ERERTF Business Analyst Services Project
Cost Benefit Analysis

May 30, 2002

I. Purpose

This document summarizes potential costs and benefits of participating in electronic real estate recording. Topics covered here address specific considerations presented in items 2, 23, and 31 through 37 of the ERERTF work plan dated January 15, 2001. Please note, the ERERTF work plan consideration is presented in italics at the start of each topic.

II. Executive Summary

County recorders and registrars of title throughout Minnesota work very hard to operate their offices efficiently and cost-effectively, and to date they have succeeded. However, as presently equipped, Minnesota recording offices can accept only paper documents for recording. Increasingly, the real estate, lending, title insurance, and consumer communities as well as the secondary mortgage market are urging Minnesota recorders and registrars to accept and record documents electronically.

A significant amount of information was captured during the interviews with Minnesota counties, private entities, and out-of-state counties as part of the effort to develop electronic real estate recording standards for the state. This information has been analyzed and used to evaluate the potential costs and benefits of implementing electronic real estate recording.

There are several approaches that counties in other states have taken to implement electronic real estate recording. These approaches, called "models" can be categorized as follows:

- Model 1: Transmittal of document images only
- Model 2: Transmittal of data related to the document, and an image of the document.
- Model 3: Transmittal of an integrated electronic document that includes both data and presentation information.

There are pros and cons for implementing each model. Model 1 is the least complex, and model 3 is the most complex. In general, model 1 is the lowest cost to implement, but produces the lowest benefits, while model 3 is the most costly to implement, but provides the greatest benefits. This report includes a detail discussion of the models, and the pros and cons associated with implementing each model.

A model 3 implementation of electronic real estate recording provides a number of benefits. These include:

- A significant reduction in the work effort required by counties to record documents. This will allow counties to avoid staffing increases as volumes increase, and to improve service to the public.

- A significant reduction in the elapsed time incurred in recording documents. What currently may take days can be done in seconds. This is of significant benefit to the private sector organizations that are submitting documents for recording.
- A significant reduction in the document rejection rate, benefiting both the private sector and the counties.
- Significant benefit to consumers. Electronic recording will largely eliminate the delay in recording real estate transactions (which today can take days, weeks, or months). This means that consumers:
    - Can be more secure in the knowledge that their purchase or sale is quickly posted to the public record.
    - Will avoid potential fee increases since the private sector organizations and counties will be more efficient in preparing and recording documents.
- A reduction in work effort required by the private sector to create the documents.
- Enhanced customer service offered by the counties, including
    - The ability to receive documents 24 hours/day, 7 days/week
    - More uniformity among counties
    - More time to address customer needs

Several counties outside of Minnesota have implemented electronic real estate recording. Even those that implemented model 1 approaches have experienced 15% improvement in staff productivity. For larger counties, a 15% productivity improvement could result in over $150,000 annually of cost avoidance. For lower volume counties, however, the cost avoidance potential may be less than $20,000 annually. For these counties, electronic recording may be justified based on enhanced customer service, and they will likely implement a less integrated approach.

Information collected from out-of-state counties does not provide a clear estimate for implementation costs. Many implemented electronic recording as part of a larger effort to replace the county recording system. None of the counties attempted to track metrics that could be used to estimate implementation costs.

The implementation costs could vary significantly by county, and will be dependent on the model chosen, the architecture of the county's existing systems, the capabilities and availability of county staff, and other variables. Rather than speculate on implementation costs, it was decided that a series of metrics should be tracked during the pilots that can be used by other counties to estimate their

implementation efforts. This report identifies the metrics that should be captured during the pilots.

III. Considerations and Recommendations

A. Modifications to Existing Systems

2. Consider estimating the extent to which existing systems will require modification or replacement to accommodate any changes that the ERER Task Force recommends.

Currently over twenty unique recording systems are in place throughout Minnesota counties. This variance in technology prohibits a detailed gap analysis of all counties. However, some generalized observations can be made.

1. All systems will require modification for model 3:

The mechanisms required for counties to receive electronic transactions are currently not in place. All counties will require system modifications to accommodate model 3 electronic recording with automatic index entry. The magnitude of change required varies from county to county but all counties should anticipate a significant effort and plan for a material resource commitment. Based on information received from out-of-state counties, counties should anticipate anywhere from two to twelve months to prepare for electronic recording. In most cases at least six months of preparation time was required.

2. Alternate model 3 option for counties:

Because of the magnitude of change required to implement model 3 systems, small to mid-size counties may opt to receive model 3 documents without automation. In this scenario counties could use current browser technology to print the electronic documents and process manually. A Windows based platform should be built to accept model 3 transactions, perform validations, and place them in a folder for browser processing. This platform should also support return notices of recording or rejection. Once built, this platform could be used by any county to accept and print model 3 transactions.

3. Proprietary systems:

Counties that have implemented proprietary systems will find the conversion to electronic recording more time consuming and expensive. Since cost and effort for development and testing cannot be shared among multiple counties this burden will fall exclusively on the individual county. As a result, these counties will need to be thorough during the assessment phase of their project to develop an accurate resource plan and timeline.

*4. **Model Descriptions***

The Pilot Framework and Scope Subcommittee intends to consider all models in their analysis of how to proceed into the next phase. In our opinion this is the appropriate approach to take. All three models merit consideration and will need to be evaluated relative to trusted submitter and county preferences and capabilities.

Following are brief definitions of the three models of electronic recording. The definitions are based on concepts presented by Fannie Mae and are emerging as standard vocabulary in the industry.

Model 1: Image replaces paper document – At this level the recording process is enhanced by replacing paper documents with electronic images. The submitter must transmit an electronic image of the document to be recorded to the county office. Once received, the county reviews the information on the image and manually enters indexing information into the recording system. The submitter always retains the original document. However, the image becomes the document of record. Efficiencies are achieved at the county by eliminating scanning and mailing processes.

Model 2: Image with electronic signature and indexing information – At this level the recording process is further enhanced by inclusion of indexing data elements and electronic signatures. The submitter transmits an electronic image that is wrapped with a digital signature and certain data elements that will be used to index the document. Once received, the county reviews the information and uses the data provided as indexing information for the recording system. Additional efficiency is gained at this level by eliminating some data entry.

Model 3: Fully electronic – At this level the entire recording process can be completed without manual intervention. The submitter creates an XML based electronic document that includes both data and presentation information. This document is wrapped with a digital signature and may also include digitized signatures. Once received, the county systems will validate document integrity and proceed with automated indexing. Business rules will be used to validate recordability and an image of the document will be generated which becomes the document of record. Receipt and recording information is returned to the submitter electronically. This level provides the greatest efficiency improvement since no manual intervention is required and processing time is greatly reduced.

5. Pros/Cons by Model

To assist the Pilot subcommittee in the evaluation of options, a brief discussion of the advantages and disadvantages of each model follows.

	Model 1	Model 2	Model 3
Pro	1. Lowest barrier to entry for counties 2. Lowest barrier to entry for companies 3. Cost savings to private sector (delivery and process) 4. Easier proof of concept/pilot 5. Proven cost savings to counties that also implemented process redesign	1. Reduced data entry at county (potentially 50%) 2. May reduce document rejection (validation rules within private systems) 3. Allows for electronic indexing	1. Significantly reduces data entry at county 2. Reduced document rejection 3. Significantly reduce elapsed recording time 4. Document integrity improves over other models 5. Reduced work effort for trusted submitters from process flow efficiencies 6. Encourages more business-to-business activity throughout real estate industry
Con	1. May hinder model 3 efforts 2. May not reduce elapsed recording time 3. Minimal change in document rejection rate 4. Less assurance of document integrity 5. Inconsistent image quality 6. No electronic index updating capability	1. Manual processing/review required 2. Less assurance of document integrity 3. May not reduce elapsed recording time 4. Inconsistent image quality	1. Additional system complexity relative to model 1 (private and county) 2. Additional cost to implement relative to model 1 (private and county) 3. Full integration not practical for many counties

a) **Model 1**

Pro:

- A model 1 implementation is open to the largest number of counties and trusted submitters because it should require the smallest capital outlay and the least technical expertise to implement.
- Filing fees generated through model 1 efforts could be used to fund more sophisticated electronic filing systems.
- Based on information received during the out-of-state interviews, counties could achieve labor savings of 15%.
- Because of the lower technical barriers, a model 1 application should be easier to establish as a proof of concept.

Con:

- There is potential that focusing efforts on a model 1 implementation may hinder progress on a model 3 initiative. Trusted submitters may choose to forego more advanced electronic recording if they realize adequate improvements in efficiency through a model 1 effort.
- Since manual intervention is required in a model 1 implementation, counties may not significantly reduce elapsed recording time.
- Since model 1 implementations may not include robust error checking, document rejection rate could remain largely unchanged.
- Since document modifications (e.g., white-outs) are difficult to detect on a scanned image, there is less assurance of document integrity.
- Quality of the scanned image is expected to vary by submitter.
- This approach does not provide for electronic update of indexes.

b) **Model 2**

Pro:

- Additional processing efficiencies can be realized in a model 2 implementation. By receiving indexing data elements along with the electronic document image, half of the double-blind data entry at many counties could be eliminated.

- The document rejection rate could be improved by implementing validation rules within the private-side systems.
- This approach does allow for electronic update of indexes.

Con:

- Some level of manual processing/review would still be required at the counties. As in model 1, this may prevent a material reduction in elapsed recording time.
- Similar to model 1, there is less assurance of document integrity.
- Quality of the scanned image is expected to vary by submitter.

c) Model 3

Pro:

- Model 3 allows for the greatest reduction in work effort by eliminating data entry at the county. Because of this, elapsed recording time is also significantly reduced.
- Since robust validation rules can be implemented, the document rejection rate should be greatly improved.
- The private sector should realize a reduced work effort because of process flow efficiencies provided by model 3.
- This model should promote more business-to-business integration throughout the Real Estate industry as electronic processing pushes further upstream.
- Because of digital signatures and encryption, document integrity improves over model 1 or 2.

Con:

- With automation comes complexity. Additional business rules and processing steps must be encapsulated within the system.
- Both the private sector and counties will need to implement systems more complex than those required at model 1 or 2. Because of the additional complexity, model 3 applications are more costly to develop and implement.
- Because of the complexity of implementation, full model 3 integration may not be practical for many counties.

B. Link to other public data

23. Consider studying the costs and benefits of linking real estate records with other layers of public data including, for example, data regarding transportation, hydrology, topography, and political boundaries, as part of the statewide geographic information system (GIS).

The document standards for electronic recording developed as part of this project include a field for Property Identification Number (PIN). Through this field, recording systems can be linked to county GIS systems. Inclusion of this field allows for future enhancements but does not require additional cost at implementation. The cost to integrate GIS with the recording system will vary by county. Counties that are currently planning to implement GIS should proactively consider linking to the recording system via PIN. Early consideration of this ability should reduce integration costs. However, it is important to note that most counties do not currently capture PIN within the recording system. To do so may require both system and procedural changes.

The benefits of linking GIS and recording systems are largely qualitative. Improved customer service is a critical benefit that easy access to information can provide. Integration of GIS and recording systems could provide functionality that would allow the public to locate recorded documents based on street address. This is a logical extension of functionality currently in place at some counties that allows for property tax and ownership information to be located based on street address.

Recommendation:

- **Counties that are planning on implementing GIS should plan for inclusion of PIN numbers in their recording systems so that integration with GIS will be supported.**

C. Cost/Benefit Analysis

31. Consider estimating the costs and benefits of (i) operating the real estate recording system in its current form, and (ii) implementing and maintaining any technology upgrades or other changes that the ERER Task Force recommends.

Due to the significant variation in recording systems and processes in place at the 87 Minnesota counties a cost/benefit analysis of great detail is not feasible. However, some high-level factors should be considered.

1. General statistics:

Information collected during the county interview and survey process has been analyzed and some general productivity statistics are presented here. Counties were sorted based on total real estate document volume (combined abstract and Torrens). Three sample groups were used for comparison purposes. Statistics were drawn from the 10 highest volume counties, the 10 lowest volume counties, and the 10 median volume counties. Averages from each group were calculated and the results are presented below. It should be noted that the constraint for the 10 lowest volume counties is total volume, not productivity. The same statistics should be updated after implementation of electronic recording to evaluate if anticipated savings were realized. Note that the following FTE's are from the Recorder's office, and do not include other departments that are involved in the recording process (e.g., auditor).

	Averages		
	Highest Vol 10	**Median Vol 10**	**Lowest Vol 10**
Documents per day	420	30	7
Recorder's FTE	23.6	3.1	2.1
Documents per Recorder's FTE	18	10	3

2. Potential labor cost avoidance:

Information received from an out-of-state county indicates that over time a 15% improvement in labor productivity was achieved through implementation of a model 1 application and workflow enhancements. In most cases, a head count reduction did not occur because transaction volumes increased. Rather, the same number of personnel were able to process a higher volume of records. This means that the counties were able to avoid additional labor costs that would have been incurred to handle the higher volumes. This metric is reflected in the following table and indicates that for the 10 highest volume counties an annual labor cost avoidance of nearly $160,000 could be achieved. In this scenario document volume per FTE increases from 18 per day to 21 per day. Based on observation and information collected through the interview process, this seems to be a realistic estimate. It is expected that this labor efficiency is achieved by eliminating document scanning and mailing time.

The chart below assumes an average FTE cost of $45,000 per year. This cost may be higher or lower depending on the labor costs for a specific county. Labor

savings for the median 10 and bottom 10 counties was much less significant. At those volume levels a .5 FTE or smaller reduction is expected. This translates into potential savings of $21,000 or less.

No out-of-state county has yet utilized a model 2 or model 3 application long enough to have statistics available on labor savings. However, it is expected that by further reducing data entry and manual review time that labor savings would increase beyond the levels achieved at model 1.

	Averages		
	Highest Vol 10	**Median Vol 10**	**Lowest Vol 10**
FTE's needed to support a 15% increase in volume	3.5	0.5	0.3
Fully loaded comp per FTE	$45,000	$45,000	$45,000
FTE cost avoidance	$159,300	$20,925	$14,175

3. Potential other benefits:

In addition to potential labor savings, counties should expect to see other quantitative benefits from electronic recording.

a) Reduced rejection rate

Basic validation embedded in an electronic recording application will reduce the document rejection rate. Minimizing the number of documents that are handled multiple times will in effect reduce document volume. This will allow counties to increase throughput of recorded documents.

b) Reduced data entry

Data entry in other departments (e.g., Department of Revenue) could be eliminated. Passing information electronically to other areas removes the need for redundant data entry and in aggregate reduces government costs.

4. Qualitative benefits:

There are significant qualitative benefits that will be achieved through electronic recording. The most significant benefit is enhanced customer service. All counties have the objective of enhancing customer service and improving customer satisfaction. Businesses and people are expecting to interact with

government institutions electronically, 24 hours/day, 7 days/week. While difficult to translate into hard dollars, an improvement in customer service and customer satisfaction is an important objective and merits strong consideration during a feasibility assessment at the county level.

Other qualitative benefits include more uniformity among counties, which again will make it easier for their customers to do business. In addition, the work for county employees will be more rewarding, because electronic recording will free them from tasks that are necessary, but repetitive (e.g., data entry, scanning).

There also will be significant benefit to consumers. Electronic recording will largely eliminate the delay in recording real estate transactions (which today can take days, weeks, or months). This means that consumers:

- Can be more secure in the knowledge that their purchase or sale is quickly posted to the public record.
- Will avoid potential fee increases since the private sector organizations and counties will be more efficient in preparing and recording documents.

5. Potential costs:

Clearly the largest anticipated cost for electronic recording will be the expense of developing, implementing, and testing the communications system and modifications to existing county systems. Labor (both staff and contract), software, and hardware costs will most likely be the largest system development expenditures. Additional implementation costs could include digital certificates, infrastructure enhancements, and training expenses. On-going costs must also be considered.

Information collected from out-of-state counties does not provide a clear estimate for implementation costs. Many counties implemented electronic recording as part of a larger effort to replace the county recording system. A summary of the costs reported by the out-of-state counties follows:

a) Model 1

Two of the out-of-state counties interviewed implemented model 1 solutions. One of these counties implemented electronic recording along with other system enhancements for a total cost of $600,000. They recently implemented an Internet version of the electronic recording system at a cost of $400,000.

The other model 1 county indicated that their costs to implement electronic recording were minimal since most of the infrastructure was already in place.

b) Model 2

One of the out-of-state counties interviewed implemented a model 2 solution. This county implemented electronic recording as part of a $2.5 million effort.

c) Model 3

The remaining two out-of-state counties interviewed implemented model 3 solutions. One of these counties indicated that the cost to modify their systems was approximately $100,000. Costs to establish the link between trusted submitters and the county were funded by a third party.

The other county indicated that trusted submitters pay for their own modifications to submit documents electronically but did not provide an estimate for the county's cost to implement.

It is important to note that both of these counties utilize a third party as a link between the county and trusted submitters.

As noted above, there is no discernable pattern for determining potential costs for implementation using the experience of out-of-state counties. Within Minnesota, the cost to implement electronic recording could vary substantially among counties, depending on a number of factors, including:

- Model implemented
- Purchased software upgrade vs. custom system integration
- Number of systems and architecture of systems to be integrated
- Availability and experience of county information processing personnel

Given the number of variables involved, it was decided that an attempt to estimate these costs at this point in time would be fairly speculative. Instead, it was agreed that we should identify the metrics that should be captured in the pilots so that a reasonable basis for estimating implementation costs, and ongoing benefits/costs, can be determined.

6. Cost/Benefit Metrics

The counties, trusted submitters and vendors who will participate in the pilots will be asked to collect metric information during the conduct of the pilots. This information will be valuable in helping to estimate costs and benefits of statewide electronic recording, and to determine the funding that may be needed to achieve electronic recording in Minnesota. Metrics will be needed for implementation and for ongoing operations.

Implementation Metrics

Each county, trusted submitter and vendor that participates in the pilots will be asked to keep track of the work effort and other expenditures that are incurred in preparing for pilot processing. The following are the categories of work effort/other expenditures that should be tracked.

- Type of Pilot (e.g., Model 3 Satisfactions and Certificates of Release)
- Internal Staff Hours, Average Cost Per Hour, Total Internal Cost
- Contracted Hours, Cost Per Hour, Total Cost
- Additional Hardware (description and amount)
- Additional Software (description and amount)
- Digital Certificate Expenditure
- Training Hours, Average Cost Per Hour, Total Cost
- Other Expenditures (description and amount)

Internal hours should be tracked by position type, if there are significant differences in average cost per hour among positions.

Ongoing Operations Metrics

Each county and trusted submitter will also be asked to identify savings and additional costs for ongoing operations that are experienced from performing the pilot. In order to be able to quantify differences, metrics will be needed from before and after pilot processing is implemented. Metrics will need to be tracked by document type, if possible, since the amount of time spent will vary significantly, depending on the document. If both Torens and Abstract documents are included within the Pilot, Metrics should be tracked for both. It is recommended that the metrics should be captured over at least a three-week period (before pilot implementation and after pilot implementation). Post pilot implementation metrics should be captured after sufficient time has elapsed to stabilize pilot processing. The following are the categories of metrics that should be tracked by the county and by the trusted submitter.

- Type of Pilot (e.g., Model 3 Satisfactions and Certificates of Release)
- Number of documents processed
- Staff Hours Spent Processing, Average Cost Per Hour, Total Internal Cost
- Average Staff Processing Cost per Document (total internal cost/# of documents)

- Number of Documents Rejected
- Average Number of Days From Date of Receipt to Date Indexed
- Total Delivery Costs for the Documents (mail, FedX, courier, etc.)
- Delivery Cost per Document
- Other Expenditures (description and amount)
- Other Savings (description and amount)

Depending on the document type and model, it may be difficult for a county or trusted submitter to track certain ongoing operations metrics (before or after). Also, the volume of transactions processed may not be sufficient to reasonably determine certain metrics. These factors will need to be considered when tracking ongoing operations metrics for each pilot.

D. Uniform fees

32. Consider the appropriateness and feasibility of making recording and similar fees, as well as copying and certification charges, uniform in all counties.

Recording fees are generally uniform among counties, but some variance does exist. Less uniformity exists in the rate and application of various miscellaneous fees (e.g., copying charges). One common reason given for document rejection was incorrect fees and taxes. A uniform fee structure could reduce the rejection rate since document submitters would have one consistent fee table rather than multiple variations. The variation in fees is largely a result of county specific needs and initiatives. An alternative would be to provide improved access to the county specific fee structures. Another alternative is to embed the fee table within any application developed to support electronic recording. This would provide immediate validation of fees and reduce the rejection rate.

Recommendation:

- **Mechanisms to improve access to county fee structures should be included in applications developed to support electronic recording.**

E. Funding sources

33. Consider public and private funding alternatives, Internet advertising, new user access fees, a new statewide technology trust fund, and allowing counties to retain current mortgage registry and deed taxes and the recording surcharge as possible revenue sources, in order to assure that every county can pay for any technology upgrades or other electronic real estate recording initiatives that the ERER Task Force recommends.

Several options are available to fund electronic recording initiatives at the county level. One option is to continue with the ERER surcharge but direct that money to the county rather than the Task Force. On average the 10 highest volume counties would receive slightly more than $50,000 per year (assuming $.50 surcharge per document and current volume levels). The 10 median counties would receive less than $5,000 each. The 10 lowest volume counties would receive less than $1,000 each. This option alone is not likely to be adequate to support implementation costs.

A supplemental source of funding to consider is an additional filing fee based on document form. Documents filed in paper form could be charged a fee higher than documents filed electronically. For example electronic documents could carry a surcharge of $.25 each and paper documents could be subject to a surcharge of $1.00 each. This approach would align with the anticipated costs to implement electronic recording. A county will need more funds initially to develop and implement the electronic recording systems. Over time, development costs will decline significantly but maintenance costs will remain. The fee structure described here will match the system lifecycle costs while providing incentive for trusted submitters to move to electronic recording.

Assuming a $.25 electronic and $1.00 paper document surcharge, average revenue for the 10 highest, 10 median, and 10 lowest volume counties could project as follows:

	Averages		
	Top Vol 10	**Median Vol 10**	**Lowest Vol 10**
Annual document volume	104,100	9,300	1,600
Annual satisfaction volume	28,400	1,500	200
Annual closing package volume	90,300	7,800	1,300
Revenue: all paper	$104,100	$9,300	$1,600
Revenue: 80% satisfactions electronic	$87,060	$8,400	$1,480
Revenue: 50% closing packages & 80% satisfactions electronic	$50,048	$4,537	$768

A final consideration is to pool system costs for smaller counties. While not a funding source, this would reduce the amount of funding necessary for a county to participate in electronic recording. Counties that share a common vendor for recording systems may by default benefit from a collective effort to implement electronic recording. Some vendors have already begun preparing for electronic recording and some partnerships have been formed with established electronic recording vendors. In these cases it is expected that the cost to the county to implement electronic recording will be greatly reduced. The assumption is that vendors will absorb some of the cost to provide enhanced systems that improve

competitive position. Alternatively, counties could pool funds to develop a common system to interface with trusted submitters.

F. Incentives for indexing standards and electronic recording

34. Consider proposing that the legislature offer counties financial or other incentives (1) to adopt uniform indexing standards prospectively, and (2) to amend existing indexes to comport with them.

36. Consider proposing educational, financial, or other incentives to encourage those in the public and private sector that currently use the real estate record system to participate in any electronic recording initiatives that the ERER Task Force recommends.

Adoption of uniform grantor/grantee indexing standards would provide statewide consistency. As noted in the Electronic Recording Standards Summary, it is our recommendation that counties adopt the uniform indexing standards as they implement electronic recording systems. To improve adoption of the indexing standards, counties should feel ownership in their development. To foster this, early adopters of the indexing standards should be offered the opportunity to participate in the standards maintenance effort.

Financial incentives should also be considered to encourage adoption of indexing standards and implementation of electronic recording. As mentioned in the above sections, cost is a barrier to entry for most counties. The Task Force should consider the objectives of this effort. If a primary goal is to establish electronic recording throughout the State, financial support will be required. Conversely if, county autonomy is preferred, State support should be withheld and electronic recording should be implemented only where economically justified. However, it is our opinion that electronic recording may not make sense for all counties. Many smaller counties provide same day recording and do not have sufficient volume to justify a move to electronic recording at this time.

It should also be noted that county support for electronic recording is not universal. Some counties are resistant to further dependence on technology. Efforts would need to be initiated to further explore the source of hesitation and explain in greater depth the benefits of electronic recording.

For the private sector it is our opinion that the potential gains in efficiency and cost savings will provide adequate incentive for companies to participate. However, an education campaign may be required to fully communicate the benefits to the private sector. Initial focus should be on title companies since they provide the primary conduit between the private sector and the counties.

Recommendation:

- **Provide early adopters of electronic recording with an opportunity to participate in the standards maintenance organization.**
- **Evaluate Task Force objectives to determine if public support is appropriate.**
- **Initiate education campaign directed to counties and trusted submitters on benefits of electronic recording.**

G. Preservation of investment in systems

35. Consider protecting, to the extent feasible, the significant public- and private sector investments in real estate record systems that have been made to date.

The electronic recording standards developed as part of this effort have been designed to fit within the current system framework to the extent possible. XML is a technology that allows existing systems to be extended rather than replaced. As such, most participants in electronic recording should be able to enhance current systems to produce or receive electronic documents in the Minnesota standards. Some entities however may view this as an opportunity to make more pervasive enhancements and couple the adoption of electronic recording with other initiatives such as system replacement. Such an approach may be appropriate for an individual entity but should not be necessary solely to participate in electronic recording.

Recommendation:

- **Document standards must allow for systems to be extended rather than replaced.**

H. Electronic processing of fees and taxes

37. Consider whether it is appropriate and feasible for counties to collect filing fees and other revenues associated with the real estate recording process electronically.

Electronic processing of recording fees and taxes is integrated into the Use Cases and Best Practice Workflow. It is assumed that funds from a trusted submitter will be deposited into an escrow account. Recording fees and taxes would be deducted from that account. This allows for instant validation and collection of funds.

Electronic recording without electronic processing of fees and taxes would be difficult to reconcile. It could also allow for recording of documents without

adequate funds or conversely, a significant delay in recording while funds are confirmed. An instant collection of fees and taxes is required. For piloting of satisfactions/certificates of release, an escrow account is a straightforward approach. Alternative electronic payment options, such as ACH and credit card should be considered for piloting/ongoing processing of larger dollar transactions.

Recommendation:

- **Implement escrow accounts with trusted submitters for payment of taxes and fees.**
- **Investigate alternative payment options as part of the pilot process or prior to standards implementation.**

I. Cost Benefit Analysis Template

Quantitative Costs

	Implementation Costs						Annual
	Analysis	Design	Development	Testing	Implementation	Total	On-going Costs
Labor - Staff						-	
Labor - Contract						-	
Hardware						-	
Software						-	
Digital Certificate						-	
Infrastructure						-	
Training						-	
Maintenance Contract						-	
Transaction Fees						-	
Other						-	
Total	-	-	-	-	-	-	-

Quantitiative Benefits

	Public	Private	Total Annual
Filing Fee (ERERTF portion only)			-
Productivity Savings			-
Expense Reduction			-
Employee Reallocation			-
Total	-	-	-

Quantitative Cost/Benefit	Year 1	Year 2	Year 3	Year 4	Year 5
Implementation Costs	-				
Annual On-going Costs	-	-	-	-	-
Annual Benefits	-	-	-	-	-
Net Benefit (Cost)	-	-	-	-	-
Cumulative Benefit (Cost)		-	-	-	-

Qualitative Benefits

	Public	Private
Reduced Processing Time		
Improved Customer Satisfaction		

Notes:

1) All values are in current dollars and not adjusted for the time value of money
2) Costs and benefits listed are assumed to be incremental from current state
3) Depreciation/Amortization of implementation costs not included in on-going expenses to avoid redundancy