

1. BACKGROUND & EXECUTIVE SUMMARY

FCERA requested the assistance of Linea Solutions, Inc. to conduct a feasibility study and risk assessment of the organization for the purposes of understanding the path toward modernizing the organization with respect to Information Technology. While the retirement administrator, the assistant retirement administrator, and systems and procedures analyst all had significant ideas of a number of initiatives based on operational needs, Linea was hired to confirm these initiatives and to incorporate these initiatives into a “road map”; that is, to outline the following:

- how these initiatives could be executed and fulfilled based on the current environment,
- what would additionally be required to correctly implement these initiatives,
- when these initiatives should be implemented,
- how much, as an estimate for budgeting purposes, these initiatives may cost.

Additionally, Linea was asked to review FCERA’s current level of dependence on the County of Fresno’s Information Technology Services Department, and to assess which, if any, areas FCERA would be better served by establishing internal, standalone IT infrastructure.

Core information on the current IT environment and operation needs were gathered between February 9, 2009, and February 13, 2009. Subsequent follow-up was conducted. One of Linea’s principals, Akio Tagawa, visited FCERA, worked with and interviewed staff members to gain a better understanding of the current systems, processes, and expectations of such implementations. Follow-up meetings were conducted by Barbara Scheffels, the Retirement Practice Leader, who analyzed current IT costs and services with ITSD and reviewed the potential effort needed for a backfile conversion (to scan documents). Finally, meetings were held by Richard Hanson, a Senior Technical Analyst, to conduct a high level assessment of the current state of the data at FCERA.

As a result of the information gathered, Linea put forth the following recommendations:

1. The current annual cost of maintaining IT systems at FCERA today is low, so Linea is only recommending one major change, which is to recommend migrating application servers in-house, with the addition of one more FCERA staff member that would work in IT to maintain these machines;

otherwise, much of FCERA's dependence on ITSD should remain as it currently is;

2. Data in the current IT environment, namely the information held in the Watson-Wyatt Pensions System, do not send up any red flags, so there are no predictions of any unusual obstacles during the implementation of these initiatives;
3. Processes in Benefits and Accounting function largely in a manual mode; that is, they rely heavily on manual administration or updating, and much of these could and should be enhanced given the current state of Information Technology.
4. Much important information (from member files) is only available in a non-electronic format, and so it is highly recommended that these items be imaged or converted into a searchable data format.

Based on the review of the organization, Linea, together with the staff of FCERA, would recommend a number of Information Technology initiatives over the next five to seven years in order to modernize the organization:

Primary Initiatives:

- New General Ledger Financial System
- Replacement Pension Administration System
- Electronic Document Management System
- Disaster Recovery / Business Continuity Plan
- Setup, Hiring and Training of Additional IT Staff Member

Secondary Initiatives:

- Case Management / Workflow Automation
- Web Self-Service / Member Portal
- Reporting system / Reporting tools initiative

During this assessment, other initiatives were also discovered and initially recommended, but ultimately were considered tertiary initiatives, and were not considered items necessary for FCERA's modernization.

Over the course of these initiatives, the only modification to the agreement between FCERA and County ITSD should be in the hosting of application servers. Currently, FCERA relies on ITSD to perform the system and database administration of the servers that house the primary applications being used by FCERA staff. In the future, as a result of the IT initiatives, FCERA should take over this responsibility and administer these servers at FCERA's office. While it is possible that FCERA rely on ITSD staff to continue to administer these servers although they may be physically located at FCERA's office, given the permanence

of the situation, it would be beneficial to FCERA that these be maintained by FCERA staff instead.

The largest change will be maintaining the new Pension Administration System. A significant advantage of newer systems is the flexibility and configurability of these systems as compared to earlier generation versions of these applications.

Additionally, FCERA will have a new Electronic Document Management System, which will also require new responsibilities of maintenance. However, to take advantage of these systems' configurability and daily maintenance responsibilities, it will be necessary to provide Information Technology support of these systems.

These responsibilities will span such things as:

- System administration / Operating System administration
- Database operations
- Report-writing / Database querying
- Business analysis
- System configuration

These responsibilities will continue over the lifecycle of these newer systems, and will be the equivalent of at least one additional full-time IT staff member. Much of FCERA's need for these responsibilities has always existed, but the difference is that in the past they were spread among various resources (at ITSD, among the current software vendor), and some of these responsibilities are new that will emerge as a result of these new systems. Although the initiatives will incur very large one-time needs for human resources, there will continue to be an ongoing need for someone in the above responsibilities.

In order to successfully execute these initiatives, time, money, and staffing resources must be considered. This document provides estimates on the timing and duration of these activities based on typical projects of this type, with an assumption that the first activities will begin July 2009.

For budgeting purposes, FCERA should consider the following potential costs of these initiatives:

FCERA • IT Road Map

One-time cost estimates FY 2010-2015

(Amounts in thousands of dollars)	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	EST TOTALS
PRIMARY INITIATIVES							\$0
General Ledger	\$250	\$0	\$0	\$0	\$0	\$0	\$250
Pension Administration System	\$180	\$1020	\$1000	\$1250	\$400	\$0	\$3850
Electronic Document Management System	\$0	\$310	\$800	\$0	\$0	\$0	\$1110
Disaster Recovery / Business Continuity Plan	\$60	\$0	\$0	\$0	\$0	\$120	\$180
IT Staff Hiring (Cost of setting up position) ¹	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SUBTOTAL, PRIMARY INITIATIVES	\$490	\$1330	\$1800	\$1250	\$400	\$120	\$5390
SECONDARY INITIATIVES							\$0
Reporting System / Reporting Tools	\$0	\$0	\$32	\$15	\$60	\$0	\$107
Case Management / Workflow Automation	\$0	\$0	\$100	\$0	\$60	\$60	\$220
Web Self-Service / Member Portal	\$0	\$0	\$0	\$0	\$300	\$0	\$300
SUBTOTAL, SECONDARY INITIATIVES	\$0	\$0	\$132	15	\$420	\$60	\$627
TOTALS	\$490	\$1330	\$1932	\$1265	\$820	\$180	\$6017

Finally, this document also reviews the results of analyzing the numbers of resources needed to properly execute these initiatives. FCERA unfortunately does not have the resources on staff to be able to execute these one-time initiatives without compromising operations, and will need to utilize or hire outside resources to do so.

“Outside resources” refers to the following roles / responsibilities that are not currently present at FCERA:

- Software system vendor (for PAS, EDMS, General Ledger)

¹ Note that this is the cost estimate of the one-time initiative, not the ongoing cost for so-called “maintenance”. This item is listed with no cost because the setup of the position could be done with current staff at FCERA, which is outside of the scope of this document, and would be part of the regular payroll for staff at FCERA. Additionally, this item does not account for the cost to FCERA for the new staff member itself, which would be an additional cost to the administrative budget.

- Project manager(s)
- Business analyst(s)
- Technical analyst / data analyst(s)

The estimated figures above include the estimates for additional outside resources, and they also include estimates for any necessary hardware purchases to host these systems

2. BACKGROUND ON LINEA SOLUTIONS, INC.

Linea Solutions, Inc. is a Los Angeles-based management and information technology integration and consulting firm. Linea's primary practice is to provide professional services to public defined benefit systems. Since its formation in 1999, Linea has worked with many other 1937 Act county retirement systems. The focus of the practice is to provide strategic planning assistance on large, enterprise-wide projects, to assist in the project management of system implementations, and to provide detailed subject matter expertise on retirement "best practices" due to its experience in working with public pension plans.

3. ACTIVITIES THAT WERE NOT PART OF THIS PHASE

An IT Road Map document is a high level strategic planning document that covers such answers as what, why, how, when, and how much. As such, there are details that are not germane to this level of document. Namely, the following activities were intentionally excluded from the scope of this phase:

- Gathering detailed requirements for replacement systems. Why was this excluded? System requirements do not help with this overall road map. They provide the necessary information for selecting a software vendor and the replacement system, but they do not help FCERA yet in such things as resource planning or budgeting.
- Gathering detailed information on work process and procedures. Why was this excluded? Processes typically should be assessed and documented to understand some of the process-level requirements that a replacement system will need to fulfill. However, other than understanding the overall maturity of the processes and understanding the level of information that will need to be documented in a future requirements-gathering phase, this kind of detailed work also does not yet help FCERA in such things as resource planning or budgeting.
- Beginning a software vendor search for various replacement systems. Why was this excluded? Searching for a software vendor is still premature. The

first step prior to selecting a software vendor is to gather requirements for the system so that the correct software can be found, and prior to gathering requirements, FCERA needs to put together a basic road map for resource planning and budgeting, and have that be approved.

Once approved, the next step following will be work to gather details on requirements, the workflow of business processes, and the search for and selection of replacement system software vendors.

4. AREAS OF PARTICULAR RISK AT FCERA

Through interviews and review of documents at FCERA, Linea found that on the whole, the organization is not in a high risk in its current state. Many of its peers are in a higher risk situation than FCERA. However, there are many factors that, taken as a whole, contribute to a medium-high risk to the organization.

4.1 Obsolescence of Watson-Wyatt Pensions

“Pensions” is the name of the Pension Administration System at FCERA. This is a product that is no longer being sold by Watson-Wyatt to the public sector, and is a product that will soon lose support. Although FCERA has already made interim arrangements to hire a current Watson-Wyatt consultant as an independent contractor to continue supporting the product, and FCERA is being allowed the option of taking over the source code, reliance on an obsolete custom product is a high risk situation, in particular because Pensions is a mission critical application.

Recommendation: Replace the current Pension Administration System. Other reasons to replace the current Pension Administration System include the imminent obsolescence of client-server applications for web browser-based applications, which also implies the reduced rigidity of configuring the system to accommodate for various changes (ranging from legislative changes, compliance-based changes, and changes for the purposes of enhanced functionality). Finally, the PAS should be replaced to allow for greater functionality in benefits administration.

4.2 Documents are only available in hard copy format

There is no current document management system in place at FCERA, and therefore many documents are only available in hard copy format. For instance, all member files contain documents that are not in electronic format, which means that there is no backup to this information. These documents are at risk, and in some cases may be the only record available to allow staff to certify the retirement eligibility or benefit calculation of a member. Other documents such as board

packets may be sourced electronically, but the overall packet is a consolidation of many documents, and these may not be easily reproduced because the original documents only reside on the file servers unindexed.

Recommendation: FCERA should implement a document management system, put forth a file plan (containing detailed record retention policies together with a document taxonomy), and perform a backfile conversion of these documents, beginning with the conversion of member files.

4.3 Limited Staff Size

On the whole, FCERA is not an organization that is at high risk of not being able to fulfill its operational obligations, and there appears to be an adequate degree of redundancy of knowledge and skill. However, FCERA has a very limited staff size, and it appears that current staff members are sufficiently utilized such that any additional responsibilities will tax the organization. More specifically, FCERA currently only has one Information Technology resource (that is not County ITSD), and that person has key responsibility of certain batch processes. With the introduction of three new systems, a new general ledger, a new Pension Administration System, and an Electronic Document Management System, additional responsibilities in the following areas will emerge:

- System administration / Operating System administration
- Database operations
- Report-writing / Database querying
- Business analysis
- System configuration

Currently, the one IT staff member at FCERA assists with some database querying. However, all of these responsibilities cannot be absorbed by the current IT staff member alone, and these needs will require being fulfilled by another full time IT staff member.

Recommendation: because detailed analysis of business processes were not conducted for this project, we do not have any overall organizational recommendations for the business units at this time. However, we believe that in the long term FCERA will need to add one more full-time member to the IT staff. This need will become more salient as a key component to modernizing the organization.

4.4 FCERA Lack of Business Continuity Plans

It appears that because of the utilization of County ITSD, FCERA's systems have appropriate data and system backup. It was outside of the scope of this assessment to audit ITSD procedures for bringing systems back up. Because FCERA shares common infrastructure and hardware with other County departments, FCERA should confirm those procedures with ITSD, and also get an understanding of what priority would be given to FCERA under conditions of disaster.

However, because there is no Business Continuity Plan at FCERA, if there were a disaster that took down systems or immobilized staff from performing their duties, FCERA would have a difficult time systematically resuming business operations because it does not have a plan for bringing systems back up, nor does it have an emergency protocol, nor an organizational communication plan.

Recommendation: FCERA must develop a disaster recovery plan (DRP) and a business continuity plan (BCP). In this instance, DRP is used to indicate a technical set of procedures to bring systems back up. BCP indicates a document that also integrates emergency protocol, a communication plan, and an overall strategy and guideline for the resumption of business operations. Because of other modernization initiatives, it may not be cost effective to do this completely until the new systems are live. However, because some of these initiatives are several years out, it would be advised to put together key components of the BCP now (such as emergency protocol and communication plan), verify backup procedures with ITSD, and then upon the completion of system replacement, revise the BCP accordingly, and to then document disaster recovery procedures.

4.5 Obsolescence of Accpac

Accpac is the name of the accounting unit's general ledger system. It was originally an independent company that was then bought by Computer Associates, and then it was re-established as an independent corporation, and then was later acquired by the Sage Group, who currently owns it. There is a current version of Sage Accpac, but FCERA's version is obsolete and is based on an outmoded platform, does not provide all of the functionality needed by an organization like FCERA, and lacks technical support. This puts FCERA at tremendous risk for financial reporting, a core function of the organization, though the system is considered a critical system, rather than a mission critical system.

Recommendation: Replace Accpac with a new general ledger accounting system. This will not be new information for FCERA, since its replacement was already on its strategic plan as an initiative for this year.

4.6 Additional data validation built into processes is needed

A significant, additional need that will occur as a result of the implementation of a new Pension Administration System will be new operational reports and detailed, line by line data validation of its processes. Currently, Pensions (Watson-Wyatt) provides some automated data validation that is done at a record by record level. It appears that many payroll validations that are related to State Street bank are not done at a record by record level. When a new Pension Admin System is implemented, new data validation methods will require being created for operational purposes, as well as ad hoc methods in support of other needs that emerge. Some of these validations, in particular those associated with the importing of active member data via an employer interface, will be done as part of the system implementation project, while many others will not. These automated processes will be one of the primary responsibilities of having an additional staff member at FCERA.

Recommendation: With dedicated reporting tools and staff that have expertise in complex report-building, FCERA will need to automate and then operationalize detail level validation of process results in order to improve its checks on correctness. These needs will extend beyond the system implementation project. FCERA should implement a dedicated reporting tool, and hire or train staff to be able to develop data reconciliation and data validation reports. This is one of the primary reasons FCERA needs to consider adding a staff member within IT.

4.7 Members unable to access individual account information themselves

FCERA already has a web site that contains a considerable number of public records that can be downloaded from its web site. In fact, much of the data that is typically gathered for this type of assessment could already be obtained from the web site even before the beginning of this assessment.

However, today's members, in particular active members, and to some extent retired members, have come to expect more from organizations such as FCERA because of the usage and increased functionality provided through the internet. Members expect the ability to view account information just as they are able to with their bank accounts or other personal investment accounts. To that end, pension plans in the public sector have generally fallen behind, and FCERA is no exception. Current information on contribution balances, service credit, estimates of benefits based on current information, benefit payment history, tax reporting, and data on service credit purchases are not able to be viewed by members themselves, and instead would require a phone call or in-person appointment with

staff reviewing in order for a member to gain access to the information. Although not a mission critical function, these days access to member information has become synonymous with being a core member service, and therefore tied to a key mission of FCERA.

Recommendation: Develop an improved member web site that contains a self-service member portal.

5. INFORMATION TECHNOLOGY DEPENDENCE

One of the basic questions asked for this project was the effectiveness of FCERA's dependence on County Information Technology Services Department, and to assess the relative merits of FCERA moving its IT infrastructure as a dedicated, internally administered, standalone unit. Currently, FCERA relies on the County ITSD for most IT needs, and gets cross-charged for these needs, including:

- Network infrastructure and connectivity
- Information security
- Web hosting
- Application hosting
- File storage
- Email hosting and administration

We reviewed annual expenditures for these various services, interviewed staff on the qualitative merits of the service provided, reviewed existing service level agreements, and compared these factors to alternatives. On the whole, FCERA does not spend very much money comparatively on these services, and generally is provided good service level, and even staff believes that the relationship between FCERA and ITSD is good.

There are traditionally four reasons an organization may choose to stop relying so heavily on a specific vendor in these various areas of IT. The primary one is typically cost based. Other reasons include unhappiness with the relationship with providers, performance issues or technical limitations, or lack of control over the environment.

Area	Assessment
Cost	It does not appear that FCERA would be able to make a material impact on a cost reduction for the primary IT areas. To be completely independent would necessitate more internal staff members of varying skills and expertise,

FCERA • IT Road Map

	and the economies of scale provided by ITSD are difficult to outdo.
Relationship with Provider	Based on interviews, FCERA appears to be able to obtain good quality service from relatively dedicated ITSD resources. This area does not appear to be a very good justification for FCERA to stop its reliance on ITSD.
Control over environment	In most areas, FCERA is better served continuing to utilize ITSD's services, in particular such things as network and information security. However, in the area of application server hosting, FCERA will be better served if expertise over the system configuration and change control process of applications were located on FCERA-maintained machines. One of the primary reasons for this is that newer, third-wave Pension Administration Systems allow for much greater flexibility in configuration changes; that is, in previous generations, most system modifications relied on programming changes, whereas today, many system modifications can be performed through configuration changes that can be done by non-programmer analyst resources. However, in order to take advantage of this increased flexibility, FCERA will need to be able to gain more control over the testing, training, and production environments that host these applications.
Performance / Technical Limitations	As stated above, the newer enterprise level software systems allow for greater flexibility. However, to take advantage of this, more control is needed. To execute and implement changes, FCERA will likely expand the amount of change in its application systems, in particular for accounting, benefits, document management, and workflow automation. To do this successfully and correctly, FCERA will in turn need to conduct more testing of the changes, as well as be able to allow staff more freedom for training. Not maintaining control over these systems internally will likely lead to technical limitations, in particular because in the current environment, FCERA shares machines with other departments. Additionally, we are aware that given the location of and the technology being utilized at FCERA for its network connectivity, there are performance

degradation issues. For low bandwidth activities such as retrieving Microsoft Office documents on a file server, this does not seem to pose a significant issue, but with batch processes associated with the Pension Administration System, potential performance degradation perception issues introduced by web browser based systems, serving up document images that generally refresh more slowly, and the speed of the current microwave connection may not be satisfactory for FCERA staff. Therefore, we would recommend that application servers eventually be migrated to be on site at FCERA's office to host the general ledger system, the PAS, and the EDMS.

Although more costly than the current setup with ITSD, our recommendation is for FCERA to purchase its own application servers to host its future GL, its next generation of Pension Administration System, and its Electronic Document Management System. The primary reasons for this are based on increased levels of control, which it will need to leverage off of the increased flexibility of newer software systems, and for increased performance. However, we are just referring to the physical migration of these machines, rather than moving away from the entire network backbone of ITSD. Therefore, it would be reasonable to expect that ITSD would be able to continue providing support in all other areas, including the connectivity of these machines to the local area network.

In the short term, it may be reasonable to continue to hire dedicated ITSD resources to administer the hardware and operating systems of these servers. However, because with the new systems this will become a permanent condition, in the long run we would still recommend that FCERA create its own position for an IT staff member to be able to serve as the system administrator. Because the staff member may not have full-time work just in system administration, we believe that other skills should be incorporated for this IT resource, namely:

- Server hardware and OS administration
- Basic database operations skills (less qualified than database administration skills)
- Knowledge of SQL for database querying capabilities
- Report-writing skills for reconciliation and validation work

Because we believe that it is impractical to create two positions for this type of work in order to maintain some redundancy, we also believe that the current Systems and Procedures Analyst must also be trained in the same DBO skills, as

well as gain increased knowledge of report-writing, SQL, and training of the future enterprise applications (GL, PAS, EDMS).

6. INITIATIVES FOR IT MODERNIZATION STRATEGY

Based on information gathered from FCERA, we have segregated recommended initiatives into three main categories:

Primary initiatives: those implementation initiatives that will mitigate high risk areas of the organization and are large scale initiatives.

Secondary initiatives: those implementation initiatives that will mitigate high risk areas but are slightly smaller in scale.

6.1 Primary Initiatives

The primary recommended initiatives have been established as follows:

- New General Ledger Financial System
- Replacement Pension Administration System
- Electronic Document Management System
- Disaster Recovery / Business Continuity Plan
- Setup, Hiring and Training of Additional IT Staff Member

6.1.1 General Ledger

This item has been reported on elsewhere prior to this IT Road Map document, and therefore will not be discussed here. Because of the issues with FCERA's version of Accpac, there are some high visibility risks involved with that implementation. Additionally, it has been found that the FCERA's version of Accpac uses a Btrieve data format, and our experience tells us that data in this format can be difficult to retrieve or reformat for data migration purposes. Therefore, this may pose some challenges to this initiative.

6.1.2 Pension Administration System

Of all of the initiatives, this will undoubtedly be the most costly and the most resource intensive. As a result, it is the most important one to "do right" rather than to shortcut in any way. What this means is that a thorough requirements gathering phase is critical prior to the creation of an RFP document. Moreover, it is absolutely critical that the project be staffed appropriately. These projects tend to be more "marathon-like" than "sprint-like" and it is important that enough staff members are available.

One of the single biggest changes to these applications that has occurred since the time Watson-Wyatt's Pensions application was deployed at FCERA is that Pensions is what is considered a client-server application, where some of the functionality of the system and perhaps much of the software code is located on the local personal computer. When changes are implemented to the system, new versions of the application are typically necessary, and this means that each computer that uses Pensions must also apply these upgrades. Additionally, most updates to the system require programmatic changes.

In contrast, the latest generation of web browser-based applications does not have application code on the PC side, since they are accessed through a web browser application; they tend to be centralized, and for the most part updates do not need to be deployed to individual PCs. Furthermore, with Service Oriented Architecture, systems can be reconfigured by a technical user of the system rather than being commissioned to a programmer. This has the advantage of decreasing the time to implement change and also reducing annual one-time expenses.

However these changes manifest themselves, unfortunately they are no easier to deploy than previous systems. Therefore, they will require similar project resources in order to implement. But the implementation of a new system should also integrate all of the following types of functions:

- Import of active member data, including, but not limited to contributions, salary, service credit, demographic information, and employment information; validation of these data points;
- Automated calculation of Service Credit Purchases; automated completion of purchase contracts;
- Integration of active member data for automated calculation of benefit estimates and benefit setups using actual plan parameters;
- Integrated function of retiree payroll
- Integration with document management system
- Interface with the General Ledger system

6.1.3 Electronic Document Management System

FCERA currently does not own or use a document management system. EDMS software typically contains a core module that allows for the indexing of document image files (which are typically stored outside of the EDMS database). Surrounding the core module and integrated with it are many other modules. The ones that FCERA would be interested in are:

- Records retention / records management
- Business Process Management (for automated workflow)

- Integration with capture software (for scanning)

Relative to the overall functionality of these systems, FCERA's needs are much simpler, and therefore we would not recommend one of the higher end systems, but rather a mid-range system.

6.1.4 Disaster Recovery / Business Continuity Plan

This initiative is purely for risk mitigation. The distinction made here is between a Disaster Recovery Plan (DRP), which emphasizes the technical systems and the procedures for bringing these systems back up, versus a Business Continuity Plan (BCP), which emphasizes the resumption of business operations. Resumption of business operations means that a staff and stakeholder communication must be in place, as well an emergency assessment protocol.

Because this IT Road Map emphasizes a number of initiatives that will replace current systems, much of a DRP and parts of a BCP will become obsolete as a result of these implementations. In order to cost effectively produce valuable plans in the interim, our recommendation is to confirm with ITSD of the recovery procedures on the current critical systems (since ITSD is responsible for their being available), and to focus on the BCP's communication plan and emergency assessment protocol, which will change very little even with new systems.

Then, when the other systems are implemented as part of the execution of this IT Road Map, a DRP can be developed, and updates to the BCP made.

6.1.5 Setup, Hiring and Training of Additional IT Staff Member

While it may appear unusual to treat this item as an initiative unto itself, the reason for it is that there are a significant number of things to consider in justifying this position, as well as the fact that there are a number of activities involved in implementing this position.

In order to modernize FCERA from an IT standpoint, the implementation of new enterprise software is needed for a new GL, new PAS, and new EDMS. To take advantage of the technology behind a new PAS and a new EDMS, we are recommending that FCERA increase its level of control over these systems. But in order to do this, a resource will need to be dedicated to their administration. With this comes new skills that are not currently part of FCERA's staff responsibilities; additionally, because these skills will be permanently required, rather than contract out for these skills, we are recommending that a staff position be added for this.

The skills needed to provide support for these changes initially are:

- Server hardware and OS administration

- Database Operations

Once the systems are set up, however, we believe regular and consistent work is needed to maintain the systems, but perhaps not enough for full-time work. But with the introduction of these systems, an additional set of skills and work will be needed to provide value to these new systems. These skills include:

- Business analysis skills to document specifications and implement change controls in the system (e.g. make configuration changes to the systems)
- Data mining skills to produce query output and reports using reporting tools in order to generate ongoing validation tools in support of business processes, as well as ad hoc reports for on demand needs

Based on our experience, these skills and work are necessary for the successful post-implementation activities of a system like a PAS or an EDMS, and despite what an organization may think, implementation of change and change control procedures are a regular, ongoing activity.

As part of this initiative, FCERA will need to put together job specifications, set in motion the steps necessary to create a new position, and to work through the remainder of the civil service process to interview, examine, and hire a new resource.

However, the timing of this activity can also be done in measured fashion. This staff member does not need to start prior to the other initiatives; in fact, the person could be hired in the middle of some of these activities, although the sooner this can occur, the greater potential of utilizing the person as a project resource as well. We would recommend that FCERA consider planning for this position to be in place and for the person to be hired by 7/1/2010 so that the other initiatives can take advantage of the staff resource.

6.2 Secondary Initiatives:

The secondary recommended initiatives have been established as follows:

- Reporting system / Reporting tools initiative
- Case Management / Workflow Automation
- Web Self-Service / Member Portal

6.2.1 Reporting system / Reporting tools initiative

This has been mentioned elsewhere in this document. A reporting tool (some software such as Crystal Reports that allows automated report writing, both easy and very complex) will have its requirements documented as part of the PAS initiative. However, reports will probably be partially developed as part of the PAS

implementation by the time the system goes live. FCERA should consider this as a critical but separate activity in order to support critical aspects of operations, in particular data reconciliation and validation activities. We have also stated elsewhere that staff dedicated to this and related activities should be hired.

6.2.2 Case Management / Workflow Automation

Software that helps to track member cases as well as follow along other business processes has become a critical function within organizations such as FCERA, since the risk of not doing something or not following up on a member's case can be quite high. Traditionally, many of these systems were modules as part of and EDMS. However, more recently, many of the PAS software vendors are including separate modules for these case management tools. Often they are included in the base price of a license for the software; when they are included, they tend to be "free" because there is still a cost to configuring or customizing the module. Therefore, it will be important for FCERA to put forth some requirements on the processes it would like to use a case management tool for in advance of the PAS software vendor selection.

Based on interviews during this project, we believe the business processes that are the most likely candidates for workflow automation in Benefits are:

- Service credit purchase contracts
- Disability
- Death processing
- Domestic Relations Orders
- Reciprocity - Transfers into the system in particular
- Contribution adjustments
- Benefit setup processing

Additionally, other candidates for workflow automation in Accounting may exist but will likely not be managed through the PAS, but instead will need to be processed through the accounting system. These processes include:

- Monthly closing
- Monthly payroll reconciliation
- CAFR data generation

Our experience is that while the EDMS may have very robust modules for workflow automation, the midrange systems are not very flexible and the high end systems are very expensive. Therefore, initially we would recommend that workflow automation occur from within the respective systems (PAS and GL).

6.2.3 Web Self-Service / Member Portal

Today, many of the software vendors that have developed Pension Administration Systems are bundling web self-service functionality with their licenses, though of course customization and configuration fees are usually priced separately. Nevertheless, it will make sense to set up the requirements for this initiative in advance of selecting a PAS, because the opportunity of continuity between the internal staff software screens and screens that members can view is important for the user experience, as well as the fact that it will mean that there will be one system for administering benefits and for member self-service requests and account viewing.

What this means is that FCERA will request pricing for a member portal as part of the selection and purchase of a PAS software vendor. If the pricing is unreasonable or not what FCERA expects, in the worst case it can reject that portion of those bids, and work to develop a member portal separately, since the requirements and specifications will remain the largely the same. In either case, however, it should be considered a post-PAS implementation initiative, and a major one, which is why we have listed this as a separate initiative in this plan.

7. PROJECT RELATED RESOURCE NEEDS

Unfortunately, like most other retirement systems its size, FCERA does not have resources to support projects other than for decision-making, executive sponsorship, and sign-off. It also has some necessary staff resources that will serve as subject matter experts as User Acceptance Testing resources. However, it is missing the key resources that are necessary to work in the interest of FCERA and manage the projects appropriately.

For projects and initiatives of this type, there are many resources that are necessary. In particular:

- **Project manager:** The project manager is someone that will be the developer and keeper of the overall work breakdown schedule, and will be the one that “pushes” everyone on the project to continue to follow the assigned timelines.
- **Business analyst:** A business analyst is an IT industry term that is used to designate a resource that bridges the gap between a technical resource such as an application developer and the users / subject matter experts. Business analysts must be familiar with translating an end users’ perspective on the business rules, workflow process, and requirements into something that can be documented and understood by the software vendors and the application developers. Business analysts often must negotiate differences

in terms of what an end user is expecting versus what a software company can provide. It is very important that a business analyst have an understanding of the operations of FCERA ideally, and defined benefit plans at a minimum.

- Data analyst: A technical resource that can understand the data points that will ultimately be converted from the legacy system to the replacement system. A data analyst is extremely valuable if he or she has a thorough understanding of the business of FCERA or some of the underlying business rules that exist in the systems. A data analyst will ultimately be responsible for either overseeing the data conversion process in an implementation, or will actually assist in the data conversion.

The following table depicts a cross section of the typical project activities by category, somewhat sequenced linearly, across different types of resources. The open circle denotes some involvement, whereas the double circle in the grid denotes much more intensive involvement in the particular activity.

FCERA • IT Road Map

ACTIVITY	FCERA Subject Matter Expert	Imaging Vendor / Temp Staff	Project Manager	Business Analyst	Data Analyst	New FCERA IT Staff	Fresno County ITSD	Software Vendor
Requirements gathering	⊙		⊙					
RFP			⊙	⊙	○			
Vendor Selection	○		⊙					
Contract Negotiation			○					
Specifications / Use case development	○		○	○				⊙
Data conversion preparation / data cleanup	⊙		○		⊙	○	○	
HW Installation and setup			○			○	⊙	
Independent Verification & Validation			⊙	⊙				
Creation of test cases	○			⊙		○	○	
Development of test scripts	○			⊙		○	⊙	
Compilation of overall test plan				⊙				
User Acceptance Testing	○		○	⊙				
Training	○			○		○		⊙
Data conversion				⊙	⊙		○	⊙
Backfile conversion		⊙	○	○				○
File plan	⊙			⊙			○	

Minimal Resource Needed ²	○
Extensive Resource Needed ³	⊙

By our estimate, if FCERA approves all of the primary and secondary initiatives in this document, it will need, on an ongoing basis throughout the duration of the program, the following additional resources (in addition to the staff it currently has now, the software vendors, the additional IT Staff member, and temp staff to assist with a backfile conversion):

² “Minimal Resource” indicates an estimated 10% to 30% Full Time Equivalent needed during the project phases when these responsibilities are called upon.

³ “Extensive Resource” indicates an estimated 30% to 100% Full Time Equivalent is required during the project phases when these responsibilities are called upon.

- Project manager: 1 to 1.5 resources
- Business analyst: 1 to 2 resources
- Data analyst: 1 to 2 resources

Note that if the item above states one (1) resource, the estimate does not assume the equivalent of 1.0 FTE for the duration of the program. However, it does estimate that over the course of various projects, there will be times when more than one resource will be needed.

8. TIMING OF INITIATIVES

See Appendix A, page 23

The timing of the various primary and secondary initiatives has been spaced apart based on our knowledge of the implementation phases of these projects. Therefore they have been stacked, in some instances concurrently, so that if the projects are staffed appropriately, they should still be manageable. Other assumptions behind the charts are:

- A dedicated project manager will be needed for these initiatives to oversee the entire IT modernization program
- This plan assumes that resources and budgets have been approved
- The plan assumes that the implementation of a Pension Administration System will take approximately 30 months from the point of contract signing to sign-off / go live by FCERA. This duration is an estimate and will vary by the number of customizations and the software vendor. This initiative is essentially the backbone of this program, so if the PAS implementation is shorter or longer, it will affect how these other initiatives are positioned relative to the other initiatives.

9. COST FOR BUDGETING PURPOSES

Based on the needs of the initiatives and a high level review of the scope of these projects, we have estimated how much these projects would cost. The cost projections include estimates about how much will need to be spent at what points in time. For example, in typical software projects, there are some initial licensing and startup fees associated with contract signing that are typical, which often makes the projects seem a bit top heavy. Then there is a longer period of constant work being done on the project management side, the business analysis confirmation of requirements, application development and unit testing work, and then milestones begin to get hit when modules are delivered. At the tail end of any implementation project there is usually a surge of hours because the project team has to work harder and longer hours to ensure that things are going correctly

FCERA • IT Road Map

during User Acceptance Testing and Parallel Testing. And finally, there is typically some kind of project holdback that is reserved for the conclusion of the project. How that manifests itself in this grid is that many projects start out with larger payments, and finish with large milestone payments, with more consistent, lower amounts in the middle.

Some additional assumptions made in these tables is that consultant resources are utilized where most appropriate, and budgetary limits as defined by statute are not accounted for in these schedules other than a recognition that each fiscal year ends on 6/30 of each year. **Note that these budget estimates include the cost of hiring outside consultants and resources, and also include the cost estimates associated with necessary hardware.**

FY 2010-2015

(Amounts in thousands of dollars)

	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	EST TOTALS
PRIMARY INITIATIVES							\$0
General Ledger	\$250	\$0	\$0	\$0	\$0	\$0	\$250
Pension Administration System	\$180	\$1020	\$1000	\$1250	\$400	\$0	\$3850
Electronic Document Management System	\$0	\$310	\$800	\$0	\$0	\$0	\$1110
Disaster Recovery / Business Continuity Plan	\$60	\$0	\$0	\$0	\$0	\$120	\$180
IT Staff Hiring (Cost of setting up position)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SUBTOTAL, PRIMARY INITIATIVES	\$490	\$1330	\$1800	\$1250	\$400	\$120	\$5390
SECONDARY INITIATIVES							\$0
Reporting System / Reporting Tools	\$0	\$0	\$32	\$15	\$60	\$0	\$107
Case Management / Workflow Automation	\$0	\$0	\$100	\$0	\$60	\$60	\$220
Web Self-Service / Member Portal	\$0	\$0	\$0	\$0	\$300	\$0	\$300
SUBTOTAL, SECONDARY INITIATIVES	\$0	\$0	\$132	\$15	\$420	\$60	\$627
TOTALS	\$490	\$1330	\$1932	\$1265	\$820	\$180	\$6017

Appendix B, page 25 at the end of this document depicts details of each of these fiscal years by quarter.

FCERA • IT Road Map

10.

APPENDIX A

	2009	2009	2010	2010	2010	2010	2011	2011	2011	2011	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	
	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	
PRIMARY INITIATIVES																						
General Ledger	1	1	2	2																		
Pension Administration System		3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	6					
Electronic Document Management System						7	7	7	8	8	8	8										
Disaster Recovery / Business Continuity Plan			9	9															10	10	10	10
IT Staff Hiring					11	11	11	11														
SECONDARY INITIATIVES																						
Reporting System / Reporting Tools									12	12	12	12			13	13	13	13	13			
Case Management / Workflow Automation									14	14	14	14					15	15	15	15	15	15
Web Self-Service / Member Portal															16	16	16	16				

KEY TO NUMBERS IN SHADED BOXES:

- 1 - General Ledger initiative requirements / RFP / Vendor selection
- 2 - General Ledger implementation
- 3 - Pension Admin System requirements / RFP / Vendor selection
- 4 - Pension Admin System implementation
- 5 - Pension Admin System User Acceptance Testing / Parallel Testing
- 6 - Pension Admin System Post-Implementation wrap-up
- 7 - EDMS requirements / RFP / vendor selection
- 8 - EDMS implementation
- 9 - DR / BCP initial documentation
- 10 - DR / BCP post-implementation follow-up documentation
- 11 - IT staff hiring setup of new position
- 12 - Reporting System initiative GL reports development
- 13 - Reporting System initiative PAS reports development
- 14 - Case Management / Workflow Automation - Accounting processes
- 15 - Case Management / Workflow Automation - Benefits processes
- 16 - Web Self-Service / Member Portal Implementation

11. APPENDIX B

FY 2009-2010

(Amounts in thousands of dollars)

	2009 Jul - Sep	2009 Oct - Dec	2010 Jan - Mar	2010 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger	\$0	\$0	\$150	\$100	\$250
Pension Administration System		\$60	\$60	\$60	\$180
Electronic Document Management System					\$0
Disaster Recovery / Business Continuity Plan			\$30	\$30	\$60
IT Staff Hiring					\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools					\$0
Case Management / Workflow Automation					\$0
Web Self-Service / Member Portal					\$0
	\$0	\$60	\$240	\$190	\$490

FY 2010-2011

(Amounts in thousands of dollars)

	2010 Jul - Sep	2010 Oct - Dec	2011 Jan - Mar	2011 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger					\$0
Pension Administration System	\$120	\$300	\$200	\$400	\$1020
Electronic Document Management System		\$30	\$80	\$200	\$310
Disaster Recovery / Business Continuity Plan					\$0
IT Staff Hiring	\$0	\$0	\$0	\$0	\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools					\$0
Case Management / Workflow Automation					\$0
Web Self-Service / Member Portal					\$0
	\$120	\$330	\$280	\$600	\$1330

FCERA • IT Road Map

FY 2011-2012

(Amounts in thousands of dollars)

	2011 Jul - Sep	2011 Oct - Dec	2012 Jan - Mar	2012 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger					\$0
Pension Administration System	\$200	\$200	\$200	\$400	\$1000
Electronic Document Management System	\$200	\$200	\$200	\$200	\$800
Disaster Recovery / Business Continuity Plan					\$0
IT Staff Hiring					\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools	\$8	\$8	\$8	\$8	\$32
Case Management / Workflow Automation	\$25	\$25	\$25	\$25	\$100
Web Self-Service / Member Portal					\$0
	\$433	\$433	\$433	\$633	\$1932

FY 2012-2013

(Amounts in thousands of dollars)

	2012 Jul - Sep	2012 Oct - Dec	2013 Jan - Mar	2013 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger					\$0
Pension Administration System	\$250	\$300	\$300	\$400	\$1250
Electronic Document Management System					\$0
Disaster Recovery / Business Continuity Plan					\$0
IT Staff Hiring					\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools				\$15	\$15
Case Management / Workflow Automation					\$0
Web Self-Service / Member Portal					\$0
	\$250	\$300	\$300	\$415	\$1265

FCERA • IT Road Map

FY 2013-2014

(Amounts in thousands of dollars)

	2013 Jul - Sep	2013 Oct - Dec	2014 Jan - Mar	2014 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger					\$0
Pension Administration System	\$400				\$400
Electronic Document Management System					\$0
Disaster Recovery / Business Continuity Plan					\$0
IT Staff Hiring					\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools	\$15	\$15	\$15	\$15	\$60
Case Management / Workflow Automation		\$20	\$20	\$20	\$60
Web Self-Service / Member Portal	\$75	\$75	\$75	\$75	\$300
	\$490	\$110	\$110	\$110	\$820

FY 2014-2015

(Amounts in thousands of dollars)

	2014 Jul - Sep	2014 Oct - Dec	2015 Jan - Mar	2015 Apr - Jun	
PRIMARY INITIATIVES					
General Ledger					\$0
Pension Administration System					\$0
Electronic Document Management System					\$0
Disaster Recovery / Business Continuity Plan	\$30	\$30	\$30	\$30	\$120
IT Staff Hiring					\$0
SECONDARY INITIATIVES					
Reporting System / Reporting Tools					\$0
Case Management / Workflow Automation	\$20	\$20	\$20		\$60
Web Self-Service / Member Portal					\$0
	\$50	\$50	\$50	\$30	\$180