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STATE OF NEVADA

DEPARTMENT OF ADMINISTRATION

Enterprise I.T. Services Division

A TECHNOLOGY INVESTMENT REQUEST (TIR) GUIDE:

A General Guide to Developing the TIR Business Case

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Version 5.3

DOCUMENT HISTORY

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1.1-1.7	*3/28/06-10/17/07*	Minor clarifications and corrections
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1.3	*8/1/2007*	Minor cleanup of footer information
2.0	*5/4/09*	Improvements made in the process of creating version 2
3.0-4	*9/30/09*	Improvements & include many new guides by reference
4.01	*9/9/2010*	First cut FY14 version adding section 7.3 on process impact
4.02	*9/26/2011*	Change DoIT to EITS
5.0	*11/21/11*	Changes related to FY14 performance based budget initiatives and changed process w/track changes
5.1	*11/21/11*	Changes adopted
5.2-3	*11/23/11*	Footnotes to tables that may change with Budget Instructions

PREFACE

This is a general guide to the development of a Technology Investment Request (TIR) for a proposed IT project.[i] It provides a basic description of the TIR's planning and budgeting role and its context in the IT Investment Lifecycle which also includes vendor acquisition, resource procurement, project implementation, and operational audit. This document also serves as an instruction manual for completing the TIR Business Case document, which is the core document for the TIR, to which all other supporting documents are appended through attachments and references. Principal among the other documents is the TIR Service and Resource Plan (S&RP) which contains cost and financial benefit information for a five year project period (Total Cost of Ownership - TCO). The S&RP also serves as a template from which costs can be input into the Nevada Executive Budget System (NEBS).

The other TIR documents and templates that are referenced here and can be accessed on the TIR home page <http://admin.nv.gov/TIR/index.htm>. Contact EITS Enterprise IT Planning (775-684-5800, TIRS@admin.nv.gov) if you have questions or need assistance. Also contact EITS Planning if you are constructing a TIR for enhancements to an existing system with services from your existing vendor. A TIR Waiver for Enhancements (TWE) may be applicable. This new form, introduced in 2009, captures basic information regarding the scope, context, cost and impact of your proposed changes to your IT application/system, and as appropriate, waives the need for a TIR.

[i] TIR authority is in SAM 1618.

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OVERVIEW

BUILDING A BUSINESS CASE

A Technology Investment Request (TIR) is a required state budget document used to request funding for an Information Technology (IT) project expected to cost $50,000 or more. TIR's are required as part of the biennial budget process as well as for interim funding of IT projects. They apply regardless of the funding source (including grant funding), as well as in situations where the funding already exists and the agency is requesting authority for expenditure.[i] The TIR also applies to the planning phase of projects (e.g. requirements definition, gap analysis, business process reengineering). The TIR must be submitted to EITS for review and approval prior to submittal to the Budget Division.

The Technology Investment Request (TIR) helps you build a business case for an investment in an information technology project. A business case is a logical, fact-based argument for change and the "best" way to accomplish it. The TIR clarifies the business problem being solved by IT, and the urgency in solving it now. It identifies technology opportunities and makes a case for a particular IT approach based on cost and benefit. The TIR business case includes:

- Statement of business problem (What needs to be resolved? Who is impacted? How bad is it? Why must this be resolved now?).
- Examination of benefits (Why must this be done?).
- Realistic look at risks and assumptions (What may keep us from success?).
- Analysis of plausible solutions (What are the viable alternatives?).
- Recommendation for action (With Costs, Resources and Timetable described).

These TIR and its associated documents are necessary for decision makers (your management, the Governor, and Legislature) to determine how to best proceed with respect to investments in appropriate technology for Nevada's future.

IT PROJECTS

IT projects include:

- Infrastructure development or enhancement (e.g. Local Area or Wide Area Networks, IT consolidation, virtualization, re-engineered environment, and special technology deployments, such as GIS, document management or video-conferencing systems).
- Business and administrative systems (e.g. software acquisition (including Open Source), transfer, development, enhancement, legacy system replacement, Web Services, outsourced services from application service providers).

[i] Agencies with Federally funded and mandated interim projects should contact EITS for guidance on how to best proceed regarding potentially concurrent TIR and RFP processes.

- NOTE: for Telephone/Communication Systems projects, please request assistance from EITS's Telecommunications Unit by contacting the Help Desk by phone (775-684-4333) or email (<helpdesk@admin.nv.gov>).

IT projects do not include:

- Requests for replacement hardware and software upgrades
- Maintenance for ongoing IT services and support

TIRs: IT Project Context and The Budgeting Process

Every agency submitting a TIR that is:

- An investment of $500,000 or more or
- Critical in nature to State operations or
- Significant risk of adverse consequences to the State of Nevada

will make a presentation to the Nevada IT Strategic Planning Committee during the biennial budget session prior to the submission of the Agency Request budget. This committee will submit its recommendations to the Governor regarding the prioritization and inclusion of IT projects in the biennial budget.

Biennial Budget

Project planning for the biennial budget should begin a year in advance of budget submission. EITS Enterprise IT Planning is available to assist (684-5800). TIRs are generally due to EITS in April of even numbered years (specific dates are provided in the Department of Administration's *Budget Instructions*). Review is greatly streamlined if you have worked with EITS Planning on the TIR in advance. TIRs submitted for the biennial budget after the deadline specified in the *Budget Instructions* must have approval for late submission from EITS.

Interim TIR's

TIR's are also required for new interim IT projects. TIRs associated with Work Programs should be submitted to EITS at least 4 weeks in advance of Budget's deadline for IFC submissions. TIRs submitted after this will require coordination between EITS and the Budget Office and may be rejected.

Grant TIR's

TIR's are required for IT projects supported by grants (SAM 1618). As the grants usually occur outside of the State biennial budget cycle, they fall into the category of Interim TIR's just discussed. Grant managers should contact EITS Enterprise IT Planning (684-5800), as soon as the agency decides to pursue a grant with an IT component costing more than $50,000. EITS Planning is available to provide guidance so that applicable grant information can be appropriately captured in the TIR format, minimizing redundant effort or rework.

ONGOING IT PROJECTS SPANNING BIENNIAL BUDGETS

It is understood by the Department of Administration and EITS that IT project timeframes do not necessarily correspond with the State's biennial budget cycle. Some projects, especially larger projects starting in a Work Program year will transcend biennial budget periods. As additional funding is sought, it is important for decision makers to understand the status and importance of proceeding with a project in light of other projects (new or ongoing) which compete for limited funding. Therefore, agencies requesting funding for ongoing projects should a complete an IT Project Status Update as well as an updated TIR Service and Resource Plan (associated guide and template at <TIRS@admin.nv.gov>) .

Please be aware that the TIR is not a place for making a sole source justification. This is a separate process and form, the solicitation waiver required by the State Purchasing Division.

THE TIR AND THE IT GOVERNANCE STRUCTURE

There are also outside factors that influence requested IT projects, such as Federal initiatives. County and local participants may also be involved in enterprise or collaborative IT initiatives.

All TIRs are reviewed by the Governor's IT Strategic Planning Committee, part of the State IT governance structure. This committee, composed by members of the Governor's cabinet, ranks the TIRs and makes recommendations for the Governor's Recommended budget.

Table 1 shows the evaluation criteria used by the IT Strategic Planning Committee to rank biennial TIRs for recommendations to the Governor. It also shows the equivalent section in the TIR benefits mapping process and risk analysis that corresponds with the collection and analysis of that data.

Table 1. Categories used by the ITSPC as addressed in the TIR[i]	
ITSPC Categories (and point values)	**TIR Sections & Categories**
A. Public and Employee Safety/Statutory or Other Requirements (20 points)	*Non-Financial Benefits*: Public Employee Safety *Non-Financial Benefits*: Statutory Compliance
B. Customer Service Improvements (20 points)	*Non-Financial Benefits*: Customer Service Improvement
C. Improvement to Processes (15 points)	*Non-Financial Benefits*: Process/Performance Improvement
D. Collaborative (5 points)	*Non-Financial Benefits*: Strategic (Collaboration)
E. Technical Risk and Experience Level (15 points)	*Risks*: Technical *Risks*: Staffing / Experience
F. Funding – Financial Risk (10 points)	*Risks*: Funding
G. Financial Benefits (5 points)	*Financial Benefits*: Revenue Increase *Financial Benefits*: Costs Reduction
Financial Ranking–Cost Benefit Analysis (10 points)	*Cost Benefit Summary*

[i] Note: Categories and evaluation points pending potential revision as per FY14 Budget Intructions.

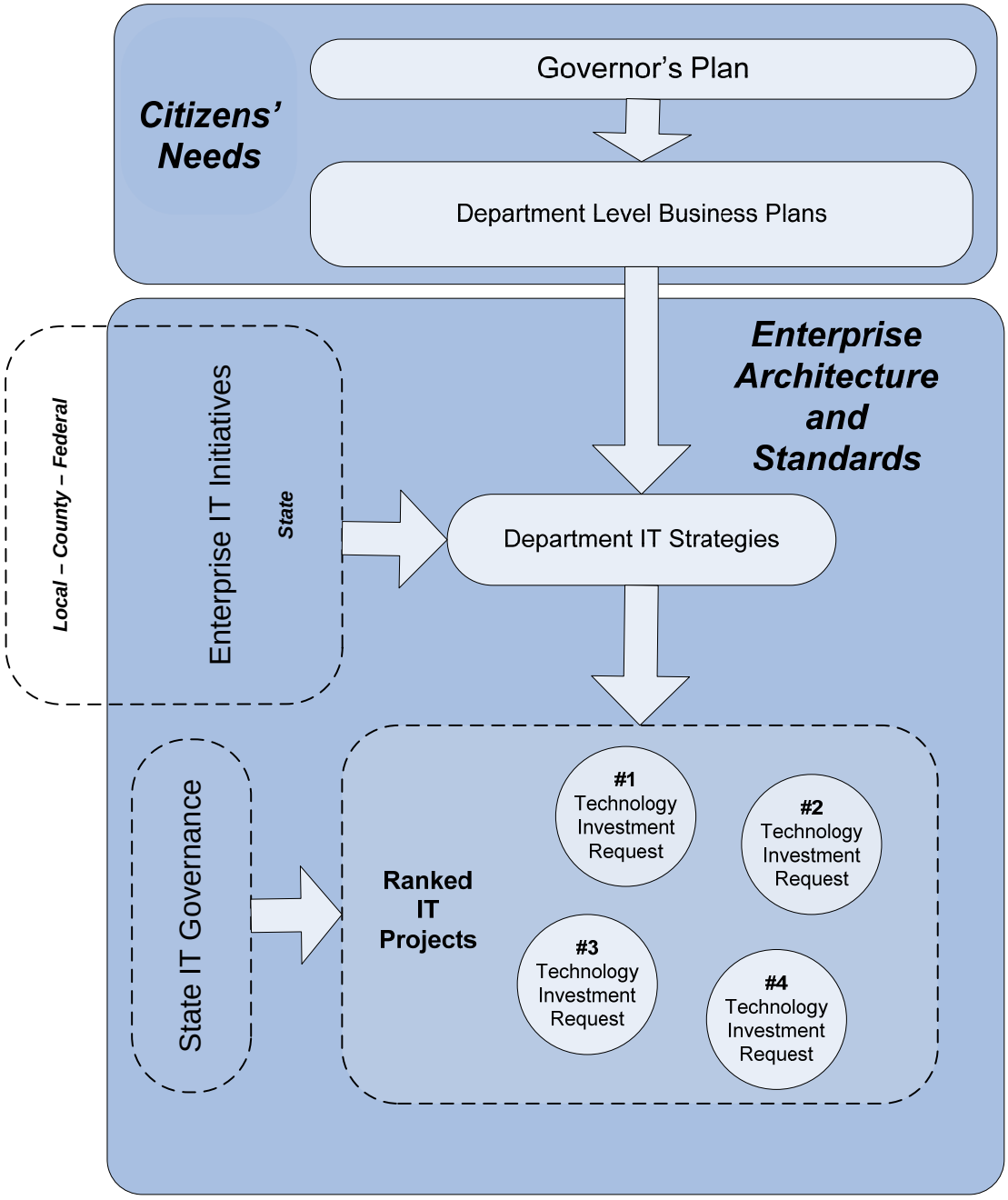

Figure 1: Executive Branch Context for the Technology Investment Request

If funded the TIR also ties to post budgeting processes including, but not limited to:

- Contract request for proposals (RFP)
- Service level agreements
- Project plan documents
- Dashboards for reporting on expected project accomplishments.

Once funded, when the project is being initiated, care must be taken to not abandon the efforts spent in constructing the TIR project plan components and the functional, technical and security requirements for the project. These requirements are a key starting point for constructing a Request for Information (RFI) to get costs from vendors in order to complete the cost worksheets in the *TIR Service and Resource Plan*. If funded, the requirements will again be expressed in the Request for Proposal (RFP). For more information on the TIR and RFP see The TIR: Similarities to the RFI and RFP below.

SPECIALLY FUNDED TIRS

IT projects that receive startup funds from special sources prior to a project scope being established, (example: American Rehabilitation & Recovery Act funding) must still complete a TIR. This is prudent IT planning. Even in emergencies, project scope must be identified, viable alternatives considered and costs and benefits evaluated. Otherwise, money may be spent with little to show in return.[i]

LINKING TO ENTERPRISE INITIATIVES

Several enterprise initiatives have been identified as having the capacity to maximize the value of long term information technology investments made by the state, increase the efficiency and security of data collected by the state and enhance the common user interface to state services provided to the citizens. As a result, alignment with these initiatives strengthens the business case for an IT project. Examples of enterprise projects include, but are not limited to:

- Consolidated and Coordinated Disaster Recovery and Business Continuity
- Services Oriented Architecture
- Server and Desktop Virtualization
- Standardized Digital Content Management
- Data Warehousing / Business Intelligence Systems
- Common Business Portal Strategy
- Geographic Information Systems (GIS)
- Coordinated Electronic Payments
- Standards Based Identity Management
- Utilization of State Owned Computer Facility Services
- Utilization of State Owned Network Transport Services

[i] Agencies with Federally funded and mandated interim projects should contact EITS for guidance on how to best proceed regarding potentially concurrent TIR and RFP processes.

- Videoconferencing and Collaborative Work Technologies
- Enterprise Licensing of IT Infrastructure (Economies of Scale Contracts)
- Coordinated Approach to State and Federally Mandated Compliance Regulations (Privacy, Encryption, Audit)

ADMINISTRATIVE/STATUTORY AUTHORITY

The following authority applies to TIR's:

- Chapter 242 of the Nevada Revised Statutes.
- Chapter 242 of the Nevada Advisory Code.
- Chapter 1600 of the State Administrative Manual.

STEPS IN DEVELOPING A TIR

Figure 2 outlines the steps in developing a TIR from the initial identification of a business problem or opportunity through project planning. The diagram also shows the sections of the TIR that are associated with the process steps, as well as some of the tools available to assist in TIR development.

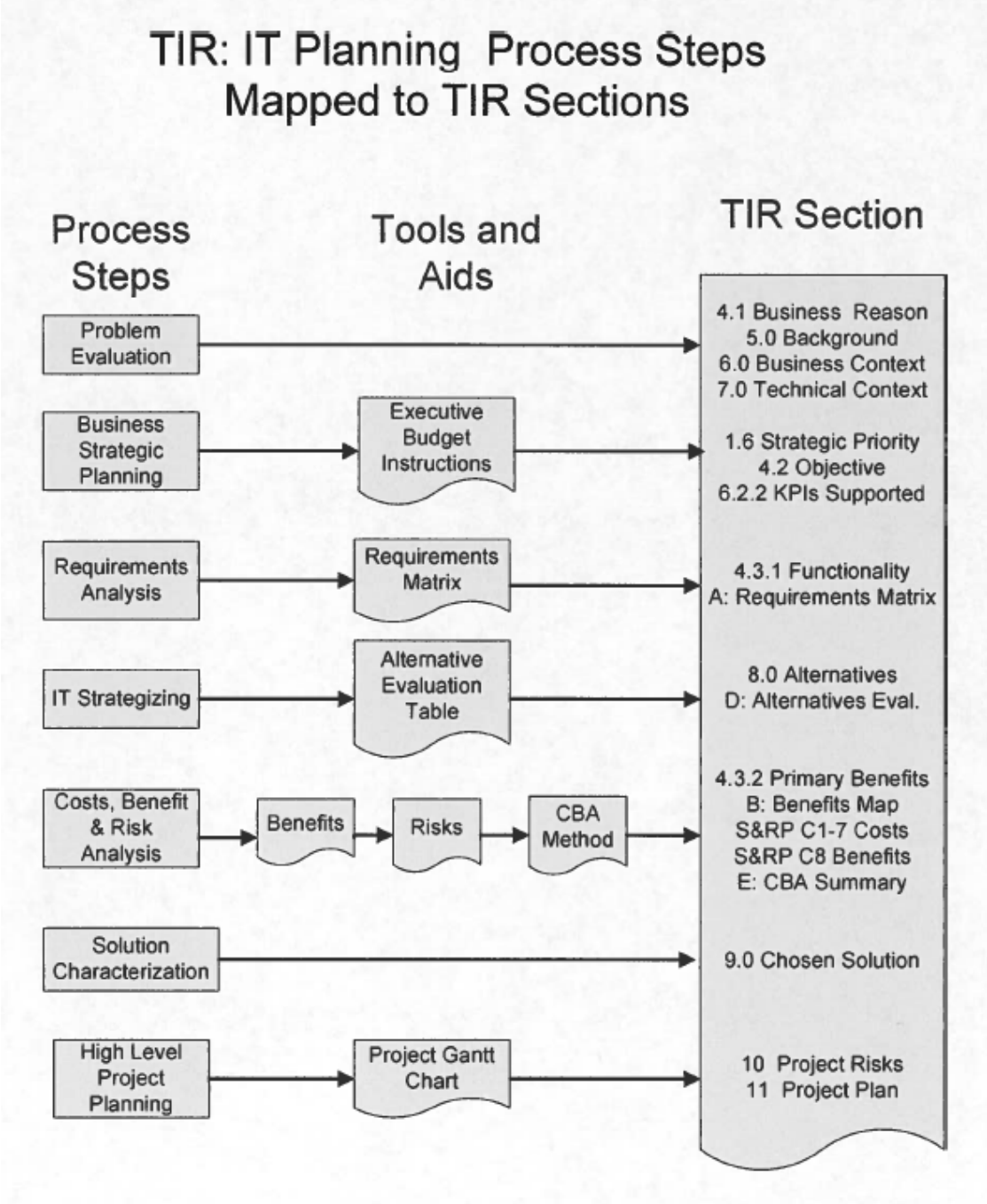

Figure 2: Executive Branch Context for the Technology Investment Request

THE TIR: SIMILARITIES TO THE RFI AND RFP

The TIR and RFI are closely allied. In order to get comparative costs for alternatives a RFI is commonly used. Portions of the TIR directly feed into the RFI. Vendor RFI responses will, in turn provide necessary information on the functional fit and cost of various alternatives. The RFI, also has elements that directly tie to the RFP. The redesign of the TIR and the creation of a standard RFI template permit easier transition from project planning to the contract process.[i]

The RFI Process: If you desire to use the RFI to collect TIR costs and compare vendor solutions you need to first complete specific portions of the TIR in advance:

1. Create the business case narrative for the TIR.

2. Determine the scope and requirements of your project.

3. Determine feasible alternatives using the *Alternatives Evaluation Table* (for guidance refer to the ***TIR Guide: Comparing IT Alternatives to Find Viable Solutions***).

4. Contact the Purchasing Division, who will establish an initial meeting with you and a EITS planning representative to review the TIR materials

Figure 3 shows the relationship of TIR, RFI and related RFP components. Please note that there are many RFP components that pertain to the State's contractual process that are not represented in the TIR or RFI.

[i] The State Purchasing Division, Department of Administration should be contacted for RFI or RFP assistance.

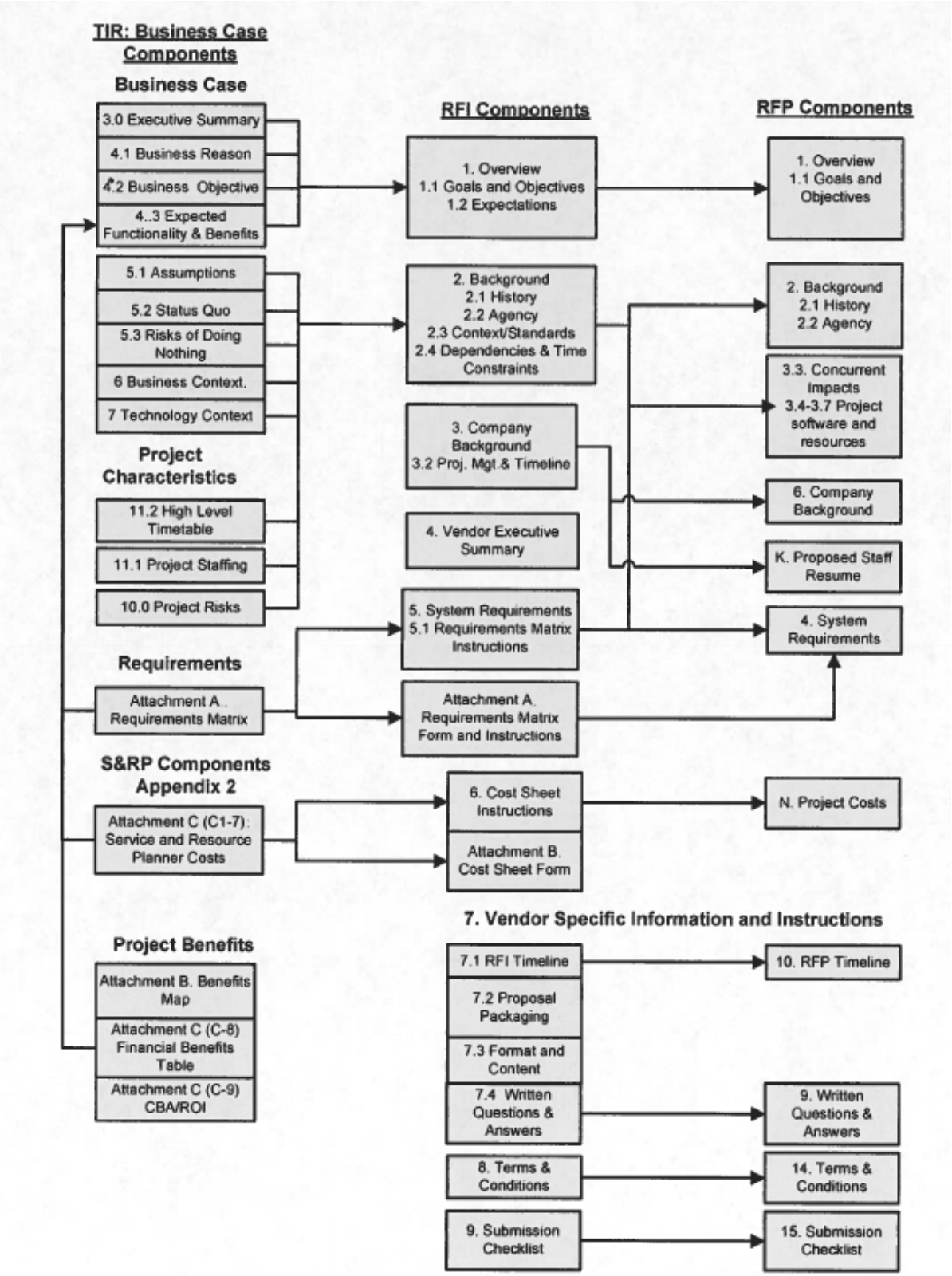

Figure 3: TIR Components as they map to the RFI and RFP

TIR INSTRUCTIONS BY SECTION

1. TITLE PAGE

The TIR Cover Page provides a basic description of the TIR including an identification of the project title, owner, submittal date, and budget code. It also includes a brief description of the project, the project costs, references to appendices, associated studies or prior project phases, and a list of contacts. The TIR Cover page and all other pages of the TIR start with a page header specifying the agency acronym and project title. The *Section 1. Cover Page*, along with the *Section 2. Executive Summary & Authority* together provide a high level executive summary of the project.

1.1 Project Title: Provide a title that describes the project. Acronyms should be spelled out.

1.2 Submittal Date: Use the current submittal date.

1.3 Department: Formal Department Name.

1.4 Budget: Provide the budget code for this investment.

1.5 Agency Name: Agency level name associated with this Budget Account.

1.6 Strategic Priority: (Identify which of the Governor's strategic priorities this project supports:

- Get Nevadans Working Again
- Change the Way We Do Business
- Create a New Promise of Opportunity

1.6.1 Decision Unit: Assign a decision unit number and identify the associated Strategic Goal based on the following:

Decision Units to Use for Technology Investment Requests (TIRs)

Series	Strategic Goal Description[i]
E550 through E555	High-quality Education System
E556 through E560	More Efficient and Accessible State Government
E561 through E565	Safe and Secure Communities
E566 through E570	Strong and Healthy Communities
E571 through E575	Reduced Regulatory Burden
E576 through E580	Stable and Growing Economy
E581 1through E585	National Leader in Resource Conservation/Preservation
E586 through E590	Ready and Capable Workforce
E591 through E599	State of the Art Infrastructure

[i] Note: Final series numbers to be confirmed by FY14 Budget Instructions.

These Decision Unit numbers correspond to the Governor's strategic priorities and budget initiatives. It is recommended that you use *Section 4.3 Expected Functionality and Benefits* to explain how this benefits a particular budget initiative.

1.6.2 Core Function Supported: Indicate the core functional area of government that this IT project supports, using the following options (see budget instructions for full definition):

- Education and Workforce Development
- Public Safety
- Health
- Human Services
- Business & Community Development
- Environment/Resources
- Infrastructure (Transportation & Technology)
- Administration & Support

1.7 Total Biennial Cost: This should correspond with the cost(s) shown in NEBS. If there is a staffing request with the TIR, this total cost should equal the sum of the two enhancement modules (TIR + staffing enhancements).

2 COVER PAGE

2.1 Percent of Project Complete in the Biennium: Indicate the percent of project completion (duration) within the biennium. This coincides well with the next field for an estimated percent of biennial costs that will be toward implementation.

2.2 Percent Implementation $$ if of the Total Biennial $$: Counterpart to *2.1*, this shows how much of the biennial investment is towards implementation. This will be 100% for projects not completed in the biennium.

2.3 Total Estimated Implementation Cost: This is the total estimated project implementation cost. If the project is not complete in the biennium (such as when the first biennium is a study and RFP phase) it will exceed, and not correspond with a cost shown in NEBs.

2.4 Estimated Ongoing Cost: This is the estimated average annual cost of supporting the resulting technology solution once it has gone live.

The following values can be copied directly from *Worksheet C-9* in the **TIR *Service and Resource Planner*** once it has been sufficiently completed.

2.5 Estimated Years to Payback: This can be extracted for Worksheet *C-9* in the ***TIR Service and Resource Planner***. The calculations are automatic if Worksheets *C1-C8* have been completed correctly. It shows the amount of time it will take to recoup the investment made for the project.

2.6 Five Year Total Cost of Ownership: This is also calculated from the worksheets in the ***TIR Service and Resource Planner***. It shows the total cost of the project over a five year period.

2.7 Five Year Returned Value: This is also calculated from the worksheets in the ***TIR Service and Resource Planner***. It shows the amount of total financial benefit accrued over five years.

2.8 Five Year Gain on Investment: This is also calculated from the worksheets in the ***TIR Service and Resource Planner***. It shows the relationship between total 5 year expenditures and 5 year financial benefits.

2.9 Percent Return on Investment: This is also calculated from the worksheets in the ***TIR Service and Resource Planner***. It shows the percentage of financial return over a 5 year period.

2.10 Percent General Fund - Implementation: This shows the percent of the project's implementation costs covered by the General Fund. Non-general fund sources being used should be indicated.

2.11 Percent General Fund - Ongoing: This shows the percent of the project's support that is covered by the General Fund. Non-general fund sources being used should be indicated.

2.12 Pct. Biennial Funding by Source: In the space provided inset the percent of the biennial funding by category:

2.12.1General: Put in the percent of total biennial funding that is from the General Fund.

2.12.2 Federal: Put in the percent of total biennial funding that is from Federal funding.

2.12.3 Fee Based: Put in the percent of total biennial funding that is fee based.

2.12.4 Highway: Put in the percent of total biennial funding that is from highway funds.

2.12.5 Other: Put in the percent of total biennial funding from other sources. Replace the "Other" title with an identifier of the funding source.

2.13 Attachments: Attachments A through E should be provided as separate documents in their original format and referenced in the appropriate sections in the TIR business case. PDFs, screen captures and excerpts included inside the business case do not provide transparency of computations and calculations. Attachments include:

2.13.1 Attachment A: Requirements Matrix

2.13.2 Attachment B: Benefits Map

2.13.3 Attachment C: Service and Resource Planner

2.13.4 Attachment D: CBA Summary.

2.13.5 Attachment E: Project Gantt

Other **Attachments** (**F…**) may be included as desired for additional support and justification.

2.14 Other References: This is a listing of other support documents that are not included. Primary among this list are previous TIRs submitted for earlier phases of the current TIR project. Examples may include prior studies, such as business process analysis or feasibility studies. Other possible references would be prior TIRs, supporting documentation showing benefits calculation, risk evaluation, or cost support from vendors or EITS. If mandated, references to associated Federal legislation or other documentation is appropriate.

3. EXECUTIVE SUMMARY & AUTHORITY

3.1 PROJECT SUMMARY

In a paragraph, summarize the reason for the project, the solution you have selected and when you expect to complete the project. This should be completed after all of the other TIR sections as it necessarily summarizes the TIR. It is a high level abstract, answering questions asked by executives:who, what, why, why now, how, when and for how much.

3.2 PROJECT CONTACTS / AUTHORITY

Capture information about the key project stakeholders and approving authorities. ***It is not necessary to submit signatures with the initial TIR if you follow these guidelines:***

> TIR's are to be submitted electronically (e-mail attachments are appropriate). Initial submissions should be sent to TIRs@admin.nv.gov, with a copy to the EITS TIR Coordinator (dgmiller@admin.nv.gov). All of the stakeholders indicated in the contact list should be copied on the TIR submission. They will be included on correspondence as agreed upon with the agency during TIR review. Once the TIR has passed EITS review, a signature page is to be submitted showing that all are in agreement with the final TIR. If the TIR is submitted by an agency within a larger department, the department director, or his/her designee must sign and date the final signature page along with the division administrator and project sponsor. Other names may be added as deemed fitting. The contact sheet from the TIR may be used for this purpose. Room has been allowed there for signatures.

3.3 EXTERNAL CONTACTS

Additionally, if this project is a partnership with another agency or tied to another IT project please indicate an associated contact name and number. It is not necessary that these individuals sign the TIR.

4. OVERVIEW

This section describes the reason, the objective and summarizes expected results (functionality and benefits) for the project.

4.1 BUSINESS REASON

Define the critical business situation that must be resolved. A business problem generally drives the project and consists of one or more root causes and one or more undesirable effects.

Occasionally, a project is driven by an opportunity, rather than a problem. Examples may include the possibility to participate in a regional consortium or data repository, the opportunity to share in existing infrastructure or IT program with reduced costs, or the opportunity to consolidate and

save funds by optimizing State resources. This is the case with shared enterprise solutions (see previous discussion).

New technology offerings, such as web services, desktop and server virtualization and collaborative work technologies may themselves present efficiencies and an ROI that drives a technology investment request without the presence of a particular business problem.

4.2 BUSINESS OBJECTIVE STATEMENT:

This should be a simple objective statement that quantifies what you are trying to achieve within a specific timeframe. It may be simply stated in the following manner:

> "In order to *[Increase/Decrease]* the *[Functionality/Problem*] must change from *[Baseline]* to *[Target]* by *[Date]"*

For instance: "In order to decrease the average patient wait time, the intake process at the hospital must be decreased from 15 minutes to less than 5 minutes within one year of implementation." Note that this is stated as a business objective and not an IT objective. You will only use an IT objective when the business problem is an IT issue. Decision Units 586 to 592 that deal with technology infrastructure will likely have IT objective statements.

4.3 EXPECTED FUNCTIONALITY AND BENEFITS

This section should be completed after the construction of the *Benefits Map* and the *Requirements Matrix* [see Figure 1].

4.3.1 Critical Functionality: Summarize the critical functionality identified in the *Requirements Matrix*. The summary will be useful later in the RFP. It is necessary to gather requirements prior to getting cost quotes weather informally or as recommended, using a Request for Information (RFI). For instructions on capturing requirements please refer to ***A TIR Guide: Defining Business, Technical and Security Requirements***.

4.3.2 Primary Benefits: Provide a summary of the expected substantive benefits. This is where intangible benefits should be discussed, especially important for projects with few tangible or financial benefits. A brief discussion of measurable benefits should refer to both the ***Attachment B, Benefits Map*** and the *C-9 ROI* worksheet in the ***TIR Service and Resource Planner*** where fnancial benefits are compared to costs.

5. BACKGROUND

5.1 BUSINESS ASSUMPTIONS, MANDATES, AND LIMITING FACTORS

Describe things that affect the decisions you make regarding the resolution of the business problem. These often reveal themselves as "can't" or "must" statements that limit the options for problem resolution. These should not be confused with requirements such as "the technology

solution must work within the existing state infrastructure and current IT standards." Those things are best addressed in *Section 7. Technology Context*. There are a variety of possibilities. An example assumption may be a belief that all stakeholders share a common view of the business problem and the possible means of correcting it. Example mandates would include Federal mandates or grant requirements. Limiting factors may have to do with funding, timing or special limitations. An example would be a limitation on how the funds for the project can be spent. The issues discussed here should focus on business limitations. Technology and security standards and controlling factors are discussed in *Section 7 Technology Context* and *9.3 Data Processes and Security*.

5.2 STATUS QUO

Describe the current process including manual and technology components, operating environment and IT support. Describe flaws or bottlenecks in the process, old and impossible to maintain technology, and demands which the current system cannot meet. Explain why the problem can't be resolved by business process improvements and other non-IT means.

5.3 RISKS OF DOING NOTHING

What happens if you don't fix the problem? Summarize the critical issues that cause the status quo to be considered inadequate as well as the impact of continuing on this course. Tell how soon you expect this to become critical. In other words, why must this be solved now?

6. BUSINESS CONTEXT

6.1 BUSINESS CONTEXT

Define the business context, showing how it exists today and what the business will look like after the completion of the business solution. Describe the impact the new system will have on the business culture. Make sure to identify both those things expected to change, as well as those that will remain the same. It is just as important to understand the parts of the business that are not changing as it is to see where the changes are expected. Explain if the proposed IT changes are being phased in over an extended (multi-biennial) timeframe.

6.2 KEY BUSINESS MEASURES

Table 6.2.1 is for including metrics that quantify the portions of the business that will be changing, such as numbers of clients. The indicators will depend on the type of business and the customers served. For instance if you are proposing an electronic bidding process you may include items like number of annual contracts let, average number of contractors per bid, etc. If you are automating a motor pool you would include items related to number of cars in the fleet, average number of customers getting cars each day, etc. This section should primarily focus on measures of business volume, customer demand and other factors driving a need for an IT solution, as well as corresponding measures of changing business context (such as new service locations or staff). Expected improvements in performance may be better addressed through benefits mapping and expression in the CBA Workbook's worksheets for non-financial benefits.

Table 6.2.2 includes any budget performance indicators that this project will directly support. Without this project, these performance indicators may be difficult to achieve.

7. TECHNOLOGY CONTEXT

7.1 FIXED TECHNOLOGY CONTEXT/STANDARDS

This section captures changes in the technical infrastructure. The technical standards placed on the project should be described. This information will be important later during the RFP phase, indicating to vendors where certain standards or parameters must be met.

IT security standards should be specifically addressed. This will be important information for vendors later in the RFP once the project is funded. If you are dealing with Federal systems and/or data, be aware that the National Institute of Standards and Technology Special Publication (NIST SP) 800-53 Revision 2 provides guidelines for securing information in Federal systems and specifies appropriate security controls. These guidelines are applicable to all parts of an information system that processes, stores, or transmits federal information.

Most systems that deal with individual health information must adhere to the Health Insurance Portability and Accountability Act (HIPAA). HIPAA requires standards to protect the privacy of certain health information and defines that civil and criminal violations will be enforced by the Department of Health and Human Services and the Department of Justice, respectively.

Please note that the state also requires encryption for any data that contains personally identifiable information (SB227).

7.2 FLEXIBLE TECHNOLOGY COMPONENTS

This describes areas that are yet to be determined and open to vendor proposals under an RFP (assuming they comply with State standards).

7.3 TECHNOLOGY IMPACT ON BUSINESS PROCESSES

Describe the potential impacts that the new technology will have on business processes. For instance, significantly faster data entry might require a serious change in routing in order to avoid a new bottleneck in the outgoing queue. The necessity for culture change noted in this section should be addressed in *Section 10: Project Risks*. Appropriate mitigation strategies may be required, including: better communication that enables strategic alignment between business and IT managers, newly implemented operating procedures (including updated policies, desk and training manuals, etc.), employee education programs, or any combination of these and other risk management methods.

8. VIABLE ALTERNATIVES EVALUATION

A table is provided in the TIR Business Case for comparing alternatives on business, schedule, cost, technical, benefit and risk criteria. Alternative examples are included as column headings in the first row of the table. The headings can be customized to best fit the alternatives being evaluated. The viability of an alternative depends on whether it satisfactorily passes all of the

evaluation criteria (indicated by row titles). Alternatives receive a pass / fail evaluation. Based on this report card approach, those options that pass the evaluation can be further analyzed for cost/benefit to pick the best solution. For further guidance on evaluating solution alternatives please refer to ***A TIR Guide: Comparing IT Alternatives to Find Viable Solutions***.

8.1 VIABLE ALTERNATIVES DESCRIPTION

For each alternative that passes the evaluation and is determined to by a viable possible solution provide the following information:

Alternative Name: Use the name the identified the alternative in the *Alternatives Evaluation Table*.

Description: Provide a description and evaluation of the alternative, its strengths and shortcomings

A name and description should be provided for each viable alternative determined using the *Alternatives Evaluation Table*.

8.2 NON - VIABLE ALTERNATIVES

Describe the alternatives that were discounted and the associated reason. A description for each discounted alternative should include:

- The *Alternate* name and Brief description
- *Evaluation* of why this was discounted that explains the criteria in the *Alternatives Evaluation Table* that were deemed as failures.

A name and description should be provided for each non-viable alternative determined.

8.3 COST BENEFIT SUMMARY

Briefly summarize the Cost Benefit Profile for each viable alternative evaluated using the ***CBA Workbook***. If there were more than one viable alternative, provide a paragraph comparing the alternatives and a brief discussion as to why the particular solution alternative was selected. The ***TIR Guide: Cost Benefit Analysis*** is available on the EITS website. A completed cost benefit summary (copy the *CBA Summary* worksheet in the ***CBA Workbook***) should be appended to the TIR as ***Attachment D: CBA Summary***.

9. CHOSEN SOLUTION SUMMARY

9.1 DESCRIPTION

This section is for describing the characteristics of the chosen solution. The description will depend greatly on how much of the technology solution will be determined by vendor response to an RFP and how much has already been predetermined. This relates directly to the fixed

technology context and standards (*Section 7.1* above). Also, this ties to the RFI and RFP sections that specify the technical context that the new application/system must fit into (see *Figure 3*).

9.2 TECHNOLOGY INFRASTRUCTURE

This section details the infrastructure components (platform, languages, operating systems, etc.) for the chosen solution, just as Section 7.1 in this document describes the technical standards that all viable alternatives must adhere to. This section should refer to the technical requirements listed in the TIR Requirements Matrix (TIR Attachment A).

9.3 DATA PROCESSES AND SECURITY

This section is used to address the three core principles of information security: Confidentiality, Integrity and Availability. Each greatly depends on the IT security classification of your data, and the related levels of necessary information restriction and control. This will range from information that can be generally dispersed to the public, to personally identifiable information, which will necessarily have restricted access and be encrypted according to Nevada State law (SB227).

Confidentiality assures that information is not disseminated beyond a community of authorized recipients. Please describe the level of confidentiality required for the data being processed and stored within the application/system. Describe any methods for assuring this, including controlled access, storage, processing and transport safeguards, and encryption. If using SilverNet, describe the level of security classification required within EITS's controlled network (refer to EITS OIS 54.174510C that describes six levels ranging from *Level 1. Boundary* to *Level 6, Protected Intranet*).

Integrity of information refers to the ability to assure the accuracy, reliability and health of the information in the system. Describe the controls that will be necessary regarding the creation, modification and updating of the information in the application/system.

Availability means that information is available to those that require it, when it is needed. Describe the *Maximum Allowable Outage (MAO)* for the application/system and the means that will be needed to assure that this is possible. Backup and disaster recovery strategies should be briefly described for any critical system.

If you have questions about classification of your information, contact OIS for assistance (infosec@doit.nv.gov).

9.4 SERVICES (AGENCY, EITS AND VENDOR)

As much as possible, describe the components of application/system implementation and support that will be the responsibility of the agency, EITS and outside vendors. In areas where things are yet to be determined, discuss how and when this will be determined (often after receiving vendor proposals to an RFP). Where service support has been determined, it should be appropriately reflected in the costs in the ***TIR Service and Resource Planner***.

9.5 EFFICIENCIES

Based on analysis of benefits, briefly describe the efficiencies to be gained by the system. Reference can be made to analysis during Benefits Mapping, and the review of the top 10 benefits in the CBA Workbook. This differs from the information in *Section 4.3 Benefits* which focuses on the overall benefits of doing the project. As this is part of the *9.0 Chosen Solution Summary* it should focus on any additional efficiencies gained by doing the project this way. If this is no different from the general benefits discussed in *Section 4.3*, merely refer to that section here.

9.6 EFFECTIVENESS

Explain how the chosen solution will increase the effectiveness of business processes and deliverables. This should focus on any additional business effectiveness gained by resolving the business problem this way. If this is no different from the general benefits discussed in *Section 4.3*, merely refer to that section here.

10.0 PROJECT RISKS

Summarize the risk evaluation for this alternative as expressed in the analysis using the ***CBA Workbook***. Refer to ***Attachment D: CBA Summary*** as well as the worksheet in the ***CBA Workbook*** that evaluates risk for this alternative. A copy of that worksheet "dashboard" should be attached along with the *CBA Summary* in ***Attachment D***.

11. IT PROJECT CHARACTERISTICS

This section of the TIR serves as a high-level project plan. It addresses staffing issues, the high level project timetable and your plans for project management. Mapping out staff involvement helps you plan for the possible need to backfill positions during the project.

> Please note: If you are planning to use overtime for pay, or add permanent state positions you must contact your Budget Analyst. These plans should also be reflected in your TIR Service and Resource Plan

11.1 STAFF INVOLVEMENT AND PROJECT MANAGEMENT

It is important to estimate the impact on your agency staff during project implementation and support. Sections of this table include:

Position(s): Description of staff who will be involved in certain aspects of the project. It is more meaningful to refer to position classifications or titles than to individuals by name. Since there is the possibility of more than one individual in a classification supporting the project for a certain activity, you can specify FTE's along with the *Position* if it applies.

Phases of involvement, including: Common areas where staff may need to be involved in the project include (but not limited to):

- Requirements definition
- Assistance with RFP or acquisitions
- Installation (if you have your own technical staff)
- User acceptance testing

Role in the project: There are a variety of roles. Two placeholders have been included in the table that are considered essential roles for agency staff:

- Subject Matter Expert (generally program staff or users that help define requirements and evaluate whether the project has met them)
- Project Oversight: Someone on the agency staff is the responsible person for making sure that the project is successful and meets the agencies needs.

11.2 PROJECT TIMETABLE

This provides a high level summary of the projects timeline. Also, a Gantt chart for your project should be included as ***Attachment E: Project Gantt*** that reflects concurrent activities and dependencies. Use your best estimation of a start date. It is understood that if there is a slippage of the start date, all other dates may cascade accordingly. Some examples of activities you may wish to track include:

- Project Initiation
- RFP
- Acquisition (hardware)
- Install hardware
- Install / test software
- User acceptance testing
- Training
- Project Completion

The table includes placeholders for Project Initiation, RFP, Project Completion and Anticipated Retirement. This last field captures your plans for system retirement, sometimes referred to as the anticipated life span. Basically, how long do you plan to receive service from the chosen solution before it has to be replaced?

FURTHER HELP

This guide is a companion of the ***Technology Investment Request – Business Case*** form. There is a separate guide for the ***TIR Service and Resource Planner*** that is used to develop costs and financial benefits for a project. Other tools and templates, as indicated in Figure 2, are available to assist in the TIR development process.

TIR workshops are available and can be scheduled in NEATS. Special TIR workshops can be scheduled for 5 or more participants. For further assistance contact the EITS Enterprise IT Planning (775-684-5800) or visit our Web site (http://admin.nv.gov/tir/index.htm).