUE	SOURCE/NOTES
Software Packages		HEAT is used only for the sake of the analysis as a base cost - no specific application is proposed. only functionality as outlined in modules is suggested
Status Quo		
Number of Existing Licenses	Vendor - supplied (25 licenses for Heat, 25 iHeat, and Self Serve) data on current King County licensing	
Annual License Maintenance Cost	\$ 11,197	Vendor - supplied maintenance cost, based on current 17.5% of purchase cost
Annual License Rate Increase	6%	PTI consultant estimate based on inflation plus product cost estimated annual increase supplied by vendor
Preferred Alternative		
Number of Seat Licenses	Vendor supplied estimates (15 Call Center agents, unlimited customer self-service access)	
One-time acquisition costs		Vendor - supplied cost estimates for all software that follows
Initial Purchase Costs/Package	\$ 36,000	Help desk application
Help Desk	\$ 7,500	Self-Service module for end-user self-access
Self Service	\$ 607,556	Centralized asset management and tracking tools - the nested packages break-out individual cost calculations for each software component of the Asset Management
Asset Management		Hardware inventory component of the Asset Management category
Inventory (hardware)	\$ 9,500	Hardware inventory component of the Asset Management category
Cost/Workstation	\$ 15	Software patch management component of the Asset Management category
Patch Management	\$ 9,000	Software patch management component of the Asset Management category
Cost/Workstation	\$ 21	Software inventory management component of the Asset Management category
Software Management	\$ 4,800	Software inventory management component of the Asset Management category
Cost/Workstation	\$ 12	Database management system for building problem resolution logs that can be referenced by service center staff
Knowledge + Maintenance	\$ 20,000	Database management system for handling, documenting and tracking service calls
Contact Center	\$ 30,000	Contact management system for handling, documenting and tracking service calls
Deployment cost		

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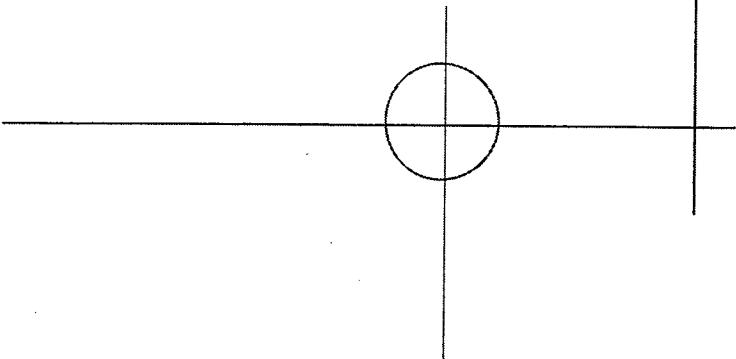
CATEGORY	VALUE	SOURCE/NOTES
Consulting (implementation + training)	\$ 70,000	Estimate provided by HEAT vendor (includes 8 day "discovery" service plus 20 day implementation and training for 2 (includes 15% travel/lodging/meals overhead)
Recurring Costs		
Annual Software Maintenance Costs	20%	Vendor – supplied percentage maintenance cost of software licenses
SERVER CONSOLIDATION		
<i>Server consolidation includes all aspects of costs related to server moves, data center, facilities, workstation standardization and networking improvements</i>		
<i>Server levels used are adjusted with feed back from initial TOCT & geography data collection efforts</i>		
Server Types - Numbers of Servers		
Status Quo Server Counts		
File and Print Servers	222	King County supplied – Data from TOCT & Geo Data
Application Servers	223	King County supplied – Data from TOCT & Geo Data
Email/Calendaring Servers	17	King County supplied – Data from TOCT & Geo Data
Other Servers	355	King County supplied – Data from TOCT & Geo Data
Preferred Alternative Number of Servers		
File and Print Servers	49	Calculated based on Status Quo and PTI Consultant reduction projections
Application Servers	223	No Change from Status Quo
Email/Calendaring Servers	17	No Change from Status Quo
Other Servers	249	Calculated based on Status Quo and PTI Consultant reduction projections
Server Types % Changes		
Preferred Alternative		<i>Derived from Assumptions in reductions based on anticipated FTE reductions</i>
File and Print Servers	-78%	PTI consultant calculated as % difference in ratios
Application Servers	0%	No Change from Status Quo
Email/Calendaring Servers	0%	No Change from Status Quo
Other Servers	-30%	PTI consultant projected reduction in number of Other servers do to consolidation efforts
Server And Networking Costs		<i>Costs associated with server replacement, maintenance, and relocation as well as networking upgrades for data center access</i>



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**Appendix F: Cost-
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CATEGORY	VALUE	SOURCE/NOTES
<i>Global Server Data</i>		
Duration of Server Consolidation Project (years)	3	PTI consultant estimated project duration [Not used in calculations - for reference only (see Consolidation Phase In Period below)]
Server lifecycle (years)	5	PTI consultant estimated lifecycle of servers (3 to 7 years is typical range used, median value selected for use)
Replacement (initial) Cost per Server Type		
File and Print Servers	\$ 15,000	Costs estimated from Dell/Compaq/Other vendor Web sites and confirmed by King County for "ballpark" accuracy
Application Servers	\$ 35,000	Costs estimated from Dell/Compaq/Other vendor Web sites and confirmed by King County for "ballpark" accuracy
Email/Calendaring Servers	\$ 32,400	Data supplied by King County and taken as the average cost of existing servers (\$20,000 - \$30,000) inclusive of 5 systems with SANS (\$50,000)
Other Servers	\$ 5,000	Midpoint of range provided by King County (range provided was \$2,000 to \$8,000)
Server Maintenance Costs (% of server cost)	4%	PTI consultant estimated server maintenance cost per year factoring in vendor warranty supplied at purchase (3 year warranty over a 5 year lifecycle)
<i>Consolidation Phase-in Period</i>		
% Completed Year 1	20%	PTI consultant estimated phase-in period over the duration of server consolidation project (2.5 year phase-in period) with the given percentage completed each year (i.e., servers are relocated and consolidated over three years with 20% of the server completed by the end of the first year of the phase-in period, 60% by the end of the second, and 100% the end of the third)
% Completed Year 2	40%	
% Completed Year 3	40%	
<i>Server Move</i>		

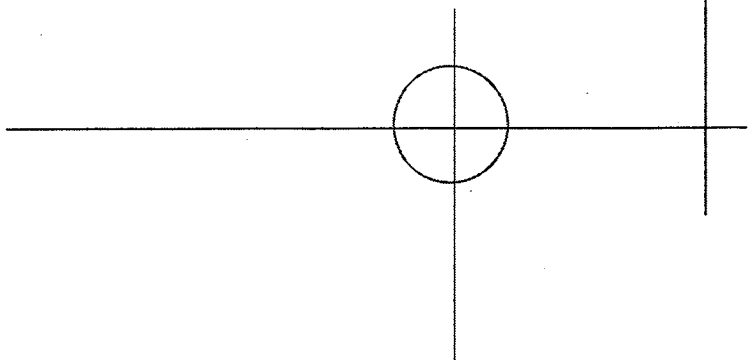




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Appendix F: Cost-Benefit Analysis

CATEGORY	VALUE	SOURCE/NOTES
Cost/Server to Move (% of server cost)	10%	Seitel Leeds & Associates provided estimated cost per server to relocate (e.g., the typical cost of relocating a server is 5-10% of the cost of the server, so a \$10,000 server would cost between \$500 and \$1,000 to relocate inclusive of labor and other associated costs) <i>From 2005 Budget Data for ITS Data Center</i>
Data Center Facilities		
Sq. Ft. Required per Server	5	King County ITS-supplied data – minimum square foot space allotment for a single server footprint
Cost per Sq. Ft.	\$ 486	King County ITS-supplied data – inclusive of space, power, HVAC, seismic platform, networking, monitoring/notification, restarts, per year
Workstation Architecture		<i>Workstation Architecture includes workstation standardization costs (e.g., labor, software required, etc.) and networking improvements</i>
Workstation Global		
Duration of Workstation Standardization (years)	3	PTI consultant estimated duration for project - reference only, not used in calculations (see Standardization Phase In Period below)
Number of workstations	12,173	From King County supplied data (desktops and laptops) in TOCT and Geo Data - corrected from feed back 11/4/04 and updated 11/9/04
Standardization Phase in Period		
% Completed Year 1	20%	PTI consultant estimated phase-in period over the duration of workstation standardization project (2.5 Year Phase in period) with % completed each year – Year 1 is assumed to include planning efforts (i.e., workstations are standardized over three years with 20% of the work completed by the end of the first year of the phase-in period, 60% by the end of the second, and 100% the end of the third)
% Completed Year 2	40%	
% Completed Year 3	40%	
Status Quo		
Ratio of Workstations: File Server	55:1	PTI consultant calculated Status Quo ratio of workstations (including laptops) to File/Print Server based on King County supplied data calculated from TOCT and Geo data
Preferred Alternative		



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**Appendix F: Cost-
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CATEGORY	VALUE	SOURCE/NOTES
Target Ratio of Workstation: File Servers	250:1	PTI consultant set target Alternative ratio of workstations (including laptops) to File/Print Servers based on reductions in numbers of File/Print servers
Workstation Standardization		<i>Calculated from data provided by City of Seattle on associated costs of a recent standardization project conducted by the City - note that standardization efforts cost roughly 16% of the replacement cost of a workstation</i>
Prep Rate	\$ 45	City of Seattle - estimated hourly rate (labor + benefits) for prep work (either in-house or contract labor)
Prep Labor Hours	.5	City of Seattle - estimated hours required for prep work, inclusive of backing up local data and settings, and imaging masters for all workstations
Tech Rate	\$ 40	City of Seattle - estimated hourly rate (labor + benefits) for implementation (either in-house or contract labor)
Tech Labor Hours/Workstation	4	City of Seattle - estimated hours required for prep work, standardization (1.75 to 4 hrs, using high end to account for implementation of costs) including restoring local data, personalization, settings, etc., per workstation
Imaging software/Workstation cost	\$ 65	Vendor-supplied estimated cost for a per workstation license for imaging software (bundles a one-year maintenance cost)
Remote management software/Workstation cost	\$ 80	Vendor-supplied estimated cost for a per workstation license for remote installation/control software (bundles a one year maintenance cost)
Networking for Workstation/Access to Data Center		<i>Consolidation of servers into data centers requires an increase in bandwidth for both data centers and remote sites for maintain efficient access of workstations to servers - the calculations below use I-Net throughput to servers - the calculations structure assuming that it is priced within existing market parameters for commercial data connectivity but does not assume that I-Net will be used.</i>
Additional Connectivity/Bandwidth required	100	PTI consultant-estimated number of additional circuits required expressed as I-Net service (1.5 Mbs/connection) based on existing networking mapped out from I-Net project and other King County supplied network/infrastructure maps

CATEGORY	VALUE	SOURCE/NOTES
Activation Costs for Connectivity/Bandwidth	\$ 1,995	One time cost – based on King County supplied I-Net activation cost as representative of fair-market price for data activation costs/port
Monthly Cost/Connection	\$ 700	Ongoing monthly cost – King County supplied data assumes a fixed per month cost for 5 years (fixed for five years, inflated every 5 years)
Networking Contingency Factor	5%	PTI consultant added networking contingency costs (service calls, failures, unaccounted expenses)
LABOR (COSTS, FTE, CHANGES)		
Labor Costs		PTI consultant added networking contingency costs (service calls, failures, unaccounted expenses)
Alternative Model Cost Savings Realization		PTI consultant added networking contingency costs (service calls, failures, unaccounted expenses)
Number of Years Until 100% Realization	4	PTI consultant estimated number of years until labor reduction realizations (phased in over years 1 through 5 on a “quarters per year for reductions” basis).
Ratios of number of workstations or servers to administrators		
Ratios (x.1) Systems per Admin FTE	17.7	Current ratios calculated from King County supplied Geo data
Status Quo Systems/Admin FTE	18.7	
File and Print Servers	8	
Application Servers	22	
Email/Calendar Servers		
Other Servers		
Target Ratios for Preferred Model	30	PTI consultant calculated Target Ratios (determined qualitatively combining industry standards with assessment of “best practices” fit for King County’s size/complexity)
Systems/Admin	27	
File and Print Servers	8	
Application Servers		
Email/Calendar Servers		
Other Servers	27	

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Appendix F: Cost-
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CATEGORY VALUE SOURCE/NOTES

FTE % Changes from Status Quo to Preferred Alternative

The following percentage changes apply to staffing level (FTE) changes from the Status Quo to the Preferred Alternative. A negative percentage indicates a decrease in staffing while a positive percentage indicates an increase in staffing. These values are driven either by PTI's experience from over a decade of public sector IT planning, by changes in ratios of equipment to administrators consolidation requirements, or other quantitative changes over the Status Quo.

Customer Service FTE % Changes

Help Desk (Tier 1)	-31%	PTI consultant estimated change for consolidation of desktop support activity
Tier 2 Support		
Desktop PC		
PDA Support	-31%	PTI consultant estimated change for consolidation of desktop support activity
Other Portable/Special	0%	No change
Personal Productivity Tool Support	0%	No change
Business App Support	-31%	PTI consultant estimated change for consolidation of desktop support activity
Training	0%	No change

System Services FTE % Changes

Network Connectivity		
Workstation Admin	-20%	
Server Administration	-31%	PTI consultant estimated change for consolidation of desktop support activity
Email Administration		
File/Print Administration	0%	No change
GIS Administration	-41%	PTI consultant calculated change due to server consolidation
Application Administration	0%	No change
Other Server Administration	-31%	PTI consultant calculated change due to server consolidation
Mainframe Ops & Admin	-18%	PTI consultant calculated change due to server consolidation
Data Center Ops	0%	No change
Database Admin	20%	PTI consultant estimated increase due to server consolidation resulting in a net increase in staff due to increased workload
	-20%	PTI consultant calculated change due to server consolidation



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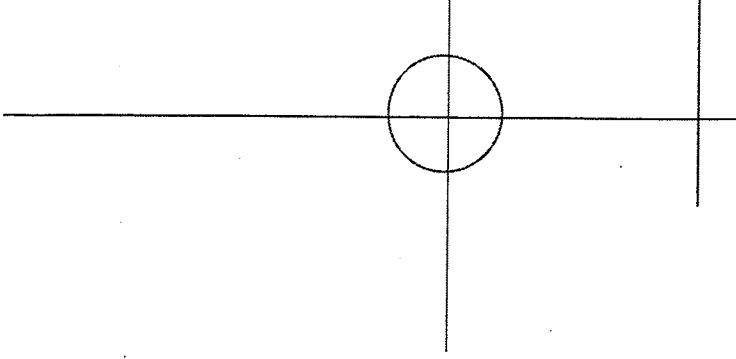
CATEGORY	VALUE	SOURCE/NOTES
Security Admin	0%	No change
Telephone Sys Support	0%	No change
<i>Business App Services Reductions</i>		
<i>Application development:</i>		
Website design/maintenance	0%	No change
Desktop application development/maintenance	0%	No change
GIS application development/maintenance	0%	No change
All other developments	0%	No change
Requirements analysis	0%	No change
Data administration	0%	No change
Application administration	0%	No change
<i>Custom application maintenance:</i>		
ARMS	0%	No change
IBIS	0%	No change
EssBase	0%	No change
Other finance	0%	No change
Other HR	0%	No change
Other payroll	0%	No change
Other budget	0%	No change
Agency app 1	0%	No change
Agency app 2	0%	No change
All other	0%	No change
<i>Package application maintenance:</i>		
PeopleSoft	0%	No change
MSA	0%	No change
Fixed Asset	0%	No change
Other finance	0%	No change
Other HR	0%	No change



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CATEGORY	VALUE	SOURCE/NOTES
Other payroll	0%	No change
Other budget	0%	No change
Agency app 1	0%	No change
Agency app 2	0%	No change
All other	0%	No change
<i>IT Planning</i>		
Strategic planning & governance	-20%	PTI consultant estimated change due to centralization of activities
Research and development	-20%	
Business continuity/planning	-50%	
<i>IT Administration</i>		
Asset management	-50%	PTI consultant estimated change due to centralization of activities
IT procurement	-20%	
Project management	0%	No change
Standards and policies development	-20%	PTI consultant estimated change due to centralization of activities
Administrative support	-20%	
Departmental management	-20%	





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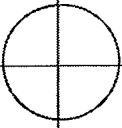
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COST PER FTE BY IT FUNCTION

IT Function	Cost per FTE
Customer Services	\$ 78,182
Help Desk (Tier 1)	\$ 76,944
Tier 2 support:	
Desktop PC support	\$ 76,540
PDA support	\$ 80,437
Other portable/specialized device support	\$ 80,259
Personal productivity tool support	\$ 79,690
Business application support	\$ 80,648
Training	\$ 80,745
System Services	\$ 84,452
Network connectivity (WAN/LAN/wireless)	\$ 85,402
Workstation administration	\$ 76,575
Server administration:	
Email administration	\$ 82,753
File/print administration	\$ 84,633
GIS server administration	\$ 88,025
Application server administration	\$ 86,554
Other server administration	\$ 86,154
Mainframe operations & administration	\$ 82,798
Data center operations	\$ 74,674
Database administration	\$ 89,300
Security administration	\$ 89,399
Telephone systems support	\$ 86,210
Business Application Services	\$ 85,374
Application development:	
Website design/maintenance	\$ 80,976
Desktop application development/maintenance	\$ 86,204
GIS application development/maintenance	\$ 79,785
All other development	\$ 82,814
Requirements analysis	\$ 82,531
Data administration	\$ 85,048
Application administration	\$ 84,388
Custom application maintenance:	
ARMS	\$ 83,151
IBIS	\$ 97,533
EssBase	\$ 83,527
Other finance	\$ 95,396
Other HR	\$ 78,084
Other payroll	\$ 91,505
Other budget	\$ 74,116
Agency app 1	\$ 82,047
Agency app 2	\$ 86,247
All other	\$ 88,555
Package application maintenance:	
PeopleSoft	\$ 90,700
MSA	\$ 91,760
Fixed Asset	\$ 113,608
Other finance	\$ 78,389
Other HR	\$ 96,549
Other payroll	\$ 95,178
Other budget	\$ 70,973
Agency app 1	\$ 83,692
Agency app 2	\$ 86,178
All other	\$ 87,704
IT Planning	\$ 98,645
Strategic planning & governance	\$ 103,991
Research and development	\$ 94,207
Disaster recovery/planning	\$ 91,784
IT Administration	\$ 90,860
Asset management	\$ 85,302
IT procurement	\$ 87,402
Project management	\$ 92,854
Standards and policies development	\$ 96,857
Administrative support	\$ 74,958
Departmental management	\$ 99,938



C. SENSITIVITY ANALYSIS

Sensitivity analysis examines how the manipulation of underlying cost assumptions impacts the results of a cost-benefit analysis. We choose a selection of variables to examine for their impact on the CBA's NPV and IRR outcomes while holding all other variables constant within the model. This section presents the different parameters examined with associated outcomes in an outline format for ease of reference for the three scenarios presented in the report.

CURRENT MODEL:²

Net Present Value	\$ 34,334,859
Internal Rate of Return	27%

PARAMETERS EXAMINED:

I. Network upgrade costs are higher

A. Cost for "per circuit" one-time activation costs are higher (annual costs are unchanged)

1. 100% more expensive

Net Present Value	\$ 34,140,572
Internal Rate of Return	27%

2. 50% more expensive

Net Present Value	\$ 34,237,715
Internal Rate of Return	27%

B. Cost for "per circuit" annual connectivity costs are higher (activation costs are unchanged)

1. 100% more expensive

Net Present Value	\$ 7,031,796
Internal Rate of Return	9%

2. 50% more expensive

Net Present Value	\$ 22,921,284
Internal Rate of Return	19%

C. Number of needed circuits is underestimated (current model is 100)

[the number of circuits acts as a multiplier to overall activation costs and overall annual costs]

1. 2.5x more circuits needed

Net Present Value	\$ 19,944,305
Internal Rate of Return	17%

2. 1.5x more circuits needed

Net Present Value	\$ 29,538,008
Internal Rate of Return	24%

D. Combined increase in activation costs and annual costs

1. Combined II.A.1. and II.B.1. (higher activation and annual costs)

Net Present Value	\$ 6,837,509
Internal Rate of Return	9%

2. Combined II.A.1. and II.B.2. (higher activation and annual costs)

Net Present Value	\$ 22,824,140
Internal Rate of Return	19%

² CBA parameters are provided in detail in the prior sections of this appendix.



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- E. Combined increases in activation costs + more circuits
 - 1. Combined: II.A.1., II.C.1. (more circuits at higher activation costs)

Net Present Value	\$	19,548,587
Internal Rate of Return		17%
 - 2. Combined: II.A.2., II.C.2. (more circuits at higher activation costs)

Net Present Value	\$	29,392,292
Internal Rate of Return		23%

- F. Combined increases in annual costs and more circuits
 - 1. Combined: II.B.1. and II.C.1. (2.5 more circuits at 2.0 higher annual cost)

NO SAVINGS		
Additional costs incurred over Status Quo		
 - 2. Combined: II.B.2. and II.C.2. (1.5 more circuits at 1.5 higher annual cost)

Net Present Value	\$	14,417,645
Internal Rate of Return		13%

- II. Server consolidation costs are higher (impacts to Preferred Alternative Only)
 - A. Reductions in number of File/Print and Other servers is less than estimated
 - 1. 50% more servers than modeled

Net Present Value	\$	26,227,468
Internal Rate of Return		22%
 - 2. 25% more servers than modeled

Net Present Value	\$	30,226,429
Internal Rate of Return		25%

- B. Server costs are higher (impacts maintenance costs and costs/server to move)
 - 1. 100% greater (x2)

Net Present Value	\$	11,661,606
Internal Rate of Return		13%
 - 2. 50% greater (x1.5)

Net Present Value	\$	22,998,233
Internal Rate of Return		20%

- C. Facilities costs per server are higher (at modeled number of servers)
 - 1. 100% greater (x2)

Net Present Value	\$	19,993,778
Internal Rate of Return		18%
 - 2. 50% greater (x1.5)

Net Present Value	\$	27,164,318
Internal Rate of Return		23%

- D. Combined fewer reductions and higher costs and higher facilities costs
 - 1. Combined: III.A.1., III.B.1. and III.C.1.

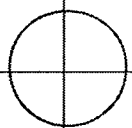
NO SAVINGS		
Additional costs incurred over Status Quo		
 - 2. Combined: III.A.2., III.B.2., and III.C.2.

Net Present Value	\$	9,900,983
Internal Rate of Return		12%

- III. Labor reductions are not as great
 - A. Labor reductions fewer: 50% of estimated reductions in all categories

Net Present Value	\$	7,881,402
Internal Rate of Return		11%
 - B. Labor reductions are delayed until year 3 (take place years 3, 4, 5 and 6)

Net Present Value	\$	29,690,300
Internal Rate of Return		27%



C. Combined IV.A. and IV.B.

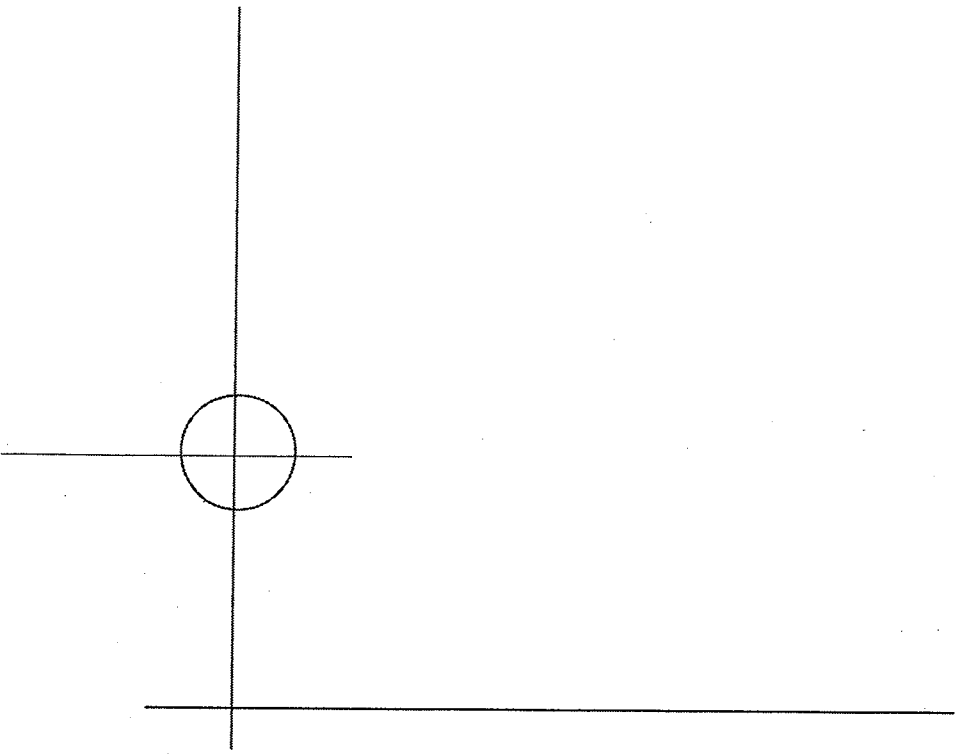
Net Present Value	\$	5,589,897
Internal Rate of Return		9%

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A. COMPARISON OF STAFFING LEVELS

The on the following page presents a more detailed comparison of IT effort between the Status Quo and the Preferred Alternative -- It represents the figures that formed the basis of the labor cost calculations in the CBA.

Appendix F: Cost-Benefit Analysis





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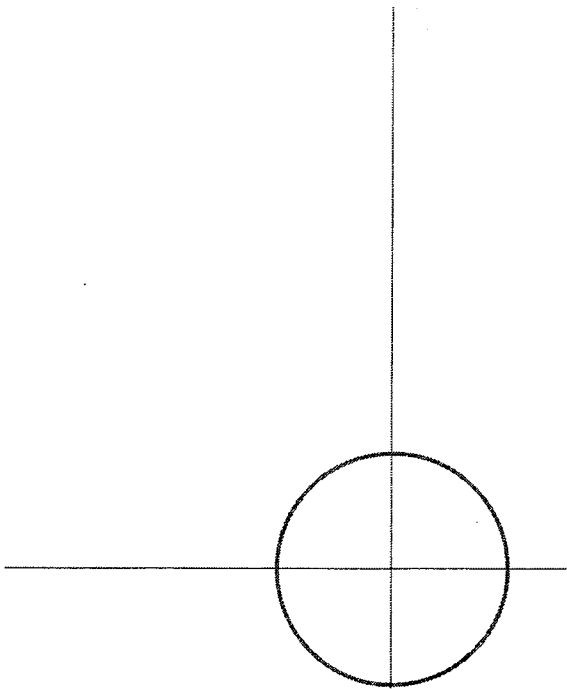
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**COMPARISON OF FTE COUNTS:
STATUS QUO VS. PREFERRED ALTERNATIVE**

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IT Function	Status Quo	Preferred Alternative
	FTE	FTE
Customer Services	95.86	76.22
Help Desk (Tier 1)	19.38	13.37
<i>Tier 2 support:</i>		
Desktop PC support	39.01	26.92
PDA support	2.27	2.27
Other portable/specialized device support	5.82	5.82
Personal productivity tool support	4.96	3.42
Business application support	15.95	15.95
Training	8.48	8.48
System Services	129.65	108.11
Network connectivity (WAN/LAN/wireless)	25.23	20.18
Workstation administration	13.26	9.15
<i>Server administration:</i>		
Email administration	2.12	2.12
File/print administration	12.03	7.10
GIS server administration	1.67	1.67
Application server administration	11.58	7.99
Other server administration	13.81	11.32
Mainframe operations & administration	8.06	8.06
Data center operations	9.59	11.51
Database administration	16.47	13.18
Security administration	8.83	8.83
Telephone systems support	7.01	7.01
Business Application Services	149.51	149.51
<i>Application development:</i>		
Website design/maintenance	13.31	13.31
Desktop application development/maintenance	8.44	8.44
GIS application development/maintenance	8.88	8.88
All other development	15.36	15.36
Requirements analysis	14.66	14.66
Data administration	11.01	11.01
Application administration	6.79	6.79
<i>Custom application maintenance:</i>		
ARMS	1.63	1.63
IBIS	3.10	3.10
EssBase	0.02	0.02
Other finance	5.08	5.08
Other HR	0.00	0.00
Other payroll	0.84	0.84
Other budget	0.16	0.16
Agency app 1	11.30	11.30
Agency app 2	3.78	3.78
All other	27.96	27.96
<i>Package application maintenance:</i>		
PeopleSoft	4.69	4.69
MSA	2.90	2.90
Fixed Asset	0.25	0.25
Other finance	0.08	0.08
Other HR	0.45	0.45
Other payroll	0.95	0.95
Other budget	0.05	0.05
Agency app 1	2.53	2.53
Agency app 2	1.59	1.59
All other	3.74	3.74
IT Planning	23.58	17.74
Strategic planning & governance	11.55	9.24
Research and development	8.29	6.63
Disaster recovery/planning	3.74	1.87
IT Administration	83.40	70.15
Asset management	5.65	2.82
IT procurement	7.61	6.09
Project management	25.64	25.64
Standards and policies development	6.01	4.81
Administrative support	15.21	12.17
Departmental management	23.29	18.63
Totals	482.00	421.73



labor impact detail

This appendix provides additional information regarding IT labor reductions between the current state (Status Quo) and future state (Preferred Alternative). It includes:

- A. Realizing Labor Savings
- B. Agency/Department IT FTE Labor Impacts

A. REALIZING LABOR SAVINGS

Labor savings are predicated on deciding which positions are to be moved under the Central IT Department, which positions are to be eliminated, and which will remain in the agencies. One means of determining this is to examine the "FTE-ness" of the positions and make moves/reductions based on the percentage of time an individual spends on IT activities that will be centralized under Model C. The following table is presented from Chapter 3 to aid in understanding of the discussion that follows.

Count of Individuals Spending Significant Time on Activities to be Centralized Under the Preferred Alternative

Agency	Individuals Spending 50%-100% on Impacted Activities	Individuals Spending 75%-100% on Impacted Activities	Individuals Spending 100% on Impacted Activities
DOA	4	1	1
KCC	2	2	0
PAO	7	6	2
KCSC	7	7	6
KCDC	3	1	0
KGSO	26	26	13
Budget & KCEO	7	7	7
DCHS	11	9	7
DAJD	5	2	0
DJA	6	4	0
DDES	5	5	4
DPH	30	28	11
DNRP	33	28	15
DOT Transit	35	27	11
DOT AFR	14	7	3
DES Finance	4	4	2
DES HR	4	3	1
DES ITS	105	101	62
DES Other	8	4	2
Total	316	272	147

Under the Preferred Alternative, the Central IT Department would require approximately 209 FTEs to accomplish this body of work.¹

The 209 FTEs necessary for the Central IT Department, the data from the above table, and the desired decrease in IT labor effort can provide an indicator of how aggressively the

¹ The central organization asks for approximately 245 FTEs, however approximately 36 of these provide business application services, a function that will not be centralized. Deducting these from the total leaves 209 FTEs to handle the remaining central services workload.

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Appendix G: Labor
 Impact Details

County would have to pursue headcount reductions in order to fully realize the projected labor savings as budget cuts.

Recall that the Preferred Alternative asks for an overall reduction of 12% in IT labor at the County. This translates to the loss of approximately 60 FTEs². Correspondingly, in order to fully realize the projected labor savings as budget reductions, the County will have to eliminate approximately 60 positions. The following tables use this number, in concert with the data from the table above, to indicate what the County would have to do in order to fully achieve the projected savings as budget reductions. Specifically, these tables outline:

- ◆ Impact of a 50% cut-off for staff transition
- ◆ Impact of a 75% cut-off for staff transition
- ◆ Impact of a 100% cut-off for staff transition

**IMPACT IF THE COUNTY USES A 50% CUT-OFF FOR
 TRANSITIONING STAFF**

Item	Count	Comment
A. Individuals spending 50% or more of their time on impacted activities	316	Count of individuals who spend 50% or more of their time on IT activities that will be centralized under the Preferred Alternative
B. End-State Staff Count Under Preferred Alternative	209	Count of FTEs required to perform the IT activities that will be centralized under the Preferred Alternative
C. Potential Staff Reductions (A minus B)	107	Number of individuals currently performing IT activities that will be centralized whose labor effort will no longer be required on these activities under the Preferred Alternative
D. Positions the County Needs to Eliminate to Fully Realize Labor Savings in Budget	60	Calculated from the CBA, this number represents the FTE reduction required to realize the entire labor benefit in the form of budget savings
E. Positions Remaining	47	The difference between C and D, this number indicates the number of staff currently spending 50% or more of their time on IT activities that will be centralized who would remain in the business units

The above table demonstrates that the County could fully achieve the labor savings as budget reductions using a 50% cut-off by:

- ◆ Moving 209 of the individuals who currently spend 50% or more of their time on impacted activities to the central service provider
- ◆ Eliminating 60 existing positions
- ◆ Repurposing the labor effort of 47 existing positions, in part to absorb workload of staff moved from the business units to the central provider

² Calculated as: 482.00 Status Quo FTEs minus 421.74 Preferred Alternative FTEs equals 60.26 FTEs.

**IMPACT IF THE COUNTY USES A 75% CUT-OFF FOR
 TRANSITIONING STAFF**

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Appendix G: Labor
 Impact Details

Item	Count	Comment
A. Individuals spending 75% or more of their time on impacted activities	272	Count of individuals who spend 75% or more of their time on IT activities that will be centralized under the Preferred Alternative
B. End-State Staff Count Under Preferred Alternative	209	Count of FTEs required to perform the IT activities that will be centralized under the Preferred Alternative
C. Potential Staff Reductions (A minus B)	63	Number of individuals currently performing IT activities that will be centralized whose labor effort will no longer be required on these activities under the Preferred Alternative
D. Positions the County Needs to Eliminate to Fully Realize Labor Savings in Budget	60	Calculated from the CBA, this number represents the FTE reduction required to realize the entire labor benefit in the form of budget savings
E. Positions Remaining	3	The difference between C and D, this number indicates the number of staff currently spending 75% or more of their time on IT activities that will be centralized who would remain in the business units

The above table demonstrates that the County could fully achieve the labor savings as budget reductions using a 75% cutoff by:

- ◆ Moving 209 of the individuals who currently spend 75% or more of their time on impacted activities to the Central IT Department
- ◆ Eliminating 60 positions
- ◆ Repurposing the labor effort of 3 remaining positions, in part to absorb workload of staff moved from the business units to the Central IT Department
- ◆ Note that this would likely leave some labor deficit in the business units, as not enough staff would remain to absorb the work that did not move to the Central IT Department, but was performed by staff who did move (or whose positions were eliminated)

**IMPACT IF THE COUNTY USES A 100% CUT-OFF FOR
 TRANSITIONING STAFF**

Item	Count	Comment
A. Individuals spending 100% of their time on impacted activities	147	Count of individuals who spend 100% of their time on IT activities that will be centralized under the Preferred Alternative
B. End-State Staff Count Under Preferred Alternative	209	Count of FTEs required to perform the IT activities that will be centralized under the Preferred Alternative

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Appendix G: Labor
 Impact Details

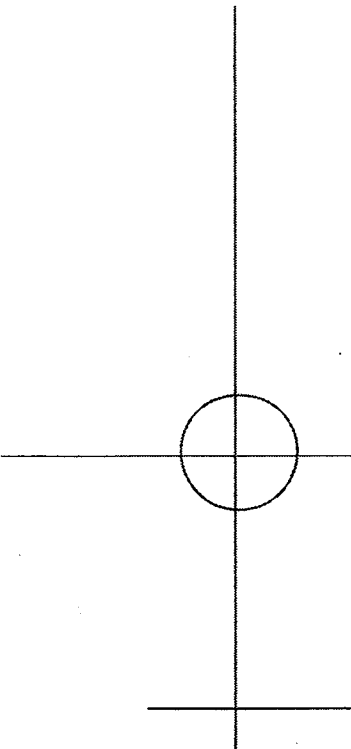
Item	Count	Comment
C. Potential Staff Reductions (A minus B)	-62	A negative number here indicates that, under this scenario, not enough positions exist to adequately staff the central service provider under the Preferred Alternative. In fact, 62 new positions would have to be created.
D. Positions the County Needs to Eliminate to Fully Realize Labor Savings in Budget	60	Calculated from the CBA, this number represents the FTE reduction required to realize the entire labor benefit in the form of budget savings
E. Positions Remaining	-122	Under this scenario, this negative number further reinforces that fact that the County would have to hire additional IT staff in order to adequately provide service through a central provider

The above table demonstrates that the County can not fully achieve the labor savings as budget reductions using a 100% cutoff, as not enough staff will be available to handle the projected workload of the central service provider. In fact, under this scenario, the County would have to hire 62 additional individuals, significantly increasing costs over the Status Quo.

B. AGENCY/DEPARTMENT IT FTE LABOR IMPACTS

This section projects the FTE impact of Model C on the agencies. In essence, it indicates the agency impact of our recommendations by applying the IT FTE reductions modeled in the CBA to agency-specific IT FTE levels.

The following table presents the summary FTE impact by agency. Differences in reduction percentages among agencies reflect differences in staffing patterns across agencies. For instance, an agency that has a large number of application FTEs and relatively few system services FTEs will have a lower reduction percentage. This is because applications are not being centralized under Model C, so more staff will remain in these agencies. DES ITS is the only agency treated differently – it shows a 100% reduction, as all of its functions are taken over by the central IT organization.



Summary IT FTE Impact by Agency

**IT Organization
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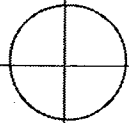
Appendix G: Labor
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Agecny/Department	Totals			
	Status Quo	Preferred Alternative	Difference	% Reductions
DOA	14.00	10.45	-3.55	-25%
KCC	2.00	0.43	-1.57	-78%
PAO	8.50	2.85	-5.65	-66%
KCSC	10.00	3.96	-6.04	-60%
KCDC	4.02	1.87	-2.14	-53%
KCSO	29.00	11.15	-17.85	-62%
Budget & KCEO	7.00	3.56	-3.44	-49%
DCHS	18.75	9.96	-8.79	-47%
DAJD	6.00	2.91	-3.09	-51%
DJA	8.00	4.56	-3.44	-43%
DDES	16.00	11.62	-4.38	-27%
DPH	53.00	26.13	-26.87	-51%
DNRP	50.50	24.11	-26.39	-52%
DOT Transit	58.49	31.30	-27.19	-46%
DOT AFR	20.25	10.95	-9.30	-46%
DES Finance	13.90	10.51	-3.39	-24%
DES HR	7.47	4.55	-2.92	-39%
DES ITS	142.03	0.00	-142.03	-100%
DES Other	13.10	6.27	-6.83	-52%
Totals	482.00	177.16	-304.84	

Note that the table shows a reduction of approximately 305 FTEs in agency IT staff. As explained in the previous section, the Central IT Department will require approximately 245 FTEs (209 to perform IT functions being centralized, and 36 to support business applications). The difference between these two numbers represents the 60 FTEs available for reduction (i.e., 305-245=60).

The table on the following page presents a more detailed view, showing agency impact by each of the five major IT functions:

- ◆ Customer services
- ◆ System services
- ◆ Business application services
- ◆ IT planning
- ◆ IT administration





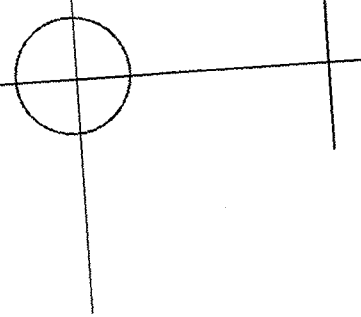
**IT Organization
Recommendation
Report**

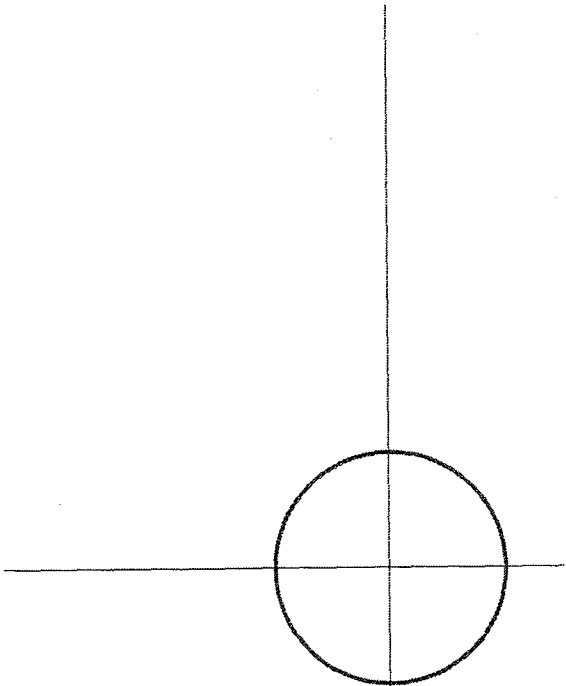
**Appendix G: Labor
Impact Details**

Detailed IT FTE Impact by Agency

Agency/Department	Customer Services		System Services		Business Application Services		IT Planning		IT Administration					
	Status Quo	Preferred Alternative	Status Quo	Preferred Alternative	Status Quo	Preferred Alternative	Status Quo	Preferred Alternative	Status Quo	Preferred Alternative				
DOA	2.45	0.80	1.13	0.00	-1.13	8.49	8.49	0.00	0.00	0.00	0.00	1.58	1.02	-0.56
KCC	1.20	0.35	0.70	0.00	-0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAO	3.36	1.10	2.74	0.00	-2.74	0.95	0.95	0.00	0.00	0.00	0.00	0.90	0.58	-0.32
KCSC	2.06	0.67	3.25	0.00	-4.25	2.75	2.75	0.00	0.00	0.00	0.00	0.65	0.42	-0.23
KCDC	1.37	0.45	0.85	0.00	-0.85	0.99	0.99	0.00	0.00	0.00	0.00	0.45	0.29	-0.16
KCSO	11.70	3.82	7.88	0.00	-7.88	3.60	3.60	0.00	0.00	0.00	0.00	5.80	3.73	-2.07
Budget & KCEO	0.50	0.16	0.34	0.00	-0.34	0.00	0.00	0.00	0.00	0.00	0.00	4.00	2.57	-1.43
DEHS	2.40	0.72	1.62	0.00	-1.62	1.56	1.56	0.00	0.00	0.00	0.00	1.65	1.06	-0.59
DAJ	2.20	0.74	1.48	0.00	-1.48	1.56	1.56	0.00	0.00	0.00	0.00	0.76	0.49	-0.27
DVA	1.15	0.38	0.77	0.00	-0.77	0.00	0.00	0.00	0.00	0.00	0.00	2.01	1.29	-0.72
DDES	1.65	0.54	1.11	0.00	-1.11	0.95	0.95	0.00	0.00	0.00	0.00	1.50	0.97	-0.53
DRH	11.90	3.82	8.02	0.00	-8.02	18.12	18.12	0.00	0.00	0.00	0.00	4.55	2.98	-1.62
DNR	10.74	3.50	7.24	0.00	-7.24	13.90	13.90	0.00	0.00	0.00	0.00	8.47	5.45	-3.02
DOT Transl	14.18	4.63	9.55	0.00	-9.55	17.78	17.78	0.00	0.00	0.00	0.00	11.16	7.18	-3.98
DOT AFR	2.52	0.82	1.70	0.00	-1.70	9.43	9.43	0.00	0.00	0.00	0.00	2.49	1.60	-0.89
DES Finance	1.16	0.38	0.78	0.00	-0.78	3.52	3.52	0.00	0.00	0.00	0.00	1.09	0.70	-0.39
DES HR	0.80	0.26	0.54	0.00	-0.54	4.85	4.85	0.00	0.00	0.00	0.00	0.70	0.48	-0.27
DES IIS	21.00	0.00	21.00	0.00	0.00	36.16	36.16	0.00	0.00	0.00	0.00	34.52	0.00	-34.52
DES Other	3.53	1.15	2.38	0.00	-2.38	3.70	3.70	0.00	0.00	0.00	0.00	1.08	0.70	-0.38
Totals	95.86	24.43	-71.43	0.00	-129.65	149.51	113.35	-36.16	23.58	7.92	-15.66	83.40	31.46	-51.94
					-100%			-24%						-68%
														-62%

% Change





glossary

GLOSSARY

ADMINISTRATIVE SUPPORT – the processes related to the provision of clerical, administrative, and related services required for the ongoing operation of the IT department

AGENCY – the organization level used for analysis in this report as defined in Appendix A

APPLICATION ADMINISTRATION – the processes related to administering and configuring production business application software, including maintaining workflow, setting access rights for users, and updating validation tables

APPLICATION DEVELOPMENT – the processes related to engineering new software that meets system-wide needs, integrates third party software, and accommodates special requests. Includes major enhancements to existing applications. Development phases include design, coding, testing, and implementation.

ASSET MANAGEMENT – the processes related to managing the IT properties of the organization, including tracking inventory, software license compliance, warranty information, and performance guarantees

BUSINESS APPLICATION SERVICES – those functions related to developing, installing, configuring, and otherwise maintaining the software needed to meet the operational, management, and reporting requirements of the organization

BUSINESS APPLICATION SUPPORT – the processes related to providing end-user support (answering questions, etc.) regarding the use of business-specific software (e.g., financial management, permit management, etc.) beyond that which is provided by the first point of contact

BUSINESS UNIT – the divisions/sections of an agency responsible for business operations other than IT. In this context of this report, this is in comparison to the IT units, the sub-division of an agency responsible for agency-specific IT activities.

CAPITAL BUDGET – funds allocated to one-time expenses, usually for depreciable assets

CHARGEBACK – the method employed by a service-based agency to recover its expenses from the customers it serves. The charges are typically meted out based on an algorithm that allocates costs for a service by either a direct cost driver (actual cost of a service) or a proxy for workload drivers (e.g., number of PC's).

CUSTOM APPLICATION MAINTENANCE – the processes related to updating and making minor enhancements to existing software applications to meet new requirements and comply with external mandates. Includes writing new code, extracting data for use by other applications, and customizing reports for users.

CUSTOMER SERVICES – those functions related to directly supporting users of IT systems and services

DATA ADMINISTRATION – the processes related to the analysis, development, and maintenance of the organization's data models and related data dictionaries

DATA CENTER OPERATIONS – the processes related to the planning, administration, and operation of the facility that houses all centralized enterprise computing equipment, including production control, runbooks, backup/restore operations, and storage management. It also

includes operation and maintenance of the attendant systems, including fire suppression, backup electrical power, air conditioning, etc.

DATABASE ADMINISTRATION – the processes related to planning, implementing, and administering the data structures required to support the organization’s applications portfolio. Includes performance management and recovery.

DEPARTMENTAL MANAGEMENT – the processes related to management and oversight of the organization’s technology functions: including staff evaluation, quality assurance, and budgeting. Includes the effort made by non-IT managers to manage IT labor resources.

DESKTOP APPLICATION DEVELOPMENT AND MAINTENANCE – the processes related to providing assistance in creating and using desktop applications based on productivity tools (e.g., spreadsheets, macro development). Also includes performing upgrades and maintaining these applications.

DESKTOP PC SUPPORT – the activities related to onsite support of the organization’s network applications (e.g., calendar, email, etc.), desktop computers, mobile computing devices (e.g. laptops, PDAs, etc.), and related operating systems and peripherals

DESKTOP SERVICES – the IT support services related to support and maintenance of end users and their computing equipment (e.g., PCs). This typically includes Tier 1 (telephone or email) support, Tier 2 (desk-side) workstation and personal productivity support, and workstation administration effort.

DISASTER RECOVERY MANAGEMENT – the processes related to developing, maintaining, updating, and testing the organization’s IT disaster recovery/business resumption plan, and to activating and managing the plan in the event of a disaster

DISTRIBUTED IT EFFORT – the IT effort provided by service providers located within agencies (i.e., outside of a central service provider for the entire organization). Distributed effort can be provided by a formal IT unit within the agency, IT staff reporting within a business organization, or shadow staff.

END USER APPLICATION SUPPORT – the activities related to the desktop setup, installation, and maintenance, as well as supporting the day-to-day use of the organization’s business applications. For instance, helping a user accomplish a specific business function, or updating value in a validation table would qualify as business application support.

ENTERPRISE – A BUSINESS ORGANIZATION OR ENTITY IN ITS ENTIRETY

ENTERPRISE ARCHITECTURE – a framework that describes common IT organizational and technical standards that are adopted and enforced across all IT groups, assets and facilities (e.g., workstations, servers, networks, security, applications, data centers, etc.) within an enterprise.

ERP – enterprise resource planning. A term originally used to describe enterprise-wide systems that include financial, human resources, and materials management functions in a production environment, but is often used to describe an enterprise-wide implementation of a single, complex, and completely integrated system that can automate virtually every business process within the organization.

FULL TIME EQUIVALENT (FTE) – The labor effort equal to the working time of a full-year, full time staff member. Often used to calculate the total labor effort associated with an activity. For instance, if 5 individuals spend 50% of their time on a particular activity, then that activity received 2.5 FTEs of effort. Note the FTEs do *not* necessarily equate directly to

employees. One FTE of effort may be provided by a combination of one or more individuals, including employees, contractors, etc.

GIS – geographic information systems

GIS APPLICATION DEVELOPMENT/MAINTENANCE – the processes related to planning, implementing, and supporting map-based applications for the organization

FUNCTIONAL AREA – high-level categories that can be used to summarize IT labor effort, including customer services, system services, business application services, IT planning, and IT administration

GANTT CHART – a bar graph or other graph that helps plan and monitor project development or resource allocation on a horizontal time scale. Gantt charts are used to indicate and monitor diverse aspects of project management, including without limitation: the exact duration of specific tasks, the relationship between tasks, planned and actual completion dates, cost of each task, the person or persons responsible for each task, and the milestones in a project's development.

HELP DESK – a source of technical support for hardware or software. Help desks are staffed by people that can either solve the problem directly or forward the problem to someone else.

INFORMATION TECHNOLOGY (IT) – the profession concerned with all aspects of managing and processing information via computers and computer systems

INTERNAL RATE OF RETURN (IRR) – the rate of return that would make the present value of future cash flows plus the final market value of an investment equal the current market price of the investment.

IT – information technology (see above)

IT ADMINISTRATION – those functions related to the oversight and administration of the technology function at the organization

IT PLANNING – those functions related to planning for the technology function at the organization

IT PROCUREMENT – The processes related to acquisition of goods and services in support of all IT functions; including the development of RFP's, evaluation and selection of vendors, management of purchasing activities, and receipt of goods.

IT UNIT – the sub-division of an agency responsible for agency-specific IT activities

LABOR – the human effort expended on a given function, often expressed in units of FTEs

LAN – local area network, a collection of computers and/or computing devices (e.g., printers, wireless PDAs) that are connected to allow the sharing of resources; generally within a building or a floor of a building.

MAINFRAME OPERATIONS & ADMINISTRATION – The processes related to administering the operation of the host/mainframe computing platforms, managing their operating systems to keep functionality at optimal performance levels, and managing associated peripheral devices.

NET PRESENT VALUE (NPV) – the present value of an investment's future net cash flows minus the initial investment. If positive, the investment should be made (unless an even better investment exists), otherwise it should not.

NETWORK CONNECTIVITY (WAN/LAN/WIRELESS) – the activities related to implementing and maintaining the operational integrity of the organization's local and wide-area networks, both wired and wireless. Technologies include building wiring, fiber optic data circuits, and point-to-point technologies such as laser and microwave. These activities include responding to user requests for assistance, performance monitoring, coordinating with external network service providers, and taking appropriate corrective actions as needed.

O&M – Operations and Maintenance. Includes the ongoing expenditures and labor associated with performing the functions of a given agency or supporting a specific project or application.

OPERATING BUDGET – funds allocated for O&M expenses, generally used for such items as salary, maintenance contracts, etc.

OTHER PORTABLE/SPECIALIZED DEVICE SUPPORT – The processes related to onsite support of the organization's computers which do not reside on a desktop (beyond PDAs), such as kiosks, laptops, and mobile data terminals (MDTs), along with attendant peripherals.

PACKAGE APPLICATION MAINTENANCE – the processes related to installing, integrating, interfacing, and testing business-specific packaged applications and their associated data, including managing vendor relationships, and providing necessary business context for integration. Includes installing new releases, minor updates, and bug fixes.

PC – personal computer. A single-user computing device that does not necessarily rely on another computer to perform data processing.

PDA SUPPORT – the processes related to onsite support of personal digital assistants (PDAs), including troubleshooting syncing to desktop PCs, network connectivity, and their business-specific applications

PERFORMANCE MEASURE – a quantitative indicator [measure] that can be used to track progress toward an objective

PERSONAL PRODUCTIVITY TOOLS SUPPORT – the processes related to providing onsite end user support concerning the use of desktop applications such as word processing, spreadsheets, presentation tools, and other organizational office productivity tools.

PROGRAM – the organizational division used by King County in presenting its budget

PROJECT MANAGEMENT – those activities related to the oversight and coordination of major technology initiatives

REQUIREMENTS ANALYSIS – The processes related to describing business needs, evaluating alternatives, recommending an approach to address the requirements, and creating the summary and detailed specifications for software that would meet the requirements.

RESEARCH AND DEVELOPMENT – the processes related to evaluation and testing of current and future IT products and services, and to the deployment of pilot projects to test the viability of these technologies for the organization. Includes dissemination of relevant information to appropriate parties.

SECURITY ADMINISTRATION – the activities related to developing, maintaining, and administering the security plan and overall security approach for the organization's host processors, servers, personal computers, communication devices, and networks

SERVER – a computer which provides shared files, applications, connectivity, or print services to users of a network

SERVER ADMINISTRATION – the activities related to implementing and maintaining servers, including both Intel-based and mid-range devices (such as AS/400). These activities also include administration, account management, and operation of file, print, and application servers and other logical network devices; performance management; tuning; applying operating system patches and upgrades; and administering configuration data.

SHADOW STAFF – non-IT-titled staff who spend 10% or more of their time performing IT support tasks on behalf of other staff

STANDARDS AND POLICIES DEVELOPMENT – those processes related to the creation and updating of enterprise-wide IT standards and policies related to hardware, software, procurement, security, and staffing

STORAGE MANAGEMENT – the activities related to deploying, upgrading, managing, and maintaining centralized enterprise storage devices and networks. Includes aggregating and consolidating data, applying retention and destruction policies, performance tuning, monitoring and reporting on utilization.

STRATEGIC PLANNING AND GOVERNANCE – the processes related to identifying and evaluating the future directions for IT application, networks, and hardware for the organization. Includes strategic planning, evaluating and prioritizing IT investments, technology research, participating in committees and task forces, and feasibility studies.

SYSTEM – any computer, computer system, computer network, computer program or combination of other data processing or communication device along with the business processes they are intended to support

SYSTEM SERVICES – those functions related to implementing, maintaining, and supporting the organization's computers, systems software, and connectivity

TELEPHONE SYSTEMS SUPPORT – the activities related to implementing and maintaining the operational integrity of the organization's voice network. This includes responding to user requests for assistance, administering data associated with the voice network, performance monitoring, coordinating with telecommunications providers, and taking appropriate corrective actions as needed.

TIER 1 – the activities related to providing a first point of contact for users to report problems and seek answers to questions related to their desktop PCs, network access, email, personal productivity software, and business application software. Includes initial problem resolution, triage, and problem escalation.

TIER 2 – the activities related to providing on-site assistance with the software and hardware that support user work functions, including PCs, handhelds and other mobile devices, peripherals, and specialized computing environments such as public kiosks.

TRAINING – the processes related to providing technology-related instruction to staff aimed at enhancing their skills, knowledge, and performance. Includes training requirement analysis, course design and development, and training delivery.

WAN – wide area network. A collection of computers and/or computing devices that are connected to permit sharing of resources either with cables or a variety of other non-cabled methods; generally over a large geographic area, such as a city, state, or region.

WEBSITE DESIGN AND MAINTENANCE – the processes related to planning, implementing, and supporting Internet and intranet applications for the organization

WORKSTATION ADMINISTRATION – the activities related to the setup, configuration, original installation, and scheduled maintenance of end users’ desktop computers and peripherals. Includes installation and configuration of PC operating systems and software, such as personal productivity tools and anti-virus applications. Includes the creation and maintenance of disk images, application of patches and updates, and all scheduled maintenance.

WORKSTATION – single user computing device, such as a desktop personal computer or laptop

