



Barriers to Right-of-Way Acquisition and Recommendations for Change

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Final Report

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EXECUTIVE SUMMARY

Right-of-way (ROW) acquisition is the act of taking the land from its original owner by another party, with legal rights to take the real property, by providing a monetary compensation for the value of the property (Francis 2009). It is a critical component of highway and transportation project development, which significantly affects a project's final cost and schedule. It is also a socially sensitive issue, as it deals with property owners' rights.

Many urban counties and cities in Minnesota spend more than 30% of their transportation project budgets for ROW acquisition, and it continues to become more expensive, difficult, time consuming, and a barrier to project implementation. Many ROW professionals also suspect that 2006 eminent domain law change has created unexpected consequences for the ROW acquisition process, resulting in higher ROW acquisition costs.

This study used literature review, questionnaire survey and follow-up interviews, case studies, and a workshop to accomplish the goals of the project. It first identified best practices by reviewing other state transportation agencies' practices and international practices. The project also identified barriers and obstacles that occur during the ROW acquisition process that result in cost increases and delays and finally developed recommendations for change to improve the existing ROW acquisition process and practices.

The review of best practices from the U.S. and European countries revealed that the use of a team approach, early involvement, performance management planning, training, and education are effective methods that enable efficient acquisition and expedite the ROW process.

A total of 22 barriers were identified under the categories of project delivery, agency's internal capability, relationship with the public, appraisal and acquisition, and legislative and other issues. It was found that many barriers are related to the public relationship and legislative issues. The root causes of those barriers were also analyzed and they include uncooperative work environment, lack of tools and methods, distrust from property owners, and adverse effect of eminent domain law.

This study developed 25 different recommendations for change from a questionnaire survey, follow-up interviews, and case studies and from a workshop with Minnesota's metropolitan (metro) ROW professionals. These recommendation ideas were categorized into agency's internal capability enhancement, relationship with the public, project delivery process change, legislative changes, and appraisal and acquisition. The metro ROW professionals recognize the significant needs for legislative changes to improve the current ROW acquisition practices. Four of the top five recommendations calling for legislative changes are considered to be quite significant. There are many law change ideas, but the eminent domain law change in 2006 appears to be one of the top issues that must be re-considered as it is ranked the third most supported recommendation idea for change. Implementation of these ideas is anticipated to greatly enhance the ROW acquisition process, but strong leadership and consistent support from upper managements over the years is required.

CHAPTER 1: INTRODUCTION

Right-of-way (ROW) acquisition describes the taking of land from its original owner by another party that has a legal right to take the real property and that provides monetary compensation for the value of the property (Francis 2009). ROW acquisition is a critical component of highway and transportation project development because it determines when the project will be ready for letting and construction (Le 2009)¹. Because ROW acquisition takes place before the transportation project's construction begins, there is great pressure to acquire the necessary properties and thus avoid any delays that may significantly affect the final cost and schedule of a project.

The costs associated with ROW acquisition may include (1) the market value of the parcel, (2) the cost of damage done to the remainder of the land, (3) additional costs due to legal proceedings such as condemnation and litigation, and (4) delay costs associated with the acquisition of the parcel (Chang-Albitres et al. 2014). Many states in the U.S. are spending a significant portion of their highway and transportation project budgets on ROW acquisition, and the average compensation cost per parcel is gradually increasing in most states (FHWA 2014a).

ROW acquisition is a complex process made even more complicated by factors such as alignment coordination issues, diverse state and local laws, conflicting public policies, environmental issues, public involvement, agency staffing, appraiser qualifications, mediation processes, condemnation processes, project characteristics, parcel types, and location that can significantly affect the cost and duration of ROW acquisition.

Many counties and cities in Minnesota are spending more than 30% of their transportation project budgets on ROW acquisition (Sandberg 2013), and ROW acquisition continues to become more expensive, difficult, and time consuming and a barrier to project implementation. These problems have led many state departments of transportation (DOTs) and local agencies to re-examine the current ROW acquisition process to identify the factors critical to ROW acquisition, review the best ROW acquisition practices, and develop ideas for improving the current ROW acquisition process.

1.1 Objective

The objective of this research project is to (1) identify barriers and obstacles that arise during the ROW acquisition process that result in cost increases and delays and (2) develop recommendations to improve the existing ROW acquisition process of public agencies in Minnesota.

¹ If the property is taken for public use, the government can obtain the title by filing a declaration of taking and paying the estimated compensation for the property under 40 U.S. Code § 3114 "Declaration of taking." This process is called "quick-take." Most public agencies utilize the quick-take method to obtain title and possession of parcels in order to complete ROW acquisition before letting a project.

1.2 Methodology

To accomplish the research goal, this project was conducted in three phases.

The first phase employed three balanced tasks to capture both qualitative and quantitative barriers that hinder smooth ROW acquisition. The state of the practice in the ROW acquisition process was synthesized for benchmarking purposes, and structured interviews, a statewide survey, and extensive individual case studies were conducted to not only identify project-specific factors that may explain the reasons for ROW acquisition project delays and cost increases, but also identify soft and qualitative process-related barriers such as coordination issues, relevant laws and public policies, appraiser qualifications, mediation processes, level of public involvement, and so forth.

In the second phase, a rigorous analysis of the data collected from Phase I was conducted to identify and document current barriers and obstacles that may result in ROW acquisition cost increases and delays. The likely causes of those barriers were also identified. A cause and effect analysis framework was applied to prioritize the causes and barriers based upon their estimated impacts on the increasing cost of and time required for ROW acquisition.

In the last phase, a set of recommendations, implementation strategies, and methods was developed to overcome each barrier identified in the second phase.

CHAPTER 2: LITERATURE REVIEW

2.1 Overview

As a preliminary study, this chapter defines the state of the practice of ROW acquisition for transportation projects through a comprehensive literature review and the collection and analysis of relevant policies, ROW manuals, relevant statutes, etc. from leading state and local agencies in the nation. Significant factors and best practices of the ROW acquisition process are identified and summarized from prior studies.

This chapter includes some of the findings of the first phase, which included the benchmarking of the state of the practice and a literature review. The research team conducted an extensive literature review using three types of sources: academic papers and state and federal ROW manuals, ROW-related regulations and statutes, and reports on ROW best practices in the US and other countries. Findings from the literature are synthesized and presented in this chapter by each ROW acquisition process. Ultimately, the findings of this chapter were used for the follow-up research effort, the development of a questionnaire for a statewide survey and interviews.

2.2 ROW Acquisition Process

ROW acquisition is a part of the highway and transportation project development process. ROW acquisition begins with the collection of data such as project plans, preliminary ROW and utilities assessments, identification of the owners of the required properties (title), survey maps, etc. Then appraisals are made to determine the fair market value of each property. Based on the appraisals, the agency will contact the property owners, present the estimated compensation value, and negotiate with the owners. If acquisition negotiation is unsuccessful, the quick-take process and condemnation (or eminent domain) will typically follow. If the title and possession are transferred to the agency, acquisition and relocation will take place. ROW must be acquired early or after environmental clearance and once the decision to purchase a parcel has been made. The primary purpose of this section is to provide the background of the ROW acquisition process.

According to the *Real Estate Acquisition Guide for Local Public Agencies* (FHWA 2009), the ROW acquisition process can be divided into five phases:

- Planning
- Valuation (Appraisal)
- Negotiation
- Property Management
- Relocation

The Minnesota Department of Transportation (MnDOT) divides the ROW acquisition tasks into six categories according to the *Right of Way Manual* (MnDOT 2015) as follows:

- Pre-Acquisition
- Appraisal
- Acquisition
- Relocation Assistance Program
- Property Management
- Special Procedures

Because most local agencies in Minnesota use MnDOT’s guidelines, such as the surveying and mapping manual, the ROW manual, and the technical manual, this chapter summarizes the ROW acquisition process following the classification system presented in MnDOT’s ROW manual. Figure 2.1 shows the ROW acquisition process in detail within the typical highway development process.

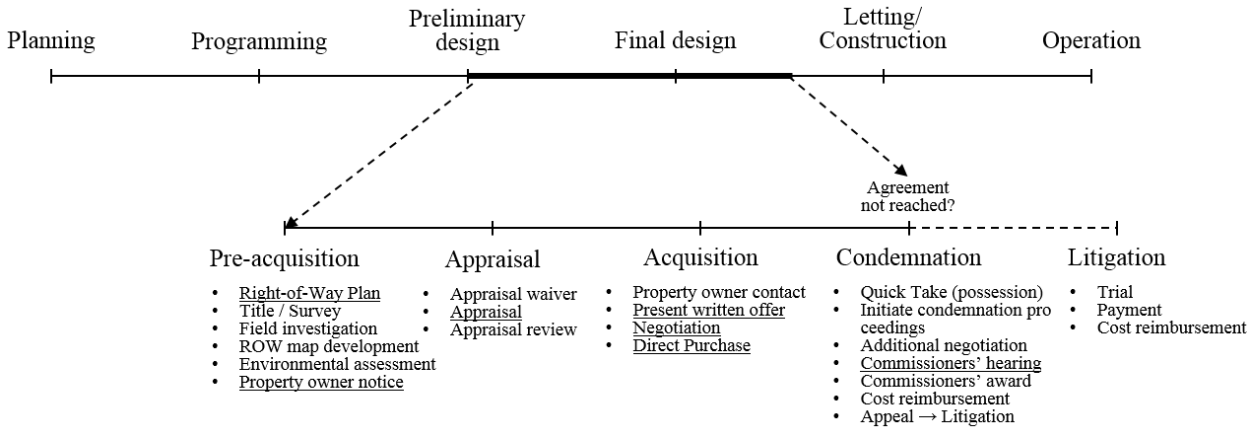


Figure 2.1 Typical highway development process and ROW acquisition process

ROW acquisition usually starts at the early preliminary design stage, and the acquisition of title and possession should be completed before letting and construction. If the agency fails to settle negotiations with property owners and there are parcels that cannot be acquired by direct purchase, those parcels should be acquired by quick-take and eminent domain proceedings (condemnation). By paying the appraised value to the property owner or as a deposit with the court, the agency can acquire title and possession and can thus proceed with the project. In such cases, the compensation is determined through the commissioners’ hearing or the district court (MnDOT 2015).

2.2.1 Pre-Acquisition

Pre-acquisition is the first step in the ROW acquisition process. This step mainly involves gathering data about the titles, conducting a survey and field investigation, developing a ROW acquisition plan, and authorizing the acquisition. The pre-acquisition process begins with the initial program development because each state is responsible for developing a long-range transportation plan and programming funding for transportation projects through the Statewide Transportation Improvement Program (STIP). The STIP contains all regionally significant

transportation projects and provides a prioritized list of the projects for at least the next three years, and projects identified for federal aid funds must be included (FHWA 2009). Local agencies within metropolitan areas larger than 50,000 in population should coordinate with the STIP for all transportation projects for which federal funding is anticipated. If a local agency is located outside of a metropolitan area and anticipates the use of federal aid highway funding, the agency should also work with the state department of transportation (DOT) to ensure that the project is consistent with the STIP.

A title opinion is collected during this phase for each tract of land, and a building survey should be made for each parcel in the acquisition area as well to serve as a reference for subsequent activities. Field title investigation is also important to obtain additional information about the property. Then the ROW map is prepared to describe all property rights, temporary and permanent easements, access control, and acquisition data.

Environmental assessment and public involvement are also important activities in the pre-acquisition stage. Investigations of the social, economic, and environmental impacts of the project should be made at this stage and shared with the affected community to receive opinions (Caldas et al. 2006). When all data required for the preparation of appraisals are ready, the appraisal of the particular property can take place. Before moving on to the appraisal, the initial contact between the ROW agent and the property owner should be made to notify the owner of the project and the acquisition plan and to review the existing condition of the property at least 90 days prior to the possession².

2.2.2 Appraisal

The appraisal phase, which is also known as valuation, is the process of determining the certified estimate of the land or property's market value or the damage payable to the owner. Acquiring the ROW at a fair market value and at a reasonable cost is an important aspect of developing the project cost for highway and transportation projects (Aleithawe 2010). The estimate should be made either by licensed staff appraisers (internal) or by licensed fee appraisers (outsourced) (MnDOT 2015). The appraisal may be waived if a parcel is donated or if the proposed acquisition is uncomplicated and low-valued (Caldas et al. 2006). During this phase, valuation of properties, field inspection, review of recent sales of properties in the neighboring areas, preparation of the valuation report, and review of the appraisal according to the state rules and regulations are performed by appraisers.

Among the aforementioned activities, the review of the appraisal is crucial to ensure that an appraisal report is complete, consistent, correct, and prepared according to the individual state's rules and regulations (Aleithawe 2010). The appraisal reviewer who has a general appraisal license may certify an amount that differs from the appraisal estimates, but in this case the appraiser must thoroughly document the value and prepare to testify to the appraisal in court (MnDOT 2015).

² Under Minnesota Statute 117.042 "Possession," the acquiring agency should notify the property owner at least 90 days prior to the date on which possession is to be taken or the owner is to be displaced.

2.2.3 Acquisition

The next step is acquisition. The real estate or a property right is typically acquired through negotiations between the project owner (DOT, counties, and cities) and the property owner similar to a normal real estate transaction, which is called direct purchase. Based on the acquiring agency's appraisal results, the agency presents an initial offer to the property owner. To avoid litigation and extra costs while expediting the acquisition process, a good faith attempt by the agency should be made to settle in direct purchase negotiation rather than eminent domain proceedings (MnDOT 2015). The agency's offer could be revised in cases where a compensable item has been overlooked or where it is administratively determined that an adjustment is in the best interest of the agency prior to commencement of an eminent domain action. This revised offer is called a last written offer.

If good faith negotiations based on the agency's last written offer fail, public agencies can acquire the lands by eminent domain, including quick-take and condemnation actions, and the agency is authorized by the law to expedite the property taking³. In a quick-take proceeding, the agency can acquire the property within 90 days as long as the property value determined by the county's appraiser is paid to the owner. In such cases the compensation value would be determined through a commissioners' hearing, which usually consists of two appraisers and one attorney appointed by the court.

2.2.4 Relocation Assistance Program

If ROW acquisition requires the displacement of individuals, families, businesses, farms, and nonprofit organizations, the agency needs to conduct a proper analysis of all proposed acquisitions in the relocation planning. The agency should analyze the detailed relocation plan, the associated cost estimate, and the lead time estimate to provide adequate relocation services.

According to The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (The Uniform Act or URA), any eligible displaced person must be informed of relocation at least 90 days in advance with a written notice (90 day notice) and must receive advisory services (pertinent information, counseling, and advice) and payments such as moving and related expenses. The relocation payment differs by the type of property owner or resident, whether residential home owner, residential tenant, residential occupant, qualifying business, farm, or non-profit organization.

³ Minnesota Statute 117.035 states the following: "If such property be required for any authorized purpose of the State, the proceeding shall be taken in the name of the State by the Attorney General upon request of the officer, board, or other body charged by law with the execution of such purpose; if by a corporation or other body, public or private, authorized by law to exercise the right of eminent domain, in its corporate or official name and by the governing body thereof; and if by an individual so authorized, in the individual's own name."

2.2.5 Property Management

The parcels acquired by the agency may include buildings (including houses). Not all of the buildings need to be demolished, and some can be sold and moved off. Depending on the condition and movability of the buildings, the agency could gain income from the sale and save a large part of its investment. However, because this phase could also be time consuming and may involve extensive schedule delays (Caldas et al. 2006), advanced skills related to time management, marketing, and financing are necessary to agencies.

If a building is determined to be demolished or removed, the agency may use a separate letting to clear off the new ROW land before the prime contract for construction. The agency should then prepare a building removal status report, which deals with the building and related items such as water wells, underground tanks, or any miscellaneous structure to be removed (MnDOT 2006).

2.2.6 Special Procedures

The final stage of ROW acquisition involves special procedures for reconveyance, cemetery lands, permits affecting public waters, custodial control transfer between state DOTs, ROW acquisition from local government agencies, land owned by the U.S., donations, etc. Parcels that belong to these categories require a different ROW acquisition process due to the characteristics of ownership and the acquisition method. The details of each special procedure are not included in this chapter, but can be found in the *Right of Way Manual* (MnDOT 2015).

2.2.7 Critical Process of ROW Acquisition

Each phase and activity of the ROW acquisition process is important and influences the cost and duration of ROW acquisition. However, the appraisal phase is especially critical for determining ROW cost because the determination of a parcel's fair market value and the review of the appraisal are directly related to the cost of ROW acquisition and the overall project development. The acquisition phase is also significant for both the cost and duration of ROW acquisition. When good faith negotiations fail and the process shifts to eminent domain proceedings, it often creates schedule slippage and an associated cost increase and reflects a lack of trust in public agencies. Many prior studies have also indicated that the valuation of parcels and negotiation/condemnation are the most significant factors contributing to the cost and duration of ROW acquisition (Aleithawe 2013, Caldas et al. 2006, Hakimi and Kockelman 2005).

The property management phase is also one of the critical stages that is expected to have a great impact on the cost and duration of ROW acquisition. As stated above, the agency may realize income from the sale and recover its investment if this phase is well managed. However, depending on the agency's capabilities in time management, marketing, and financing, this phase may end up with only a small gain from the management of the property and a long-delayed schedule.

2.3 Related Laws and Regulations

All federal or federal-assisted transportation projects are subject to federal requirements. The principal laws for ROW acquisition are Public Law 91-646 and The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The Uniform Act was established to protect affected owners and tenants and to provide fair treatment in situations when real property must be taken (FHWA 2009). The following are the main statutes and regulations concerning federal real estate acquisition:

United States Code

- Title 23: Highways
- Title 42, Chapter 61: Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs
- Title 49: Transportation

Code of Federal Regulations

- 23 Part 710
- 49 Part 24

The URA is divided into three major sections: (1) Title I, General Provisions, which covers definitions; (2) Title II, Uniform Relocation Assistance, which contains provisions for displacement of persons or businesses by federal or federal-aided programs or projects; and (3) Title III, Uniform Real Property Acquisition Policy, which pertains to the acquisition of real property and aims to ensure consistent treatment for property owners and encourage and expedite the acquisition while avoiding litigation and relieving congestion in the courts.

In 2005, the URA was modified, and the revision was mainly related to the appraisal (valuation) process. Because the acquiring agency should offer the property owner just compensation based on an independent appraisal of fair market value (Heiner and Kockelman 2005), the property appraisal plays a key role in determining the individual property's value and the parcel-specific ROW costs. However, the URA also provides that the requirement for an appraisal may be waived for properties with a low market value. The former threshold value of \$2,500 was increased to \$10,000, and an agency could set the waiver threshold up to \$25,000 with the approval of the federal agency (Smith 2005). Therefore, for an agency that wants to expedite project delivery, the use of a valuation waiver could be useful.

Appraisal practices are guided by The Appraisal Foundation, a non-profit organization established in 1987 (FHWA 2009). The Uniform Standards of Professional Appraisal Practice (USPAP) was authored by the Appraisal Standards Board, an independent board under The Appraisal Foundation. USPAP is consistent with the appraisal requirements of federal and most state governmental organizations and is composed of five sections: (1) definitions, which cover terminologies; (2) rules, which set the requirements for ethics, competency, scope of work, and jurisdictional exceptions; (3) standards, which establish the requirements for appraisal, appraisal review, and appraisal consulting services; (4) standard rules; and (5) statements.

Meanwhile, another important issue since 2006 is the eminent domain law. The 2006 revision to the eminent domain law was intended to protect property owners from the government taking their property at unreasonable values (Schmick 2015). After the U.S. Supreme Court heard a case known as “Kelo’s case,” a case about the misuse of a public agency’s eminent domain power, many states revised their eminent domain laws. The most significant changes concern reimbursing attorneys’ fees according to the difference between the agency’s last written offer and the owner’s appraisal, appraisal and negotiation requirements such as the appraisal disclosure of both parties, and the minimum compensation in assessing the fair market value.

2.4 Factors Affecting ROW Acquisition Costs

To improve the ROW acquisition process, it is imperative to identify significant factors affecting the costs and duration of ROW acquisition. Because ROW acquisition for highway projects involves many stakeholders (Le 2009), the interaction and communication between the parties—not only between the agency and the property owners, but also between different divisions within the agency and between the parties and utilities—are very important for successful ROW acquisition. The agency’s management capability to deal with the ROW acquisition process and the characteristics of parcels are also significant for ROW acquisition.

Many studies have identified the major factors that affect the cost of ROW acquisition. Most of the recent studies completed in this domain (Change-Albitres et al. 2014, Heiner and Kockelman 2005, Le 2009, Sohn et al. 2009) are highly dependent on explanatory research methodologies, with which potential factors are identified and screened through statistical analysis and used to predict the cost and duration of ROW acquisition. Due to the highly quantitative nature of these statistical analyses, most studies used easily obtainable data and project-specific factors from state and local transportation agencies. These factors include project type, project location, parcel type, ownership type, acquisition method, etc. There have also been qualitative research efforts to understand the nature of ROW acquisition and explore the critical components of ROW acquisition projects using surveys, interviews, and reviews of best practices (Aleithawe 2010, Caldas et al. 2006, Cambridge Systematics 2006).

This section summarizes and discusses the attributes identified as significant factors affecting the cost and schedule of ROW acquisition for each ROW acquisition phase, except the relocation and property management phases. No significant factor was identified in the literature for those two phases. In addition, the research team identified many factors that are related to the characteristics of individual parcels and the transportation agency. These factors are summarized separately at the end of this chapter.

2.4.1 Pre-Acquisition

In the pre-acquisition phase, the development of a collaborative work team at the early design stage is emphasized by many studies that have analyzed the cases of several state DOTs: California, Florida, Iowa, Tennessee, Texas, Utah, and Washington (Aleithawe 2010, Cambridge Systematics 2006, Chang-Albitres et al. 2014, Kockelman et al. 2004). In an isolated and sequential handoff environment, ROW activities cannot be performed in parallel, and the overall

process may be delayed. In addition, open communication and collaboration between different divisions within an agency can minimize design changes, revisions, and errors in plans. The teamwork approach was also found to be significant for clearly defining and expediting the ROW acquisition process (Cambridge Systematics 2006).

Another significant factor in the pre-acquisition phase is involving the public at an early stage as well (Cambridge Systematics 2006, Moeller et al. 2002, Kockelman et al. 2004). Early public involvement allows an agency to predict what design alignments are likely to be problematic when acquiring ROW, thus helping to avoid potential litigation in advance. Accordingly, it is necessary to encourage property owners to be involved in the pre-acquisition phase and to conduct interviews with the owners before the final ROW plans are developed.

2.4.2 Appraisal

The appraisal phase is often in the critical path of the project, so it has a significant impact on the schedule and cost of ROW acquisition (Caldas et al. 2006, Hakimi and Kockelman 2005). The utilization of the valuation waiver process is the first factor in this phase. Many states such as Florida, Louisiana, Michigan, North Carolina, Tennessee, Wisconsin, and Washington utilize the valuation waiver process and have realized significant time savings because it can speed up the appraisal process and avoid condemnation (Aleithawe 2010, Cambridge Systematics 2006). The Uniform Act requires formal appraisal and its approval as the basis for any offer of just compensation. The Uniform Act waives the appraisal requirements in cases of low-value, straightforward acquisitions up to \$2,500 and permits state agencies to raise this limit further, up to \$10,000 (FHWA 2009). Accordingly, the amount of the valuation waiver limit is important because a higher valuation waiver amount can expedite the appraisal and acquisition time (Waters 2000).

In addition, the expertise of ROW staff, appraisers, and appraisal reviewers; a streamlined appraisal process; simplified appraisal determinants; and proper reporting protocols and review procedures were identified as important factors in the appraisal phase (Caldas et al. 2006).

2.4.3 Acquisition

The acquisition phase includes negotiations with property owners, administrative settlements, or condemnation-related activities. Therefore, the means by which a parcel is acquired and negotiated with owners is crucial to prevent an increase in the cost and duration of ROW acquisition.

Condemnation rate, or the number of condemnation cases, is significantly related to ROW acquisition cost increase and schedule delay in many studies (Aleithawe 2010, Kockelman et al. 2004). Lower condemnation rates generally are desired because a lower rate indicates early acquisitions, less costly acquisitions, and avoidance of litigation.

Caldas et al. (2006) emphasize communication with property owners. The agency is encouraged to (1) have frequent and regular contact to promote confidence in the agency and (2) provide property owners not only legally required information but also any pertinent information to enhance public trust. The authors also suggest that the negotiation and title acquisition process be simplified in order to minimize schedule delays in the negotiation process.

Table 2.1 Typical highway development process and ROW acquisition process

Factor	Description	Major Impact
Early acquisition	The time to parcel acquisition	Cost
Acquisition method	The way that a parcel is acquired – negotiation, condemnation, or negotiation while the condemnation process is ongoing	Cost/Duration
Negotiation	Negotiation with property owners	Cost/Duration
Condemnation	The number or the ratio of condemnation cases	Cost/Duration
Mediation technique	Techniques such as mediation or arbitration in the acquisition process	Duration
Exchange involved	A parcel is acquired by exchanging a state-owned parcel	Duration
Time	Time at which a parcel is acquired	Cost/Duration

2.4.4 Parcel Characteristics

Many prior studies attempted to analyze the correlation between parcel characteristics and the cost and duration of ROW acquisition in order to identify causal relationships and develop a cost/duration prediction model. Heiner and Kockelman (2005) analyzed the historical ROW acquisition project data from Texas corridors using regression analysis and found that land use types, location variables, improvements, and variables associated with damages are significant in estimating the ROW acquisition cost.

Le (2009) conducted a correlation analysis between parcel characteristic variables and ROW duration using the Texas Department of Transportation’s (TxDOT’s) Right-of-Way Information System (ROWIS) and the Austin district’s data. Four variables—transitional area (location), ownership type, title issues, and mapping/survey issues—were found to affect ROW schedule.

Aleithawe (2010) and Chang-Albitres et al. (2014) also identified unique characteristics of individual parcels that influence the cost and duration of ROW acquisition, such as location, ROW acquisition type, ownership, etc. A summary of the aforementioned factors and their descriptions is shown in Table 2.2.

Table 2.2 Factors affecting ROW acquisition – parcel characteristics

Factor	Description	Major Impact
Location	The area that a parcel is located in (e.g., metropolitan, urban, suburban, or rural)	Cost/Duration
Ownership	Ownership of the parcel (e.g., business entity, individual, or more than one person)	Cost/Duration
Accessibility	Access characteristics of a parcel	Cost
Land use type	Land use type such as apartment, high-rise condominium, large/medium/small office, hotel, home, etc.	Cost
Title issue	Any problems with the title of the land that may affect the acquisition	Duration
Mapping/survey issue	Whether the parcel involves any issue with mapping or surveying (e.g., the drawing is incorrect and needs to be redrawn)	Duration
Improvement	Likelihood of future improvements being made on the parcel before acquisition	Cost/Duration
Number of parcels	The number of parcels per project	Cost/Duration
Damage issue	Change of parcel shape, reduction of frontage length, etc.	Cost

2.4.5 Other Factors

Sohn et al. (2009) developed a spreadsheet-based ROW and utility duration adjustment tool to help TxDOT estimate the ROW acquisition costs in the project planning stage. Many factors were identified and applied to develop the estimation model. Among the identified factors, four were found to be significant in predicting ROW duration: dedication of funds to the project, level of local availability of replacement housing facilities, funding limitations for the project, and level of political pressure.

Meanwhile, most states in the US mandate transaction price disclosure because state laws require the transaction price to be opened to public. However, there are a few non-disclosure states: Mississippi, Texas, Montana, North Dakota, Indiana, Utah, and Wyoming. Aleithawe (2010, 2013) analyzed the Mississippi Department of Transportation's (MDOT's) ROW acquisition cases and found that non-disclosure of the price can delay the entire acquisition process. When the real estate price is not publicly accessible, a lack of transparency occurs, which creates uncertainty for agencies and property owners alike. Aleithawe (2010, 2013) also identified the number of design changes as an important factor affecting the schedule delay. Table 2.3 presents a summary of other factors.

Table 2.3 Factors affecting ROW acquisition – other factors

Factor	Description	Major Impact
Dedication of funds	The agency’s dedication of funds to the project (ROW and construction)	Duration
Funding limitations	Funding limitations for the project	Duration
Political pressure	Level of political pressure	Duration
Revision of plans	Number of design changes	Duration
Available replacement housing	Level of local availability of replacement housing facilities	Duration
Price disclosure	Whether the real estate price is publicly accessible (disclosure) or not (non-disclosure)	Duration

2.5 Review of Best Practices in the US

This section summarizes the results of an extensive scan of best practices in the US that can improve ROW acquisition and overall project delivery performance. The major literature sources are as follows:

- NCHRP Synthesis 292: Innovative Practices to Reduce Delivery Time for Right-of-Way in Project Development (Waters 2000)
- NCHRP Project 20-68: U.S. Domestic Scan Program: Best Practices in Right-of-Way Acquisition and Utility Relocation (Cambridge Systematics 2006)
- TxDOT Project 0-5379-P1: Synthesis of Best Practices in Right-of-Way Valuations and Negotiations (Caldas et al. 2006)
- NCHRP Project 20-68A: Best Practices in Project Delivery Management (McMinimee et al. 2009)
- Federal Highway Administration’s (FHWA’s) Right-of-Way and Utilities Pilot Project Summary and Evaluation (FHWA 2014b)

2.5.1 Pre-Acquisition

2.5.1.1 Team Approach

The use of a team approach is commonly emphasized in the literature and in the identified best practices throughout the ROW acquisition process, especially in the pre-acquisition phase. This is due to the importance of the initial ROW planning regarding the early design and project development plans. Many of the potential issues that can increase costs and acquisition delays could be eliminated through interactive and continuous communication and coordination between team members.

The Florida Department of Transportation (FDOT) operates in a decentralized system of offices, but a professional team was developed for the “District 5” project. A cross-disciplinary collaborative team was organized at the early stages of the project. The acquisition team

attempted to define not only an individual division's task but a common goal: the completion of ROW acquisition so that the construction stage could proceed on schedule. The team approach facilitated communication and coordination among different departments and functional areas and the expeditious resolution of utility issues (Cambridge Systematics 2006). The Tennessee Department of Transportation (TDOT) also used the team approach to ensure open communication between different divisions in the agency—ROW and design—early in the design stage. The approach contributed to reducing design revisions and minimizing errors (Aleithawe 2010).

The City of Phoenix, Arizona, is also utilizing the collaborative team approach, using a team consisting of the street transportation, development services, and city real estate groups to identify and address any ROW issues. The Arizona Department of Transportation (ADOT) organized a quality process integration team and adopted an accelerated stage deliverable checklist to enable earlier delivery of key information so that technical functions such as ROW would require less rework (McMinimee et al. 2009).

2.5.1.2 Early Involvement

FDOT is using the Efficient Transportation Decision-Making (ETDM) process for project planning, and as one of its features it allows the agency to provide early recognition of the required agency resources and early public involvement. FDOT District 5 especially noted that the early involvement of external stakeholders—property owners and businesses—enabled innovative solutions and accelerated amicable settlements (Cambridge Systematics 2006).

2.5.1.3 Performance Management Planning

Most state DOTs have some form of a performance management system and performance measures for internal and external purposes and some agencies, such as the Virginia, Missouri, and Washington State DOTs, provide up-to-date information to the public (McMinimee et al. 2009). However, most of the performance measures were developed for the overall development and operation of transportation projects in the areas of safety, preservation, congestion, environment, etc. FDOT set a specific performance measure—the duration that a project is available for construction—to ensure that construction can begin on time. The estimated time requirements for ROW acquisition may vary according to the project characteristics, but the base duration of a typical project is 18 to 24 months, without counting the eminent domain proceedings, as follows (FDOT 2014):

- Appraisal: 6 to 10 months
- Negotiation: 6 to 8 months
- Relocation: 0 to 9 months
- Property management: 1 to 4 months
- Eminent domain: at least 2 years

This performance measure leads the ROW teams to continuously monitor the progress and find a way to accelerate project activities if any schedule delay is observed (Cambridge Systematics 2006).

2.5.1.4 Training and Education

The knowledge and experience of the agency staff is critical in the overall ROW acquisition. Inadequately trained staff could be one of the biggest obstacles encountered when reducing the project delivery time (Caldas et al. 2006). Many studies have emphasized the necessity of training ROW staff members about land use planning, appraisal, land consolidation, etc.

The Arkansas State Highway and Transportation Department (AHTD) realized a positive impact of the cross training and education of ROW agents on the appraisal process. The training enabled the ROW agents to deal with the property owners' concerns and questions in a timely manner (Aleithawe 2010). FDOT is implementing a more extensive internal training program consisting of two-year agent training and three-year appraiser training with assistance from the International Right of Way Association (Cambridge Systematics 2006).

2.5.2 Appraisal

2.5.2.1 Public Involvement in Appraisal

Extensive interviews with property owners to discuss the project's impacts and potential gains and the property itself could contribute to a better appraisal. The Arkansas, Illinois, and Texas DOTs let the property owners or the owners' designated representatives accompany the appraiser during the inspection of the parcels. This enables the owners to provide more information, establishes a good relationship and trust between the agency and property owners, and can eventually increase the likelihood of better valuations and successful negotiations (Caldas et al. 2006).

2.5.2.2 Appraisal Waiver

In order to examine the effect of increasing the waiver threshold value on ROW acquisition, the FHWA's ROW implementation team has initiated appraisal waiver pilot projects in North Carolina and Florida since 2001 for property valuations that do not meet a certain dollar amount threshold, or threshold value (FHWA 2014b).

In North Carolina, significant time and cost savings in the ROW acquisition process were observed in Divisions 3 and 5 when the appraisal waiver limit was increased to \$25,000 for the pilot test. In terms of time savings, 25% of claims were settled on initial contract, 50% were settled within one month, and the rest of claims were settled within six months. While the exact cost savings were not reported, the increased appraisal waiver threshold value enabled considerable time savings. It was also reported that the appraisal waiver was more useful in rural areas, while the waiver in urban areas was often hampered by the area's complex nature.

Florida implemented the appraisal waiver by using an agent's price estimate (APE). In the pilot test in Districts 3 and 5, the ceiling of an APE was increased from \$10,000 to \$20,000, and its effects on costs, production, and customer satisfaction were evaluated. As the result, the ratio of successful negotiation was increased in both District 3 (40% to 82%) and District 5 (58% to 83%). Also, total cost savings due to avoidance of the appraisal and review process was over \$1 million in both districts (\$1,176,000 in District 3 and \$1,029,300 in District 5). The use of an

appraisal waiver is particularly useful in states with large numbers of acquisitions per year and an active real estate market where current sales provide a good measure of value trends.

2.5.3 Acquisition

2.5.3.1 Mediation

The Georgia Department of Transportation (GDOT) is utilizing the Administrator Appeal Process (APP) as a mediation method in which an experienced agent at a high level is assigned from the central office to negotiate with the property owners before a parcel is recommended for condemnation. This process is a kind of last effort to reach a settlement, and GDOT reported that the condemnation cases decreased to 50% when the APP was involved (Aleithawe 2010).

In order to reduce condemnation cases, TDOT uses mediation, typically by a lawyer, to minimize litigation. This process has been successful in finding common ground between the agency and the property owner, and most of the parcels recommended for condemnation were settled by the mediation technique (Aleithawe 2010).

2.5.4 Relocation

2.5.4.1 Incentive Program

As part of the FHWA's ROW implementation team's pilot test, a relocation incentive was tested in Virginia in 2001 (FHWA 2014b). In order to reach early agreement and facilitate relocation from the project area, incentives were offered to tenants in addition to the relocation payment based on an early move date. The Virginia Department of Transportation (VDOT) successfully relocated 403 tenants in 8 months, which was significantly less than original schedule. The incentive cost to VDOT was \$1.2 million, and it was offset by construction schedule-related savings of \$6 million.

2.5.5 Other Innovative Techniques

2.5.5.1 Design-Build and Public-Private Partnership

In 2002, TxDOT entered into a design-build contract with a developer for the State Highway 130 project, which is part of the Central Texas Turnpike System (CTTS) project. Because support for ROW acquisition, relocation, and utility adjustments was included in the developer's scope, the developer had the financial incentive to complete ROW acquisition and utility relocation. The project's design-build and public-private partnership context facilitated the application of the team approach, early coordination, and development of creative alternate design solutions. TxDOT noted that the first 40 mile section of the project realized a one-year shortening of the schedule and cost savings of \$400 million, and the ROW spending was also \$100 million under budget (Cambridge Systematics 2006).

2.5.5.2 Electronic Data Management and Geographic Information Systems

TxDOT and MnDOT established a GIS-based electronic tracking database to track the status of ROW acquisition (Cambridge Systematics 2006). The database includes information on parcels, titles, and other items affecting acquisition status. The system could track the status of individual ROW activities, issue automatic alerts to prevent schedule delay, and create summary reports about the status of parcel acquisition, condemnation, etc.

2.6 Review of Best Practices in Other Countries

The ROW scanning team sponsored by the FHWA, the American Association of State Highway and Transportation Officials (AASHTO), and the National Cooperative Highway Research Program (NCHRP) conducted a best practice review of utility and ROW acquisition in 2001 as part of FHWA Project PL-02-013: European Right-of-Way and Utilities Best Practices (Moeller et al. 2002). This section summarizes the major findings of this report from England, Germany, the Netherlands, and Norway.

2.6.1 Pre-Acquisition

2.6.1.1 Team Approach

The use of a multidisciplinary project team was observed in all countries. In the Netherlands, project teams are wholly charged with a project from planning to construction. In Germany, ROW and utilities are considered at the planning stage and treated as a critical path element of the project. In England, a coordination facilitation framework is utilized that defines and documents the roles and responsibilities of each team member.

2.6.1.2 Early Involvement

Early involvement of affected property owners and consultation/communication between the transportation agency and property owners are considered essential in ROW acquisition. Before the project design is finally determined, property owners' feedback is used in project design decisions, which enables more timely ROW purchases and minimal damage to properties.

In Norway, the ROW agent conducts outreach to the public to provide the project plans and the expected progress. In England, the agency schedules a public forum before a highway route is decided and find ways to mitigate damages.

2.6.1.3 Training

The scanned countries have systematic professional training systems. The Agricultural University of Norway has a five-year degree program that covers property rights and land law. The program of study that covers land tenure and relocation deals with land acquisition, eminent domain, land reallocation, land valuation and devaluation, negotiation, mitigation, and other related subjects.

The Netherlands established an in-house training and certification program by contracting with a training company. The two-year program covers the legal system, legal aspects of ROW acquisition, general appraising, and the types of appraisal problems. All ROW staff members are required to take this training program.

England also has an extensive training program for employees of the Highways Agency. All employees are authorized to receive two weeks of training every year. The Highways Agency is also utilizing a mentoring system to train new employees, a performance appraisal system to evaluate the employees' competencies, and professional development plans to determine the level of required competency.

2.6.2 Appraisal

2.6.2.1 Appraisal and Negotiation by Same Person

In Norway and England, the agency usually assigns one person to perform the appraisal, negotiation, and relocation activities, similarly to FDOT's one agent concept. All four countries in the scanning study assign the same person to perform the negotiation and relocation activities to maintain a good relationship with the property owners and ensure consistent communication with the property owners.

2.6.3 Acquisition

2.6.3.1 Mediation and Quick Payment

In order to facilitate settlements, highway agencies use mediation and a quick payment process for property owners, which clearly shows the agencies' intention to provide a fair ROW acquisition process.

2.6.4 Other Innovative Techniques

2.6.4.1 Application of Information Technology Tools

England and Norway have a ROW data management system that is integrated with a GIS to support efficient ROW activities. The database covers property data, environmental data, property maps, geo-referenced photographs, etc.

2.7 Conclusions

2.7.1 Summary of Factors Influencing ROW Acquisition

ROW acquisition is a complex process in which many participants and stakeholders are involved. Each phase of ROW acquisition is affected by diverse factors, including related laws and regulations, project characteristics, the agency's organizational issues and the capabilities of ROW staff, relationships with the property owners, and parcel characteristics. The cost and duration of ROW acquisition is also influenced by the aforementioned factors.

An extensive review of prior studies revealed that the pre-acquisition, appraisal, and acquisition phases are more sensitive and vulnerable to ROW cost increases and schedule delays than other phases. Especially in the appraisal phase, the estimation of the property's market value or damage payable was found to contribute to time extensions. The acquisition phase also has a significant impact on ROW cost and schedule, especially due to the acquisition type, which is determined by the negotiation and communication with the property owners. In addition, despite the fact that the property management phase may contribute to earning sales income and saving the agency's investment, this phase was not well addressed in the literature.

The review of best practices in the US and in European countries revealed that the use of a team approach, early involvement, performance management planning, and staff training and education are efficient methods that enable efficient ROW acquisition and expedite the ROW acquisition process.

2.7.2 Implications for Successful ROW Acquisition

The importance of the team approach was emphasized in many studies and the review of best practices. An insufficiently coordinated project team often plans and conducts the ROW acquisition activities in a dispersed manner rather than in a hand-off environment. Such an atmosphere for a project team could be a significant barrier to successful ROW acquisition. Therefore, it is necessary to organize a collaborative project team that consists of representatives from all related divisions in the early stages of a project and document the associated activities, roles, and responsibilities to encourage close interaction and coordination.

In the review of the US and European ROW best practices, it was found that intensive and continuous communication with the public and property owners can have a significant impact on ROW acquisition. Involving the public early in the design stage, allowing property owners to accompany the appraiser in the appraisal process, and using an improved mediation method have contributed to expediting the acquisition and reducing condemnation cases. In addition, the results of the FHWA pilot tests showed that several innovative methods, such as raising the appraisal waiver limit, using incentive payments, and using design-build contracts, contributed to significant cost savings and schedule reductions for the state agencies. These results imply that federal agencies such as FHWA and AASHTO recommend the revision of laws restricting the application of innovative methods such as pursuing design-build contracts and offering incentive payments.

European best practices showed implications similar to those of the US best practices, but the European agencies put a large amount of effort into early public involvement and continuous communication with the public. Another noticeable difference between US and European agencies is the systematic and rigorous training program for ROW staff in European agencies. Certified education and training for ROW staff ensures smooth handling of ROW activities and better performance in terms of project cost and duration, especially for new employees and less experienced staff.

Some barriers and strategies addressed in this chapter may be beyond the control of an individual person or agency. Based on the preliminary results of this study, the research team conducted a statewide survey, interviews, and case studies to address more practical issues; identified additional factors influencing ROW acquisition; and developed substantial implementation strategies to improve the ROW acquisition process.

CHAPTER 3: STATEWIDE SURVEYS AND INTERVIEWS

3.1 Overview

This chapter discusses and summarizes the results of a statewide survey of ROW professionals in Minnesota and individual follow-up phone, email, and face-to-face interviews. The goal of this survey and these interviews was to obtain a better understanding of the current practices, barriers, and other issues affecting the ROW acquisition process. The survey was distributed through both a web-based survey system and a Microsoft Word document. During the survey, the research team also conducted structured interviews in order to document and reinforce the understanding of critical ROW acquisition issues.

3.2 Statewide Survey

The research team conducted a statewide survey that was distributed to ROW administrators, appraisers, attorneys, land commissioners, negotiators, and other stakeholders in Minnesota with assistance from the Minnesota Technical Assistance Program (MnTAP) and the MnDOT Office of Land Management. The survey was distributed to a total of 522 ROW professionals from November 2014 to January 2015, and 70 surveys were collected (a response rate of 13.4%). The following ROW associations in Minnesota were used to distribute the survey:

- City Engineers Association of Minnesota
- International Right of Way Association, Chapter 20
- Metro Right of Way Professional's Group
- 2014 Minnesota ROW conference

The survey questionnaire was organized into five different categories: (1) project development, (2) agency's internal capability, (3) relationship with the public, (4) appraisal and acquisition, and (5) legislative and other issues based on the findings from the literature review and comments from MnTAP.

From the literature review, the research team learned that the most important factors affecting ROW acquisition were related to (1) project development and (4) appraisal and acquisition activities. The "project development" category refers to ROW planning activities such as title assessment, surveying, field investigation, environmental assessment, design studies, ROW map development, and staff authorization (Caldas et al. 2006, FHWA 2009, Waters 2000). The "appraisal and acquisition" processes were found to be critically important (Aleithawe 2010, Caldas et al. 2006) because the determination of a parcel's fair market value, the review of a parcel, and negotiation activities are directly related to the cost and duration of ROW acquisition.

The ROW best practices of US and European public agencies primarily focus on improving (2) the agency's internal capability and (3) the relationship with the public. For the best practices for improving the agency's internal capability, a team approach, early involvement, performance management planning, training and education programs, and application of IT tools were

identified (Aleithawe 2010, McMinimee et al. 2009, Cambridge Systematics 2006, Moeller et al. 2002). For the best practices for improving the relationship with the public, public involvement in the early phases before the project design is finally determined, public involvement in the appraisal, the one agent concept, and other practices were identified from literature review (Caldas et al. 2006, Cambridge Systematics 2006). Finally, the category of (5) legislative and other issues was included because the recent legislative change in Minnesota in 2006 was generally perceived to be one of the main barriers to ROW acquisition by MnTAP members.

The survey questionnaire was developed as a two-tiered structure. First, the survey participants are asked to rate the frequency and severity of each barrier in order to identify the most frequent ROW barriers and their severity (i.e., the level of influence on ROW acquisition cost increase and schedule delay). Then, the participants are asked to assess how often they use a variety of practices (i.e., means and methods) to prevent or overcome the barriers and the perceived effectiveness/necessity of the methods. Figure 3.1 illustrates the fundamental framework of the statewide survey.

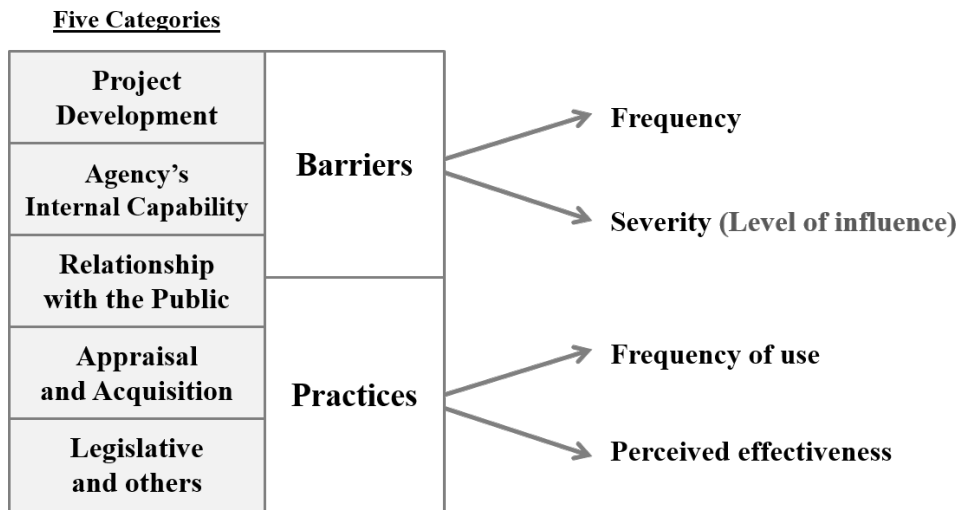


Figure 3.1 Survey structure

Figure 3.2 shows a sample of questions and the evaluation rating scales.

How frequently do you feel each item as a barrier to effective ROW acquisition?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
How much is each barrier influential or critical to ROW cost increase and schedule delay?	Not important 1	Less important 2	Neutral 3	Important 4	Very important 5
How frequently do you use each practice during the ROW acquisition process?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
How necessary is each practice and activity based on their effectiveness to improve the ROW acquisition process?	Not important 1	Less important 2	Neutral 3	Important 4	Very important 5

Figure 3.2 Survey questionnaire answer form

As illustrated in Figure 3.1, the survey has four types of questions: assessment of a barrier’s frequency, severity of the barrier, frequency of a practice, and the perceived effectiveness/necessity of the practice. All questions are rated using a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often; or 1 = not important, 2 = less important, 3 = neutral, 4 = important, and 5 = very important). An essay answer form was also provided to obtain other ROW barriers, recommended practices, and legal or statutory issues that were not fully addressed in the survey questionnaire. The full survey questionnaire is attached in the Appendix A, and the survey responses are provided in Appendix B.

3.2.1 Summary of the Survey Results

The research team received 70 responses in total: 53 from public agencies and 17 from private agencies. Survey participants have over 16 years of ROW experience on average. In terms of agency type, the respondents from counties represent the largest share of the participants (48.6%). Regarding ROW functional aspects, the research team collected responses from administrators, appraisers, attorneys, consultants, engineers, and ROW agents/managers. Detailed information about the survey participants is presented in Table 3.1.

Table 3.1 Survey questionnaire answer form

Category		Number of Responses		Years of Experience
Agency type	Public	State	10 (14.3%)	18.1
		County	34 (48.6%)	16.4
		City	9 (12.9%)	9.3
	Private	17 (24.2%)	17.6	
	Subtotal	70	16.1	
ROW function	Administrator	12 (17.1%)	18.8	
	Appraiser	7 (10.0%)	21.1	
	Attorney	5 (7.1%)	17.6	
	Consultant	5 (7.1%)	16.0	
	Engineer	21 (30.0%)	14.5	
	ROW agent/manager	20 (28.6%)	13.8	
	Subtotal	70	16.1	

Figure 3.3 illustrates the high-level survey results using a radar chart.

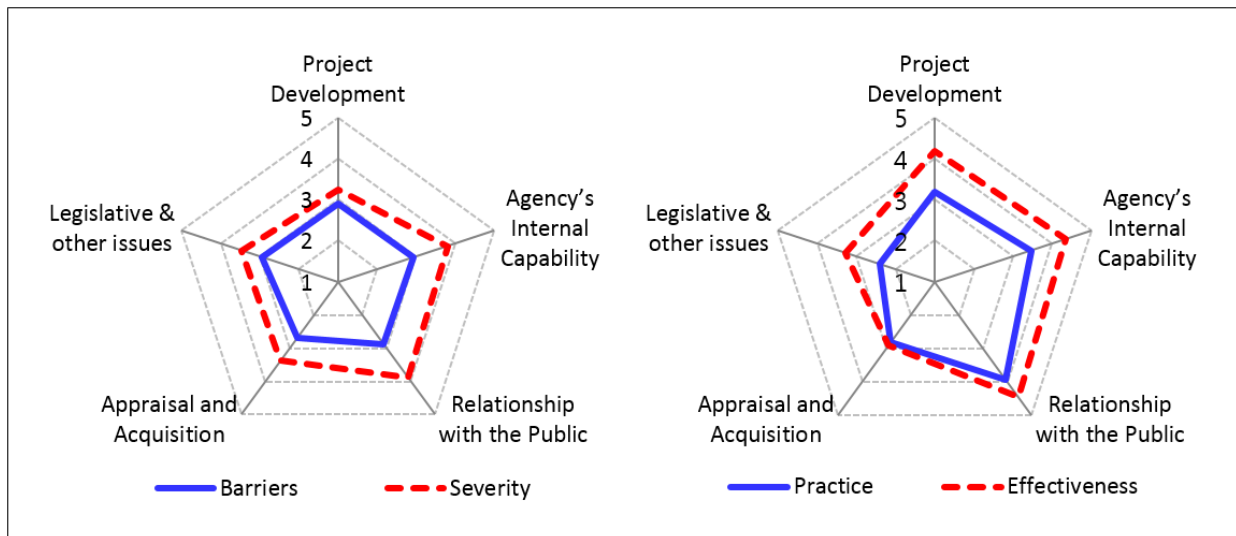


Figure 3.3 Overview of survey results

The left chart in Figure 3.3 indicates the average frequency and the level of severity of barriers in five categories. The right chart shows the frequency of use and the perceived effectiveness of the current practices.

In both charts in Figure 3.3, a value of 1 indicates a barrier or a practice that is rarely observed/used or not important/necessary, while a value of 5 represents a barrier or a practice that is very often observed/used or very important/necessary. As shown by the solid blue line in the left chart, the survey participants responded that they do not often (sometimes = 3) face barriers in all five categories. Each category's score ranges from 2.68 to 2.92 on average. But in

terms of the severity (the dashed red line in the left chart), each category's score ranges between 3 and 4. Two categories—the agency's internal capability and the relationship with the public—were found to be more critical (3.8 and 3.9, respectively) than other categories in terms of contributing to ROW acquisition cost increase and schedule delay. Overall, the left chart indicates that the ROW barriers that were evaluated are considered to be important, but situations in which those barriers interrupt the ROW acquisition process do not commonly occur.

The right chart in Figure 3.3 represents the average rate of each practice in terms of its frequency of use (solid blue line) and its perceived effectiveness/necessity (dashed red line). It was found that the respondents use practices more frequently for improving the relationship with the public (3.9), strengthening the agency's internal capability (3.5), and utilizing project development strategies and methods (3.2) than for the other categories. In terms of their perceived effectiveness/necessity for improving the ROW acquisition process, those three categories are also rated as important (over 4). It should be noted that although the use of practices in the category of "legislative and other issues" is the lowest among the five categories (average score = 2.3), their effectiveness/necessity was reported to be slightly more important than the average (average score = 3.3, where 3 = neutral). One compelling argument explaining the low rating of this legislative category is that ROW professionals do not have much control over legislative issues despite the issues' importance.

The gap between the frequency of use and the effectiveness/necessity of the practices can be interpreted as a significant indicator that there is room for enhancing the ROW acquisition process, because the current level of use is much lower than the perceived effectiveness of those practices. The following sections further discuss the highly ranked individual ROW barriers and practices.

3.2.2 Survey Results: ROW Barriers

The research team analyzed the collected survey data using a scatter plot on quadrants in order to measure the survey respondents' perception of the ROW barriers in terms of their frequency and severity. Figure 3.4 shows the distribution of individual ROW barriers on the quadrant plane.

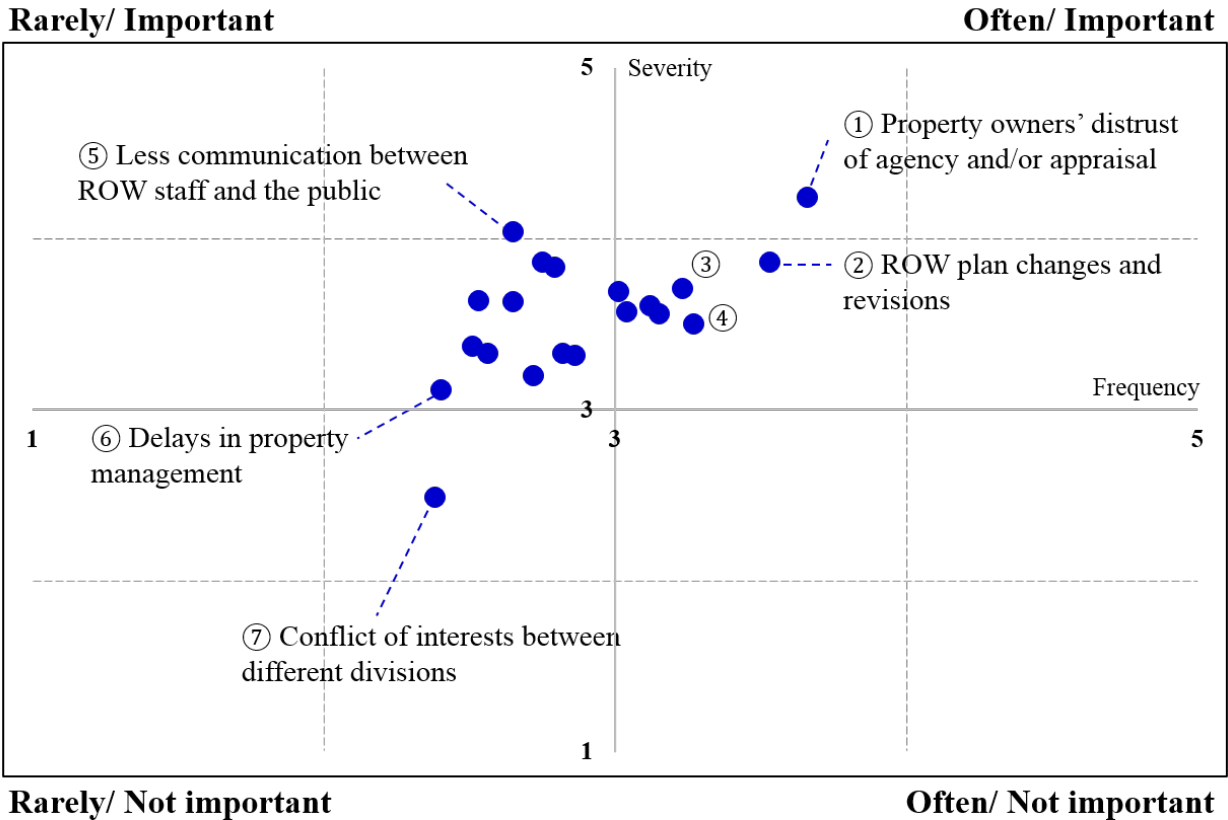


Figure 3.4 ROW barrier frequency and severity distribution

The horizontal axis indicates the frequency of occurrence of a barrier (1 = rarely, 3 = sometimes, and 5 = very often), and the vertical axis represents the severity of a barrier (1 = not important, 3 = neutral, and 5 = very important). The two axes cross each other at the value of 3, which is the median. The upper right quadrant represents barriers that occur often and that are important, and the lower right quadrant indicates barriers that occur often but that are not important. The barriers in the upper left quadrant are barriers that survey participants rarely face but that are important in terms of the severity of their effects on cost increase and schedule delay. Lastly, the barriers in the lower left quadrant do not occur often and are not important in terms of their severity.

In the right upper area in Figure 3.4, the barrier “Property owners’ distrust of agency and/or appraisal” is marked with the symbol ① and was found to be the most frequent and important barrier. The barrier marked with ② “ROW plan changes and revisions” is ranked as the second most frequent/important barrier. The barriers marked with ③ “Insufficient number of ROW staff or appraisers” and ④ “Requirement of mortgage releases for low-value takes” are also identified as noticeable barriers from the quadrant analysis. The barrier marked with ⑤ “Less communication between ROW staff and the public” was given high scores: important (4.05) and less than sometimes (2.65). Considering that the property owners’ distrust is ranked as the most important barrier, it is assumed that survey respondents are actively trying to communicate more with the public. Therefore, survey participants may have rated the frequency of this barrier higher than 3. The barriers marked with ⑥ “Delays in property management” and ⑦ “Conflict

of interests between different divisions” were found to be the least frequent and least important barriers.

Table 3.2 shows the top five most frequent ROW barriers that the survey respondents reported.

Table 3.2 Most frequent ROW barriers

Rank	Barrier	Category	Avg. Score
1	Property owners’ distrust of agency and/or appraisal	Relationship with the public	3.66
2	ROW plan changes and revisions	Project development	3.53
3	Requirement of mortgage releases for low-value takes	Legislative and other issues	3.27
4	Insufficient number of ROW staff or appraisers	Agency’s internal capability	3.23
5	Delays in the appraisal report delivery	Appraisal and acquisition	3.15

As already presented in Figure 3.4, “property owners’ distrust of agency and/or appraisal” is the top-ranked barrier in terms of frequency. This barrier is also emphasized in many respondents’ narrative opinions. Combined with other barriers, respondents in public agencies spoke out about the difficulty of the public trust issue, especially for projects located in urbanized areas. Several respondents said that some attorneys approach property owners to request much higher compensation for their property than its originally appraised value and to decline the public agency’s offer.

“ROW plan changes and revisions” and “Requirement of mortgage releases for low-value takes” are rated as the second and third most frequent barriers. Both barriers may result in a significant schedule delay because they usually entail a large amount of rework and dragging out of communication. Some respondents provided additional opinions that a low-quality construction plan and associated plan changes cause fatigue for property owners and rework for appraisers.

In terms of the severity of these barriers, property owners’ distrust is at the top of the list with a rating of 4.25 (see Table 3.3).

Table 3.3 Most severe ROW barriers

Rank	Barrier	Category	Avg. Score
1	Property owners' distrust of agency and/or appraisal	Relationship with the public	4.25
2	Communication between ROW staff and the public including property owners	Relationship with the public	4.05
3	ROW plan changes and revisions	Project development	3.87
4	Appraisers' knowledge, skills, and experience	Agency's internal capability	3.87
5	ROW staff's experience	Agency's internal capability	3.84

“Communication between ROW staff and the public including property owners” is reported as the second most severe barrier (rating 4.05). The top two barriers in Table 3.3 are basically related to the relationship and communication between the agency and the property owner, and their severity implies that effective interaction with the property owners is highly significant to facilitating the ROW acquisition process.

In addition to the answer choices provided in the questionnaire, the survey participants reported (a) the change of the eminent domain law in 2006, (b) tight schedules for ROW acquisition tasks, (c) the absence of motivation for property owners to settle early, (d) little cooperation between the ROW acquisition team and the engineering team, and (e) unqualified appraisers as other important barriers. Specifically, many survey respondents from public agencies criticized the problems resulting from the changes to the eminent domain law because their relationships with property owners have worsened and attorney fees have increased. But there was also a counterargument from private appraisers, who noted that the effect of the law's change on the cost increase is not significant. The research team investigated this issue in more detail through expert interviews, and the results are summarized in Section 3.3 of this chapter.

3.2.3 Survey Results: ROW Practices

Figure 3.5 shows the frequency of use and the associated effectiveness/necessity of individual ROW practices.

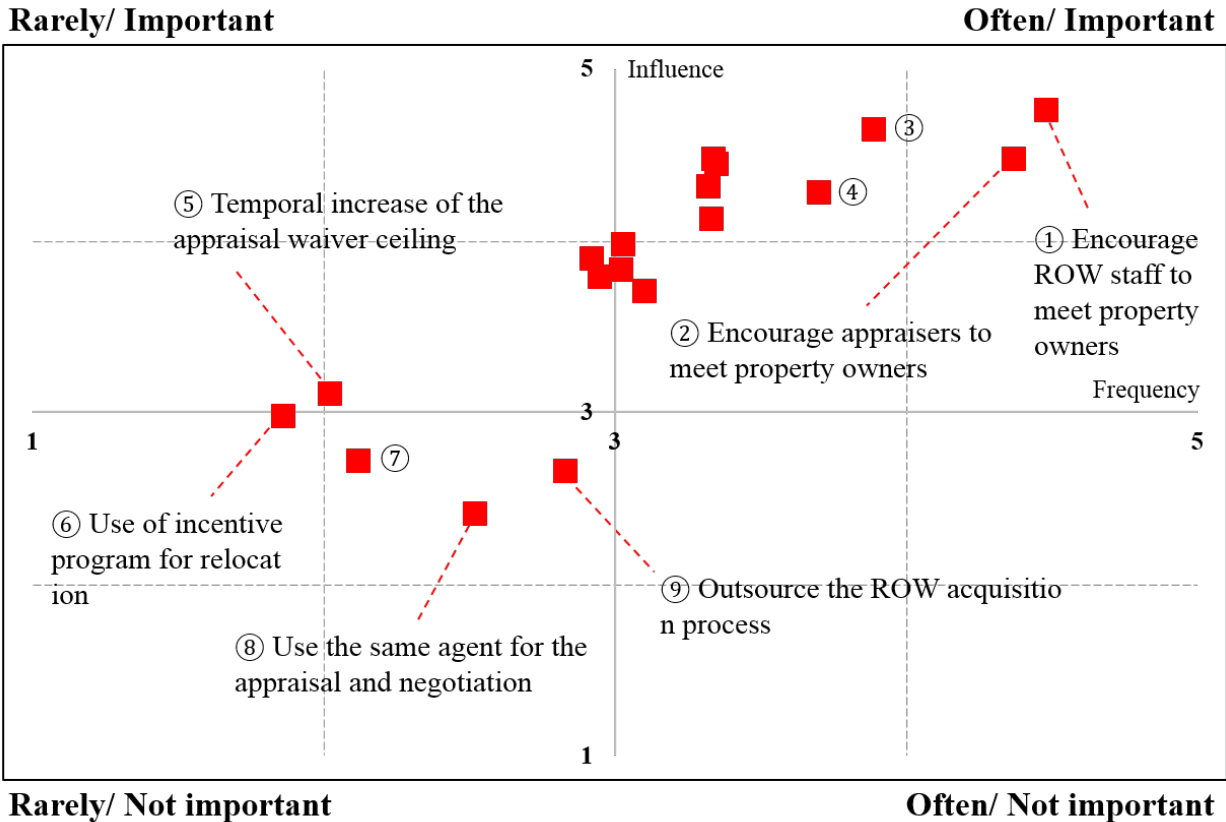


Figure 3.5 ROW practice frequency and perceived influence distribution

The horizontal axis indicates each practice’s frequency of use (1 = rarely, 3 = sometimes, and 5 = very often), and the vertical axis represents the perceived effectiveness/necessity in improving the ROW acquisition process (1 = not important, 3 = neutral, and 5 = very important). Red squares in the upper right quadrant represent practices that are used often and that are effective in improving the ROW acquisition process, and those in the lower right quadrant indicate practices that are often used but that are not important (no practice is assigned to this quadrant). Practices in the upper left quadrant are practices that survey participants rarely use but that are still efficient or necessary. Lastly, practices that are not often used and not important are placed in the lower left quadrant.

In Figure 3.5, the practices marked with ① “Encourage ROW staff to meet property owners” and ② “Encourage appraisers to meet property owners” are located near the upper right end of the quadrant. Considering that the property owners’ distrust and less communication with property owners are assessed as critical barriers, it is not surprising that survey respondents encourage their staff to meet property owners. Another practice is also in this quadrant: ③ “Sufficient information sharing and discussion with property owners.” The practice marked with ④ “Utilization of advanced technology” is also reported as an important practice (frequency of use = 3.70 and efficiency = 4.28). Through narrative responses, many respondents said that many IT-based tools and devices such as a parcel information management system, GIS-assisted ROW planning system, and tablet PC have improved the efficiency of their ROW acquisition tasks.

The following practices were found to be less frequently used and less important than other practices, as shown in Figure 3.5: ⑤ “Temporal increase of the appraisal waiver ceiling,” ⑥ “Use of incentive program for relocation,” ⑦ “Use of special delivery method (e.g., design-build, public-private partnership, etc.),” and ⑧ “Use the same agent for the appraisal and negotiation.” Among these practices, ⑤, ⑥, and ⑦ are practices that belong to the “legislative and other issues” category. Several county engineers explained that it is very difficult to have flexibility with or control over such practices, and for this reason both the frequency of use and the perceived effectiveness might be low.

Another notable finding is that a significant number of respondents (39.1%) indicated that the practice marked with ⑧ “Use the same agent for the appraisal and negotiation” is “not important.” This practice was often selected as a best practice to enable more consistent communication with property owners in the US nationwide scanning study and some European countries’ case studies (Cambridge Systematics 2006, Moeller et al. 2002). This practice may have received this score because the respondents have not experienced or learned about using the one agent practice.

Table 3.4 shows five most frequently used practices. It should be noted that the three practices in the “relationship with the public” category are ranked in the top five, and the other two of the top five practices are from the “agency’s internal capability” category. As presented in the quadrant analysis results, meeting property owners is ranked as the first and second most frequently used practices to improve the ROW acquisition process. Meanwhile, the “Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers” is the fifth most frequently used practice. Respondents replied that the existing ROW manuals and procedures provided by federal and state DOTs are well established and sufficient to educate their staff. However, young ROW professionals usually learn from their senior staff and do not often have a chance to learn from a standardized professional training program.

Table 3.4 Most frequently used practices

Rank	Practices	Category	Avg. Score
1	Encourage ROW staff to meet property owners	Relationship with the public	4.48
2	Encourage appraisers to meet property owners	Relationship with the public	4.37
3	Sufficient information sharing and discussion with property owners	Relationship with the public	3.89
4	Utilization of advanced technology (e.g. electronic parcel information management, GIS)	Agency’s internal capability	3.70
5	Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	Agency’s internal capability	3.35

The list of the most necessary/effective practices presented in Table 3.5 is similar to the list provided in Table 3.4.

Table 3.5 Most necessary/effective practices

Rank	Practices	Category	Avg. Score
1	Encourage ROW staff to meet property owners	Relationship with the public	4.76
2	Sufficient information sharing and discussion with property owners	Relationship with the public	4.65
3	ROW involvement in early project stage	Project Development	4.48
4	Encourage appraisers to meet property owners	Relationship with the public	4.48
5	Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	Agency's internal capability	4.45

Practices to improve the relationship with the public are ranked as the first, second, and fourth most necessary/effective practices. Here, ROW involvement in the early project phases is ranked as the third most necessary/effective practice to improve the ROW acquisition process. However, it is not yet a very frequently used practice.

3.3 Expert Interviews

During and after the statewide survey, the research team contacted some representative survey respondents for further interviews. The interviewees were selected from public and private agencies in a balanced manner, but their identities and affiliation information are not provided in this chapter to guarantee anonymity. The interviews were conducted over a period of two months from January to February 2015. Each interview focused on obtaining information, opinions, and associated historical data related to ROW acquisition projects.

The major issues to discuss regarding ROW acquisition in Minnesota were narrowed down to two items: the trustful relationship between public agencies and property owners and Minnesota Statutes Chapter 117, Eminent Domain, which was revised in 2006. The rest of this chapter summarizes the major points of the discussions with the interviewees.

3.3.1 Relationship with Property Owners

3.3.1.1 Low-Ball Offers and Fair Treatment

An interviewee who is working as a private appraiser argued that one of the main issues is fairness in the treatment of property owners. He insisted that public agencies have often used low-ball offers as a strategy to lower the price demands of property owners. In such cases, there is a perception among property owners that public agencies do not treat owners justly, and this

leads to distrust of the public agencies' offers. He indicated that the public agencies' unfair treatment causes fewer settlements between agencies and property owners and consequently results in additional litigation and expert costs, such as appraiser and attorney fees.

3.3.1.2 Negotiation and Attorneys

During the survey, respondents repeatedly reported that attorneys hired by property owners are discouraging negotiation and communication between public agencies and property owners. An interviewee who works in a county office said that property owners often hire attorneys prior to the initial offer from the public agency and "stonewall" the agency's offer. In such situations, communication becomes limited to that between the attorneys, who may have little incentive to negotiate the matter in a timely fashion. Consequently, this practice reduces the level of good faith, communication, efficient negotiation, and timely taking.

3.3.2 Eminent Domain Law

The eminent domain law was a hot button issue during both the statewide survey and interviews. The 2006 revision to the eminent domain law was intended to protect property owners from the government taking their property at unreasonable values (Schmick 2015). Statutes 117.031 Attorney Fees, 117.036 Appraisal and Negotiation Requirements, and 117.187 Minimum Compensation were the most significant changes to the eminent domain law. See Appendix C for a more detailed discussion of eminent domain law.

Attorney Fee Reimbursement

According to Statute 117.031 Attorney Fees, the public agency must reimburse property owners for their attorney and expert fees if a final award of damages exceeds 40% of the agency's last written offer, and the agency may reimburse those fees if an award is 20% or 40% above the last written offer (State of Minnesota 2014). See Appendix C for a more detailed discussion of the law concerning attorney fee reimbursement.

Statute 117.031 (a) states the following: "If the final judgment or award for damages, as determined at any level in the eminent domain process, is more than 40 percent greater than the last written offer of compensation made by the condemning authority prior to the filing of the petition, the court shall award the owner reasonable attorney fees, litigation expenses, appraisal fees, other experts fees, and other related costs in addition to other compensation and fees authorized by this chapter. If the final judgment or award is at least 20 percent, but not more than 40 percent, greater than the last written offer, the court may award reasonable attorney fees, expenses, and other costs and fees as provided in this paragraph."

An interviewee from a county office insisted that the changes to the law have resulted in more property owners seeking eminent domain with no real risk to them. He also argued that it's not uncommon to see property owners submit appraisals that are excessively high and that have wild assumptions and little to no written justification for such valuations. A city engineer also gave a similar opinion and added that such wild assumptions regarding property values often result in a large gap between the agency's appraisal value and the property owners'. An interviewee from a

consulting firm indicated that it is necessary to find a way to create a disincentive for property owners from seeking eminent domain to prevent unreasonable awards and schedule delays.

In addition, an interviewee also emphasized that the reasonable attorney fee stated in Statute 117.031 should be clearly defined to prevent unreasonably excessive fees being charged.

3.3.2.1 Appraisal Disclosure

Multiple interviewees from public agencies also indicated the time it takes to review property owners' appraisals. According to Statute 117.036 Appraisal and Negotiation Requirements, Subd. 2. Appraisal, public agencies should submit their appraisal to serve as the basis of an offer of damages at an early phase in the acquisition process.

Statute 117.036 Subd. 2. (a) states the following: "Before commencing an eminent domain proceeding under this chapter, the acquiring authority must obtain at least one appraisal for the property proposed to be acquired. [...] [T]he acquiring authority must provide the owner with a copy of each appraisal the acquiring authority has obtained for the property at the time an offer is made, but no later than 60 days before presenting a petition under section 117.055."

Statute 117.036 Subd. 2. (b) states the following: "The owner may obtain an appraisal by a qualified appraiser of the property proposed to be acquired. The owner is entitled to reimbursement for the reasonable costs of the appraisal from the acquiring authority[...] [T]he owner submits to the acquiring authority the information necessary for reimbursement, including a copy of the owner's appraisal, at least five days before a condemnation hearing."

However, as stated in Statute 117.036 Subd. 2. (b), property owners are not required to provide any appraisal information until five days before a commissioners' hearing. Because this is typically very late in the process and does not allow a public agency to review the appraisal sufficiently, the government agency must make offers of damages including last written offers with no supporting information from the property owners.

Therefore, the interviewees insisted, property owners should provide their appraisal to the public agency at least 30 or 60 days prior to the filing of a condemnation petition or allow the public agency to make a last written offer of compensation after the review of the property owner's appraisal that will be used in court proceedings. The interviewees believed that sharing such appraisal information at an early date will result in more negotiations and reasonable property values.

3.3.2.2 Minimum Compensation

During one interview, an appraiser emphasized another issue regarding eminent domain based on real court cases. If a business owner loses property by eminent domain, according to Statute 117.187 Minimum Compensation, the property owner should be compensated for the property taken based on the fair market value.

Statute 117.187 states the following: “When an owner must relocate, the amount of damages payable, at a minimum, must be sufficient for an owner to purchase a comparable property in the community and not less than the condemning authority’s payment or deposit under section 117.042, to the extent that the damages will not be duplicated in the compensation otherwise awarded to the owner of the property. For the purposes of this section, ‘owner’ is defined as the person or entity that holds fee title to the property.”

However, the interviewee pointed out several problems with this statute. First, the compensation is determined by the sale price of the original property size, which is equivalent to the sum necessary to purchase a comparable existing property, regardless of its availability for purchase. In addition, the comparable existing property should have characteristics or qualities similar to those of other properties in the “same community.” He emphasized that the word “community” can be defined in many ways, whether as a district, town, village, city, or other similar locality, which can be confusing and controversial, and the compensation covers the value of the property only, not the value of the business.

3.4 Summary

3.4.1 Summary of Statewide Survey and Interviews Results

The research team collected the opinions of diverse stakeholders involved in ROW acquisition, both from public and private agencies, using a statewide survey and interviews. Based on the potential barriers and best practices identified in the literature review, the statewide survey was designed to identify (1) how often ROW experts face a specific barrier, (2) how severely the barrier affects ROW acquisition cost increases and schedule delays, (3) how often different practices are used to overcome or prevent barriers, and (4) how ROW professionals perceive the effectiveness or necessity of each practice for improving the ROW acquisition process.

One of the major findings from the statewide survey is that the relationship and level of trust between public agencies and property owners is the most important factor in ROW acquisition. Among the five questionnaire categories, “relationship with the public” was rated as the most important category on average, and individual barriers within the category were also evaluated as important. As a result, relevant practices such as meeting property owners at the early stages of a project and sharing information were reported as important practices. As the main factor worsening the relationship between public agencies and property owners, changes to the eminent domain law in 2006 were pointed out during both the survey and interviews by respondents from public agencies. However, at the same time the research team also obtained the opposing opinion from a private agency regarding the eminent domain law. This issue was further investigated through case studies and barrier identification tasks. Changes and revisions to the ROW plan and the requirement of a mortgage were rated as important barriers to ROW acquisition by respondents because those barriers usually entail a significant amount of rework and dragging out of communication, which eventually results in schedule delays. A lack of ROW staff was also identified as an important barrier.

The results of the analysis of practices show similar implications. Encouraging ROW staff and appraisers to meet property owners and sharing sufficient information with property owners were emphasized as the most important practices. In addition, many respondents answered that their agencies have introduced advanced systems and tools, such as parcel information management systems, GIS-assisted systems, and tablet PCs, to improve the ROW acquisition process.

The expert interviews provided more detailed information on two major items: the distrustful relationship between public agencies and property owners and ROW-related Minnesota statutes, which are actually interlinked with each other. Public agencies were able to proceed with ROW acquisition with comparatively low risk before the statute revision. After the revision, property owners have more opportunities to claim a reasonable property value and hire necessary experts with less financial burden than before. However, whether the revision has been used as the legislators originally intended should be examined through further investigation.

3.4.2 Implications for Succeeding Research Tasks

This chapter analyzed ROW professionals' perceptions on the barriers and practices to improving the ROW acquisition process. As a succeeding task, the research team conducted case studies of recent ROW projects and analyzed the projects' related data to identify statistically significant factors that impacted the ROW acquisition process and contributed to delays and cost increases. Also, the identified barriers and practices described in this chapter were further studied through case studies to clearly identify the causes of those factors and their negative effects on the ROW acquisition process.

CHAPTER 4: CASE STUDIES

4.1 Overview

This chapter discusses the results of case studies of recent ROW acquisition projects. With the assistance of the survey respondents and interviewees from the previous research task, historical ROW acquisition records and information on recent ROW acquisition projects were obtained from MnDOT and local county agencies. The primary objective of the case studies was to analyze the historical ROW acquisition costs and the pattern of condemnation cases over time and to identify specific causes of the ROW acquisition cost increases. Because the negative impact of the 2006 changes to the eminent domain law on the relationship between public agencies and property owners was frequently pointed out by the interviewees as one of the major roadblocks hampering the smooth ROW acquisition process, the analysis of historical ROW acquisition costs focused on identifying any significant cost increases before and after the 2006 eminent domain law change. Also, the case studies aimed at identifying factors that have negatively affected the ROW acquisition process and potential solutions for minimizing the negative impact through interviews and further data analysis.

The case studies were conducted at three different levels: the MnDOT, county, and individual project levels (see Figure 4.1).

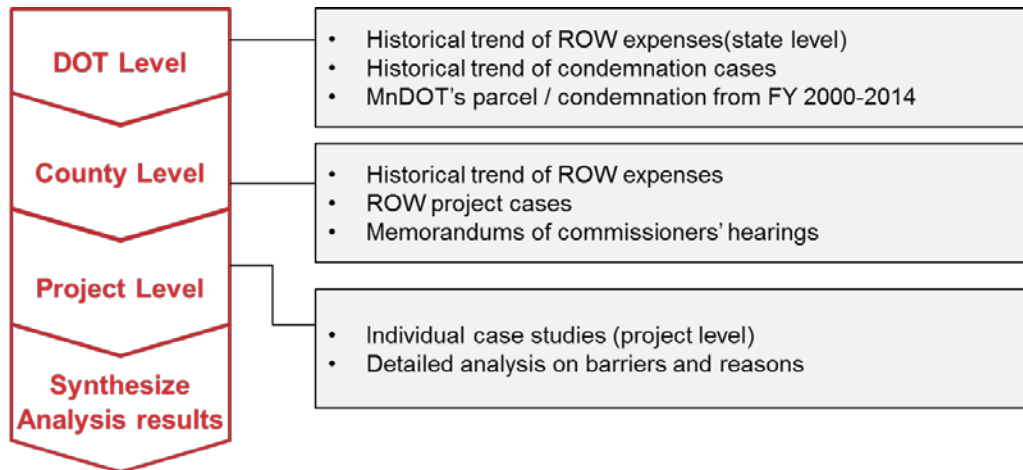
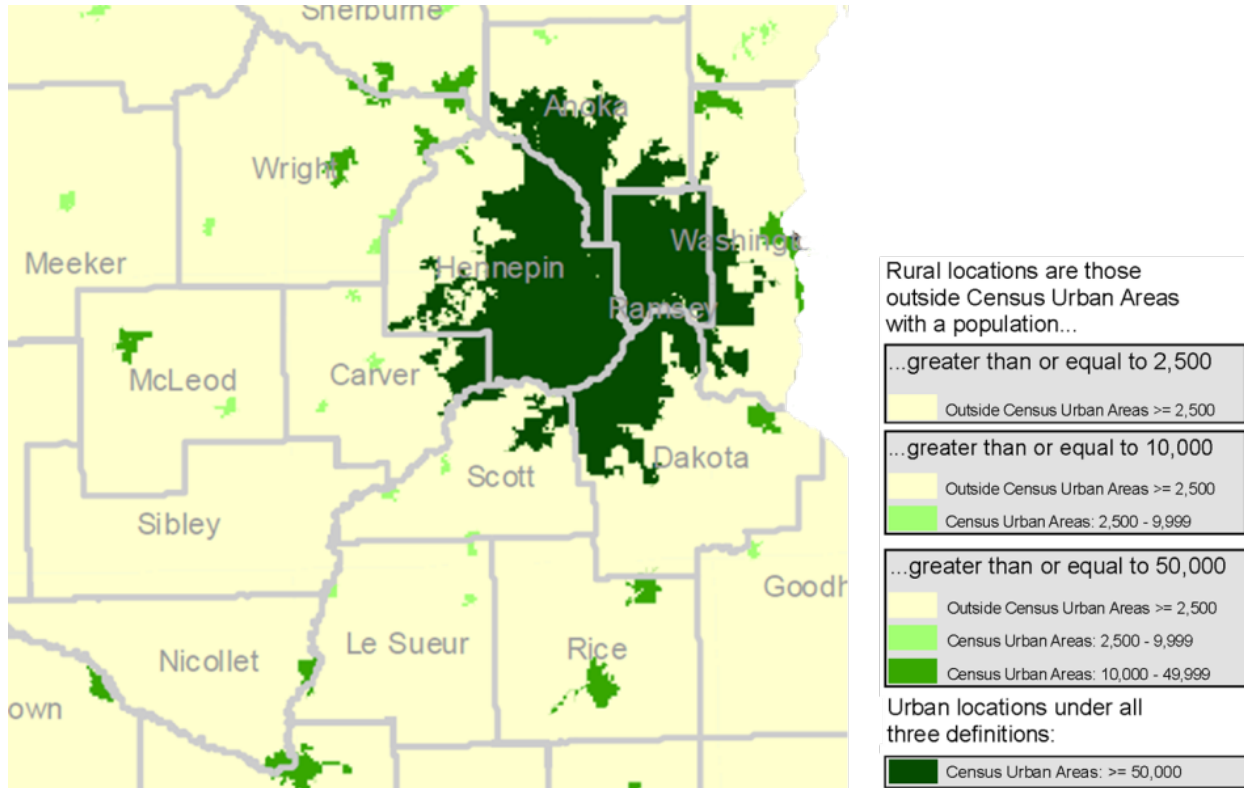


Figure 4.1 Case study approach

At the highest level, the historical parcel acquisition and eminent domain records kept by MnDOT were used to analyze the overall ROW acquisition trends and patterns in terms of the number of parcels acquired, the average acquisition costs, the percentage of condemnation cases, the cost of condemnation cases, etc. At the county-level analysis, urban counties were selected, and data from the counties' recent ROW acquisition projects were obtained and analyzed in terms of the differences between the agency's offers, the property owners' offers, and the final purchase values.

The research team learned that local agencies have been facing more condemnation cases and difficult ROW acquisition cases for parcels located in urban areas than in rural areas. As a result, the research team decided to select counties near the metropolitan areas of Minneapolis and St. Paul: Anoka, Hennepin, and Nicollet Counties (see Figure 4.2).



edited from Cromartie 2012

Figure 4.2 Rural and urban areas in Minnesota

The research team then visited the offices of public works of each county and interviewed ROW agents, county appraisers, and county attorneys and collected data from these staff for the case studies. At the project level, two roadway projects and their associated ROW acquisition data were obtained and analyzed to investigate specific reasons behind the cost increases.

4.2 Analysis of MnDOT Row Acquisition Projects

The research team collected parcel acquisition reports for the last 15 years (fiscal years from 2000 to 2014) from MnDOT's Right-of-Way Acquisition and Land Management System (REALMS). MnDOT acquired 687 parcels per year on average in that time, with 1,404 parcels in 2003 (highest) and 406 parcels in 2008 (lowest), as shown in Figure 4.3.

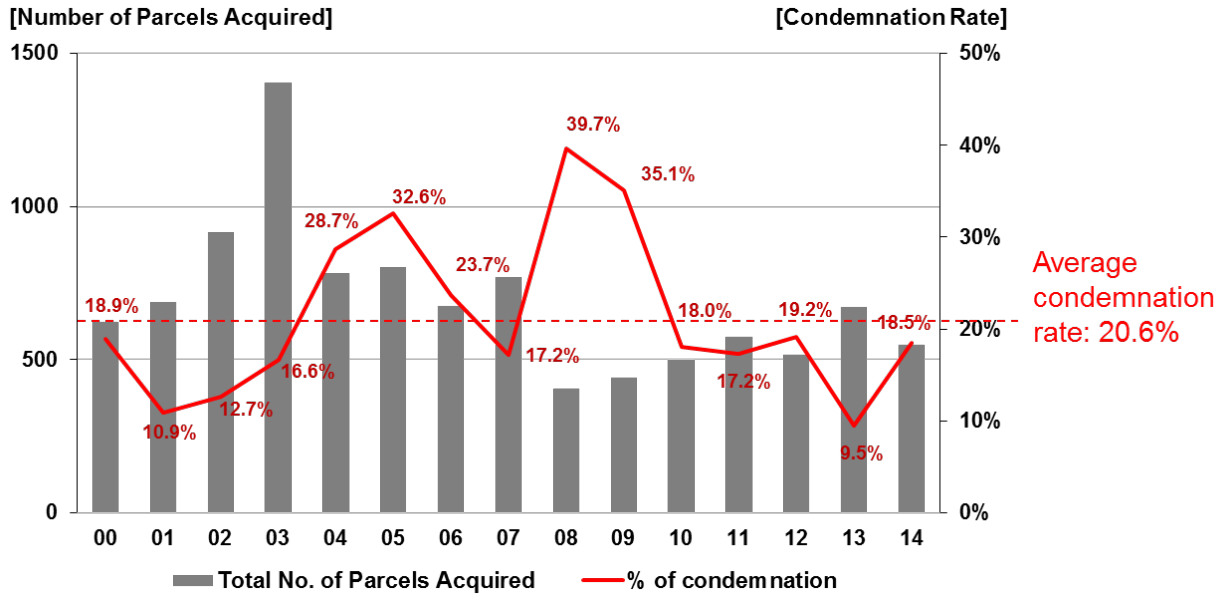


Figure 4.3 Acquired parcels and condemnation rates for MnDOT from 2000 to 2014

The condemnation rate (red solid line in Figure 4.3) has shown fluctuations over this period, ranging from 9.5% (2013) to 39.7% (2008). It continuously increased from 2001 to 2005 and then dropped in 2006 and 2007. The condemnation rate significantly increased in 2007 and 2008, and since then it has remained below 20%. Considering that the eminent domain law changed in 2006, it is not apparent from Figure 4.3 that the change to the law has made any significant impact on the condemnation rate increase except for the significant hike in 2008 and 2009.

The research team also investigated the history of acquired parcels in terms of their appraisal and final purchase amounts. Figure 4.4 shows the difference ratios in terms of the percentage of MnDOT’s annual total final purchase amounts for the acquired parcels to the annual total appraisal amounts for those parcels.

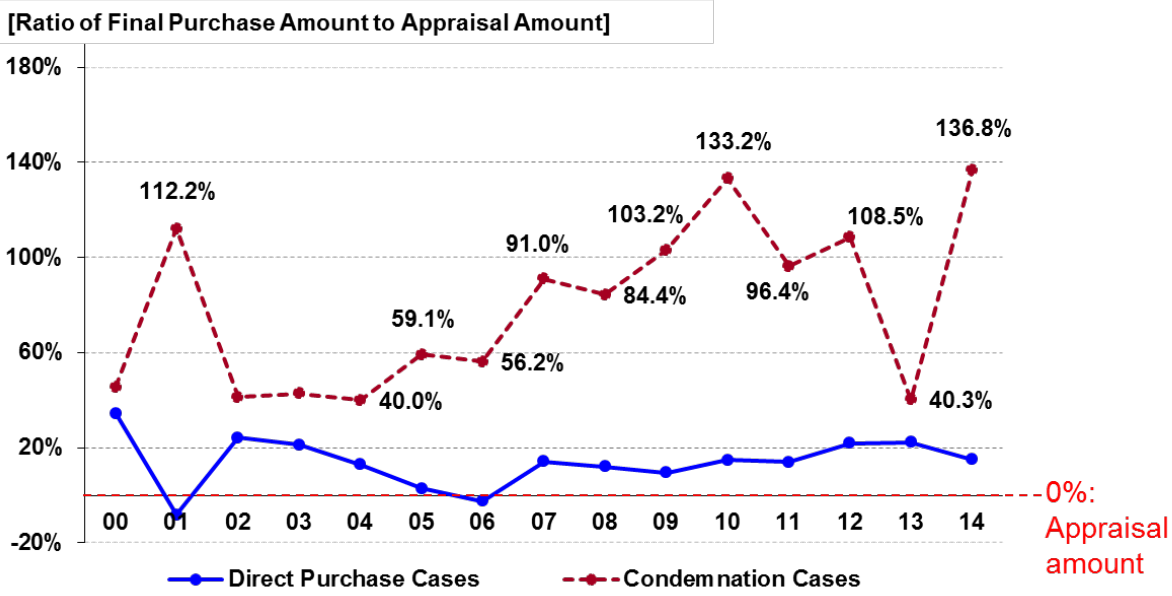


Figure 4.4 *Difference ratios of total purchase amounts to total appraisal amounts*

It can be observed that the difference ratios of the direct purchase cases (presented as the solid blue line) are within the 20% range except for the year 2000. In 2001 and 2006, the final purchase amounts were slightly lower than the appraisal amounts.

However, the condemnation cases show much larger differences between the appraisal and final purchase amounts. On average, the difference over the analysis period is 79.1%. Since 2004, the difference ratio of the total final purchase amounts to the total appraisal amounts has gradually increased, with one exception in the year 2013. Specifically, the difference has consistently increased since 2006, when the changes were made to the eminent domain law. Figure 4.4 implies that MnDOT has spent much more for acquiring parcels through condemnation since 2006.

A public agency’s expense for parcel acquisition and compensation covers not only the property value, but also reimbursements for other costs, such as attorney fees, appraisal fees, and interest. Figure 4.5 shows the difference between the total amounts paid by MnDOT and the total appraisal amounts as a ratio in percentage.

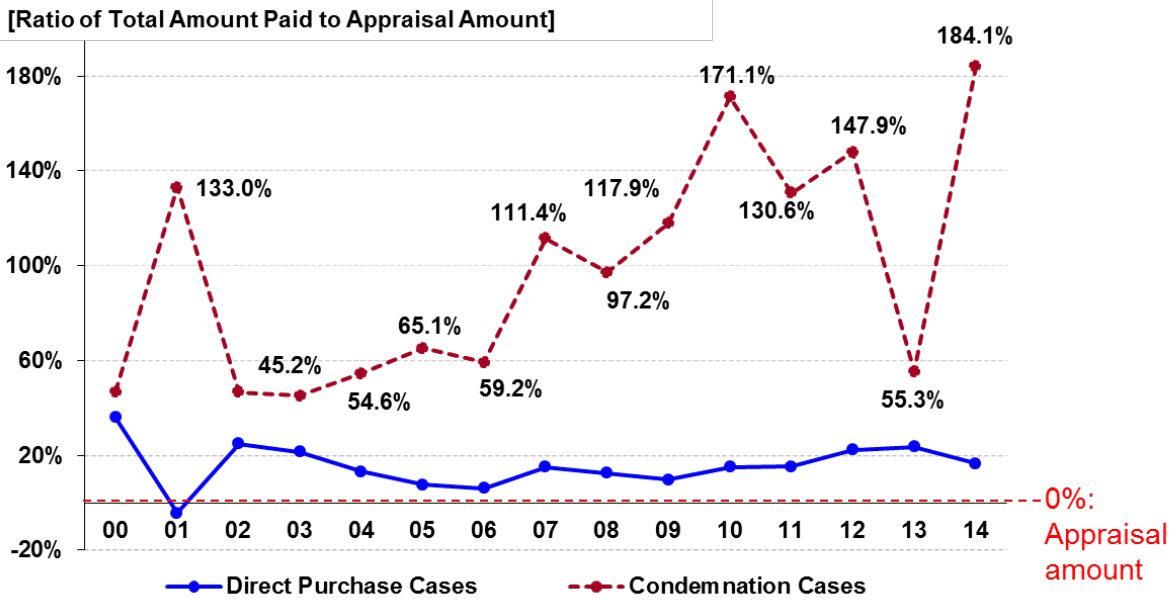


Figure 4.5 Ratio of total amount paid to appraisal amount

While the direct purchase cases do not differ significantly between Figures 4.4 and 4.5 (from 13.9% to 15.6% on average, illustrated as the solid blue line in each figure), the condemnation cases show much larger differences (from 79.1% to 97.3% on average, shown as the dashed red line). For instance, in 2014 the total final purchase amounts were 136.8% higher than the total appraisal amounts (Figure 4.4), and the total amounts paid were 184.1% higher than the total appraisal amounts (Figure 4.5). This means that MnDOT had to make extra payments for fees that accounted for 47% of the total appraisal amounts.

Both Figure 4.4 and Figure 4.5 show that there has been a considerable cost increase for ROW acquisition through condemnation since 2006 when the cost of condemnation is compared to MnDOT’s initial appraisal. Contrary to the result of Figure 4.3, which shows that there has been no significant increase in terms of the condemnation rate, such cost increases imply that acquisition of a parcel through condemnation imposes a significant financial burden for MnDOT.

4.3 Analysis of ROW Acquisition Projects in Counties

4.3.1 Case 1: Hennepin County

Hennepin County is the most populous county in Minnesota with over 1 million people, and more than half of the county consists of metropolitan areas. Hennepin County purchases approximately 70% of parcels through direct purchase, while the agency’s target rate is 85%. The research team visited the agency and discussed ROW acquisition with ROW agents, acquisition agents, and attorneys working for the agency in order to obtain the case study data and discuss the barriers affecting their ROW acquisition projects.

4.3.1.1 Data Description

The research team collected 53 ROW acquisition records for 10 recent highway projects from 2008 to 2014, which mostly included road reconstruction and expansion and bridge replacement projects. The details of the cases⁴ are shown in Table 4.1. The collected data include basic parcel information, information about the agency staff in charge of managing the case, the amount of the appraisal, the initial offer, the last written offer, the owner’s appraisal and the commissioners’ award, important dates, and other miscellaneous notes about the acquisition process. Among the collected cases, 14 cases (26.4%) were acquired through direct purchase, 19 cases (35.8%) were settled before the commissioners’ hearing, and 12 cases (22.6%) were acquired through condemnation. The other 8 cases (15.1%) are still on appeal. By ownership, 20 cases were residential and 33 cases were commercial.

Table 4.1 Hennepin County parcel acquisitions

Types of acquisition	Number of cases		
	Residential	Commercial	Subtotal
Direct purchase	4	10	14 (26.4%)
Condemnation			
Settled before the hearing	9	10	19 (35.8%)
Commissioners’ hearing	6	6	12 (22.6%)
On Appeal	1	7	8 (15.1%)
Subtotal	20	33	53

ROW Acquisition Costs

A comparison between the last written offer, the owner’s appraisal, and the final award amount was conducted for these 53 cases and analyzed. Figure 4.6 shows the change between (1) the initial offer and the last written offer of the agency, (2) the initial offer and the owner’s appraisal amount, and (3) the initial offer and the final award amount, i.e., the settled amount, of the 14 direct purchase cases.

⁴ Because each ROW acquisition record was organized for each property owner, one record unit may include one or more parcels that belong to the same owner. Therefore, this chapter uses the term “case” rather than “parcel” to distinguish this difference. As a result, a case may include multiple parcels owned by one owner.

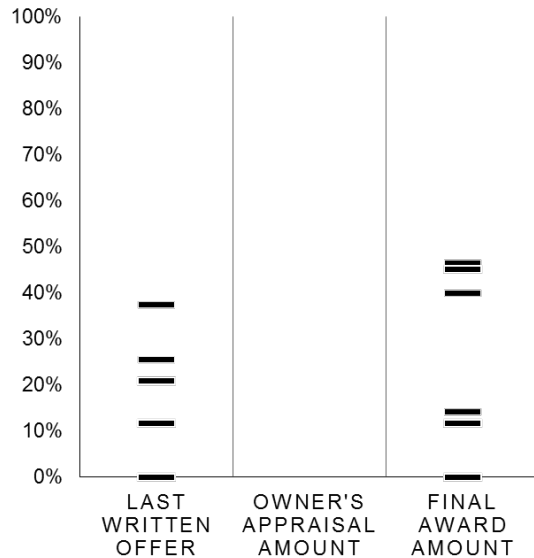
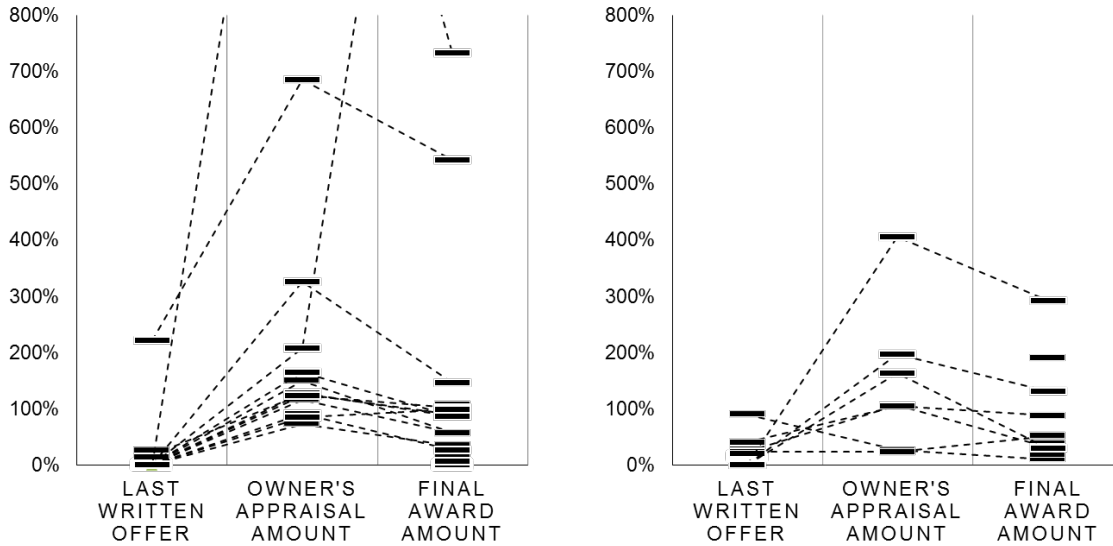


Figure 4.6 Increase amount over initial offer – direct purchase cases

In Figure 4.6, a value of 0% indicates that there was no change from the initial offer. Therefore, each mark indicates the percentage change from the initial offer. As shown in Figure 4.6, the differences between the initial and last offer were less than 50%, and the differences between the initial offer and the final award amount were similar. This finding implies that the agency's last written offer was very close to the property owner's request.

Figure 4.7 shows the amount of increase in terms of the percentage of (1) the last written offer compared to the initial offer, (2) the owner's appraisal amount compared to the initial offer, and (3) the final award amount—either the settled amount or the commissioners' award amount—compared to the initial offer for the other 31 condemnation cases.



(a) Settled cases before the hearing (b) Awarded through the hearing

Figure 4.7 Increase amount over initial offer – condemnation cases

Figure 4.7 (a) and (b) show the cost variances of the settled cases before the commissioners' hearing and the condemnation cases after the hearing, respectively.

For the cases settled before the hearing, the average difference between the initial offers and the owner's appraisal amounts was 304.3% (73.1% at minimum and 1,677.8% at maximum). The average difference between the initial offers and the final award amounts was 214.5% (0% at minimum and 1,859.2% at maximum). It should be noted that two extreme cases with differences of over 800% are not displayed in Figure 4.7 (a) due to the scaling issue on the vertical axis.

Condemnation cases show similar results (Figure 4.7 (b)). While the gaps between the initial offers and the last written offers were less than 100%, the gaps between the owner's appraisals and the final award amounts varied widely, up to even 405.9%. The average difference between the owner's appraisals and the initial appraisals was 146.5%, and the average difference between the final award amounts and the initial appraisals was 79.3%. Although the analysis was conducted based on 10 randomly selected projects, the results shown in Figure 4.6 and 4.7 indicate that Hennepin County has seen a significant ROW acquisition cost increase compared to its initial budget based on the appraisals.

Moreover, the review of acquisition record documents for individual cases has shown that owners tend to increase their appraisal amounts shortly before the commissioners' hearing to meet the 20% or 40% threshold value over the agency's last written offer so that the owner would be eligible for reimbursement of attorney fees, appraisal fees, and other fees. The results of this review imply that the eminent domain law is often misused and causes an increase in agencies' excessive spending on ROW acquisition.

4.3.1.2 Discussion and Implications

The results of the analysis of Hennepin County's ROW acquisition records show that the increased cost of ROW acquisition has created a serious condition. While direct purchase cases were completed within a 50% cost variance, condemnation cases were resolved at a cost of several hundred percent over the agency's initial appraisal. The meeting participants indicated that ROW acquisition has become much more difficult since the eminent domain law change in 2006, because the number and costs of the condemnation cases have significantly increased. More importantly, the participants reported that communication and negotiation with property owners has become difficult because attorneys hired by the owners tend to discourage it. The meeting participants said that limited communication with the property owners may cause incorrect initial appraisals because the agency's appraisers may not be able to obtain sufficient information about the parcel to be acquired for accurate appraisal.

The participants also indicated that the short time window for reviewing owners' appraisals is an important problem. Under the current law, the owner's appraisal should be disclosed at least five days before the hearing. Because the agency usually handles more than 20 or 30 cases per hearing, the agency does not have enough time to review each appraisal and prepare the hearing adequately. In addition, the participants insisted that it is not uncommon to see unreliable or unreasonable owners' appraisals requesting an extremely large amount of compensation. The agency believes that such large monetary values may affect the commissioners' judgments in making the award amount decision.

Another issue reported by the Hennepin County meeting attendees was regarding the mortgage lenders. Like ordinary property owners, mortgage lenders also have the right to hire their own surveyors and appraisers and communicate with property owners. Hennepin County reported that mortgage lenders are not typically a significant factor in the cost increase yet, but they usually delay the agency's internal work and the overall acquisition process because mortgage lenders typically take a much longer time than individual owners to manage the paperwork for parcel acquisitions. As a result, it is necessary to develop ideas to promote information sharing between lenders and the agency and to facilitate the process of streamlining ROW acquisition for the parcels with mortgages.

The case study of Hennepin County indicates that it is necessary to develop a guideline or a regulation that can prevent property owners from producing excessive and unjustifiable appraisal values. In addition, it is necessary to make changes to the commissioners' hearing process so that public agencies can have sufficient time to review and respond to the owners' appraisals and effectively manage them better.

4.3.2 Case 2: Anoka County

Anoka County is the fourth most populous county in Minnesota. According to Anoka County Public Works, the county usually prepares a quick-take and condemnation for about 60% of the total parcels to avoid a ROW schedule delay before the letting. However, the agency keeps negotiating with property owners in order to minimize the condemnation cases. As a result, the proportion of the parcels that go to the commissioners' hearing is usually about 5% of the total

parcels, i.e., about 55% parcels are usually acquired through negotiation before the hearing. In a meeting with ROW professionals working for Anoka County, the meeting participants said that even though there are some owners who are not favorable to the acquiring agency and ROW acquisition is a difficult activity, they have been managing it relatively well through negotiation efforts.

4.3.2.1 Data Description

From Anoka County, ROW acquisition data for 76 cases from one highway project—the County State-Aid Highway (CSAH) 14 reconstruction project—were collected. Among the 76 collected cases, 19 cases were removed due to missing data and 57 cases were used for the analysis. The collected data include parcel ID, important dates such as date on which agency letter was sent and the date on which the negotiation was settled, initial offer amount, and final award amount. The collected cases include parcels acquired through both direct purchase and condemnation. However, the differentiation of these two cases was not made in the following analysis because the data obtained did not distinguish between the two.

4.3.2.2 ROW Acquisition Costs

Figure 4.8 shows the histogram of the ratios (%) of the final award amounts to the agency’s initial offers.

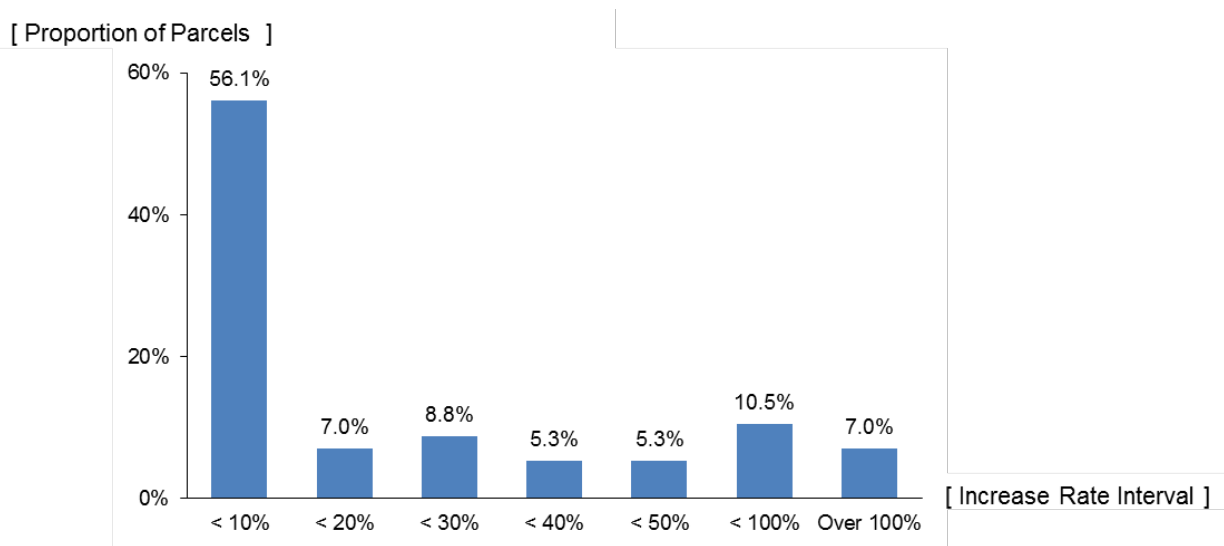


Figure 4.8 Amount of increase over the initial offer

The horizontal axis represents the intervals of the rate of increase from the agency’s initial offer amount, and the vertical axis shows the proportion of parcels corresponding to each interval. For example, 56.1% of cases (32 of the total 57 cases) were awarded less than a 10% increase from the initial offer, and 26.3% of cases were awarded an amount between 10% and 50% more than the initial offer.

Compared to the Hennepin County cases, the recent ROW acquisition cases of Anoka County were in general successful in terms of the costs, despite the fact that there are four cases with over 100% increases and one extreme case of a 2,009% increase. It was found that such cases were caused by the county appraiser's miscalculation, plan changes, and additional compensation for a new owner due to a foreclosure during ROW acquisition.

4.3.2.3 Discussions and Implications

Anoka County has managed ROW acquisition for the projects examined in this case study with a low level of cost increase and a low rate of condemnation. The meeting participants said that the "continuous effort for negotiation" has made this possible. However, the meeting participants also indicated several problems that make the ROW acquisition process more difficult. In many cases, property owners are not cooperative with the county appraisers in estimating the property value and developing the initial offer. Sometimes property owners do not even allow the appraisers to enter their property, which makes the appraisal inaccurate or unreasonable. The meeting participants said that this is one of the major causes of the increase in the final award amounts compared to the initial offers.

In addition, Anoka County provided one example of a successful "continuous effort for negotiation." During the initial contact with one owner, the agency visited the owner of a large commercial property that would be temporarily affected during the construction. The ROW agent took a design engineer from the agency, and they were able to provide detailed information and the potential impacts of the project on the owner's property. The input from the owner helped the agency make some design changes to minimize the damage to the existing facility and consequently encouraged the owner to negotiate more actively with the agency. But the participants said that this was an exceptional case because it is almost impossible to let design engineers meet every property owner and make design changes due to the agency's limited staff and the tight project schedule.

4.4 Analysis of Individual Projects

4.4.1 CSAH 14 Reconstruction Project

4.4.1.1 General Information

The CSAH 14 reconstruction project near residential and commercial areas in Coon Rapids, Anoka County, was completed in 2013. This project included a new overpass at a railroad and supporting retaining walls, reconstruction of CSAH 14, sewer and utility relocations, and other related work (Figure 4.9).

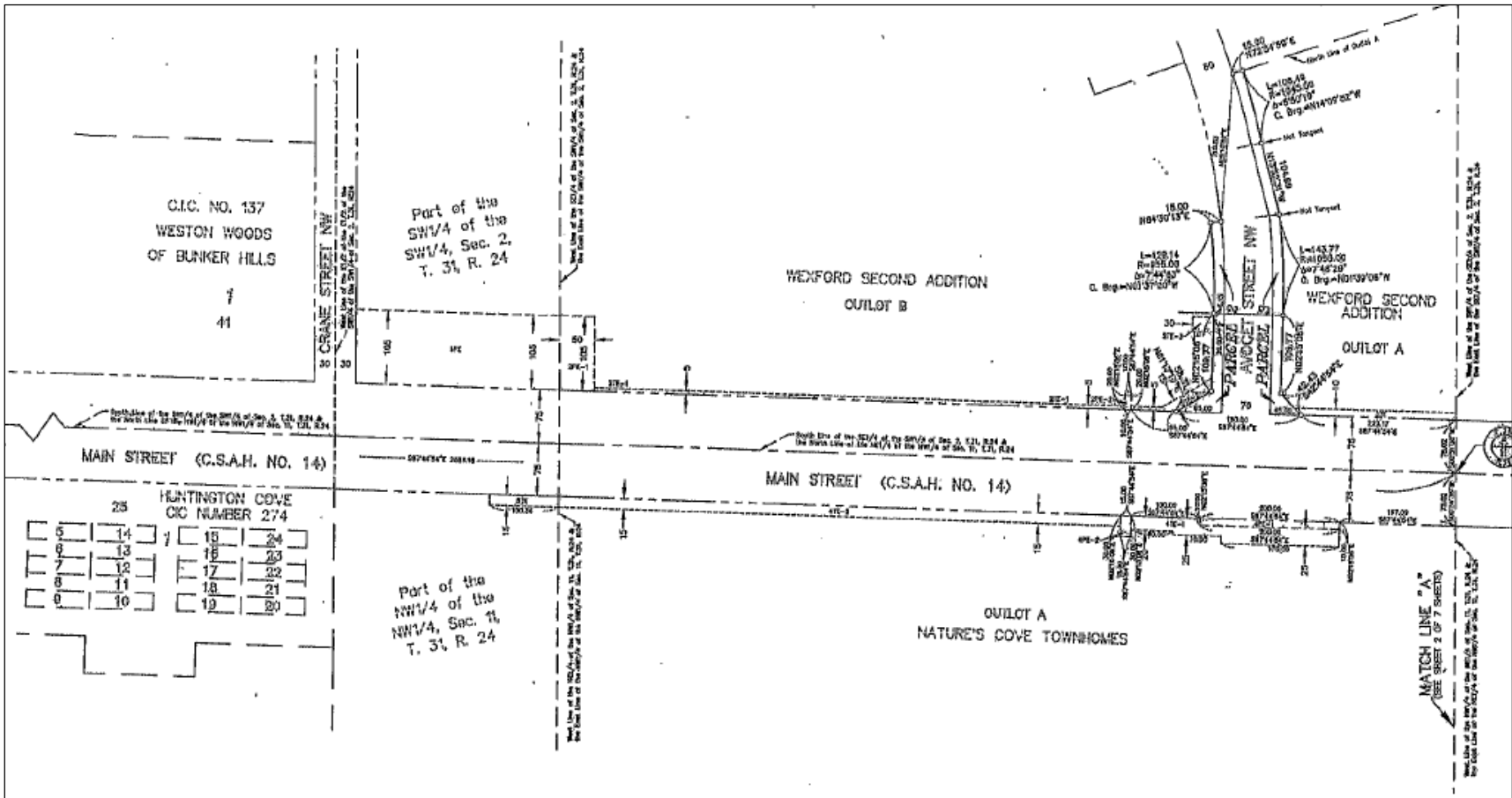


Figure 4.9 Part of the CSAH 14 project plans – provided by Anoka County

4.4.1.2 ROW Acquisition Issues

ROW acquisition for this project was completed with most of the cases acquired with a small amount of increase in compensation, as illustrated in the previous section and Figure 4.8.

However, there was a parcel with a significant amount of increase due to a zoning issue. The parcel was originally zoned as low-density residential district 2 (LDR2), and the agency's appraisal was made based on the same condition for a single-family unit at \$368,000. However, the owner's appraiser argued that the parcel should be considered a medium-density residential (MDR) zone after the project⁵. Therefore, the owner's appraiser valued the highest and best use of the multi-use single senior apartments at \$1,630,000 (342% higher than the initial offer), because the zoning changed midway through the project. Consequently, this parcel was awarded \$810,000 (120% higher than the initial offer) through the commissioners' award.

4.4.1.3 Implications

Although the meeting participants acknowledged the necessity of owners' appraisals, they indicated problems during the condemnation process. As illustrated in the aforementioned case with the zoning issue, the owner's appraiser could supplement and correct the defects in the acquiring agency's appraisal and estimation of the property value when the agency misses important factors to be considered. However, the ROW agents of the public agency often have difficulty in obtaining enough information from property owners and are sometimes prevented by uncooperative owners from entering into the property. Such limited access to the property information can lead to a poor appraisal, an incorrect initial offer from the agency, and consequently a final award with a large variance from the initial offer. This would also contribute to a significant delay in the acquisition process. Therefore, it is imperative to find a way to encourage property owners to more effectively cooperate and communicate with the agency.

4.4.2 CSAH 41 Improvement Project

4.4.2.1 General Information

The CSAH 41 project is a highway improvement project in the City of North Mankato, Nicollet County (Figure 4.10). Most parcels to be acquired for this project were located in rural areas, but the agency handled three difficult condemnation cases near the metropolitan area over three years.

⁵ According to the MnDOT *Right of Way Manual*, if there is a possibility of a change in zoning, the highest and best use for such zoning should be stated and a reference made to the section on zoning for a full discussion of the change (MnDOT 2015).

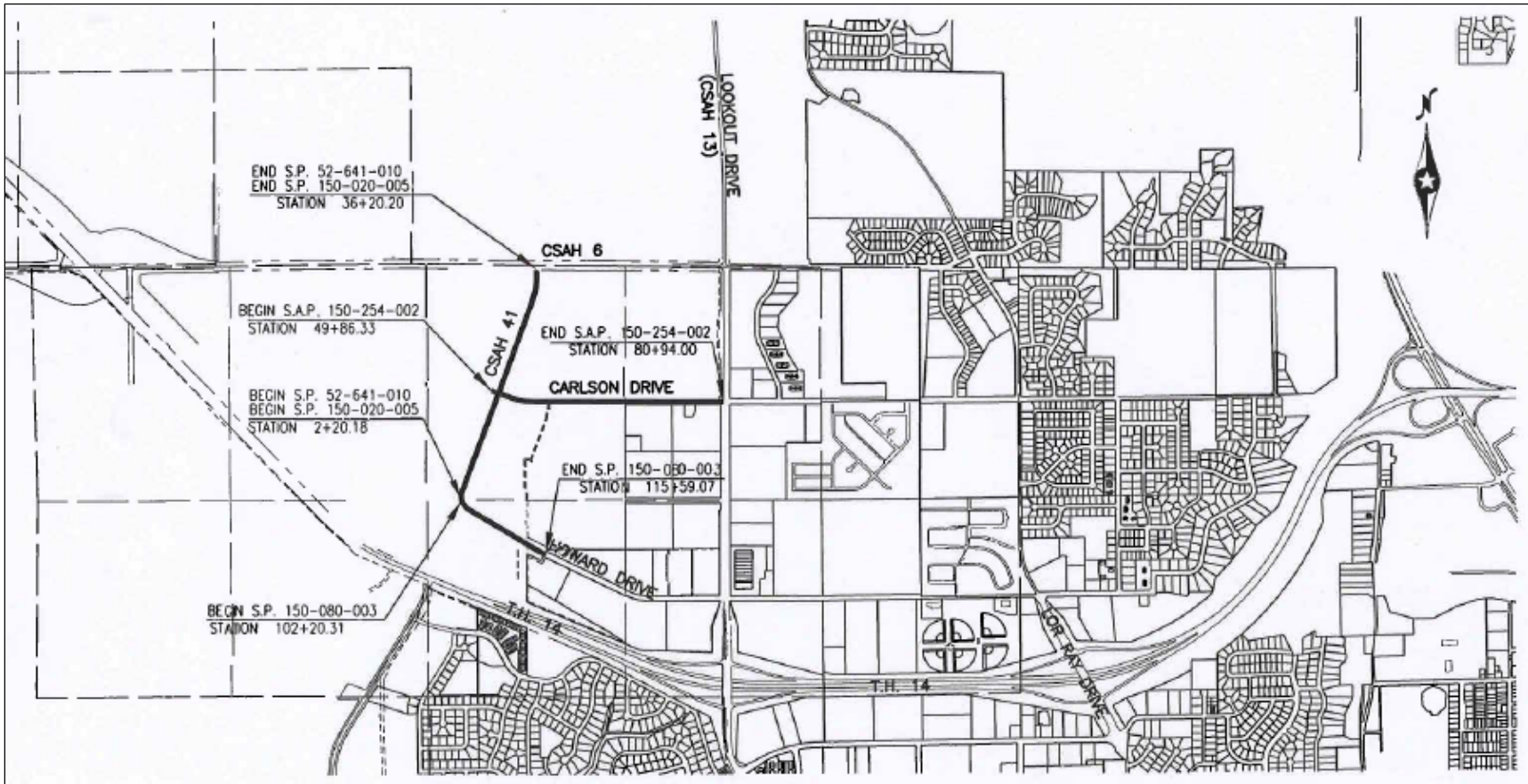


Figure 4.10 CSAH 41 project's overall plan – provided by Nicollet County

4.4.2.2 ROW Acquisition Issues

Three property owners with multiple parcels decided to go to condemnation in this project. Figure 4.11 shows the differences between the last written offer, the owners' appraisal, and the final award amount when the agency's initial offer is used as a base cost.

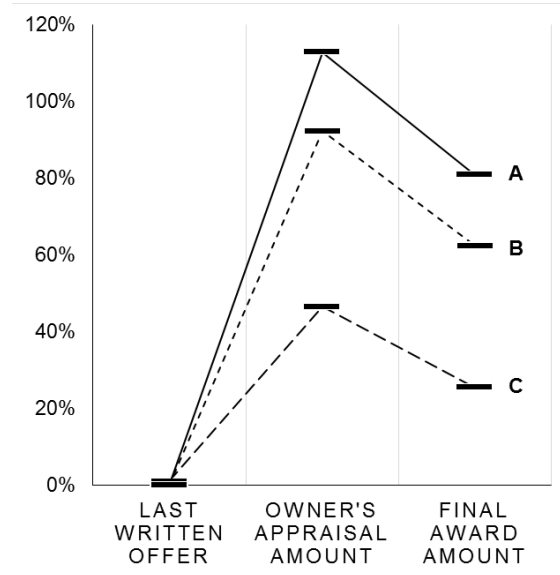


Figure 4.11 Amount of increase over the initial offer – three property owners

While there is almost no difference between the initial and last written offers of the agency (0%, 1%, and 0%) for the three cases, the owners' appraisals were 112%, 92%, and 46% higher than the corresponding initial offers of the agency. The final award amounts for each owner were 80%, 62%, and 25% higher than the corresponding initial offers.

For these condemnation cases, it was found that property owners A and B never negotiated or disclosed their appraisals for the agency's consideration until they had to go to condemnation. In addition, when the agency revised its last written offer after reviewing the appraisal from property owner C, owner C also raised his/her appraisal before the commissioners' hearing to meet the 40% threshold value over the agency's offer so that the owner would be eligible for reimbursement of associated fees.

Table 4.2 shows the benefits and attorneys' fees—including expert witness costs—of each condemnation case. Because the benefits exceeded the 20% threshold value, all three owners were reimbursed for the attorneys' fees without any upper limit.

Table 4.2 Appraisal, award amount, and attorneys' fees – three property owners

Case	Appraisal and Award Amount			Attorneys' Fees	
	Last written offer (a)	Final award (b)	Benefit (c: b-a)	Fee	(% of benefit)
A	\$18,800	\$34,000	\$15,200	\$8,574	56.4%
B	\$788,500	\$1,280,000	\$491,500	\$178,666	36.4%
C	\$72,465	\$90,000	\$17,535	\$9,615	54.8%

4.4.2.3 Implications

The meeting participants said that the three property owners did not want to disclose their appraisals so that the agency could not develop a counteroffer before the hearing. As owner C did in this case, owners may get another appraisal before the commissioners' hearing that is higher than the first appraisal to meet the 20% or 40% threshold. This implies that there should be a limitation on the number of owner' appraisals so that property owners cannot get as many appraisals as they want and keep driving their prices up, unless such a limitation would prevent just and adequate compensation for property owners.

4.5 Summary

4.5.1 Summary of the Case Studies

While previous tasks for this research project reviewed the literature and solicited ROW practitioners' opinions through a statewide survey and interviews, this chapter analyzed historical ROW acquisition records and parcel acquisition cases. The research team visited MnDOT and county agencies, collected historical ROW acquisition data, and discussed ROW-related issues with ROW agents, appraisers, and agency attorneys.

It was observed that there was a large difference between the acquiring agency's initial appraisal and the final award amount in condemnation cases. Specifically, the MnDOT data clearly showed that the difference between the appraisal amount and the final purchase amount has continuously increased since 2006, when the eminent domain law change went into effect, whereas the number of annual parcel acquisitions and the condemnation rate showed no significant and noticeable pattern. Hennepin County's recent ROW acquisition cases and the CSAH 41 project in Nicollet County also revealed that final award amounts were higher than the agency's appraisals. Additionally, the property owners' appraisal amounts were much higher than the final awards. This implies that agencies have spent much more than their originally estimated budget on ROW acquisition, and it is becoming difficult to develop a budget plan and timeline to manage ROW acquisition activities.

The CSAH 14 project in Anoka County showed somewhat different results. In 57 acquisition cases for this project, more than half of the cases were awarded less than a 10% increase from the agency's initial offer, and only 17.5% of cases were awarded more than a 100% increase. However, the analysis results are limited to a single project; therefore, this project should not be

generalized and used as a representative case for the county. In addition, many of the agency's meeting participants indicated similar problems to those that were raised by other agencies, such as uncooperative property owners during appraisal and negotiation, unreliable or fraudulent owners' appraisals, long condemnation processes, tight timelines to complete ROW acquisition, etc.

4.5.2 Implications

During the statewide survey and expert interview activities, the research team received both positive and negative opinions about the consequences of the 2006 changes to the eminent domain law. The research team found that the cost of ROW acquisition has significantly increased since 2006, and it is becoming a more important issue for both MnDOT and county agencies. In addition, as shown for the Hennepin County cases and the CSAH 41 project in Nicollet County, the change between the last written offer amount and the initial offer of the acquiring agency is typically minimal, whereas the difference between the owner's appraisal and the final award amount is significantly larger. This implies that the acquiring agency cannot obtain sufficient information to estimate property values and that communication between the agency and the property owners is insufficient.

Therefore, changes to the current ROW acquisition process should account for three primary issues: (1) promote and facilitate open communication and information sharing between the acquiring agency and property owners, (2) help the acquiring agency sufficiently review and respond to the owner's appraisal and other requests, and (3) minimize and prevent the misuse of the eminent domain law, such as owners repeatedly making additional appraisals before the commissioners' hearing only to meet the 20% or 40% threshold, regardless of the just compensation.

The following chapter will focus on examining various barriers that hamper the smooth ROW acquisition process. The root causes of the barriers can be identified by applying a cause and effect analysis framework. A comprehensive list of barriers and their associated causes will be tabulated and prioritized based upon each cause's potential effect on the cost and time increases for ROW acquisition.

CHAPTER 5: IDENTIFICATION OF BARRIERS AND CAUSES

5.1 Overview

This chapter summarizes the barriers to the ROW acquisition process that were identified in the previous three chapters. It also explains the root causes of the barriers using the analysis framework of internal and external reasons.

5.2 Identification of Barriers

This study has identified 22 barriers through a literature review, a questionnaire survey, and case studies (see Table 5.1). The barriers are organized into five categories: (1) project delivery, (2) agency's internal capability, (3) relationship with the public, (4) appraisal and acquisition, and (5) legislative and other issues.

Table 5.1 Barriers to ROW acquisition

Category	No.	Barrier	Literature Review	Surveys and Interviews	Case Studies
Project delivery	1	ROW plan changes and revisions	√		
	2	Lack of coordination and sequential hand-off environment among project teams	√		
	3	Tight schedule for ROW acquisition tasks		√	
Agency's internal capability	4	Lack of appraisers' knowledge, skills, and experience	√		
	5	Lack of ROW staff's experience	√		
	6	Insufficient number of ROW staff or appraisers	√		
Relationship with the public	7	Property owners' distrust of agency and/or appraisal	√		
	8	Less communication between the agency and the public including property owners	√		
	9	Limited information provision to the public (e.g. price disclosure)	√		
	10	Absence of motivation for property owners to settle early		√	
	11	Property owner's fatigue due to repeated permission requests		√	

Category	No.	Barrier	Literature Review	Surveys and Interviews	Case Studies
Appraisal and acquisition	12	Delays in the appraisal report delivery	√		
	13	Late disclosure of the owner's appraisal (MN Statute 117.036 Sub.2.(b))		√	
	14	Limited access to the property due to the resistance of the property owners			√
	15	Mortgage lenders' work delay		√	√
	16	Repeated appraisal of the property owners			√
Legislative and other issues	17	Excessive attorneys' fees/ Absence of the upper limit of the attorney fees		√	√
	18	Absence of a time limit for the condemnation action		√	
	19	Excessively high and unjustifiable appraisal values from owners		√	√
	20	Appointment of the commissioners for the hearing		√	√
	21	Requirement of mortgage releases for low-value takes	√		
	22	Limited authority of field-level ROW personnel	√		

From the extensive literature review, common barriers reported in previous studies were identified and documented. These barriers were used in the statewide survey to confirm that they are relevant to Minnesota's ROW acquisition processes and practices. The survey also helped the research team to identify two Minnesota-specific barriers: (a) the adverse effects of the changes to the eminent domain law in 2006 and (b) uncooperative work environments within public agencies. During the case studies, the effects of some of the identified barriers were more clearly examined and documented, and the two additional barriers were identified.

5.2.1 Barriers in the Project Delivery Process

Three barriers were identified in the "project delivery" category:

- 1) *ROW plan changes and revisions*: If the ROW plan is changed or revised for some reason, such as an engineering design change or ROW acquisition issues, the ROW staff must incorporate those changes into the ROW acquisition process, which typically results in a delay of the agency's internal work.

- 2) *Lack of coordination and sequential hand-off environment among project teams:* This barrier was originally identified during the literature review but was also emphasized in the statewide survey and interviews. It was repeatedly reported that the engineering design team and the ROW staff, including ROW agents and attorneys, do not cooperate from the early project planning stage, which often causes problems and rework due to insufficient communication. Many studies (Cambridge Systematics 2006, Moeller et al. 2002, Kockelman et al. 2004) also emphasized that all teams and even the public should be involved at the early project planning stage so that the agency can determine the design alignments that are likely to be problematic when acquiring private properties, thus helping avoid potential litigation in advance.
- 3) *Tight schedule for ROW acquisition tasks:* Many survey respondents and interviewees indicated that it was usually difficult to complete the ROW acquisition tasks within the given timeline with a limited amount of staff and a heavy workload.

5.2.2 Barriers Related to the Agency's Internal Capability

Three barriers were determined to be relevant to the “agency’s internal capability” category:

- 4) *Lack of appraisers’ knowledge, skills, and experience:* The professional competency of appraisers is the key to developing proper appraisals of the properties under consideration. The competency of an appraiser encompasses the knowledge, skills, and experience of property appraisal. An appraiser’s incompetence may result in incomplete appraisals due to mistakes such as the omission of items, incorrect zoning, miscalculations, poor judgment, etc. The result would be inaccurate appraisals and rework.
- 5) *Lack of ROW staff’s experience:* The level of experience of ROW staff plays a key role in successfully acquiring properties and is important for managing and administering some of the critical ROW acquisition activities. The staff should be able to understand and interpret the property owners’ concerns and other stakeholders’ issues and effectively handle them during the ROW acquisition process. A highly experienced and well-coordinated ROW staff will be able to facilitate smooth communication with property owners and other stakeholders and will acquire properties through good faith negotiations and minimize the number of condemnation cases.
- 6) *Insufficient number of ROW staff or appraisers:* The internal staffing level for ROW acquisition activities has continued to drop in many local agencies. For this reason, outsourcing activities have generally increased over time. This changed business environment has created difficulty for the acquiring agency to maintain and improve its expertise, and, more importantly, it places a great burden on agency staff when the number of condemnation cases increases, because many condemnation cases often drag on for several years.

5.2.3 Barriers Related to the Relationship with the Public

Five barriers were identified that are relevant to the “relationship with the public” category:

- 7) *Property owners’ distrust of agency and/or appraisal*: It is not uncommon to find property owners who believe that the acquiring agency would not present an offer at a fair market value and just compensation. This group of property owners often refuses to communicate with the ROW agents or agency appraisers. They hire their own appraiser and attorneys and push for a condemnation. Some property owners simply distrust any information from the acquiring agency and believe that only a condemnation can result in just compensation. Some others may simply be interested in maximizing their compensation, and the condemnation is their leveraging tool to accomplish this goal.
- 8) *Less communication between the agency and the public, including property owners*: ROW staff sometimes faces difficulty in communicating with property owners. Poor communication usually results in incomplete information to develop the agency’s appraisal, insufficient opportunities for negotiation with the property owners, and lack of good faith in ROW acquisition efforts. Various effective tools to encourage the property owners to open and maintain a communication channel with the acquiring agency will result in the agency purchasing properties through negotiation.
- 9) *Limited information provision to the public (e.g., price disclosure)*: The provision of sufficient information to property owners is a critical component for increasing operational efficiency and reducing the time for ROW acquisition (Aleithawe 2013). If important information such as real estate price and appraisal estimate is not readily available, this lack of information typically leads to delays and additional costs. Minnesota is a price disclosure state. Therefore, this issue is not a critical barrier. However, the immediate availability of information that interests property owners and the willingness of the agency to work with property owners to get the information that the property owners need would greatly help reduce the number of condemnation cases that result from the distrust of the property owners.
- 10) *Absence of motivation for property owners to settle early*: Under the current system, property owners do not have motivation to accept the agency’s offer early because there is no incentive for them. Some owners strongly believe that they can get more compensation if they reject the agency’s offer and go to the condemnation. Accordingly, it is necessary to provide incentives to increase the owner’s motivation to settle early. For example, VDOT tested a pilot project in which an incentive payment was offered in addition to the relocation payment based on an early move date, and VDOT was able to accomplish significant schedule reductions (FHWA 2014).
- 11) *Property owner’s fatigue due to repeated permission requests*: Good communication with property owners is important to build trust, minimize misunderstanding, and ensure that both the owners and the agency are on the same page, but that does not mean that an excessive amount of communication is acceptable. Property owners are busy people too. Too many repeated permission requests may lead to the owner’s fatigue and distrust of the agency. Use

of interactive mapping, on-site printing, and visual presentation of ROW-related data may increase the overall efficiency of communication.

5.2.4 Barriers Related to Appraisal and Acquisition

Five barriers were identified in the “appraisal and acquisition” category:

- 12) *Delays in the appraisal report delivery*: The delivery of the appraisal report to the property owner may be delayed due to issues such as design errors or delays in the appraisal or in the appraisal review. Because ROW acquisition has a limited timeline and the appraisals of both the agency and the property owner should be disclosed and shared with each party in an appropriate time frame, delays in the delivery of the appraisal report can be a significant barrier to completing the ROW acquisition within the schedule.
- 13) *Late disclosure of the owner’s appraisal*: Under current law (117.036 Subd. 2.(a)), an agency that is trying to acquire a parcel through condemnation must provide its appraisal (last written offer) no later than 60 days before a petition, whereas property owners have to submit their appraisal at least 5 days before a hearing. Many ROW staff members showed frustration over this seemingly unfair regulation for the agency and emphasized that the property owner’s appraisal should be provided earlier so that the agency has sufficient time to review the appraisal and prepare for a settlement.
- 14) *Limited access to the property due to the resistance of the property owners*: This barrier is also related to the relationship with property owners and the property owners’ attitudes toward the agency. When an agency’s appraiser is visiting and investigating a private property for the agency’s appraisal, some uncooperative property owners do not provide sufficient information about the property and even block the agency’s appraiser from entering the property. Such limited access may cause an incomplete appraisal, ROW acquisition delay, rework, and, in the worst case scenario, a condemnation case.
- 15) *Mortgage lenders’ work delay*: In cases of acquiring a parcel with a mortgage, the mortgage lenders also have the right to hire their own surveyors and appraisers and communicate with property owners. Some local agencies reported that the mortgage lenders usually increase the time it takes to manage the ROW acquisition process due to additional work tasks such as information release, modification to the original mortgage, surveying, zoning inspection, appraisal, and associated paperwork. This barrier may not necessarily lead to a cost increase, but it often causes a significant delay of the agency’s internal work, and because of the delay the property acquisition may be settled through a condemnation.
- 16) *Repeated appraisals of the owner*: This barrier is highly related to the changes to the eminent domain law in 2006 and the associated reimbursement guideline governing the attorney fees in the eminent domain law. When an agency revises its last written offer in consideration of an owner’s appraisal, some owners raise their appraisal again before the commissioners’ hearing just to meet the 40% threshold value over the agency’s offer so that the owner is

eligible for reimbursement of the legal fees. A ROW professional mentioned that some property owners do not like to receive a revised offer from the agency and repeatedly make additional appraisals before the commissioners' hearing to meet the 20% or 40% threshold value.

5.2.5 Barriers Related to Legislative and Other Issues

Six barriers were identified related to the "legislative and other issues" category:

- 17) *Excessive attorneys' fees*: This barrier is related to barrier #16. Some survey respondents and interviewees mentioned that some attorneys who are hired by the property owners request an excessive amount of service fees for a condemnation.
- 18) *Absence of a time limit for the condemnation action*: Similar to barrier #10 "absence of motivation for property owners to settle early," there is currently no limit to the schedule to complete the condemnation proceeding. Many survey respondents and interviewees said that it is common for a condemnation case to continue over a year and even four to five years, which creates a significant burden for an agency with a limited staff.
- 19) *Excessively high and unjustifiable appraisal*: Under current law (117.031 (a)), if the final judgment or award for damages is more than 20% or 40% greater than the last written offer by the agency, the court may or shall award the attorneys' fees and other experts' fees and costs. Therefore, some property owners present an excessively high appraisal so that they can meet the 20% or 40% threshold value over the agency's last written offer. Many interviewees said that it is not uncommon to see unjustifiable and sometimes fraudulent owners' appraisals.
- 20) *Appointment of the commissioners for the hearing*: Under current law (117.075), when a parcel is going to be acquired through condemnation, the court appoints three commissioners for the hearing. The judge who hears the petition action is ideally supposed to choose the commissioners. However, in reality the judge often relies on both the acquiring agency and the property owner to choose the commissioners through negotiation; usually the commissioners consist of two appraisers and an attorney. Some ROW professionals from public agencies claimed that because property owners try to appoint commissioners who are favorable to the owners' interests, the final award often ends up with an owner-friendly decision.
- 21) *Requirement of mortgage releases for low-value takes*: Some local agencies pointed out that they face difficulty in even contacting the mortgage lenders or meeting the requirements for a consent application. As a result, it is not uncommon that the parcel is acquired through condemnation because the mortgage lenders take such a long time to complete the process. Some respondents suggested that it may be cost-effective if a waiver is allowed for small parcel acquisitions or low-value acquisition releases.

22) *Limited authority of field-level ROW personnel*: Some interviewees recommended that if field-level staff who meet with property owners can be authorized to negotiate with the property owners within a small range of the offer, this might significantly contribute to the reduction of the number of condemnation cases.

5.3 Root Causes

Four root causes that may lead to these 22 barriers were identified. These four root causes were determined by studying the causal relationships that lead to the barriers. Figure 5.1 shows the four root causes and their associated barriers.

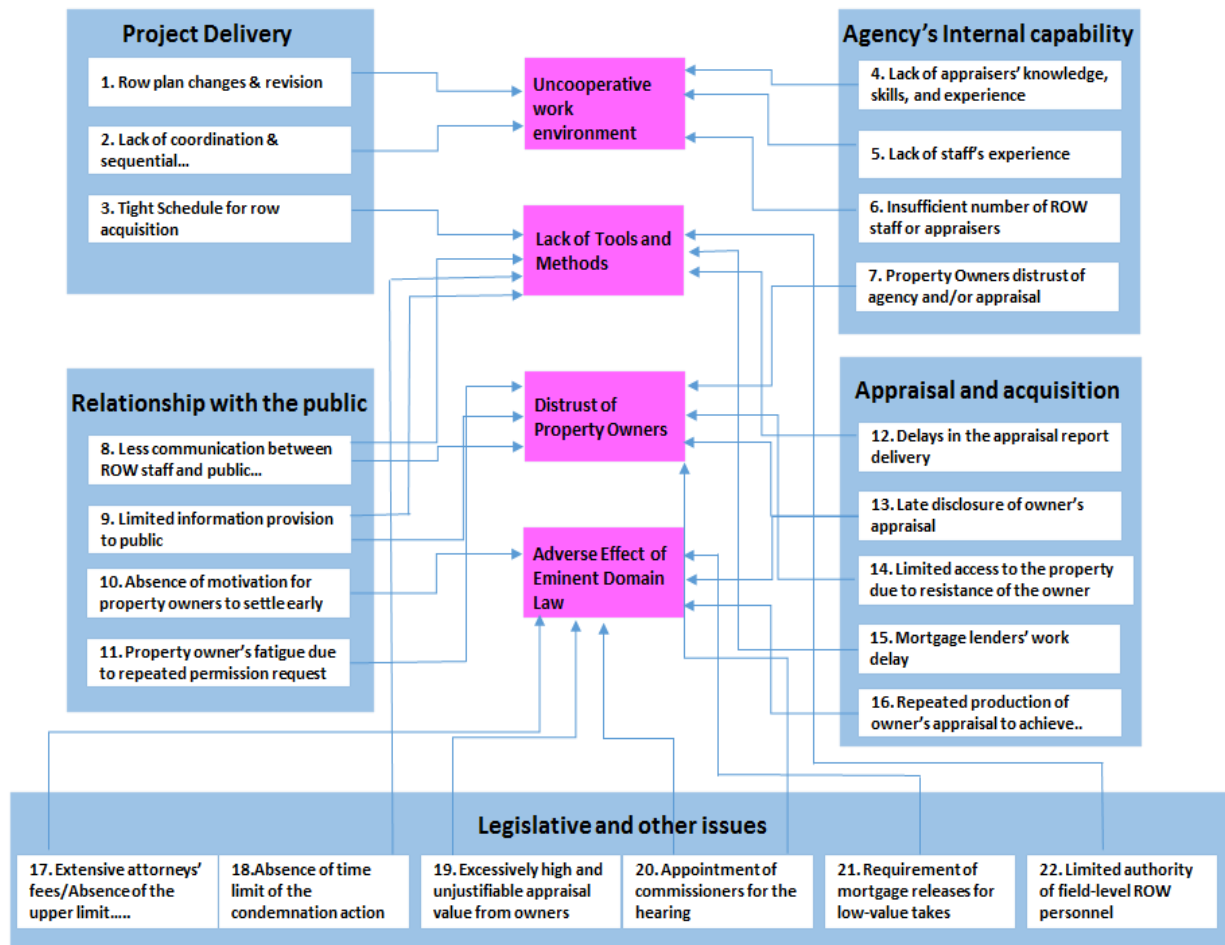


Figure 5.1 Diagram of barriers and their root causes

Because the identified barriers and associated causes needed to be linked to develop the recommendations for change described in the following chapter, the research team arranged the causes into external and internal categories separately from local agencies' perspectives.

5.3.1 Internal Causes

5.3.1.1 Uncooperative Work Environment between Different Divisions

An uncooperative work environment between different divisions is one of the two internal causes that can explain the occurrence of the following barriers:

- 1) ROW plan changes and revision
- 2) Lack of coordination and sequential hand-off environment among project teams
- 4) Lack of appraiser's knowledge, skills, and experience
- 5) Lack of ROW staff's experience
- 6) Insufficient number of ROW staff or appraisers

ROW acquisition is a critical component of a highway and transportation project development and is related to other project development activities in the early project stage, such as planning, programming, and preliminary design. Because the ROW plan is determined by the engineering design and because changes to the design leads to a rework in the ROW acquisition process, potential problems should be considered at the early project planning stages. The agency should predict what design alignments are likely to be problematic during the ROW acquisition, thus helping to avoid potential difficulties, such as litigation, in advance. To do this, the teams handling ROW acquisition, such as real estate development, surveying and mapping, appraisal management and review, utility management, and legal management, should coordinate with the project planning, management, and engineering divisions from the early phases.

The survey respondents noted that “lack of coordination and sequential hand-off environment among project teams” is sometimes faced as a barrier, and its impact on cost increases and schedule delays was found to be important. During the interviews with local agencies, some practitioners indicated that different divisions or teams in local agencies rarely collaborate or communicate, which reduces the work efficiency of the overall ROW acquisition activities. Moreover, an uncooperative work environment within an agency may cause “conflict of interests between different divisions” and “ROW plan changes and revisions.” Because local agencies use MnDOT's ROW manuals, MnDOT's manual should be revised to promote cooperation and sufficient information sharing between project- and ROW-related divisions from the early project phases.

5.3.1.2 Lack of Tools and Methods to Promote Communication and Negotiation

A lack of tools and methods to promote communication and negotiation and facilitate the ROW acquisition process is another internal cause to explain the occurrence of the following barriers:

- 3) Tight schedule for ROW acquisition
- 8) Poor communication between ROW staff and the public, including property owners
- 9) Limited information provision to the public
- 12) Delays in the appraisal report delivery
- 15) Mortgage lenders' work delay
- 22) Limited authority of field-level ROW personnel

18) Absence of a time limit for the condemnation action

While the relationship with the public is an external issue, local agencies should also try to develop and use tools and methods to promote communication and negotiation with property owners. Aleithawe (2013) pointed out that a lack of transparency or disclosure about critical public information can affect the acquisition process, and some inexperienced ROW agents may not adequately follow up and deal with the concerns of property owners. For example, MDOT developed and implemented an agreement form to identify and address property owners' concerns in detail and consequently improve the negotiation process between ROW acquisition agents and property owners. Using the agreement form, MDOT was able to significantly reduce the number of condemnation cases through further negotiations after the initial negotiation failed. Similarly, local agencies should consider developing supplementary tools or methods to promote communication and negotiation with property owners so that the agencies can reduce the public's distrust, improve communication, and consequently minimize the number of condemnations.

5.3.2 External Causes

5.3.2.1 Distrust of Property Owners and Poor Communication

The property owners' distrust of the agency and poor communication with property owners might be the external root cause to explain the following barriers:

- 7) Property owners' distrust of agency and/or appraisal
- 8) Less communication between ROW staff and property owners
- 9) Limited information provision to the public
- 11) Property owner's fatigue due to repeated permission requests
- 13) Late disclosure of owner's appraisal
- 14) Limited access to the property due to resistance of the owner

The property owners' low level of trust for the acquiring agency often contributes to the failure of good-faith negotiations and an increase in the number of condemnation cases. Aleithawe (2013) indicated that ROW agents should be able to identify and address critical issues that may prevent property owners from accepting the agency's offer, such as property value, damages, ownership information, the law, relocation assistance, design and maintenance, utility issues, etc.

Some property owners tend to think that the agency would not provide important information and a fair market value for a just compensation. Some property owners even do not allow the agency's appraiser to enter their property for information collection and property valuation. Therefore, it is imperative for local agencies to develop ideas to improve their relationship with the public and promote trust in local agencies. These ideas can be generalized as better methods for communication between the agency and property owners.

5.3.2.2 Adverse Effect of the Eminent Domain Law

The change to the eminent domain law in 2006 was reported as one of the major root causes of ROW acquisition cost increases and schedule delays by many survey respondents and interviewees. This cause can explain the following barriers:

- 10) Absence of motivation for property owners to settle early
- 13) Late disclosure of owner's appraisal
- 17) Extensive attorneys' fees/absence of an upper limit
- 19) Excessively high and unjustifiable appraisal value from owners
- 20) Appointment of commissioners for the hearing
- 21) Requirement of mortgage releases for low-value takes
- 22) Limited authority of field-level ROW personnel

The 2006 changes to the eminent domain law were originally intended to protect property owners' rights and guarantee just compensation. However, the change has often caused some unexpected adverse effects, such as late disclosure of the owner's appraisal, limited communication, and excessive financial burdens due to attorneys' fees. After the change, property owners have sometimes been advised by attorneys not to negotiate with public agencies, which often increases the ROW acquisition costs and schedule delays. In addition, under the current law an acquiring agency does have a sufficient time window to review the property owner's final appraisal when the agency has to acquire the parcel through a condemnation proceeding. There are states that have different processes and methods of disclosing appraisals to both sides and compensating for litigation fees. Benchmarking other states' eminent domain laws could provide potential ideas for changes to the Minnesota law.

Meanwhile, because legislative issues are also related to the business of the legal community and property owners' compensation, changes to the legislative process may be very sensitive. Therefore, recommendations should be developed with an eye toward minimizing potential resistance from the legal community and the public while mitigating the negative and unexpected effects of the eminent domain law.

5.4 Summary

This chapter summarized the barriers to ROW acquisition. A total of 22 barriers in 5 categories were identified. It was found that many barriers are related to the agency's relationship with the public and legislative issues. This chapter also determined four root causes of the identified barriers. The causes were developed based on the practitioners' opinions that were collected through the survey and interviews. These four root causes were used as starting points in developing practical and applicable recommendations for changes to minimize or prevent the impacts of the identified barriers.

CHAPTER 6: RECOMMENDATIONS FOR IMPROVING THE RIGHT-OF-WAY ACQUISITION PROCESS

6.1 Overview

This chapter summarizes the recommendations for changes to improve the current ROW acquisition process and to overcome the major barriers identified in this study. These recommendations were developed in two different ways. The first set of 14 recommendations was developed based on the research team’s literature review, the survey analysis results, and the case studies. The second set of 17 recommendations, described below in Section 6.3, was developed through a one-day workshop with and a follow-up survey of metropolitan ROW professionals. This group of metropolitan ROW professionals is a core group of experts who have experienced various ROW issues and thought about potential solutions to the problems. In total, 25 recommendations were developed because 6 recommendations overlapped in the two sets of recommendations.

6.2 First Set of Recommendations

The first set of 14 recommendations is listed in Table 6.1.

Table 6.1 List of recommendations (A)

No.	Category	Recommendations
1	A-I-1	Provide a continuous cross-training program within the agency
2	A-R-1	Develop a tool to facilitate and improve the negotiation process with property owners
3	A-P-1	Get stakeholders involved at the early stages of project development
4	A-P-2	Develop and implement an adequate and realistic ROW acquisition schedule to reduce delay due to design issues
5	A-P-3	Require ROW staff’s early involvement and coordination at the early phases of a project
6	A-P-4	Establish incentive programs for property owners who settle early
7	A-L-1	Ensure early disclosure of the owner’s appraisal before a hearing
8	A-L-2	Introduce an appraisal waiver for low-value parcels
9	A-L-3	Revise the process for appointing commissioners
10	A-L-4	Revise the reimbursement of the litigation fees
11	A-A-1	Use a mediator in settling disputes
12	A-A-2	Use the same agent for appraisal and acquisition
13	A-A-3	Disclose public information
14	A-A-4	Allow supervisors to approve negotiations with the property owner within a small range of the offer

This set of recommendations is organized into five categories corresponding to the categories of barriers that were developed in Chapter 5: (1) Agency's Internal Capability Enhancement (I), (2) Relationship Improvement with the Public (R), (3) Project Delivery Process Change (P), (4) Legislative Changes (L), and (5) Appraisal and Acquisition. The category codes in Table 5.1 start with A to differentiate the research team's recommendations from the metropolitan ROW professionals' recommendations, which begin with B, in Section 6.3.

6.2.1 Agency's Internal Capability Enhancement (I)

A-I-1: Provide a continuous cross-training program within the agency

The knowledge and experience of agency staff is critical in the overall ROW acquisition process. Inadequately trained staff could be one of the biggest obstacles identified for ROW acquisition (Caldas et al. 2006). Continuous efforts to provide proper education and training on the ROW acquisition process and to instill effective methods should be made. A good benchmarking highway agency could be FDOT. FDOT has been implementing internal training programs, such as two-year agent training and three-year appraiser training programs. Also, in European countries an in-house training and certification program through a contract with a training company is established. This is a two-year program and covers the legal systems, legal aspects of ROW acquisition, general appraising, and the types of appraisal problems. All ROW staff members are required to take this training program (Moeller et al. 2002).

6.2.2 Relationship Improvement with the Public (R)

A-R-1: Develop a tool to facilitate and improve the negotiation process with property owners

The acquiring agencies can develop a tool to improve the communication and negotiation process with property owners in order to actively address the concerns of the property owners. A good benchmarking agency could be MDOT. MDOT has successfully developed and implemented an agreement form. This form allows the acquiring agency to identify specific issues and concerns that prevent the property owners from accepting the fair market value offer (Aleithawe 2010).

6.2.3 Project Delivery Process Change (P)

There are four recommendations under this category.

A-P-1: Get stakeholders involved at the early stages of project development

The early involvement of various stakeholders, such as property owners, is key to successful ROW acquisition. A good benchmarking agency could be FDOT. FDOT's ETDM process requires the early involvement of various stakeholders, which typically leads to innovative solutions and accelerated amicable settlements (Cambridge Systematics 2006). Detailed information and online training programs regarding the ETDM process can be found on FDOT's website, www.dot.state.fl.us/emo/ETDM.shtm.

A-P-2: Develop an adequate right-of-way acquisition schedule to reduce delay due to design issues

Information about accurate construction limits is a prerequisite for commencing the right of way acquisition process and is crucial for determining the efforts and resources required. A significant internal issue is that design is notoriously and habitually late, which disrupts a project's schedule by imposing significant delays in delivering accurate construction limits. As a result, the ROW acquisition process and its associated schedule is often forced into a minimal ROW acquisition schedule. This compressed time frame prohibits the use of some of the best practices. An adequate amount of time for the ROW acquisition schedule must be allocated to allow sufficient time for negotiation and to minimize the number of condemnation cases.

A-P-3: Require ROW staff's early involvement and coordination at the early phases of a project

It is necessary to have all ROW-related staff on the same page from the start of the project. Also, it is important to have ROW staff coordinate with other divisions within the agency, such as engineering design, construction, etc., from the early project planning stages to prevent potential problems during ROW acquisition and construction. It is important to note that the term "ROW staff" covers a wide range of individuals related to ROW acquisition activities, including title developer, surveyor, ROW agent, appraiser, attorney, etc.

A-P-4: Establish incentive programs for property owners who settle early

Lack of motivation for property owners to settle early was identified in this study as one of the main barriers to ROW acquisition. In order to provide motivation to property owners for active negotiation and early settlement, it is recommended to test a pilot project to determine whether an incentive program for ROW acquisition in urban areas can accelerate project delivery and save overall project costs. For example, VDOT reported a \$5 return on \$1 spent on their incentive program (FHWA 2014b)

6.2.4 Legislative Changes (L)

There are four recommendations related to legislative changes.

A-L-1: Ensure early disclosure of the owner's appraisal before a hearing

The current five-day early disclosure before a hearing is considered to be a major challenge because this amount of time is not adequate for ROW staff to review the case and make an appropriate counteroffer. In order to give the agency sufficient time to review the owner's appraisal and prepare a counteroffer, it is recommended that property owners be required to disclose their own appraisal 30 days before a hearing.

A-L-2: Introduce an appraisal waiver for low-value parcels

Many agencies in other states such as Florida, Louisiana, Michigan, North Carolina, Tennessee, Wisconsin, and Washington utilize an appraisal waiver process and have reported significant

time savings (FHWA 2014b). Therefore, implementing an appraisal waiver program for low-value parcels in Minnesota is expected to significantly reduce the time for ROW acquisition, leading to overall cost savings. It is reported that the use of an appraisal waiver is particularly useful in states with large numbers of acquisitions per year and an active real estate market where current sales provide a good measure of value trends (FHWA 2014b).

A-L-3: Revise the process for appointing commissioners

Benchmarking Georgia’s method, let an agency and a property owner choose one commissioner each and then let those two commissioners choose the third commissioner in order to promote the fair appointment process for commissioners (Crystal 2010).

A-L-4: Revise the reimbursement of the litigation fees

Benchmarking other states’ eminent domain laws in terms of the reimbursement of attorneys’ fees, define rules for limiting attorneys’ fees, such as a benefit-based rule or fee-capping, to prevent an excessively high attorney fee reimbursement (currently there is no limit or restrictions).

6.2.5 Appraisal and Acquisition (A)

There are four recommendations related to the appraisal and acquisition process.

A-A-1: Use a mediator in settling disputes

In this practice, an experienced mediator is assigned in order to explore options and to find common ground between the parties in an effort to reach a settlement and thereby avoid the litigation process and its related costs. Such a mediation method will surely expedite the acquisition process, thereby reducing the delay in ROW acquisition.

A-A-2: One agent concept – Use the same agent for appraisal and acquisition

The concept behind this recommendation is to assign a single agent to perform all the activities of the ROW process. This would ensure the smooth flow of the process and enable continuous communication with property owners. Also, this process would make it easy to maintain relationships with property owners and alleviate their doubts and concerns.

A-A-3: Disclose public information

Disclosure or transparency of public information would surely help improve the ROW acquisition process. Information sharing will also help in developing trust between the agency and property owners, thereby ensuring proper and timely communication. This will help the agents access and check the information at a faster rate, thereby reducing the time required for the appraisal process. Also MnDOT should enroll in services like Multiple Service Listings (MLS), which would benefit the ROW acquisition process by providing easy access to public information.

A-P-4: Allow supervisors to approve negotiations with the property owner within a small range of the offer

In order to strengthen the negotiation power of ROW staff and facilitate early agreement, supervisors can be allowed to approve negotiations within a specific range, such as less than 5% or 10% of the initial offer. This flexibility can accelerate the ROW acquisition process and, in many cases, actually lead to cost savings due to avoiding the lengthy and costly condemnation process.

6.3 Recommendations from Metropolitan ROW Professionals

The research team conducted a workshop with metropolitan ROW professionals at the Savage, Minnesota City Hall with a goal of developing recommendations for changes to the ROW acquisition process. A total of 17 ideas were developed in the workshop. Then, a survey of the metropolitan ROW professionals was conducted to identify the effectiveness of each idea. An analysis of the survey results is provided in Appendix D. Table 6.2 shows the results of the survey in order of effectiveness on a scale of 1 to 5, with 5 being the most effective.

Table 6.2 List of recommendations (B)

No.	Category	Recommendations	Result
1	B-L-1	Requirement of attorneys' fees	4.65
2	B-L-2	Obtain owner's appraisal 20–30 days before the commissioners' hearing	4.5
3	B-L-3	Change in substantive law to limit the attorney and expert fees eligible for reimbursement	4.45
4	B-P-1	Get ROW agents involved at the early stages of the project	4.35
5	B-L-4	Change in legal procedures to allow an "offer of judgement"	4.3
6	B-P-2	Allow the engineers and designers to work conjunctionally with ROW agents to engage public	4.2
7	B-L-5	Increase commissioners' accountability by using line item award findings	4
8	B-R-1	Arrange one-on-one meetings with property owners	4
9	B-L-6	Propose legislation to eliminate construction-related interference as a compensable damage	3.9
10	B-I-1	Educate county board on the activity and importance of ROW acquisition	3.9
11	B-L-7	Change in substantive law to codify public rights in ROW	3.8
12	B-P-3	Set up a subcommittee to help file complaints against appraisers that are too aggressive with their valuations for property owners	3.75
13	B-L-8	Change in legal procedures to narrow issues within commissioners' hearing by "motion in limine"	3.55
14	B-L-9	Direct legal issues for appraisers	3.4
15	B-L-10	Change in substantive law in the allowance for evidence of general benefit and general damages	3.35
16	B-P-4	Involve attorneys earlier in the eminent domain process	3.2
17	B-P-5	Use a review appraiser to help the condemning authority determine a fair value of settlement for moving forward with an impartial analysis of the owner's appraisal	2.95

These recommendations are also organized into four categories to correspond to the categories of barriers that were developed in Chapter 5: (1) Agency's Internal Capability Enhancement (I), (2) Relationship Improvement with the Public (R), (3) Project Delivery Process Change (P), and (4) Legislative Changes (L). The following sections discuss each recommendation in detail under each category.

6.3.1 Agency's Internal Capability Enhancement (I)

B-I-1: Educate county board on the activity and importance of ROW acquisition (ranked 10th, 3.9/5.0)

It is important to develop a program to educate the county board on the activities and importance of the ROW acquisition process for successful project delivery. This additional resource may

save money in the long run. Also, the awareness of the top management will create a positive and supportive environment for enhancing ROW acquisition activities and eliminating barriers.

6.3.2 Relationship Improvement with the Public (R)

B-R-1: Arrange one-on-one meetings with property owners (ranked 8th, 4.0/5.0)

A one-on-one meeting builds credibility with property owners and shows that the acquisition agency cares to discuss the importance of the project. This will help eliminate the property owners' distrust of the agency and/or appraisal. The soft skills of ROW staff when they communicate with property owners play a very important role in enhancing trust.

6.3.3 Project Delivery Process Change (P)

Five recommendations are related to changing the acquiring agency's project delivery process.

B-P-1: Get ROW agents involved at the early stages of the project (Ranked 4th, 4.35/5.0)

By getting ROW agents involved in the conceptual stages of the project, they may assist with many challenging issues. For example, they can assist in identifying and providing cost impacts covering noise abatement, property access, neighborhood boundaries, land use, hazardous waste sites, etc. Specifically, hazardous waste is an area of concern to highway builders because the potential liability of hazardous sites within the project alignment can seriously affect proposed projects (i.e., utilities right-of-way).

B-P-2: Allow the engineers and designers to work conjunctionally with right-of-way agents to engage the public (Ranked 6th, 4.2/5.0)

Developing and implementing a procedure to allow the engineers and designers to work with ROW agents will help the public recognize the importance of the project. The engineering section head is responsible for right-of-way plans. If there is any change that occurs during the meeting with public, this person should change the plan before the acquisition process starts, and this information should be immediately communicated with the other affected personnel, including ROW agents.

B-P-3: Set up a subcommittee to help file complaints against appraisers that are too aggressive with their valuations for property owners (Ranked 12th, 3.75/5.0)

There is anecdotal evidence that some aggressive appraisers are preferred by some attorneys hired by the property owners. It was also noted that the Minnesota legislature has been unwilling to take any action on the overaggressive tactics of attorneys that represent property owners and the appraisers they hire. The only recourse for the subcommittee is to go after these appraisers by filing complaints against them with the Minnesota Department of Commerce for any USPAP or federal/state laws that may be violated. The purpose of this action is to put appraisers on notice that they should be following the letter of the law regarding their reports or they may be putting their appraiser licenses in jeopardy.

B-P-4: Involve attorneys earlier in the eminent domain process (Ranked 16th, 3.2/5.0)

In the current system, attorneys are not able to see the final plan until the eminent domain process has started, which does not allow enough time for the informal negotiation that leads to early formal proceedings. Therefore, involving attorneys earlier will facilitate the informal negotiation process.

B-P-5: Use a review appraiser to help the condemning authority determine a fair value of settlement for moving forward with an impartial analysis of the owner's appraisal (Ranked 17th, 2.95/5.0)

A review appraiser is an appraiser who examines the reports of other appraisers to ascertain whether their conclusions are consistent with the data reported and other generally known information. Review appraisers can be used to determine a fair value of settlement for moving forward with an impartial analysis of the property owner's appraisal.

6.3.4 Legislative Changes (L)

In total, 11 recommendation ideas are related to legislative changes.

B-L-1: Requirement of Attorney Fees (Ranked #1, 4.65/5.0)

It is recommended that the attorneys' fees only be required if the owner presents the appraisal that is used at a commissioners' hearing prior to the agency making the last written offer. Currently, the owner's appraisal is presented after the last written offer.

B-L-2: Obtain owner's appraisal 20–30 days before the commissioners' hearing (Ranked #2, 4.5/5.0)

It is recommended that the property owner's appraisal be submitted 20 to 30 days before the commissioners' hearing, with attorneys asking judges at the hearing on the petition to impose a longer period of time. Currently, however, as shown in Minnesota Statute 117.036 Subd. 2. (b), property owners are not required to provide any appraisal information until five days before a commissioners' hearing (State of Minnesota 2014). Because this is typically very late in the process and does not allow a public agency time to review the appraisal sufficiently, the agency should make offers of damages, including last written offers, with no supporting information from the property owners.

B-L-3: Change in substantive law to limit the attorney and expert fees eligible for reimbursement (Ranked #3, 4.45/5.0)

Currently, according to Statute 117.031, Attorney Fees, the public agency must reimburse property owners for their attorney and expert fees if the final award of damages exceeds 40% of the agency's last written offer, and the agency may reimburse those fees if the award is 20% or 40% above the last written offer (State of Minnesota 2014). This law can be misused by some owners and attorneys to refuse any negotiation attempts and try for an eminent domain case with an excessively high and sometimes unjustifiable/fraudulent appraisal.

B-L-4: Change in legal procedures to allow an "offer of judgment" (Ranked 5th, 4.3/5.0)

This recommendation would limit the impact of attorney fees on negotiation and give the acquiring agency an opportunity to improve its last written offer. The offer of judgment rule is a tort reform law aimed at controlling unnecessary litigation and encouraging settlement. Under this rule, if a settlement offer designated as an offer of judgment is made in civil litigation, the offer is rejected, the final court decision is less favorable than the final offer that was made, and the party who rejected the offer is subject to certain penalties.

B-L-5: Increase commissioners' accountability by using line item award findings (Ranked 7th, 4.0/5.0)

Having commissioners use line items in their awards would help identify the valuation and help improve accountability and identification of potential appeal issues. A line item basically refers to a piece of information that has its own weight and should be presented on a separate line on any document. In a financial statement, line items basically represent different incomes and expenses accumulated under one heading.

B-L-6: Propose legislation to eliminate construction-related interference as a compensable damage (Ranked 9th, 3.9/5.0)

In the current legislation, appellants can challenge the district court's ruling on construction-related interference resulting from changes made to the existing right-of-way, which may not be taken into account when determining severance damages. For example, in the case of *Humphrey v. Strom*, the Minnesota Supreme Court upheld evidence of construction-related interference and loss of visibility caused by changes to the existing right-of-way that leads to a reduction in market value. Evidence of construction-related interference such as vibration, noise, and dust directly associated with that taking was held to be admissible to show a reduction in fair market value (*Robert W. Weckman, et al. vs. County of Scott 2014*).

B-L-7: Change in substantive law to codify public rights in ROW (Ranked 11th, 3.8/5.0)

It is necessary to make the law clearer on some issues that are frequently disputed so that these issues are not sustained throughout the negotiation and commissioners' hearing processes. For example, it is clear in judicial precedent that an owner is not entitled to damages arising from a median that cuts off left-in/left-out traffic. However, this issue is frequently disputed by property owners. A codification would eliminate the need to argue this issue.

B-L-8: Idea 13. Change in legal procedures to narrow issues within commissioners' hearing by "motion in limine" (Ranked 13th, 3.55/5.0)

This recommendation would help reduce disagreements over application of the law that prevent successful negotiation and delay commissioner awards. A "motion in limine" is a motion filed by a party to a lawsuit which asks the court for an order or ruling limiting or preventing certain evidence from being presented by the other side at the trial of the case. Generally, this motion is filed in advance of the trial, but a motion may be entertained by the court during a trial, before

the evidence in question is offered. The purpose of this motion is to prevent the interjection of matters which are irrelevant, inadmissible or prejudicial.

B-L-9: Direct legal issues for appraisers (Ranked 14th, 3.4/5.0)

Asking appraisers to work without any guidance from legal experts causes them to make legal determinations regarding acquisition. This means that appraisers often fail to provide adequate analysis in their appraisal decisions. For example, they may determine that no severance damages are incurred but do a poor job of explaining this determination. This causes two problems. First, because the written offer is most commonly based exclusively on the appraisal estimate, inconsistencies will impact the offer and, subsequently, negotiations. Second, because the appraisal is provided to the property owner and is frequently used to “argue” the acquiring agency’s position to the property owner, a poorly reasoned appraisal raises questions (and doubt) for the property owner and discourages resolution.

B-L-10: Change in substantive law in the allowance for evidence of general benefit and general damages (Ranked 15th, 3.35/5.0)

An increase in value of the remainder of a property as a result of the project is a general benefit if the benefit accrues to the neighborhood or community at large, including those property owners whose properties do not abut the new improvement. If a benefit is determined to be general, it cannot be used to offset damages to the remainder of a property. General damages are divided into two classifications: compensable damages and non-compensable damages. A loss in value of the remainder of a property is compensable if it is caused by or related to the taking of the property or property rights or the manner in which the public improvement is constructed. A loss in value of the remainder of the property is non-compensable if it is caused by or related to remote and speculative damages, damages to business, police powers, and access restrictions. Under the provisions of § 38-1-114(2), C.R.S., the following considerations apply when damages are present. All damages may be offset by benefits. In situations where damages are mitigated by “cost to cure,” the restoration costs should not be offset by benefits. The reasoning for this is that if damages are not mitigated by restoration costs, then the benefits to the residue after the take may not be received (CDOT 2016).

6.4 Summary

This chapter summarized the recommendations for changes to the ROW acquisition process. A total of 14 recommendations were developed using the quadrant analysis from Chapter 5, and 17 recommendations were developed with Minnesota’s metropolitan ROW professionals. The five different categories of the recommendations include (1) Agency’s Internal Capability Enhancement (I), (2) Relationship Improvement with the Public (R), (3) Project Delivery Process Change (P), (4) Legislative Changes (L), and (5) Appraisal and Acquisition. The first set of recommendations includes four recommendations for changing the project delivery process, four recommendations for legislative changes, four recommendations for appraisals and acquisitions, one for improving the relationship with the public, and one for internal capability enhancement. Thus, the first set of recommendations emphasizes quite equally process changes and legislative changes. However, the recommendations by the metropolitan ROW professionals include 10

recommendations for legislative changes, 5 recommendations for changing the project delivery process, 1 for improving the relationship with the public, and 1 for internal capability enhancement. The metropolitan ROW professionals recognize the significant need for legislative changes to improve the current ROW acquisition practices. Four of the top five recommendations calling for legislative changes are considered to be quite significant. There are many recommendations for changes to the law, but the changes to the eminent domain law in 2006 appear to be one of the top issues that must be reconsidered because this issue is ranked the third most supported recommendation for change.

In a comparison between the two lists of recommendations, six of them overlap each other. The consolidated and integrated list of recommendations is provided in Table 6.3. In this table, the recommendations are listed in the following order: (L) Legislative Changes, (P) Project Delivery Process Change, (R) Relationship Improvement with the Public, and (I) Agency's Internal Capability Enhancement.

Table 6.3. Integrated list of recommendations

No.	Category	Recommendations
1	B-L-1	Requirement of attorneys' fees
2	A-L-1 B-L-2	Ensure early disclosure of the owner's appraisal before a hearing / Obtain owner's appraisal 20–30 days before the commissioners' hearing
3	A-L-4 B-L-3	Revise the reimbursement of the litigation fees / Change in substantive law to limit the attorney and expert fees eligible for reimbursement
4	B-L-4	Change in legal procedures to allow an "offer of judgment"
5	B-L-5	Increase commissioners' accountability by using line item award findings
6	B-L-6	Propose legislation to eliminate construction-related interference as a compensable damage
7	B-L-7	Change in substantive law to codify public rights in ROW
8	B-L-8	Change in legal procedures to narrow issues within commissioners' hearing by "motion in limine"
9	B-L-9	Direct legal issues for appraisers
10	B-L-10	Change in substantive law in the allowance for evidence of general benefit and general damages
11	A-L-2	Introduce the appraisal waiver for a low-value parcel
12	A-L-3	Revise the process for appointing commissioners
13	A-P-3 B-P-1	Require ROW staff's early involvement and coordination at the early stages of a project / Get ROW agents involved at the early stages of the project
14	A-P-1 B-P-2	Get stakeholders involved at the early stages of project development / Allow the engineers and designers to work conjunctionally with ROW agents to engage public
15	B-P-3	Set up a subcommittee to help file complaints against appraisers that are too aggressive with their valuations for property owners
16	B-P-4	Involve attorneys earlier in the eminent domain process
17	B-P-5	Use a review appraiser to help the condemning authority determine a fair value of settlement for moving forward with an impartial analysis of the owner's appraisal
18	A-P-2	Develop and implement an adequate and realistic ROW acquisition schedule to reduce delay due to design issues
19	A-P-5	Establish incentive programs for property owners who settle early
20	A-R-1 B-R-1	Develop a tool to facilitate and improve the negotiation process with property owners / Arrange one-on-one meetings with property owners
21	A-I-1 B-I-1	Provide a continuous cross-training program within the agency / Educate county board on the activity and importance of ROW acquisition
22	A-A-1	Use a mediator in settling disputes
23	A-A-2	One agent concept – Use the same agent for appraisal and acquisition.
24	A-A-3	Disclose public information
25	A-A-4	Allow supervisors to approve negotiations with the property owner within a small range of the offer

CHAPTER 7: SUMMARY AND CONCLUSIONS

This chapter highlights the key findings and the conclusions derived from the research. ROW acquisition is a sophisticated process and is one of the major items contributing to the cost and schedule of any highway and transportation project. Legal issues, project type, ROW staff capabilities and organization, the agency's relationship with property owners, etc. are the major elements that may disturb the smooth flow of the acquisition process. The main goal of this research was to identify such barriers and obstacles and to propose pragmatic suggestions for improving the efficiency of the ROW acquisition process.

The major finding from the literature review was that the appraisal phase is the most sensitive of all the acquisition phases. The use of best practices, including a team approach, advanced technologies, and ROW staff training, has proven to be effective in expediting the process. Also, the results from the survey and interviews demonstrated the current and significant barriers that local agencies encounter during the ROW acquisition process. The results revealed that the changes to the eminent domain law in 2006 were a major factor in the observed increase in ROW acquisition costs and time. The change in the law was proposed to protect property owners against unjustifiable confiscation of their property, but evidently the law has sometimes been misused by property owners, leading to much higher appraisal values than the agency offers. The difference between the agency's last offer and the final award also increased after the change to the eminent domain law.

Another significant issue identified was that under the current law, the property owner is required to submit his or her appraisal only five days before the hearing. This seriously restrains the agency from completing a timely review of the owner's appraisal and making a reasonable counteroffer before the hearing. The changes to the eminent domain law have also eroded the trust between the agency and property owners, leading to the need to develop more and effective interaction methods to improve the communication between the parties. The use of various tools and the sharing of sufficient information must be done in order to promote trust between the two parties.

The research team believes that the integrated list of recommendations provided in Chapter 6 is a good starting point to prioritize actionable items and begin making changes to improve ROW acquisition practices. Improvements in ROW acquisition practices will positively influence the efficiency and economy of ROW acquisition as projects are planned, executed, and managed in Minnesota. Implementation of the recommendations is expected to significantly reduce the ROW acquisition costs and duration. A streamlined ROW acquisition process will also help agencies make more reliable and informed decisions about ROW acquisition projects, which will translate into greater accountability in the expenditure of public funds. A reliable ROW acquisition process will also improve the budget justification process when requesting funding from authorities and legislators. Meanwhile, the successful improvement of the ROW acquisition process will result in a benchmarking example that other states, cities, and counties can use in developing plans to optimize and enhance their ROW acquisition processes.

As we have seen in the survey findings, the difference between the frequency of use and the effectiveness of various ROW acquisition practices indicates that there is room for improvement in those methods. Hence, further research needs to be carried out to define those methods more precisely to reduce this difference in a way that enhances the ROW acquisition process. Also, because the appraisal is the most delicate phase in the acquisition process, further research must be done to determine more effective and innovative models to estimate and communicate the property value between both parties. The efforts should be consistent over the years and may need to earn strong support from upper management as well.

REFERENCES

- Aleithawe, I. 2010. Acquisition of Right-of-Way for Highway Construction. PhD dissertation. Mississippi State University, Starkville, MS.
- Aleithawe, I. 2013. Optimizing Transparency and Disclosure to Reduce Right-of-Way Acquisition Duration for Construction Projects in Mississippi. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 5(3): 151-158.
- McMinimee, J. C., S. Shaftlin, T. R. Warne, S. S. Detmer, M. C. Lester, G. F. Mroczka, D. B. Nichols, J. N. Taylor, A. T. Teikari, and C. Yew. 2009. *NCHRP Project 20-68A, Scan 07-01 Best Practices in Project Delivery Management*. Arora and Associates, Lawrenceville, NJ.
- Caldas, C. H., Z. Zhang, K. M. Kockelman, K. R. Persad, D. V. Medina, E. J. and Chung. 2006. *Synthesis of Best Practices in Right-of-Way Valuations and Negotiations*. Center for Transportation Research, University of Texas at Austin, Austin, TX.
- Cambridge Systematics. 2006. *U.S. Domestic Scan Program: Best Practices in Right-of-Way Acquisition and Utility Relocation*. NCHRP Project 20-68. National Cooperative Highway Research Program, Washington, DC.
- Chang-Albitres, C., R. Feldman, P. E. Krugler, and I. Ibarra. 2014. Simulation Model to Prioritize Right-of-Way Acquisitions. *Journal of Infrastructure Systems*, 20(1).
- The Cochran Firm. 2015. What is a Motion in Limine? Accessed July 14, 2015. www.cochranfirm.com/what-is-a-motion-in-limine/.
- CDOT. 2016. *CDOT Right of Way Manual*. Colorado Department of Transportation, Denver, CO.
- Cromartie, J. 2012. Rural Definitions. United States Department of Agriculture, Economic Research Service. Accessed March 2015. www.ers.usda.gov/data-products/rural-definitions.aspx.
- FHWA. 2009. Real Estate Acquisition Guide for Local Public Agencies. Federal Highway Administration, Washington, DC. Accessed September 10, 2014. www.fhwa.dot.gov/real_estate/uniform_act/program_administration/lpa_guide/.
- FHWA. 2014a. Annual Right-of-Way Statistics. Federal Highway Administration, Washington, DC. Accessed January 18, 2014. www.fhwa.dot.gov/real_estate/uniform_act/stats/#top.
- FHWA. 2014b. Right-of-Way and Utilities Pilot Project Summary and Evaluation. Federal Highway Administration, Washington, DC. Accessed September 5, 2014. www.fhwa.dot.gov/real_estate/right-of-way/utility_rights-of-way/pilotsum04.cfm.
- FHWA. Utility Rights-of-Way. Federal Highway Administration, Washington, DC. Accessed July 12, 2015. www.fhwa.dot.gov/real_estate/right-of-way/utility_rights-of-way/.
- FDOT. 2014. *Project Management Handbook*. Florida Department of Transportation. Accessed July 7, 2014. www.dot.state.fl.us/projectmanagementoffice/PMHandbook/1-PMHB-Complete.pdf.
- Francis, D. O. 2009. Asset Management Application towards an Improved Right of Way Acquisition. MS thesis. University of Texas at El Paso, El Paso, TX.
- Genteman C. 2010. Eminent Domain and Attorneys' Fees in Georgia: A Growing State's Need for a New Fee-Shifting Statute. *Georgia State University Law Review*, 27(4), 829-872.
- Hakimi, S. and K. M. Kockelman. 2005. Right-of-Way Acquisition and Property Condemnation: A Comparison of U.S. State Laws. *Journal of the Transportation Research Forum*, 44(3): 45-58.

- Heiner, J. D. and K. M. Kockelman. 2005. Costs of Right-of-Way Acquisition: Methods and Models for Estimation. *Journal of Transportation Engineering*, 131(3): 193-204.
- Kockelman, K. M., J. D. Heiner, S. Hakimi, and J. Jarrett. 2004. *Right-of-Way Costs and Property Values: Estimating the Costs of Texas Takings and Commercial Property Sales Data*. Center for Transportation Research, University of Texas at Austin, Austin, TX.
- Le, T. 2009. Improving Right-of-Way Acquisition in Highway Projects through Scope Definition and Management of Inherent Factors. PhD dissertation. University of Texas at Austin, Austin, TX.
- MnDOT. 2015. *Right of Way Manual*. Minnesota Department of Transportation, St. Paul, MN. Last accessed May 16, 2016. www.dot.state.mn.us/row/rowmanuals.html.
- State of Minnesota. 2014. Minnesota Statutes 2014. § 117.031-036.
- Moeller, R., J. Pestinger, M. Frierson, W. Kennedy, A. McCormick, C. C. Muth, J. Myers, P. Scott, and S. Waymack. 2002. *European Right-of-Way and Utilities Best Practices*. American Trade Initiatives, Alexandria, VA.
- Sangberg, W. 2013. *Research Need Statement: Barriers to Right-of-Way Acquisition and Recommendations for Change*. Last accessed August 9, 2016. www.dot.state.mn.us/research/RFP/2013/NS-352.pdf.
- Schmick, J. 2015. The Real Value of Business Property. *Right of Way Magazine*, 72(1): 31-33.
- Smith, M. 2005. Effective Acquisition under the Updated Uniform Act Regulation. *Right of Way Magazine*, 52(3): 16-22.
- Sohn, T., J. T. O'Connor, W. O'Brien, and M. Azambuja. 2009. An implementation study of Right-of-Way acquisition and utility adjustment process duration (RUDI) tool. *Computing in Civil Engineering: Proceedings of the 2009 ASCE International Workshop on Computing in Civil Engineering*, 643-655.
- Waters, T. 2000. *NCHRP Synthesis 292: Innovative Practices to Reduce Delivery Time for Right-of-Way in Project Development*. National Cooperative Highway Research Program, Washington, DC.
- Robert W. Weckman, et al. vs. County of Scott, 2014. State of Minnesota in court of appeals A14-0001.

APPENDIX A. SURVEY FORM

Survey on Barriers to Right-of-Way Acquisition

Iowa State University is conducting a research project for the Minnesota Local Road Research Board (LRRB) to identify barriers to Right-of-Way (ROW) acquisition and develop recommendations for change. The goal of this survey is to identify those barriers and potential ideas to make the ROW acquisition process better and cost-effective. We would like you to participate in this important survey and provide us with your valuable opinions. The time required to complete this form is approximately 10 minutes.

If you have any questions, please feel free to contact us via email or phone. **The confidentiality of this questionnaire will be maintained.** The identity of the person who will provide the information will remain anonymous. The data obtained during this survey will not be linked in any way to the participant's name.

* Please answer all questions to the best of your knowledge. However, you may skip some questions if you are not comfortable with answering them. If possible, please consult with others in your organization and/or look up past records and data in order to ensure accuracy of the information collected in this survey. If possible, please let your colleagues participate in this survey as well.

Agency	<input type="text"/>		
Name	<input type="text"/>	Title/Role	<input type="text"/>
E-mail	<input type="text"/>	Phone	<input type="text"/>
Year of experience in Right-of-Way Acquisition	<input type="text"/>		

Contact info:

David Jeong (associate professor, djeong@iastate.edu), Principal Investigator
Doug Gransberg (Professor, dgran@iastate.edu), Co-Principal Investigator
Heedae Park (postdoctoral research associate, hpark@iastate.edu)

Please send by e-mail to hpark@iastate.edu (Dr. Heedae Park) or fax it to 515-294-3845.

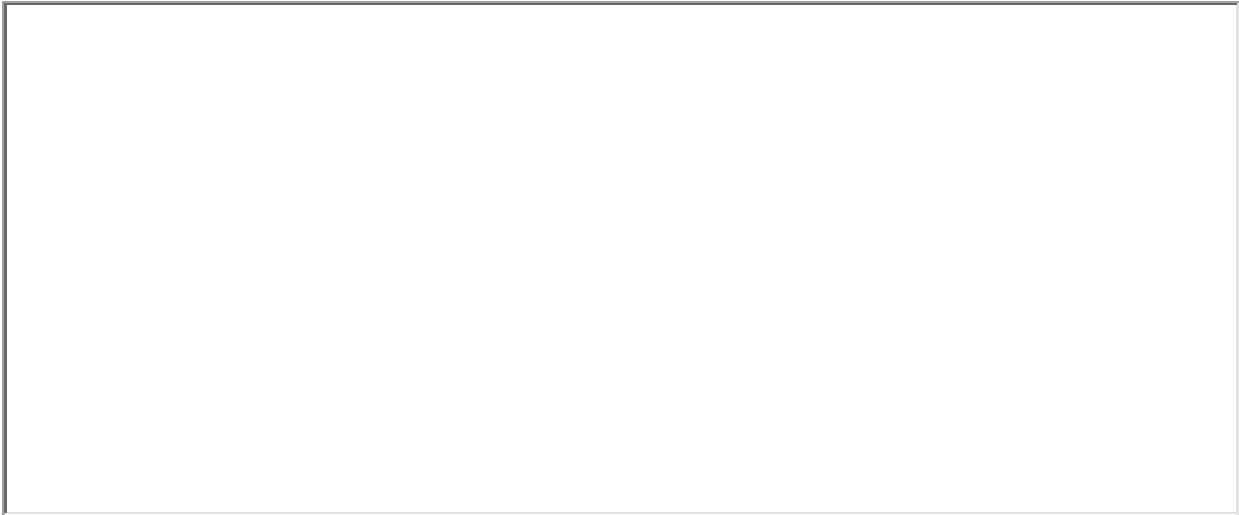
[Barriers] Please indicate *how frequently you feel each item below* as a barrier to effective ROW acquisition (check the appropriate box).

	Never	Rarely	Sometimes	Often	Very often
Project Development					
Conflict of interests between different divisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of coordination and sequential hand-off environment among project teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROW plan changes and revisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency's Internal Capability					
Lack of ROW staff's experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of appraisers' knowledge, skills, and experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insufficient number of ROW staff or appraisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relationship with the Public					
Less communication between ROW staff and the public including property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less communication between the appraiser and property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited information provision to the public (e.g. price disclosure)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property owners' distrust of agency and/or appraisal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appraisal and Acquisition					
Delays in the appraisal report delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delays in the displacement and relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delays in the property management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative & other issues					
Limited authority of field-level ROW personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Requirement of mortgage releases for low-value takes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unavailable to begin real property acquisition without the completion of environmental process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Absence of a time limit for the condemnation action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Absence of the upper limit of the attorney fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restriction on the appraisal waiver ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex agency's ROW process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not Imp	Less Imp	Neutral	Imp	Very Imp
Project Development					
Conflict of interests between different divisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination and collaborative/parallel working environment to expedite ROW process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROW plan changes and revisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency's Internal Capability					
ROW staff's experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appraisers' knowledge, skills, and experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient number of ROW staff or appraisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relationship with the Public					
Communication between ROW staff and the public including property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication between the appraiser and property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open information provision to the public (e.g. price disclosure)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property owners' trust of agency and/or appraisal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appraisal and Acquisition					
Delays in the appraisal report delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delays in the displacement and relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delays in the property management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative & other issues					
Limited authority of field-level ROW personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Requirement of mortgage releases for low-value takes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unavailable to begin real property acquisition without the completion of environmental process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Absence of a time limit for the condemnation action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Absence of the upper limit of the attorney fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restriction on the appraisal waiver ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex agency's ROW process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others: If there are any other barriers and issues that you have experienced during the ROW acquisition process, please describe them here.

A large, empty rectangular box with a thin black border, intended for the user to describe any other barriers and issues experienced during the ROW acquisition process.

[Practices/Actions]: Please indicate *how frequently each practice and/or activity below is used* during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very often
Project Development					
Constitute a multi-functional/multidisciplinary project delivery team (ROW, design, envir., survey, constr.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROW involvement in early project stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance management planning of ROW activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency's Internal Capability					
Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilization of advanced technology (e.g. electronic parcel information management, GIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assign projects according to appraiser's experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relationship with the Public					
Public involvement in appraisal phase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient information sharing and discussion with property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage ROW staff to meet property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage appraisers to meet property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appraisal and Acquisition					
Use the same agent for the appraisal and negotiation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mediation by an experienced agent to reach the last settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outsource the ROW acquisition process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative & other issues					
Use of incentive program for relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of special delivery method (e.g. design-build, public-private partnership, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Authorizing field personnel to initiate administrative settlements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Requiring mortgage/lien releases only on higher value acquisitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporal increase of the appraisal waiver ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Effectiveness of actions]: Please indicate *the necessity or importance of following practices and activities* based on their effectiveness to improve the ROW acquisition process.

	Not Important	Less important	Neutral	Important	Very Important
Project Development					
Constitute a multi-functional/multidisciplinary project delivery team (ROW, design, envir. survey, constr.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROW involvement in early project stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance management planning of ROW activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency's Internal Capability					
Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilization of advanced technology (e.g. electronic parcel information management, GIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assign projects according to appraiser's experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relationship with the Public					
Public involvement in appraisal phase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient information sharing and discussion with property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage ROW staff to meet property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage appraisers to meet property owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appraisal and Acquisition					
Use the same agent for the appraisal and negotiation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mediation by an experienced agent to reach the last settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outsource the ROW acquisition process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative & other issues					
Use of incentive program for relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of special delivery method (e.g. design-build, public-private partnership, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Authorizing field personnel to initiate administrative settlements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Requiring mortgage/lien releases only on higher value acquisitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporal increase of the appraisal waiver ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Others] If there are any other practices or activities that you consider to be helpful or you want to recommend, please describe them here.

[Legislative/Regulatory idea] If there is any law or statutory issue that often cause less-efficient ROW acquisition thereby require modification and revision, please describe them here.

Thank you for your participation!

Please send by e-mail to hpark@iastate.edu (Dr. Heedae Park) or fax it to 515-294-3845.

APPENDIX B. SURVEY RESPONSE ANALYSIS

1. Project Development

Table B.1 summarizes project development process–related barriers to effective ROW acquisition.

Table B.1 Frequency of barriers – Project Development

[Barrier] Please indicate how frequently you feel each item below as a barrier to effective ROW acquisition.

	Never	Rarely	Sometimes	Often	Very Often
ROW plan changes and revisions	2.8%	8.3%	38.9%	33.3%	16.7%
Lack of coordination and sequential hand-off environment among project teams	7.0%	31.0%	40.8%	15.5%	5.6%
Conflict of interests between different divisions	17.6%	35.3%	39.7%	5.9%	1.5%

About half of the participants (33.3% often and 16.7% very often) indicated that “ROW plan changes and revisions” were the most frequent reasons for disrupting the ROW acquisition process. The other two barriers in the project development do sometimes occur but substantially less frequently than the “ROW plan changes and revisions.”

In terms of the severities of the barriers, the survey results are different from the results of the frequency of the barriers. More than half of the respondents replied that both the ROW plan changes and revisions (76.1%) and lack of coordination and sequential hand-off environment among project teams (53.7%) may have significant impact on ROW acquisition cost increase and schedule delay (see Table B.2).

Table B.2 Severity of barriers – Project Development

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not important	Less important	Neutral	Important	Very important
ROW plan changes and revisions	3.0%	14.9%	6.0%	44.8%	31.3%
Lack of coordination and sequential hand-off environment among project teams	11.9%	17.9%	16.4%	31.3%	22.4%
Conflict of interests between different divisions	30.8%	21.5%	23.1%	16.9%	7.7%

It implies that survey respondents’ agencies are managing the ROW plans and coordination between project teams fairly well so that they may rarely face those as barriers.

The questionnaire also asked the survey participants about how often they use specific practices to overcome and/or mitigate barriers of project development (Table B.3).

Table B.3 Frequency of practice use – Project Development

[Practices] Please indicate how frequently each practice and/or activity below is used during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very Often
Performance management planning of ROW activities	7.9%	23.8%	41.3%	22.2%	4.8%
ROW involvement in early project stage	1.6%	14.1%	42.2%	32.8%	9.4%
Constitute a multi-functional/multidisciplinary project delivery team (ROW, design, environment, survey, construction)	14.3%	12.7%	15.9%	39.7%	17.5%

About half of the participants reported that they let the ROW team be involved in the early project stage and constitute a multi-functional or multidisciplinary team to improve the ROW acquisition. Use of the performance management planning which enables continuous monitor of the project progress such as setting a specific duration for each ROW task as a performance indicator (McMinimee et al. 2009) was low compared to other two practices.

In general, survey respondents gave higher ratings on the perceived effectiveness/necessity of practices than the use of frequencies. As shown in Table B.4, the majority of participants replied that all three project development practices are important.

Table B.4 Perceived effectiveness/necessity of practices – Project Development

[Effectiveness] Please indicate the necessity or importance of following practices and activities based on their effectiveness to improve the ROW acquisition process.

	Not important	Less important	Neutral	Important	Very important
Performance management planning of ROW activities	4.8%	3.2%	24.2%	32.3%	35.5%
ROW involvement in early project stage	1.6%	1.6%	3.2%	33.9%	59.7%
Constitute a multi-functional/multidisciplinary project delivery team (ROW, design, environment, survey, construction)	4.9%	1.6%	11.5%	39.3%	42.6%

Especially, ROW involvement in the early project stage was rated as important/very important by 92.2% of participants. This result is consistent with previous studies which also emphasized the importance of ROW stakeholders’ involvement in the project planning and development stage to improve the ROW acquisition and accelerate the process (Cambridge systematics 2006, Kockelman et al. 2004, Moeller et al. 2002).

2. Agency’s Internal Capability

The second category is the agency’s internal capability to run the ROW acquisition process in an effective manner. Most of the survey participants reported that their agency’s internal capabilities were not often barriers to effective ROW acquisition process. As shown in Table B.5, the lack of appraisers and ROW staff’s experience are mainly rated as ‘rarely’ or ‘sometimes.’

Table B.5 Frequency of barriers – Agency’s Internal Capability

[Barrier] Please indicate how frequently you feel each item below as a barrier to effective ROW acquisition.

	Never	Rarely	Sometimes	Often	Very Often
Insufficient number of ROW staff or appraisers	7.0%	18.3%	35.2%	23.9%	15.5%
Lack of appraisers’ knowledge, skills, and experience	5.6%	42.3%	33.8%	8.5%	9.9%
Lack of ROW staff’s experience	9.9%	33.8%	31.0%	18.3%	7.0%

“Insufficient number of staff” received more responses in ‘often’ and ‘very often,’ but, those responses were mainly collected from the counties and cities in rural areas where ROW acquisition cases take place less often.

In terms of the level of impact or influence of the agency’s internal capabilities on the ROW acquisition process, the survey respondents indicated that the agency’s capabilities were highly important. Each of the items is rated as ‘important’ or ‘very important’ by more than 60% of respondents (see Table B.6).

Table B.6 Severity of barriers – Agency’s Internal Capability

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not important	Less important	Neutral	Important	Very important
Sufficient number of ROW staff or appraisers	7.4%	4.4%	22.1%	41.2%	25.0%
Appraisers’ knowledge, skills, and experience	4.4%	5.9%	22.1%	33.8%	33.8%
ROW staff’s experience	-	9.0%	23.9%	41.8%	25.4%

In terms of practices that agencies can use to enhance the agency’s internal capabilities for effective ROW acquisition process, the majority of the survey respondents reported that their agencies used those practices as shown in Table B.7.

Table B.7 Frequency of practice use – Agency’s Internal Capability

[Practices] Please indicate how frequently each practice and/or activity below is used during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very Often
Assign projects according to appraiser’s experience	9.7%	14.5%	22.6%	40.3%	12.9%
Utilization of advanced technology (e.g. electronic parcel information management, GIS)	1.6%	15.6%	18.8%	39.1%	25.0%
Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	4.8%	14.3%	33.3%	36.5%	11.1%

It was found that assigning a ROW acquisition project that matches with the appraiser’s experience and use of electronic devices such as parcel information management system, GIS-assisted ROW planning system, and tablet PC are becoming common for many agencies. About 47% of the respondents replied that they also provided a professional training and/or education programs to their internal staff (see Table 12).

The survey respondents also reported that the practices to improve the agency’s internal capability were necessary and effective. In Table B.8, all three items are rated as important or very important by more than 75% of respondents.

Table B.8 Perceived effectiveness/necessity of practices – Agency’s Internal Capability

[Effectiveness] Please indicate the necessity or importance of following practices and activities based on their effectiveness to improve the ROW acquisition process.

	Not important	Less important	Neutral	Important	Very important
Assign projects according to appraiser’s experience	-	3.2%	9.7%	38.7%	48.4%
Utilization of advanced technology (e.g. electronic parcel information management, GIS)	-	1.6%	12.5%	42.2%	43.8%
Professional training and/or education program for ROW staff, appraisers, and appraisal reviewers	-	4.7%	3.1%	34.4%	57.8%

3. Relationship with the Public

Many respondents replied that the property owners’ distrust is a significant barrier (40.8% sometimes 47.9% often, and 9.9% very often) (see Table B.9).

Table B.9 Frequency of Barriers – Relationship with the Public

[Barrier] Please indicate how frequently you feel each item below as a barrier to effective ROW acquisition.

	Never	Rarely	Sometimes	Often	Very Often
Property owners’ distrust of agency and/or appraisal	-	1.4%	40.8%	47.9%	9.9%
Limited information provision to the public (e.g. price disclosure)	8.6%	47.1%	27.1%	17.1%	-
Less communication between the appraiser and property owners	1.4%	46.5%	38.0%	14.1%	-
Less communication between ROW staff and the public including property owners	2.8%	40.3%	45.8%	11.1%	-

On the other hand, other items in this category such as limited information provision, less communication with the public owners were not reported as commonly occurring barriers compared to the “property owners’ distrust.”

The barriers in the category of “relationship with the public” were also evaluated in terms of their impact or importance on the ROW acquisition process. As shown in Table B.10, all the items were reported to be important. Among them, the property owners’ trust was rated the most influential factor.

Table B.10 Severity of barriers – Relationship with the Public

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not important	Less important	Neutral	Important	Very important
Property owners’ trust of agency and/or appraisal	-	3.0%	9.0%	47.8%	40.3%
Open information provision to the public (e.g. price disclosure)	3.0%	7.6%	30.3%	39.4%	19.7%
Communication between the appraiser and property owners	6.0%	4.5%	29.9%	38.8%	20.9%
Communication between ROW staff and the public including property owners	3.0%	3.0%	16.7%	40.9%	36.4%

Probably because of the significant importance of the items in this category, most survey respondents reported that their agencies actively implemented practices to strengthen and improve the relationship with the public throughout the ROW acquisition process as evidenced in Table B.11.

Table B.11 Frequency of practice use – Relationship with the Public

[Practices] Please indicate how frequently each practice and/or activity below is used during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very Often
Encourage appraisers to meet property owners	-	7.7%	6.2%	27.7%	58.5%
Encourage ROW staff to meet property owners	-	6.3%	6.3%	20.3%	67.2%
Sufficient information sharing and discussion with property owners	-	10.9%	10.9%	56.3%	21.9%
Public involvement in appraisal phase	7.9%	30.2%	28.6%	17.5%	15.9%

Most respondents answered that they encouraged appraisers and ROW staff to meet property owners in the early phase of the project and share sufficient information with the property owners such as appraiser results and fair market value of similar properties.

In terms of the importance or the level of impact of those practices in the category of “relationship with the public” the respondents reported that all four items are significantly important as shown in Table B.12.

Table B.12 Perceived effectiveness/necessity of practices – Relationship with the Public

[Effectiveness] Please indicate the necessity or importance of following practices and activities based on their effectiveness to improve the ROW acquisition process.

	Not important	Less important	Neutral	Important	Very important
Encourage appraisers to meet property owners	-	4.8%	9.5%	19.0%	66.7%
Encourage ROW staff to meet property owners	-	1.6%	1.6%	15.9%	81.0%
Sufficient information sharing and discussion with property owners	-	-	-	34.9%	65.1%
Public involvement in appraisal phase	-	8.1%	25.8%	25.8%	40.3%

4. Appraisal and Acquisition

The fourth category is the appraisal and acquisition. The survey respondents were asked to rate the frequency of experiencing delays in property management, displacement and relocation, and appraisal report delivery. As shown in Table B.13, the three items in this category rarely or sometimes work as barriers. Most respondents answered these questions with ‘rarely’ or ‘sometimes.’

Table B.13 Frequency of barriers – Appraisal and Acquisition

[Barrier] Please indicate how frequently you feel each item below as a barrier to effective ROW acquisition.

	Never	Rarely	Sometimes	Often	Very Often
Delays in the property management	9.2%	47.7%	35.4%	7.7%	-
Delays in the displacement and relocation	13.6%	36.4%	39.4%	9.1%	1.5%
Delays in the appraisal report delivery	1.4%	16.9%	52.1%	23.9%	5.6%

In terms of the severity of the items on affecting the ROW acquisition process, the items have received relatively higher scores than the scores on its frequency of occurrence. Considering the results of Table B.14 (frequency of barriers), it can be interpreted that agencies recognize the importance of those activities and manage them fairly well.

Table B.14 Severity of barriers – Appraisal and Acquisition

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not important	Less important	Neutral	Important	Very important
Delays in the property management	11.3%	6.5%	45.2%	30.6%	6.5%
Delays in the displacement and relocation	6.5%	8.1%	37.1%	38.7%	9.7%
Delays in the appraisal report delivery	4.5%	15.2%	15.2%	45.5%	19.7%

The survey also asked how frequently those practices associated with the appraisal and acquisition tasks were used (Table B.15).

Table B.15 Frequency of practice use – Appraisal and Acquisition

[Practices] Please indicate how frequently each practice and/or activity below is used during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very Often
Outsource the ROW acquisition process	14.1%	23.4%	35.9%	18.8%	7.8%
Mediation by an experienced agent to reach the last settlement	9.7%	25.8%	22.6%	29.0%	12.9%
Use the same agent for the appraisal and negotiation	32.3%	23.1%	16.9%	15.4%	12.3%

More than half of the respondents evaluated the “outsourcing the ROW acquisition process” and the “mediation by an experienced agent to reach the last settlement” as ‘sometimes’ or more. However, the “use of same agent for the appraisal and negotiation” is comparatively lower than other two practices.

A notable finding is that a significant number of respondents (39.1%) indicated that the use of the same agent for the appraisal and negotiation was not important (see Table B.16), which was often selected as a best practice to enable more consistent communication with the property owners in the Florida Department of Transportation (FDOT) and some European countries’ study (Cambridge Systematics 2006, Moeller et al. 2002). It may be because the respondents have rarely experienced or learned about using the one agent practice.

Table B.16 Perceived effectiveness/necessity of practices – Appraisal and Acquisition

[Effectiveness] Please indicate the necessity or importance of following practices and activities based on their effectiveness to improve the ROW acquisition process.

	Not important	Less important	Neutral	Important	Very important
Outsource the ROW acquisition process	22.6%	16.1%	40.3%	14.5%	6.5%
Mediation by an experienced agent to reach the last settlement	3.2%	11.3%	21.0%	40.3%	24.2%
Use the same agent for the appraisal and negotiation	39.1%	14.1%	20.3%	20.3%	6.3%

5. Legislative and Other Issues

The last category is the legislative and other issues. The survey respondents rated the “absence of the upper limit of the attorney fees” and “requirement of mortgage releases for low-value takes” 35.8% and 40.3%, respectively, as often or very often, which was higher than the other barriers (see Table B.17).

Table B.17 Frequency of barriers – Legislative and Other Issues

[Barrier] Please indicate how frequently you feel each item below as a barrier to effective ROW acquisition.

	Never	Rarely	Sometimes	Often	Very Often
Complex agency’s ROW process	4.3%	42.0%	34.8%	14.5%	4.3%
Restriction on the appraisal waiver ceiling	8.1%	43.5%	33.9%	12.9%	1.6%
Absence of the upper limit of the attorney fees	7.5%	32.8%	23.9%	11.9%	23.9%
Absence of a time limit for the condemnation action	3.0%	29.9%	37.3%	22.4%	7.5%
Unavailable to begin real property acquisition without the completion of environmental process	-	33.3%	36.2%	23.2%	7.2%
Requirement of mortgage releases for low-value takes	9.0%	16.4%	34.3%	19.4%	20.9%
Limited authority of field-level ROW personnel	4.3%	32.9%	37.1%	24.3%	1.4%

Contrary to the results in Table B.17, the survey respondents indicated that most items in this category could be influential to the ROW acquisition performance in terms of cost increase and schedule delay. Three items—absence of the attorney fees’ upper limit, absence of a time limit

for the condemnation action, and the unavailability to begin real property acquisition without the completion of environmental process—received higher scores than other items.

Table B.18 Severity of barriers – Legislative and Other Issues

[Severity] Please indicate how much each item is influential/critical to ROW cost increase and schedule delay.

	Not important	Less important	Neutral	Important	Very important
Complex agency’s ROW process	12.5%	17.2%	26.6%	25.0%	18.8%
Restriction on the appraisal waiver ceiling	3.4%	13.6%	42.4%	27.1%	13.6%
Absence of the upper limit of the attorney fees	3.2%	12.7%	33.3%	20.6%	30.2%
Absence of a time limit for the condemnation action	3.1%	9.4%	26.6%	35.9%	25.0%
Unavailable to begin real property acquisition without the completion of environmental process	3.1%	9.2%	30.8%	40.0%	16.9%
Requirement of mortgage releases for low-value takes	3.1%	20.0%	23.1%	30.8%	23.1%
Limited authority of field-level ROW personnel	6.1%	10.6%	34.8%	40.9%	7.6%

The use of practices associated with the legislative and other issues is comparatively lower than the level of use of practices in the other categories. Except for two practices, “requiring mortgage/lien releases only on higher value acquisitions” and “authorizing field personnel to initiate administrative settlements,” more than half of the respondents selected ‘never’ or ‘rarely’ for other three practices. However, the respondents assessed the effectiveness/necessity of the same practices much higher. Such gap is considered that there is usually less flexibility and controllability of applying practices under the legislative category than those of other categories.

Table B.19 Frequency of practice use – Legislative and Other Issues

[Practices] Please indicate how frequently each practice and/or activity below is used during the ROW acquisition process.

	Never	Rarely	Sometimes	Often	Very Often
Temporal increase of the appraisal waiver ceiling	36.4%	32.7%	23.6%	7.3%	-
Requiring mortgage/lien releases only on higher value acquisitions	15.0%	20.0%	30.0%	25.0%	10.0%
Authorizing field personnel to initiate administrative settlements	19.7%	16.4%	19.7%	31.1%	13.1%
Use of special delivery method (e.g. design-build, public-private partnership, etc.)	36.7%	23.3%	33.3%	5.0%	1.7%
Use of incentive program for relocation	49.1%	24.6%	17.5%	8.8%	

Table B.20 Perceived effectiveness/necessity of practices – Legislative and Other Issues

[Effectiveness] Please indicate the necessity or importance of following practices and activities based on their effectiveness to improve the ROW acquisition process.

	Not important	Less important	Neutral	Important	Very important
Temporal increase of the appraisal waiver ceiling	11.3%	1.9%	54.7%	28.3%	3.8%
Requiring mortgage/lien releases only on higher value acquisitions	3.4%	6.9%	20.7%	44.8%	24.1%
Authorizing field personnel to initiate administrative settlements	5.1%	8.5%	11.9%	47.5%	27.1%
Use of special delivery method (e.g. design-build, public-private partnership, etc.)	17.5%	19.3%	42.1%	15.8%	5.3%
Use of incentive program for relocation	12.3%	10.5%	50.9%	19.3%	7.0%

**APPENDIX C. REVIEW OF EMINENT DOMAIN AND ATTORNEY FEES
REIMBURSEMENT LAW**

Similar to Minnesota, many states guarantee that property owners receive just and adequate compensation when their property is permanently or temporarily taken for a construction project. In 2010, Genteman (2010) investigated and compared the eminent domain law and attorneys' fees reimbursement statutes of other states. This Appendix reorganizes and summarizes the important results of Genteman's work that are significant to this research.

C.1 Restrictive Fee Reimbursement

Georgia allows for the payment of attorneys' fees as the part of just compensation, but it does not require it. According to the Georgia code, the attorneys' fees could be recovered only if the agency cannot acquire the property or the agency abandons the condemnation proceeding.

Georgia Constitution, Article I. Bill of Rights, Section III. General Provisions, Paragraph I. Eminent domain, (d) *"The General Assembly may provide by law for the payment by the condemnor of reasonable expenses, including attorney's fees, incurred by the condemnee in determining just and adequate compensation."*

Georgia Code, Title 22. Eminent Domain, § 22-1-12 - Reimbursement to property owner of reasonable costs and expenses associated with condemnation proceedings *"In all actions where a condemning authority exercises the power of eminent domain, the court having jurisdiction of a proceeding instituted by a condemnor to acquire real property by condemnation shall award the owner of any right or title to or interest in such real property such sum as will in the opinion of the court reimburse such owner for his or her reasonable costs and expenses, including reasonable attorney, appraisal, and engineering fees, actually incurred because of the condemnation proceedings, if: (1) The final judgment is that the condemning authority cannot acquire the real property by condemnation; or (2) The proceeding is abandoned by the condemning authority."*

C.2 General Fee Reimbursement

Montana and Oregon award attorneys' fees if the jury's final award is greater than the acquiring agency's initial offer and the statute's requirements are met.

Montana Code, 70-30-305. Condemnor to make offer upon appeal - award of expenses of litigation. (2) *"In the event of litigation and when the condemnee prevails either by the court not allowing condemnation or by the condemnee receiving an award in excess of the final written offer of the condemnor that was rejected pursuant to the facts necessary in 70-30-111(1)(d), the court shall award necessary expenses of litigation to the condemnee."*

Oregon Statutes, 35.346 (7) *"If a trial is held or arbitration conducted for the fixing of the amount of compensation to be awarded to the defendant owner or party having an interest in the property being condemned, the court or arbitrator shall award the defendant costs and disbursements including reasonable attorney fees and reasonable expenses as defined in ORS 35.335 (2) in the following cases, and no other: (a) If the amount of just compensation assessed by the verdict in the trial exceeds the highest written offer in settlement submitted by condemnor before the filing of the action to those defendants appearing in the action pursuant to subsection (1) of this section; or (b) If the court finds that the first written offer made by condemnor to*

defendant in settlement before the filing of the action did not constitute a good faith offer of an amount reasonably believed by condemner to be just compensation.”

C.3 Conditional Benefit-based Reimbursement

In Iowa, the acquiring agency should reimburse attorney fees when the final award amount is more than 10% greater than the agency’s final offer.

Iowa Code, Chapter 6B. Procedure under Eminent Domain, 33. Costs and Attorney Fees.

“The acquiring agency shall pay all costs of the assessment made by the commissioners and reasonable attorney fees and costs, including the reasonable cost of one appraisal, incurred by the condemnee as determined by the commissioners if the award of the commissioners exceeds one hundred ten percent of the final offer of the applicant prior to condemnation...”

Washington requires that the final judgement be more than 10% greater than the highest offer of the acquiring agency.

Washington Code, 8.25.070. Award of attorney's fees and witness fees to condemnee —

Conditions to award. (1) *“Except as otherwise provided in subsection (3) of this section, if a trial is held for the fixing of the amount of compensation to be awarded to the owner or party having an interest in the property being condemned, the court shall award the condemnee reasonable attorney's fees and reasonable expert witness fees in the event of any of the following: (a) If condemnor fails to make any written offer in settlement to condemnee at least thirty days prior to commencement of said trial; or (b) If the judgment awarded as a result of the trial exceeds by ten percent or more the highest written offer in settlement submitted to those condemnees appearing in the action by condemnor in effect thirty days before the trial.”*

But the amount of the attorneys’ fees and expert witness fees should not exceed the general rates as designated below.

Washington Code, 8.25.070. Award of attorney's fees and witness fees to condemnee —

Conditions to award. (4) *“Reasonable attorney fees as authorized in this section shall not exceed the general trial rate, per day customarily charged for general trial work by the condemnee's attorney for actual trial time and his or her hourly rate for preparation. Reasonable expert witness fees as authorized in this section shall not exceed the customary rates obtaining in the county by the hour for investigation and research and by the day or half day for trial attendance.”*

C.4 Benefit-based Reimbursement with an Upper Limit

Like Montana and Oregon, Michigan also awards attorneys’ fees if the jury’s final award is greater than the acquiring agency’s initial offer. However, the award of attorneys’ fees is limited to 1/3 of the difference between the agency’s offer and the final judgment.

Michigan Compiled Laws, 213.66 (3) *“If the amount finally determined to be just compensation for the property acquired exceeds the amount of the good faith written offer under section 5, the court shall order reimbursement in whole or in part to the owner by the agency of the owner's reasonable attorney's fees, but not in excess of 1/3 of the amount by which the*

ultimate award exceeds the agency's written offer as defined by section 5. The reasonableness of the owner's attorney fees shall be determined by the court. If the agency or owner is ordered to pay attorney fees as sanctions under MCR 2.403 or 2.405, those attorney fee sanctions shall be paid to the court as court costs and shall not be paid to the opposing party unless the parties agree otherwise.”

In Florida, the recovery of attorneys’ fees and litigation costs are part of just compensation. However, the court award attorneys’ fees only based on the benefits achieved for the client – which is the difference between the initial offer and the final judgment or settlement.

Florida Statutes, 73.092 Attorneys’ Fees. (1) *“Except as otherwise provided in this section and s. 73.015, the court, in eminent domain proceedings, shall award attorney’s fees based solely on the benefits achieved for the client.”*

Florida Statutes, 73.092 Attorneys’ Fees. (1) (c) *“Attorney’s fees based on benefits achieved shall be awarded in accordance with the following schedule: 1. Thirty-three percent of any benefit up to \$250,000; plus 2. Twenty-five percent of any portion of the benefit between \$250,000 and \$1 million; plus 3. Twenty percent of any portion of the benefit exceeding \$1 million.”*

C.5 Other Methods

In some states, the property owner who prevail at trial may recover costs based on the court’s discretion. For example, in California, the litigation expenses including the reasonable attorneys’ fees and expert witness and appraiser fees when the property owner’s final demand for compensation is deemed reasonable and the acquiring agency’s compensation is deemed unreasonable.

California Code of Civil Procedure, Section 1250.410 (b) *If the court, on motion of the defendant made within 30 days after entry of judgment, finds that the offer of the plaintiff was unreasonable and that the demand of the defendant was reasonable viewed in the light of the evidence admitted and the compensation awarded in the proceeding, the costs allowed pursuant to Section 1268.710 shall include the defendant's litigation expenses.*

Louisiana also has similar statute. The attorneys’ fees of a property owner may be recovered if the highest amount offered from the agency is less than the final award.

Louisiana Revised Statutes, Title 19. Expropriation, 19:109. Trial in or out of term with dispatch; judgment; appraisals; payment in court registry. A *“... After hearing evidence on the issue, the court shall determine the highest amount offered. If the highest amount offered is less than the compensation awarded, the court may award reasonable attorney fees. The expropriating authority shall not be entitled to possession or ownership of the property until a final judgment has been rendered and payment has been made to the owner or paid into the registry of the court, except as may otherwise be stipulated by the parties.”*

In Delaware, the property owner’s litigation costs could be recovered if the final award is closer to the property owner’s valuation. However, the acquiring agency could also request costs if the final award is lower than the agency’s offer.

Delaware Code, Title 10. Courts and Judicial Procedure, Chapter 61. Condemnation, 6111. Costs. (2) *“If the award of just compensation, exclusive of interest, is closer to the highest valuation evidence provided at trial on the defendant's behalf than the plaintiff's offer made under paragraph (1) of this section, the defendant may apply for an order for the plaintiff to pay the defendant's reasonable litigation expenses, including reasonable attorney, appraisal, engineering or other expert witness fees actually incurred because of the compensation trial...”*

Delaware Code, Title 10. Courts and Judicial Procedure, Chapter 61. Condemnation, 6111. Costs. (3) *“If the award of just compensation, exclusive of interest, is lower than the plaintiff's offer made under paragraph (1) of this section, the plaintiff may apply for an order for the defendant to pay the plaintiff's reasonable litigation expenses incurred after the service of the offer, excluding attorney fees but including reasonable appraisal, engineering or other expert witness fees actually incurred because of the condemnation trial...”*

Pennsylvania has a unique approach for attorneys' fees reimbursement. In case of the preliminary objection or when the agency abandons the condemnation proceeding, the acquiring agency should reimburse reasonable costs. In other cases, the reimbursement of litigation fees are capped at \$4,000.

Pennsylvania Consolidated Statutes, Title 26. Eminent Domain, 306 Preliminary Objections, (g) Costs and expenses. (1) *“If preliminary objections which have the effect of terminating the condemnation are sustained, the condemnor shall reimburse the condemnee for reasonable appraisal, attorney and engineering fees and other costs and expenses actually incurred because of the condemnation proceedings.”*

Pennsylvania Consolidated Statutes, Title 26. Eminent Domain, 308 Revocation of Condemnation Proceedings. (d) Costs and expenses. *“Where condemned property is relinquished, the condemnee shall be reimbursed by the condemnor for reasonable costs and expenses as provided in section 306(g) (relating to preliminary objections).”*

Pennsylvania Consolidated Statutes, Title 26. Eminent Domain, 710 Limited Reimbursement of Appraisal, Attorney and Engineering Fees. (a) *“General rule. The owner of any right, title or interest in real property acquired or injured by an acquiring agency, who is not eligible for reimbursement of fees under section 306(g) (relating to preliminary objections), 308(d) (relating to revocation of condemnation proceedings) or 709 (relating to condemnee's costs where no declaration of taking filed), shall be reimbursed in an amount not to exceed \$4,000 as a payment toward reasonable expenses actually incurred for appraisal, attorney and engineering fees.”*

APPENDIX D. SURVEY RESPONSE ANALYSIS

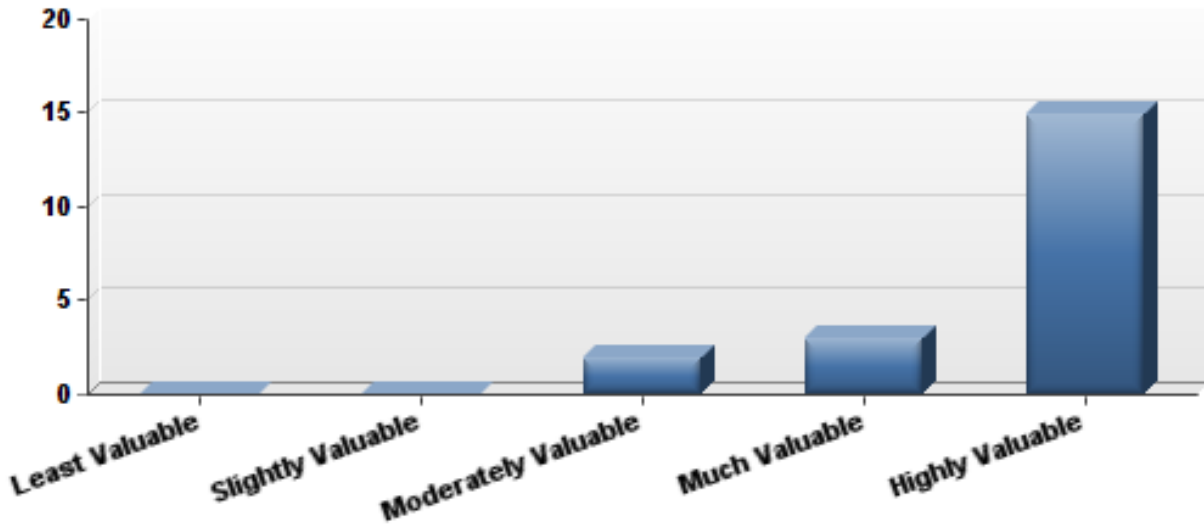
Idea 1. Try to get owner’s appraisal 20 to 30 days before the commissioner hearing with attorneys asking judges at hearing on petition to impose a longer period of time instead of the statutory 5 days.



#	Answer	Graphic depiction	Response	%
1	Least Valuable		0	0%
2	Slightly Valuable		0	0%
3	Moderately Valuable		3	15%
4	Much Valuable		4	20%
5	Highly Valuable		13	65%
	Total		20	100%

Statistic	Value
Min Value	3
Max Value	5
Mean	4.50
Variance	0.58
Standard Deviation	0.76
Total Responses	20

Idea 2. Require that attorneys' fees only be available if the owner presents the appraisal that would be used at a commissioner hearing or trial prior to the government making the last written offer.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	0	0%
3	Moderately Valuable	2	10%
4	Much Valuable	3	15%
5	Highly Valuable	15	75%
	Total	20	100%

Statistic	Value
Min Value	3
Max Value	5
Mean	4.65
Variance	0.45
Standard Deviation	0.67
Total Responses	20

Idea 3. Increase in commissioners’ accountability by using line item award findings that help to identify what they are valuing and help with accountability and identification of potential appeal issues.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	2	10%
3	Moderately Valuable	3	15%
4	Much Valuable	8	40%
5	Highly Valuable	7	35%
	Total	20	100%

Statistic	Value
Min Value	2
Max Value	5
Mean	4.00
Variance	0.95
Standard Deviation	0.97
Total Responses	20

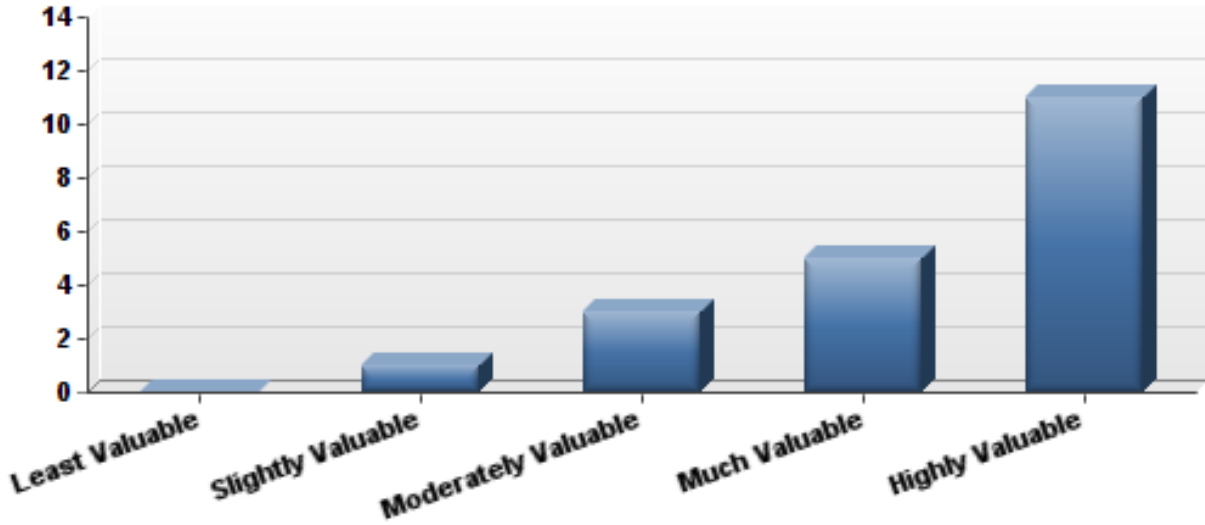
Idea 4. Use a review appraiser to help the condemning authority determine a fair value of settlement for moving forward with an impartial analysis of the owner's appraisal.



#	Answer	Response	%
1	Least Valuable	1	5%
2	Slightly Valuable	7	35%
3	Moderately Valuable	6	30%
4	Much Valuable	4	20%
5	Highly Valuable	2	10%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.95
Variance	1.21
Standard Deviation	1.10
Total Responses	20

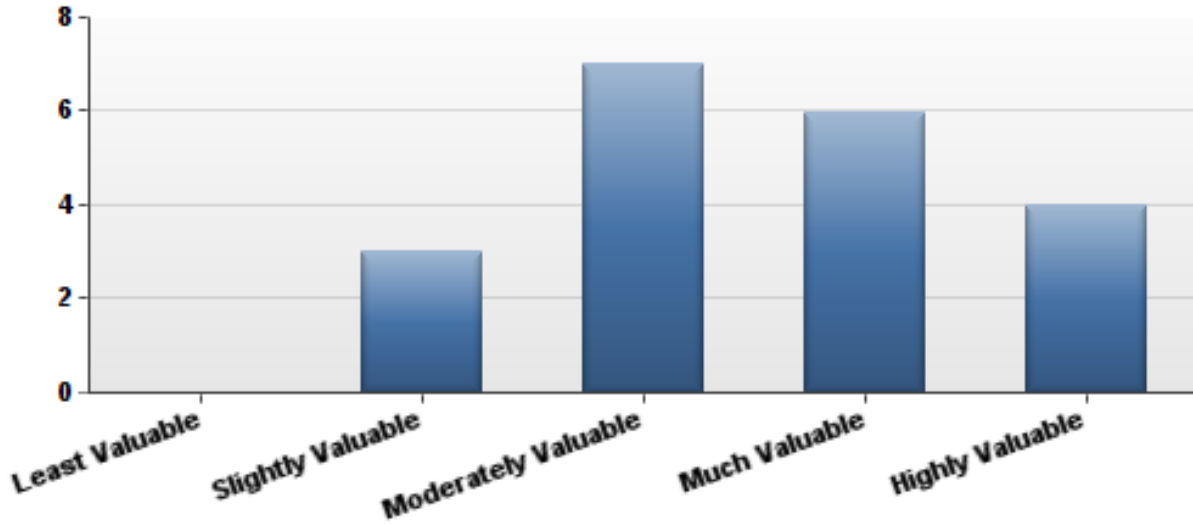
Idea 5. Change in legal procedure by allowing an "offer of judgment" that limits the impact of attorney fees on negotiation and also gives the acquiring agency to improve their last written offer.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	1	5%
3	Moderately Valuable	3	15%
4	Much Valuable	5	25%
5	Highly Valuable	11	55%
	Total	20	100%

Statistic	Value
Min Value	2
Max Value	5
Mean	4.30
Variance	0.85
Standard Deviation	0.92
Total Responses	20

Idea 6. Change in legal procedures to narrow issues within commissioners’ hearings by “motion in limine” to reduce disagreements over the application of the law that prevent successful negotiations, and cause of commissioner awards.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	3	15%
3	Moderately Valuable	7	35%
4	Much Valuable	6	30%
5	Highly Valuable	4	20%
	Total	20	100%

Statistic	Value
Min Value	2
Max Value	5
Mean	3.55
Variance	1.00
Standard Deviation	1.00
Total Responses	20

Idea 7. Propose legislation to eliminate construction interference as a compensable damage.



#	Answer	Response	%
1	Least Valuable	2	10%
2	Slightly Valuable	0	0%
3	Moderately Valuable	5	25%
4	Much Valuable	4	20%
5	Highly Valuable	9	45%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.90
Variance	1.67
Standard Deviation	1.29
Total Responses	20

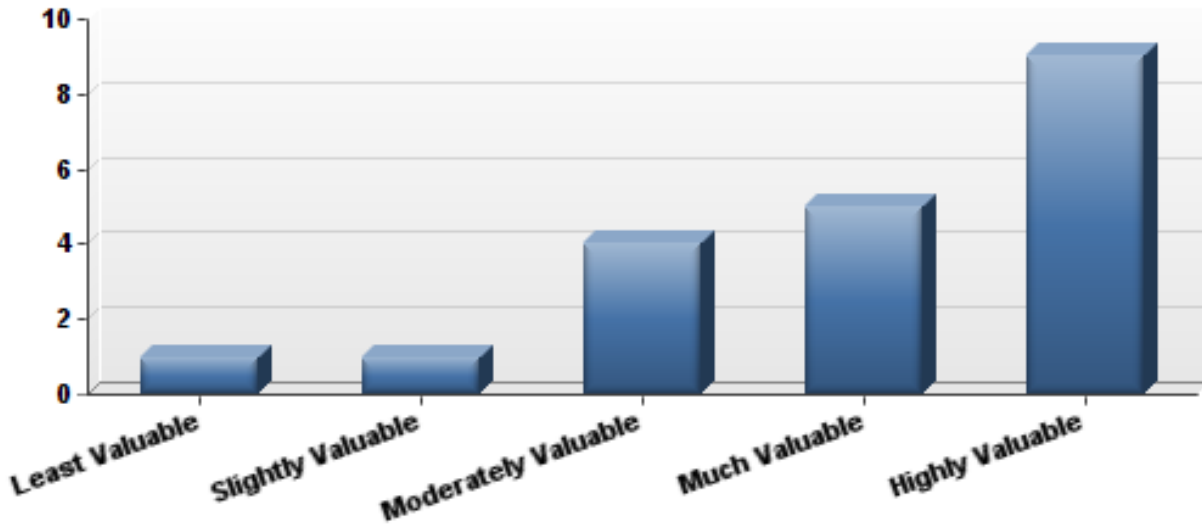
Idea 8. Set up a subcommittee to help file complaints against appraisers that are too aggressive with their valuations for property owners.



#	Answer	Response	%
1	Least Valuable	3	15%
2	Slightly Valuable	0	0%
3	Moderately Valuable	6	30%
4	Much Valuable	1	5%
5	Highly Valuable	10	50%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.75
Variance	2.20
Standard Deviation	1.48
Total Responses	20

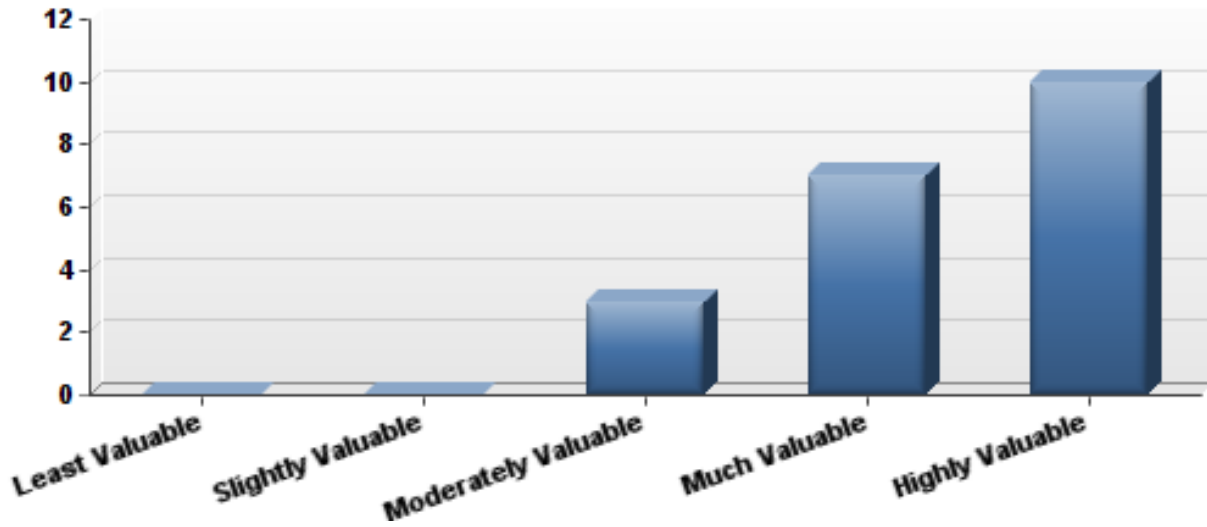
Idea 9. Arrange many one-on-one meetings with property owners by building credibility with landowners that the public agency cares to discuss the project.



#	Answer	Response	%
1	Least Valuable	1	5%
2	Slightly Valuable	1	5%
3	Moderately Valuable	4	20%
4	Much Valuable	5	25%
5	Highly Valuable	9	45%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	4.00
Variance	1.37
Standard Deviation	1.17
Total Responses	20

Idea 10. Get right-of-way agents involved very early at conceptual stage of the project.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	0	0%
3	Moderately Valuable	3	15%
4	Much Valuable	7	35%
5	Highly Valuable	10	50%
	Total	20	100%

Statistic	Value
Min Value	3
Max Value	5
Mean	4.35
Variance	0.56
Standard Deviation	0.75
Total Responses	20

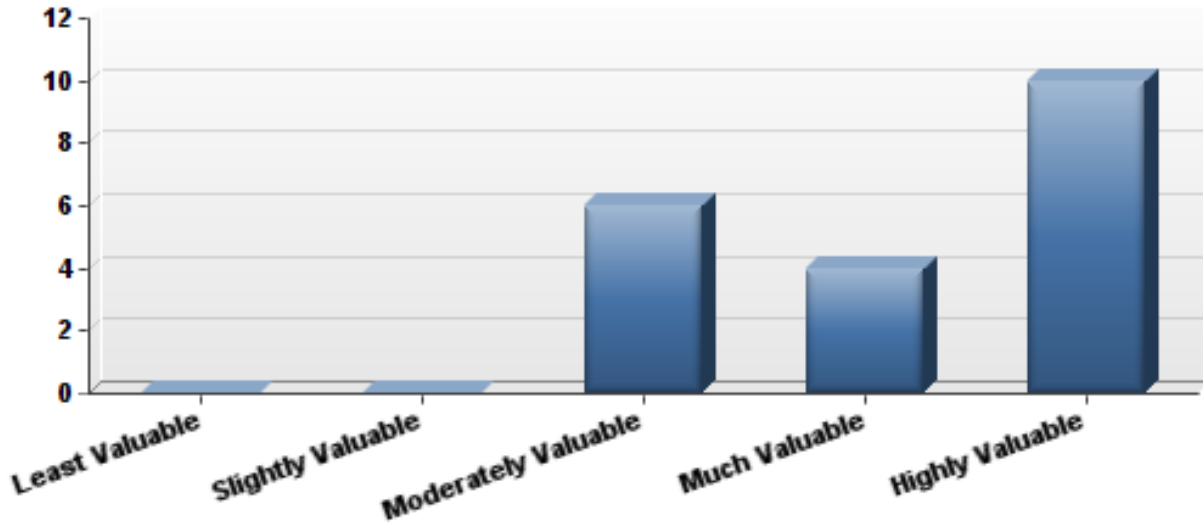
Idea 11. Change in substantive law to limit the attorney and experts fees eligible for reimbursement.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	0	0%
3	Moderately Valuable	1	5%
4	Much Valuable	9	45%
5	Highly Valuable	10	50%
	Total	20	100%

Statistic	Value
Min Value	3
Max Value	5
Mean	4.45
Variance	0.37
Standard Deviation	0.60
Total Responses	20

Idea 12. Allow the engineers and designers to work conjunctionally with right-of-way agents to engage the public.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	0	0%
3	Moderately Valuable	6	30%
4	Much Valuable	4	20%
5	Highly Valuable	10	50%
	Total	20	100%

Statistic	Value
Min Value	3
Max Value	5
Mean	4.20
Variance	0.80
Standard Deviation	0.89
Total Responses	20

Idea 13. Educate county board on the activity and importance of right-of-way acquisition and on the fact that additional resources may save money in the long run.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	2	10%
3	Moderately Valuable	6	30%
4	Much Valuable	4	20%
5	Highly Valuable	8	40%
	Total	20	100%

Statistic	Value
Min Value	2
Max Value	5
Mean	3.90
Variance	1.15
Standard Deviation	1.07
Total Responses	20

Idea 14. Direct legal issues for appraiser because they are being asked to work without any guidance from legal which causes them to make legal determinations regarding acquisition.



#	Answer	Response	%
1	Least Valuable	2	10%
2	Slightly Valuable	2	10%
3	Moderately Valuable	8	40%
4	Much Valuable	3	15%
5	Highly Valuable	5	25%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.35
Variance	1.61
Standard Deviation	1.27
Total Responses	20

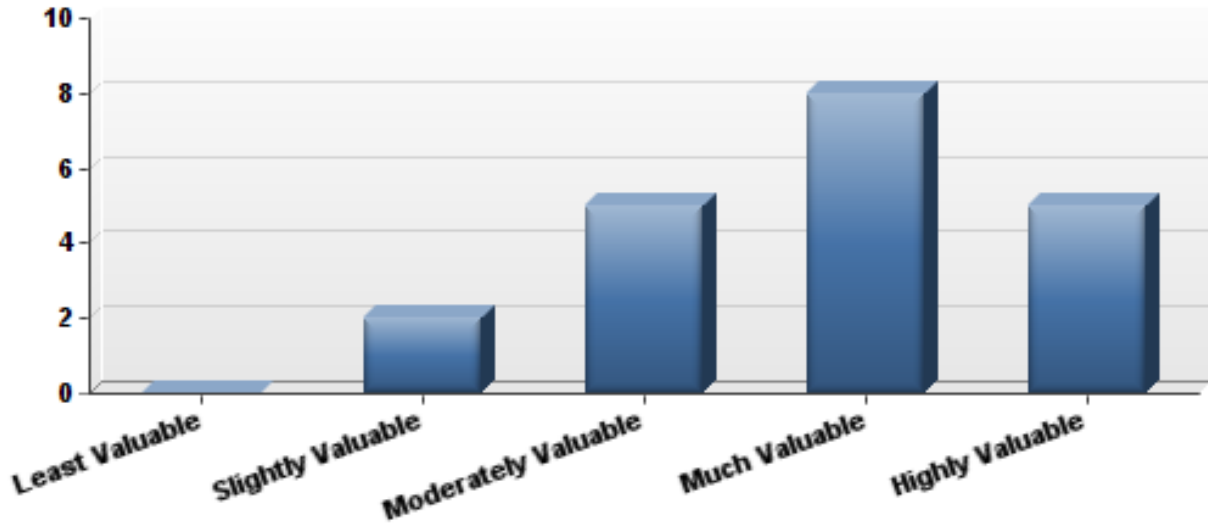
Idea 15. Change in substantive law in the allowance for evidence of general benefit and general damages.



#	Answer	Response	%
1	Least Valuable	1	5%
2	Slightly Valuable	4	20%
3	Moderately Valuable	6	30%
4	Much Valuable	4	20%
5	Highly Valuable	5	25%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.40
Variance	1.52
Standard Deviation	1.23
Total Responses	20

Idea 16. Change in substantive law to codify public rights in ROW by making the law clearer on some issues that are frequently disputed.



#	Answer	Response	%
1	Least Valuable	0	0%
2	Slightly Valuable	2	10%
3	Moderately Valuable	5	25%
4	Much Valuable	8	40%
5	Highly Valuable	5	25%
	Total	20	100%

Statistic	Value
Min Value	2
Max Value	5
Mean	3.80
Variance	0.91
Standard Deviation	0.95
Total Responses	20

Idea 17. Involve attorneys earlier in the eminent domain process, because in the current system attorneys are not able to see the final plan until the eminent domain process has begun, which doesn't allow enough time for the informal negotiation that leads to early formal proceedings.



#	Answer	Response	%
1	Least Valuable	1	5%
2	Slightly Valuable	4	20%
3	Moderately Valuable	7	35%
4	Much Valuable	6	30%
5	Highly Valuable	2	10%
	Total	20	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.20
Variance	1.12
Standard Deviation	1.06
Total Responses	20