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Happening in Nebraska
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Inside Out: Building a Glass House in Russia Reviewed by Mary C. Bujold, CRE



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TransCanada Keystone XL Pipeline Heightens Awareness of Eminent Domain and Transportation of Energy Understanding What is Happening in Nebraska

William G. 'Bill' Blake, Esq

Transcanada Keystone commenced acquisition of right-of-way easements in 2009 for the XL Pipeline, which would run from Alberta, Canada, to Steele City, Nebraska. TransCanada expected to obtain the necessary permit from the State Department, acquire the right-of-way, and complete construction of the pipeline by the end of 2011. Based on prior experience with the Keystone Pipeline, this seemed like a realistic goal. Now, five years later, there is no pipeline, no permit, and not even an approved route through Nebraska. Political candidates from far beyond the Great Plains are taking positions for or against the XL. Labor unions, environmental groups, property rights advocates, and alternative energy advocates all are voicing their opinions and attempting to influence the process. This article examines how the oil giant managed to become blindsided by problems with Nebraska prairie grass and the sandy soil in which it grows, and what it may mean for the XL project and future oil pipelines.

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Power Lines and Property Prices

Richard J. Roddewig, CRE, MAI, FRICS, and Charles T. Brigden, CRE, FRICS, ASA

The American electricity generating industry has experienced a radical transformation during the past 20 years. Once a tightly regulated public utility consisting of a small number of large cap companies operating on a state-by-state basis, the electric industry has become a partially deregulated, semi-public utility consisting of dozens of large and small cap companies producing, buying, selling, and distributing energy, production facilities and distribution networks on a local, regional and even national basis. This article addresses the major issues and challenges still playing out in the regulatory and market arenas.

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Weathering the Storms with the Lights On: Creating a Reliable and Resilient 21st Century Transmission Grid

David K. Richter, Esq.

Electricity is the lifeblood of the United States' economy as it powers our homes and businesses, provides for communication and entertainment, and connects people through technology and the Internet. The transmission grid is the backbone of electric system in the U.S. and helps delivery electricity to more than 144 million end-use customers. Despite its importance, the transmission grid in the U.S. is at a crossroads because of increased demand on a grid built mostly prior to 1950 and an increasing number of severe weather events. Although investment in transmission infrastructure is increasing, there remain numerous obstacles to transmission development. This article examines those obstacles, and the need to maintain a strong, reliable transmission grid.

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A Review of Potential Community and Real Estate Impacts from the Rush to Frack

Robert F. Kennedy, Jr., Esq.

The proliferation of high-volume horizontal hydraulic fracturing, commonly known as fracking, to extract natural gas from previously unreachable shale deposits has exploded as a potent policy debate over recent years. Fracking's negative impacts on surrounding communities have inflamed a grass roots political movement organized around opposition to fracking. In this article the author reviews some of the common risks to communities associated with fracking, all of which can affect long- and short-term real estate values.

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Collaborative Valuation: When Equipment and Real Estate Intersect

Park R. Johnson, MBA, ASA, MRICS

This article focuses on the intersection of real estate and equipment valuation; equipment being a specific category of personal property. Appraisers evaluating complex industrial assets frequently encounter overlap: one part of an asset belongs in one appraisal discipline and another part of an asset belongs in another. While all appraisal disciplines share the same theoretical underpinnings, methodologies have evolved differently over time for different asset classes. One classic example might be overhead cranes; the cranes are equipment, but the crane-ways are real estate. This article explores engagements where real estate and equipment appraisers work together, and will discuss each discipline's particular point of view. The road less traveled may prove to be the path of collaboration.

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The Changing Face/Space of Parking: Impact on Commercial Real Estate

William Ted Anglyn, CRE

This article explores the dynamic changes occurring in the parking industry. Today, parking represents an evolving \$30 billion commercial real estate industry that is far more dynamic than perceived by most real estate professionals. The parking industry is rapidly changing with creative revenue enhancements, technology updates, fresh designs, innovative management and new operating initiatives. Because of everincreasing profit expectations, changing demographics and urban design differences, parking has had to quickly adapt. Often, parking revenue is considered a secondary income source with minimal value impacts, however, with evolving technology the returns for a property's parking component can add significantly to real estate returns while improving the customer experience. The net result is that more property owners are realizing greater value from their existing parking structures. Counselors need to be apprised of these significant changes to appropriately advise clients on how to maximize their parking facilities for greater real estate investment returns.

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Leases: A Ticking Time Bomb in Your Company's Merger? *Richard E. Strauss, Esq.*

When buying or selling a business, there will likely be real estate tenant leases that are part of the business assets. For example, the leased premises may be an essential office location or plant. Implicit in the price may have been the buyer's ability to use and exploit these key locations through the tenancy. That means that the seller and buyer need to deal with the assignment provisions found in those leases. Both buyer and seller need to determine how the leases may be assigned in the context of the sale of the business or else determine what could be done if a lease cannot be assigned. If there are serious issues about assignability, the sale agreement should then deal with the possibility that when the closing is to occur, an assignment has not been accomplished. Ideally, the assignment provisions of a lease should not hold up the sale of the entire business. Also, the parties should be aware that closing the sale may trigger the loss to the buyer of important lease rights based on the terms of the lease, or result in seller or its principal continuing to be liable under the lease even after it was assigned. This article will, hopefully, delineate the issues that should be considered, so that both parties can smoothly structure, document and conclude the sale without risking a future lease assignment issue.

RESOURCE REVIEWS

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Planning Chicago

Reviewed by P. Barton DeLacy, CRE

Authors D. Bradford Hunt, Ph.D., and Jon B. DeVries, CRE, discuss the history of planning for Chicago, and show where opportunities may be missed because the city no longer plans on a regional scale—but much more so on a political scale. Reviewer Barton DeLacy calls this book a "seminal text," and recommends it as an example of how "planning done properly and in a comprehensive manner" might be the best tool for resolving Chicago's planning conflicts.

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The Advisor's Guide to Commercial Real Estate Investment

Reviewed by Charles Noel Schilke, JD, AM, CRE, FRICS

Investment advisors now have an important new resource to help them demystify commercial real estate investing for clients. This book, which reviewer Charles Schilke, CRE, believes is a "must have" for your library, explains dozens of topics including property types, portfolio management, private equity funds, REITs, public real estate, and more. It also addresses yield, risk and how to evaluate real estate returns. Readers can learn strategies and tactics from the perspectives of an all-star team of recognized professionals, including CRE members led by David J. Lynn, Ph.D.; with contributions from Peter C. Burley; Victor Calanog; Howard C. Gelbtuch; Kenneth P. Riggs, Jr.; Roy J. Schneiderman; and other experts.

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Inside Out: Building a Glass House in Russia

Reviewed by Mary C. Bujold, CRE

In this short but entertaining read, reviewer Mary Bujold, CRE, describes the author's "situations and challenges" in trying to build a new office building in St. Petersburg, Russia. Noting that the book is short on developmental details, Bujold describes it as full of "interesting and hilarious stories of the machinations it took to accomplish the project," and one that provides some important lessons on the need for cooperation and understanding of different cultures.

Editor's Note

BY MARY C. BUJOLD, CRE



"I am very pleased to be able to continue to bring our CRE membership what I consider to be critical thinking and discussions on some of the key real estate and real estate-related topics of our day."

In keeping with our efforts to consistently publish articles in *Real Estate Issues* that relate to the CRE Top Ten Issues and Trends in 2014, this issue carries several articles that focus on energy. Included in this volume is "Weathering the Storms with the Lights On: Creating a Reliable and Resilient 21st Century" by **David K. Richter**, which addresses the state of the electric grid.

CRE members **Richard J. Roddewig** and **Charles T. Bridgen** teamed up to write "Power Lines and Property Prices," a review of the potential effects on property values of being located near power lines.

William Blake, Esq. brings us a discussion regarding the "TransCanada Keystone XL Pipeline: Eminent Domain and the Transportation of Energy—Understanding What is Happening in Nebraska."

One of our speakers at our 2013 San Francisco Annual Convention, **Robert F. Kennedy**, **Jr.**, provided us with "A Review of Potential Community and Real Estate Impacts from the Rush to Frack."

Additional articles are included in this issue on the changing face of parking, equipment and real estate valuation and real estate leases. We also have three Resources Reviews (everyone got busy and reviewed a book), so we have plenty of material for you to sink your teeth or brains into.

I am very pleased to be able to continue to bring our CRE membership what I consider to be critical thinking and discussions on some of the key real estate and real estate-related topics of our day.

We have some very exciting topics coming up in future issues of *REI* that you will not want to miss. Our next volume will focus on housing, and we will also be featuring more international articles and roundtable discussions on key topics in the future.

Thank you to those of you who contributed your effort in bringing to fruition the articles in this issue. As always, we welcome your comments and feedback in order to continue to enhance the journal and make it pertinent to both the membership and the real estate community.

MARY C. BUJOLD, CRE EDITOR IN CHIEF

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Kennedy has worked on environmental issues across the Americas and has assisted several indigenous tribes in Latin America and Canada in successfully negotiating treaties protecting traditional homelands. Among his published books are The New York Times' bestseller Crimes Against Nature (2004), The Riverkeepers (1997) and Judge Frank M. Johnson, Jr. A Biography (1977). His articles have appeared in The New York Times, The Washington Post, Los Angeles Times, The Wall Street Journal, Newsweek, Rolling Stone, Atlantic Monthly, Esquire, The Nation, Outside Magazine, Village Voice, and other publications.

Kennedy is a graduate of Harvard University. He studied at the London School of Economics and received his law degree from the University of Virginia Law School, and a master's degree in environmental law from Pace University School of Law.

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and Contagion. Schilke has created commercial mortgage-backed securities (CMBS) on Wall Street, performed the real estate legal due diligence for the Exxon-Mobil merger, and financially restructured the real estate holdings of The American National Red Cross. He has developed major office buildings, large blood processing facilities, hotels, and mixed-use projects. He also frequently consults as an expert witness in real estate cases. Schilke earned a bachelor of arts degree from the University of Chicago, a master of arts degree from Harvard University, and a juris doctorate degree from Cornell Law School. He is currently completing his doctoral degree at Harvard University, where he is writing a detailed financial analysis of the development of CMBS as his dissertation.

Richard E. Strauss, Esq., has been a partner with Moses & Singer LLP, New York City, since 1979, and is co-chair of its real estate practice. Strauss' practice covers a broad range of real estate transactions, with an emphasis on representation of financial institutions in their internal real estate throughout the country, including anchor tenant leases, data centers and disaster recovery centers. Noteworthy representations include the lease up, and sale and leaseback, of a number of major office buildings on behalf of their institutional owners. Strauss' real estate background includes financings, such as the construction financing for a major office complex and retail center in lower Manhattan and the permanent refinancing of the multi-tenanted portion of an office building developed as a commercial condominium in Times Square. He also has represented lenders in the renegotiation and workout of, or the foreclosure or taking of title to, commercial real estate projects in default.

Strauss has lectured and published on such subjects as real estate workouts, corporate real estate disaster contingency planning, construction loans and lease issues. He was honored by Law & Politics in its listing of *New York Super Lawyers** and rated AV* Preeminent** in his field by *Martindale-Hubbell**.

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TransCanada Keystone XL Pipeline: Eminent Domain and Transportation of Energy

Understanding What is Happening in Nebraska

BY WILLIAM G. 'BILL' BLAKE, ESQ.

A Nebraska trial court opinion issued in February 2014 has helped to focus new attention on the process for siting major pipelines, the environment and the power of eminent domain.

In 2008 TransCanada Corporation, based in Calgary, Alberta, constructed the Keystone Pipeline through Nebraska. The Keystone project now transports crude oil from Hardisty, Alberta, to Wood River, Illinois. Additional phases of the project carry crude to the Gulf Coast near Houston, Texas. The crude oil is pumped through a 36-inch diameter pipe, utilizing 39 pumping stations along the route. The project was well known in the Great Plains, but it proceeded with little notice elsewhere. Then, the Keystone XL was announced by TransCanada. It was initially approached by TransCanada with the expectation, based on experience, that it would go as easily and smoothly as the original Keystone project. Many Americans are following the XL project on a regular basis, and as we well know, it has not been at all smooth and easy.

As a Nebraska lawyer who regularly represents property owners in condemnation, this author is naturally protective of private property rights and enjoys events that shed light on this dark corner of the law, especially when they help to shape public opinion in favor of property rights. These rights include primarily the right of a property owner to be paid just compensation when property is taken for public use, but also include issues of whether a private, profit-centered corporation should be allowed to acquire private property by eminent domain. If so, should such corporations be required to pay compensation based on a measure other than the well established standard of loss of fair market value?

About the Author



William G. 'Bill' Blake, Esq., partner in the Baylor Evnen law firm in Lincoln, Nebraska, has more than 35 years of experience in eminent domain, real estate and commercial litigation. Blake focuses on educating others about private property rights. He is a frequent lecturer and author, locally and nationally, regarding all aspects of condemnation and property rights. Blake serves as editor of

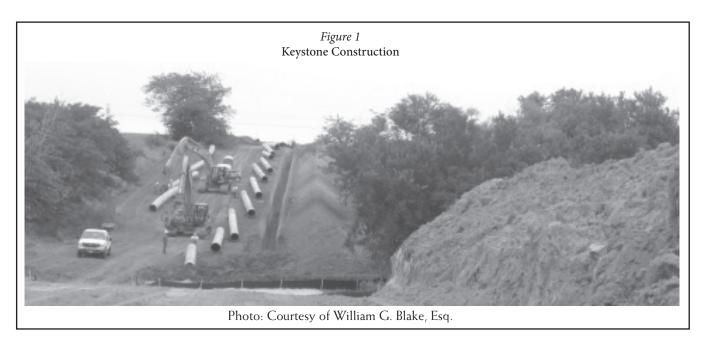
"The Law of Eminent Domain," First Chair Press (2012) for the American Bar Association, and is the author of "Just Compensation in Nebraska: a Manual for Owners." He is rated "AV/preeminent" by the Martindale Hubbell Law Directory. Blake also has served as website editor and chair for the Committee on Condemnation, Zoning and Land Use for the American Bar Association Section of Litigation, and continues to serve as the editor of updates to "The Law of Eminent Domain." He served as a judge and commissioner on the Nebraska Commission of Industrial Relations from 2000 to 2014, and is the Nebraska representative for Owner's Counsel of America, a national association of leading eminent domain lawyers. Blake received bis juris doctor degree from the University of Nebraska.

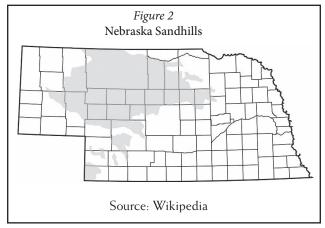
These issues were raised by the initial Keystone project, along with the question of why it was so easy for TransCanada to select its preferred route through the nation's heartland. However, the XL debate and political campaigns have grown far beyond the rights of the affected landowners.

The Keystone XL is proposed to be a 36-inch diameter pipeline, 1,179 miles long from Alberta, Canada, to Steele City, Nebraska, where it will connect with the existing Keystone pipeline to move oil to refineries on the Gulf of Mexico.¹ If built, it will be part of the network of more than 2.6 million miles of oil and natural gas pipelines in the United States,² and is designed with a capacity

Insider's Perspective

TransCanada Keystone XL Pipeline: Eminent Domain and Transportation of Energy Understanding What is Happening in Nebraska





to deliver 830,000 barrels of crude oil per day.³ Some estimates place the capacity of the Keystone system at more than a million barrels per day. The network of crude oil pipelines in the U.S. is already extensive, with approximately 55,000 miles of trunk lines, and perhaps 40,000 miles of smaller gathering lines. Several existing trunk lines in the U.S. originate in Canada.⁴

When TransCanada announced in 2007 that it was ready to begin acquiring pipeline corridor easements in Nebraska for the Keystone project, there was little time for opposition to organize against the project. That opposition was quickly crushed when a representative of the U.S. Department of State announced at an informational town hall meeting in Seward, Nebraska, in August 2007,

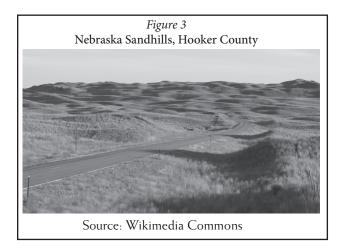
that America needs Canadian oil and that the president wanted the Keystone pipeline built. Safety concerns and groundwater concerns were raised, and the science of pumping the high viscosity oil questioned, but the project was on the fast track.

The Keystone pipeline was an international project, so the permitting process ran through the president with the assistance of the Department of State. There was no oversight of the routing of such pipelines in Nebraska, and the Nebraska statutes at the time stated that any person or company organized for the purpose of conveying petroleum products through the state of Nebraska could acquire right-of-way for a pipeline by use of eminent domain. Eminent domain in Nebraska requires the agency that wishes to acquire private property to negotiate in good faith with the property owner before filing a proceeding in court to obtain the property interest.

The Keystone project resulted in very little actual use of eminent domain, but of course the threat was always present. This author is aware of only two cases filed in the state for the Keystone project. All other needed property rights were obtained through negotiations.

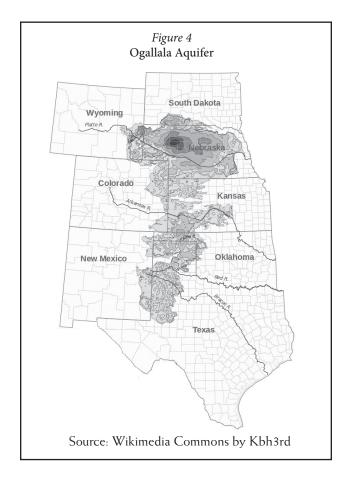
The photo above, illustrating the Keystone construction process, was taken in 2008 while the author/photographer was standing in the yard of a Nebraska farm family, approximately twenty miles west of Lincoln, and approximately 75 feet from the residence.

TransCanada Keystone XL Pipeline: Eminent Domain and Transportation of Energy Understanding What is Happening in Nebraska



Before the Keystone pipeline was even in the ground, TransCanada announced the Keystone XL and its proposed route through the Nebraska Sandhills. The Sandhills region is a rich and beautiful grassland, perfect habitat for cattle and an abundance of wildlife. One of the most unique areas on the planet, it is the largest sand dune formation in the Western Hemisphere, with the dunes reaching up to nearly 400 feet in height. It is an almost endless sea of rolling hills covering 20-thousand square miles with few trees and enchanting river valleys. One of the area's unique features is that the sandy hills sit on top of the heart of the vast Ogallala Aquifer, one of the largest aquifers in the world. The aquifer runs through the Great Plains from South Dakota to Texas, containing an estimated one billion-acre feet of water.

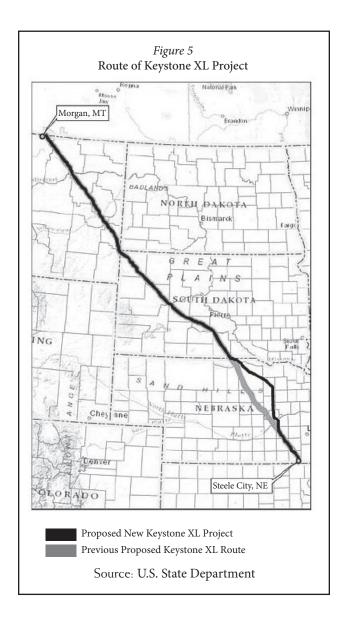
Nebraskans started asking for some oversight, some state regulation and say in the routing process. The group of opponents, though quickly quieted on the first project, had not surrendered, and they were able to regroup and gain momentum. It was apparent from the initial informational meetings that it would not be the same easy process TransCanada enjoyed before. The cry for oversight was greatly enhanced when TransCanada began issuing letters threatening property owners with condemnation if they did not sign an easement within 30 days. Of course, at the time, TransCanada did not have approval from the Department of State, and Nebraska law requires a Petition to Condemn filed in county court to state that all required approvals have been obtained.⁷ The condemnations were never filed, and the untimely threat only increased the resolve of the opposition. Competing advertising campaigns raged for months as both sides (perhaps it was more like six sides) fought for control of public



opinion. Nebraskans would watch a television ad declaring the XL will be the safest pipeline ever built, bringing needed oil from our good friends to the north to free America from Middle-Eastern oil dependence. This would be immediately followed by a Nebraska rancher lamenting that the fragile Sandhills and aquifer would never recover from an oil spill. The economics of more jobs and an increased tax base competed with claims of legalized land seizures by a foreign corporation.

We, as well, observed competing ads on the Jumbotron during Cornhusker home football games. The Canadian oil giant apparently did not realize that Texas and Oklahoma landowners applauding the responsible and friendly manner in which TransCanada builds pipelines, in the middle of a football game in Nebraska's Memorial Stadium, would be a less than effective way to persuade people in the Cornhusker state. By contrast, the opposition seemed to be doing everything right. In the meantime, TransCanada continued to acquire right-of-way for its planned route.

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The issue of local regulation was brought before the Nebraska Legislature (the Unicameral) in 2011. The issue was whether to regulate the routing of pipelines through the state, and if so, how should it be done. There was some discussion of whether a foreign pipeline should have eminent domain authority, but that issue gained little traction with the Nebraska lawmakers. Interstate commerce and federal supremacy posed a problem

for the pipeline opponents. The Nebraska Unicameral responded by passing the Major Oil Pipeline Siting Act in 2011, requiring a company proposing a major pipeline to apply to the Nebraska Public Service Commission for approval. The Commission is a five-member elected body with authority to regulate common carriers, authority that is granted in the Nebraska Constitution. Right of way could not be acquired by eminent domain unless the Commission granted approval of the pipeline. The Act specifically did not relate to safety, but only routing. The Act also did not apply to any pipeline for which an application had already been submitted to the Department of State, which meant that it did not apply to the catalyst XL pipeline.

Then, the president announced that the route through the Sandhills was rejected. Rerouting and the regulatory process immediately became the hot topic of the day. No longer was there a pending application exempting the XL from the regulatory process. The new route would be required to go through the regulatory process, and there was more time to give the matter more thought.

New regulations were added by the Unicameral in 2012, ordering major pipeline routes to be studied by the Nebraska Department of Environmental Quality, with authority given to the governor to approve or reject the route. 10 If the governor rejected the proposed route, the pipeline company could then apply to the Public Service Commission. Again, eliminating eminent domain authority was briefly discussed, along with measuring just compensation based on a share of the profits, but these were never serious issues. It was not made entirely clear why primary responsibility was taken from the Public Service Commission and given to the governor.

TransCanada then announced a new route through Nebraska, intended to address the Sandhills concerns. However, the opposition was far from defeated, and pointed out that the new route would not completely miss either the Sandhills or the aquifer. Public informational meetings were held by the Nebraska Department of Environmental Quality. The proponents and opponents were always there with signs and literature, sometimes with soft drinks and pizza. The advertising campaigns geared up again.

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When the reroute around the eastern edge of the Sandhills was approved by the governor, several affected landowners filed suit to have the new regulatory process declared to violate the Nebraska Constitution and to therefore be unlawful.11 The primary issue in the litigation mentioned above has been whether the XL pipeline will be a "common carrier." The Nebraska Constitution requires that regulation of common carriers be either directly by the Unicameral or by the Public Service Commission.¹² It is not certain whether a pipeline that just goes through Nebraska and does not pick up or deliver any product in Nebraska is a "common carrier," and it was not known at the outset whether the XL would pick up any petroleum product in Nebraska. In February 2014, a state district court judge in Lincoln ruled that the XL will be a common carrier pipeline as that term is used in the Nebraska Constitution, and that review and approval of the reroute around the Sandhills was unconstitutionally delegated to the governor. The governor and other state officials were enjoined from taking action on the route that had been approved. The decision was immediately appealed to the Nebraska Court of Appeals, 13 and the Nebraska Supreme Court quickly moved the case to its docket, where it is in the briefing stage on the court's advanced docket at this writing. In the meantime, the 2011 Major Oil Pipeline Siting Act could allow the matter to go to the Public Service Commission,14 but as of the date of this writing no application has been filed with the Commission. Interestingly, TransCanada is not a party to the litigation.

The district judge's decision was promptly hailed or booed around the nation, somewhat unusual for a state trial court opinion. It was cited as protecting private property from confiscation under the guise of eminent domain, and environmentalists cheered the victory for clean water. However, casting the litigation in either a property rights or environmental mold transforms it into something it is not. The litigation is in no way about the power to use eminent domain. The offending statutes do not give TransCanada the power to condemn, and the alternative regulatory scheme does not grant that power. It has been there all along, and even if all of the regulatory schemes offend the Constitution, that statutory power will likely remain. The litigation also is not about the environment,

or where (or if) the pipeline should be built. It is simply about the delegation of the state's regulatory power. Perhaps taking the ruling and making of it what we wish is to be expected when such controversial, high profile issues are involved.

The recent litigation might have some small effect on public awareness and opinion regarding the questions of who should have the power of eminent domain, and when the entity is a profit-centered corporation, should "just compensation" be measured by something other than fair market value. However, the primary legal issues will likely remain focused on the regulatory process regarding siting.

The XL is now generating a new level of frenzy almost daily. Labor unions and Native Americans are taking opposing stances. Nebraskans are traveling to Washington, D.C. to take classes on how to be arrested effectively and are camping on the National Mall with aging rock stars. On April 18, the Obama administration announced another delay in the decision on the XL to allow more time for clarity in the routing through Nebraska and to allow agencies more time to comment. U. S. senators are lining up for or against the pipeline, with a bipartisan majority of the Senate seeking a vote on legislation to override the president's delay and to vote approval.

TransCanada's legal problems with the XL have spread to South Dakota. The long construction delay means that the permit received from that state's Public Utilities Commission must now be reviewed and recertified. An evidentiary hearing will take place after TransCanada applies to recertify. The opponents have made it clear that they intend to participate and vigorously challenge a recertification. The people of Montana have been relatively friendly toward the XL project, but the controversy has become part of the state's 2014 election debates, Tand the Nebraska XL opponents have promised to spread their message to Montana.

It should be mentioned that there is very little evidence that TransCanada's problems were the result of not offering landowners enough money. This author has handled the negotiations with TransCanada on behalf of more then 50 landowners for the two Keystone projects in Nebraska, and the concerns of the owners always

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have been primarily routing, safety, permanent property damage, temporary inconvenience and money, usually in that order. At the time of this article, easements have been signed and the money paid for far more than a majority of the proposed route through Nebraska. TransCanada is still actively negotiating with owners for the remainder of the route, ¹⁸ and shows no sign of backing down. TransCanada has now gone through this acquisition exercise twice, acquiring right-of-way before the presidential permit has been issued. The reason is no secret. It is a high stakes gamble. The greater the percentage of right-of-way already purchased from the people directly affected, the greater the likelihood the route will be approved, and the sooner the pipeline can be under construction.

Major pipelines have long been constructed in Nebraska and elsewhere with little thought given to potential problems encountered in obtaining the corridor easements from property owners. This is not likely to be the same in the future. While property rights have been somewhat lost in the debate, those rights sparked that debate. Almost every Nebraskan now has an opinion on whether the XL pipeline should be built, and there are many reasons for leaning either way. The most remarkable part of the process to this author is the demeanor of my fellow Nebraskans. Strongly held opinions are expressed all across the state, but with mutual respect. Rallies and public meetings are not merely peaceful, but usually even pleasant. There will always be exceptions, but it has not been uncommon for the two sides to share their soft drinks and pizza while promoting their opposing positions.

As the two sides talk, they find significant common ground. They agree that private property is important, and most agree that threats to take property by the power of eminent domain should not be issued until after all necessary permits for the project have been obtained. They agree that their state should have some say as to where a proposed pipeline will cross the state. Regardless of the outcome of the XL project, the heightened awareness created by this debate means that the winner will ultimately be the property owner. We can be assured that the agencies with the power to condemn private property will recall TransCanada and the XL project.

WHY SUPPORT THE XL PIPELINE¹⁹

- 1. It will create American jobs. TransCanada estimates 9,000 direct jobs nationwide and 42,000 indirect jobs.
- 2. It will significantly increase the local tax base in the rural counties through which it passes. TransCanada estimates 17 of 27 counties will have tax base increases of 10 percent or more.
- America needs the oil. The XL will connect the Gulf Coast refining centers with the third largest oil reserves on earth and the second largest oil region in the U. S.
- 4. Canada is our neighbor and friend.
- 5. The XL pipeline will be the safest pipeline ever built in the U.S.
- 6. Pipelines have a better safety record than trains and trucks. TransCanada cites studies supporting this.
- 7. Pipelines are more efficient than trains and trucks.
- 8. The choice for oil is either Canada or Venezuela, with the same carbon footprint.
- American oil from the Bakken in North Dakota and Montana can be transported through the XL. TransCanada expects to transport up to 100,000 barrels of crude oil per day from the Williston Basin in North Dakota and Montana.
- 10. There are many pipelines through the Sandhills.

WHY SAY 'NO' TO THE XL20

- The safest ever is not safe enough. Unlike conventional oil, tar sands oil will sink, rather than float.
- Spills and leaks will occur somewhere, sometime. Tar sands are more corrosive than conventional oil. They are heated to promote flow through the pipeline and are under great pressure.
- 3. The Sandhills are too unique and fragile to be put at risk.
- 4. The Ogallala Aquifer is one of the world's great water supplies and cannot be risked. It is estimated that the Ogallala Aquifer supplies water to more than one-fourth of U.S. irrigation and provides drinking water for more than two million Americans.

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- 5. The reroute does not truly miss the Sandhills or the aquifer.
- 6. A foreign corporation should not have the power to force its way through American property.
- 7. Oil extraction from the Canadian tar sands is not environmentally sound. Opponents claim that up to 2.4 million barrels of water per day will be used to extract the oil, stored in large tailing ponds, constituting toxic sludge that will work its way into the clean water supply. Additionally, opponents list destruction of boreal forests and loss of habitat for caribou and other wildlife.
- 8. Tar sands produce oil that is difficult and costly to refine.
- Tar sand oil refinement is not environmentally friendly. Opponents cite carbon dioxide levels of three to four times greater than conventional oil. Tar sand oil emits higher levels of sulphur dioxide and nitrous oxide.
- 10. The cost of cleanup can be extraordinary. In 2010, one million gallons of tar sand oil poured into the Kalamazoo River. Critics estimate nearly one billion dollars have been spent on cleanup, but a large stretch of the river remains contaminated.
- 11. The XL pipeline will create only between 50 and 100 permanent American jobs, and could kill more jobs than it creates.²¹ ■

ENDNOTES

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- 2. http://keystone-XL.com/about/environmental-responsibility/.
- 3. http://keystone-XL.com/about/the-project/.
- 4. www.pipeline101.com.
- 5. See Executive Order 13337, 65 Fed. Reg. 25299 (April 30, 2004).
- 6. Neb. Rev. Stat. §57-1101 (Reissue, 2010).
- 7. Neb. Rev. Stat. \$76-704.01 (Reissue, 2009).
- 8. L.B. 1, 102nd Legislature, 1st Special Session (Neb. 2011).
- 9. Nebraska Constitution, Art. IV §20.
- L.B. 1161, 102nd Legislature, 2nd Session (Neb. 2012), codified at Neb. Rev. Stat. §57-1501, et. seq. (2012 Cum. Supp.).
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- 13. *Thompson v Heineman*, Appeal No. 14-158, Nebraska Supreme Court.
- 14. Neb. Rev. Stat. \$57-1401, et. seq. (2012 Cum. Supp.), as adopted by L.B. 1, 102nd Legislature, 1st Special Session (Neb. 2011).
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- 16. See Bold Nebraska, www.boldnebraska.org/category/news.
- 17. Adams, Dirk, "Top 10 Reasons Montanans Should Oppose the Keystone XL Pipeline," http://www.huffingtonpost.com/dirk-adams/keystone-xl-pipeline_b_4631428.html.
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Power Lines and Property Prices

BY RICHARD J. RODDEWIG, CRE, MAI, FRICS; AND CHARLES T. BRIGDEN, CRE, FRICS, ASA

THE POWER INDUSTRY TRANSFORMATION

THE AMERICAN ELECTRICITY GENERATING INDUSTRY HAS experienced a radical transformation during the past 20 years. Once a tightly regulated public utility consisting of a small number of large cap companies operating on a state-by-state basis, the electric industry has become a partially deregulated, semi-public utility consisting of dozens of large and small cap companies producing, buying, selling and distributing energy. Production facilities and distribution networks exist on a local, regional and even national basis.

Among the major issues, concerns and challenges still playing out in the regulatory and market arenas as the industry transforms itself are the following:

- overcapacity in some states and regions and undercapacity in others, resulting in peak period power shortages, brownouts and blackouts;
- creation of a competitive national marketplace of buyers and sellers of generating capacity and power;
- competitive bidding by power companies to provide service to cities, neighborhoods and even individual consumers such as single-family homeowners and small businesses;
- creation of federal, state and even local tax incentives
- how to encourage "green and clean" energy production from such renewable energy sources as wind, solar, solid waste and landfill gases;
- more stringent environmental regulation of coalburning power plants based on concerns about the environmental effects of smokestack emissions of sulfur, arsenic and other heavy metals;
- the contribution of power plant CO2 emissions to global climate change;
- how to protect the power generating and distribution system from terrorist attacks;

About the Authors



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- the recognition that construction of additional nuclear power plants in the United States is no longer politically (and economically) feasible;
- a search for alternative—often less expensive and potentially more environmentally friendly—sources of fuel for power plants;
- how to balance the benefits of substituting natural gas for coal as a power plant fuel source—lower prices and lower CO2 and heavy metal smokestack emissions—with the concerns about the environmental impacts of recently developed fracking technology that can capture large amounts of previously untapped natural gas in shale formations

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in many parts of the country including New York, Pennsylvania, North Dakota, Colorado and Texas;

- an aging and capacity constrained natural gas and petroleum pipeline system raising increased concerns about potential leaks and explosions;
- increasing reliance on rail shipments of crude oil;
- transformation of the system into a "smart grid" through a "modernization of the electricity delivery system so that it monitors, protects, and automatically optimizes the operation of its many interconnected elements."²

IMPLICATIONS OF THE INDUSTRY TRANSFORMATION FOR THE ELECTRICAL ENERGY DISTRIBUTION SYSTEM

Somewhat lost from public view (and policy discussion) in all of this is the power grid system itself. It too has been in the midst of a radical transformation as the electric industry attempts to not only meet future demands in high growth areas of the country but also to increase reliability, provide enhanced connectivity between Eastern and Western segments of the national grid, and connect the distribution grid to the best locations for generating renewable energy from wind and solar sources. Improving the reliability of the grid system has become a number one priority in the wake of highly publicized failures in the grid system, such as the 2003 Northeast blackout (the largest in history) that affected more than 50 million people in the U.S. and Canada and exposed systemic problems in the distribution system that create serious reliability issues.3

The power industry recognizes the magnitude of the distribution issues and is taking steps to address the nation's need for a significant upgrade to it. A 2011 technical report⁴ prepared by the Electric Power Research Institute summarizes the situation as follows:

"(t)he present electric power delivery infrastructure was not designed to meet the increased demands of a restructured electricity marketplace, the energy needs of a digital society, or the increased use and variability of renewable power production. As a result, there is a national imperative to upgrade the current power delivery system to the higher performance levels required to support continued economic growth and to improve productivity to compete internationally."

To cope with all of the changes in electrical energy fuel sources and meet the expected 26 percent increase in U.S. electricity demand by 2030,⁵ the electric industry has started to significantly expand and reconfigure the power grid system for the 21st century. There are currently about 2.7 million miles of power lines in the United States⁶ including more than 200,000 miles of high voltage (230 kilovolts and greater) transmission lines.⁷ While growth in demand will generate significant additions to the transmission grid system in the next two decades, reconfiguration to enhance reliability and better connect to renewable energy sources will be the principal driver of new power line corridors and additions of new lines to existing rights-of-way.⁸

AESTHETICS, HEALTH, PROPERTY VALUES AND THE ELECTRICAL GRID SYSTEM

One result of the expansion and reconfiguration of the grid system is a revival of public concern and media attention about the effect of power lines and transmission corridors on property values. At least three types of property value impact issues are involved:

- First, what is the impact of power lines and transmission corridors on the value of adjacent properties, especially single-family homes?
- Second, what is the impact of power lines on properties, typically undeveloped land or rural agricultural properties, across which transmission rights-of-way must pass?
- Third, does the addition of a second or third line (and supporting towers) have an incremental adverse effect on home, land or farm prices even if the original line did not?

The property value impact concerns are inextricably linked to two other concerns: first, aesthetic concerns about the effect of overhead wires and supporting towers on views; and, second, concerns about the possible adverse health impacts associated with exposure to electromagnetic fields (EMFs).

Early real estate research in the 1960s and 1970s focused on the aesthetic and scenic impacts of power lines. A 1982 summary of this research found 27 studies of which "ten found that transmission lines had no significant effect on land values, ten were inconclusive, and five concluded that the overall effect of transmission lines on land values was negative." 10

In the 1980s and early to mid-1990s, however, concerns began to be raised about the connection between electromagnetic fields and cancer.¹¹ The concerns were

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so significant that in 1991 Congress asked the National Academy of Sciences to review the research and issue a report. In particular, three Scandinavian studies concerning a possible linkage between EMF exposure and cancer published in 1993 and 1994 received widespread attention.12 The National Academy of Sciences convened a special committee that reviewed the published health effects literature, and in its 1997 final report concluded "that the current body of evidence does not show that exposure to these [EMF] fields presents a human health hazard.¹³ The National Institute of Environmental Health Sciences (NIEHS) also conducted an extensive review of the published health effects research. In its Working Group report published in June 1998, NIEHS concluded "that power line frequency magnetic fields are a possible cause of cancer."14

Childhood leukemia was the subject of a number of the studies done in the 1980s and 1990s. The U.S. Environmental Protection Agency sums up the state of the research related to childhood leukemia and EMFs as follows:

"Many people are concerned about potential health effects. Much of the research about power lines and potential health effects is inconclusive. Despite more than two decades of research to determine whether elevated EMF exposure, principally to magnetic fields, is related to an increased risk of childhood leukemia, there is still no definitive answer. The general scientific consensus is that, thus far, the evidence is weak and is 'not sufficient to establish a definitive cause-effect relationship.' "15

The increased public concerns in the 1980s and 1990s about possible health effects of exposure to EMFs generated a new round of real estate research related to power line impacts on real estate prices. As in the earlier round of studies, some found adverse impacts to property prices and values while others found no impact or statistically insignificant impacts despite the additional media attention given possible health effects of exposure to EMFs. 16 The same is true of the additional studies recounted in the published literature since the turn of the 21st century. For example, a study published in 2009 in The Appraisal Journal¹⁷ involving residential sales from 1999 to 2007 in Connecticut and Massachusetts could find no significant impact on prices from proximity to, or visibility of, power lines. By contrast, an earlier Houston study in the early 1990s found that assessed values of 100 homes adjacent to power lines were between 12.8

and 30.7 percent lower than other homes in the same neighborhoods.¹⁸

One of the more recent reviews of the published real estate literature on power line impacts¹⁹ summed up past studies of the effects of power lines on prices and values as follows:

"Both the market interviews and academic literature show that the impacts of power lines on residential properties are varied and difficult to measure. The impacts from the power lines, as well as other negative externalities, depend on many factors, including market location, condition, and personal preference."²⁰

REAL ESTATE IMPACT ISSUES RAISED IN A TYPICAL TRANSMISSION CORRIDOR APPROVAL PROCESS

Even in this new era of deregulation, proposals to create new transmission line corridors or upgrade or add lines to existing corridors require approval by state regulators. The approval process in each state typically involves public hearings and submission of written comments and reports by those proposing the expansion or upgrading as well as by opponents. These hearings can be extremely contentious. Although the power industry has the resources to hire experts to demonstrate the need for the proposed corridor or upgraded line and address the concerns of the public and residents along the rights-of-way, citizen groups and neighborhood-based organizations often have also been well organized in their efforts to present an opposing point of view. Among the major power line corridor expansion controversies around the country are the following:21

- New York Governor Andrew Cuomo in 2012 unveiled an "Energy Highway" initiative involving a multibillion-dollar reconfiguration of the state's grid system to provide improved connectivity between electricity-surplus areas in western New York State and Albany, and ultimately New York City where demand is greatest. Although the plan has received consensus support and legislative approval, the identification of the necessary new or expanded right-of-way corridors has resulted in considerable opposition from coalition groups of municipalities and organizations.²²
- A number of power line proposals in California have been opposed by a variety of property owner and environmental groups in recent years. For example, California Gas & Electric has spent more than a decade unsuccessfully seeking approval of a 117-mile, \$1.9 billion transmission line corridor that

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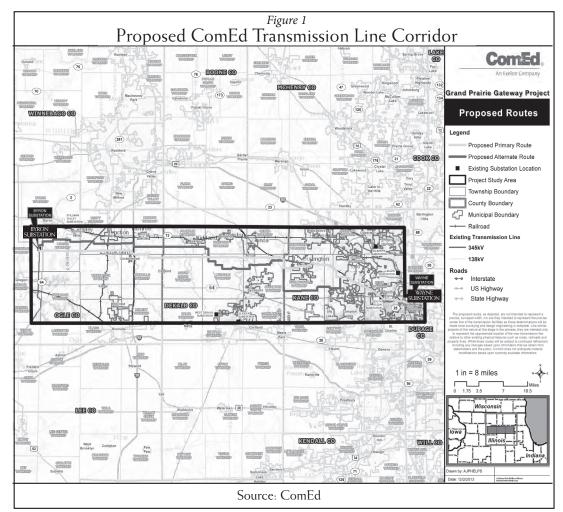
would connect the San Diego metro area with significant solar and geothermal renewable energy resources in the Imperial Valley east of San Diego; and in March of 2014, the California Public Utility Commission failed to approve a much shorter 3.5-mile transmission line that would cut through parts of the communities of Thousand Oaks, Moorpark and Simi Valley, and improve substation connectivity.²³

■ And in Kansas and Missouri, the proposed 750-mile route of the so-called "Grain Belt Express," a \$2.0 billion project to carry Kansas wind energy to Illinois, Indiana and other eastern states is encountering opposition from many farmers.²⁴ The Missouri Public Service Commission is scheduled to hold hearings on its section of the corridor in 2014.

While much of the technical discussion in such hearings focuses on the need for the proposed line or upgrade, its costs and the effect on electricity prices to the consumer, the most emotional discussion often focuses on the

potential health effects of exposure to EMFs and whether health effect concerns will translate into an adverse effect on property prices and values if the proposed corridor or upgrade is completed.

A proposed transmission line corridor in Illinois illustrates the property value issues likely to arise as the nation expands and upgrades the grid system. In 2013 ComEd, the principal electricity generator and distributor for the Chicago metropolitan area and much of northern Illinois, proposed to construct and operate an approximately 60mile 345kV transmission line between its Byron nuclear generating plant in western Illinois and the rapidly growing western Chicago suburbs. State regulations equired ComEd to hold public meetings concerning the proposal in the communities along the proposed rightof-way. In December of 2013, following conclusion of the community meetings, ComEd officially filed for Illinois Commerce Commission approval to construct and operate the line. In the filing, both a primary and an alternate route were identified as shown in Figure 1.



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Along some portions of the proposed route, the 345kV line would be constructed in existing transmission line corridors or in railroad rights-of-way where ComEd already had negotiated corridor agreements. But in some areas, acquisition of easements would be necessary across either undeveloped land zoned for future development or across rural land in agricultural use.

All written public comments and public testimony as well as briefs and filings by law firms representing ComEd and various interveners were posted on the Illinois Commerce Commission website as soon as they were received.²⁵ Many of the public comments²⁶ and some of the submitted testimony involved health concerns related to EMFs, property value impact concerns, or both.

The public comments and testimony raising concerns about power line impacts on property values were submitted by homeowners, agricultural land owners, a school district official, and even a suburban mayor. They were personal opinions, typically unsupported by data or studies, concerning the potential impact of the proposed corridor on property values. The opinions and testimony included the following:

- One statement submitted claimed it was "self evident" that there will be a 10 to 30 percent impact on singlefamily home values.²⁷
- Another homeowner claimed that the construction of the power line will "most certainly destroy our property values."
- A school district official stated that the proposed corridor "will have a negative effect on the value of numerous properties within the District."

No study or other price impact support accompanied any of those three statements. Many others made similar statements or expressed similar concerns but again did not provide any sales data studies in Chicago, elsewhere in Illinois, or anywhere else in the United States to support the opinions.

One intervener stated that published studies indicated "a 15 to 50 percent drop in values of nearby homes because of overhead high voltage transmission lines" and, as support, referenced a British study allegedly showing a 38 percent drop in values of homes within 328 feet, and a Canadian study showing a 16 to 29 percent impact on farmland that has an easement for a power line corridor. However, the British and Canadian studies were not submitted with the intervener's testimony and in response to a data equest, the intervener provided only website

links.³⁰ Both of those links referenced the British and Canadian studies but did not include copies of the studies referenced.

The real estate impact questions raised in power line controversies will vary from one public hearing situation to the next. In the case of ComEd in Illinois, however, the questions raised by the public comments and submissions included the following:

- What are the recognized and generally accepted methods for determining if a proposed power line corridor will adversely impact home prices and values?
- Do power lines always adversely impact the prices and values of adjacent homes?
- Does the addition of a second line to an existing corridor create an incremental adverse impact on prices and values?
- When a corridor is built in a rapidly growing market area, can sound land use planning techniques diminish the possibility of adverse impacts on home prices?
- Do health effect concerns related to EMFs translate into any special impact on prices in age-restricted communities?
- How do power lines affect farmland operations and rural land prices?

The authors of this article were asked to address those and other issues raised by the public comments and submissions in the Illinois proceedings. In answering those questions, we also reviewed the real estate literature referenced in the comments and submissions and did our own comprehensive review of the published literature. We then studied the effects of existing power lines on home prices in the Chicago area to determine the likely impacts of the proposed transmission line corridor on prices and values. The remainder of this article presents our findings and our conclusions, beginning with a review of how appraisers evaluate the effects of environmental conditions on real estate prices and values.

WHAT ARE THE RECOGNIZED AND GENERALLY ACCEPTED METHODS FOR DETERMINING THE IMPACT OF POWER LINES ON PRICES AND VALUES?

The real estate appraisal profession has more than four decades of experience in analyzing the impacts of power lines on prices and values. As a result, the profession has

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developed recognized and generally accepted techniques for determining the impact of potential "detrimental conditions" on real estate prices and values. Power lines and their associated EMFs also can be characterized as a potentially "adverse environmental condition." The Appraisal Standards Board in Washington, D.C., has issued specific guidance for determining the impact of "adverse environmental conditions" on prices and values. Its Advisory Opinion 9 (AO-9) deals with the appraisal of properties affected by such adverse environmental conditions. Among the elements of AO-9 important to a consideration of the potential impact of proposed power line corridors on property prices and values are the following:

- AO-9 states that every analysis of the potential impact of an environmental condition on property value "must be based on market data, rather than unsupported opinion or judgment."³²
- AO-9 also states that estimating the effect of such environmental conditions "involves the application of one or more specialized valuation methods" that must be applied "consistent with the requirements related to the valuation approaches in USPAP [the Uniform Standards of Professional Appraisal Practice]."³³

The courses and peer-reviewed publications of the appraisal profession define the generally accepted methodology for determining the impact of environmental conditions on real estate markets, property prices, market rents and market value.³⁴ Those courses and publications have long recognized the following:

- Proximity to a source of an adverse environmental condition does not automatically cause an adverse impact to prices and values of nearby properties.³⁵
- While opinions of homeowners and other non-real estate professionals may have some relevance to understanding a marketplace, such opinions are not a substitute for analysis of actual sales prices. ³⁶ As a publication of The Appraisal Institute puts it: "the impact [of power lines] on real estate is determined by the market and not by scientific analysis [related to possible health effects]."³⁷

As a result, before arriving at an opinion concerning the likely impact of a proposed power line on real estate prices and values, licensed real estate appraisers are required to investigate actual sales transaction in other communities or neighborhoods with power lines.

DO POWER LINES ALWAYS ADVERSELY IMPACT PRICES AND VALUES OF ADJACENT SINGLE-FAMILY HOMES?

Review of the Published Real Estate Literature

The real estate appraisal and real estate economics literature has long been clear that power lines do not automatically adversely impact the value of adjacent properties and in some cases may actually enhance values.³⁸ Some studies have found adverse impacts while others have found no impacts. Pitts and Jackson in 2007 summarized the published appraisal and real estate economics literature as follows:

"While most research indicates that HVTL [high voltage transmission lines] have no significant impact or a slight negative impact on residential properties, some studies have shown that lots adjacent to or with views of an HVTL right-of-way actually sell for a premium over more distant lots." ³⁹

Among the more recent studies in the real estate appraisal and real estate economics literature are the following:

- A July 2003 study in *The Appraisal Journal* that compared prices paid for 296 abutting properties to 296 comparable but non-abutting properties in Portland, Oregon; Seattle, Washington and Vancouver, British Columbia. The authors could find no significant difference in prices between the two sets of sales. They also could find no effect on price appreciation rates from power line proximity.⁴⁰
- A Fall 2007 *Appraisal Journal* article said the following:
 - "Many studies indicate that the HVTL (high voltage transmission line) have no significant effect on residential property values. More recently, however, an increasing number of studies do show a small diminution in value attributable to the close proximity of these lines.
 - "When negative impacts are evident, studies report an average discount of between 1 and 10 percent of property value."41
- An *Appraisal Journal* Summer 2009 article looked at the previously published literature and, specifically, at what the authors called the 16 studies that form the "core of the professional literature." The authors summarized the key conclusions from those 16 articles as follows:

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- "Over time, there is a consistent pattern with about half of the studies finding negative property value effects and half finding none;
- When effects have been found, they tend to be small; almost always less than 10 percent and usually in the range of 3 to 6 percent;
- Where effects are found, they decay rapidly as distance to the lines increases and usually disappear at about 200 to 300 feet (61 meters to 912 meters);
- Two studies investigating the behavior of the effect over time find that, where there are effects, they tended to dissipate over time;
- There does not appear to have been any change in the reaction of markets to high-voltage transmission line proximity after the results of two widely publicized Swedish health effects studies were preliminarily released in 1992."42
- A Winter 2012 article in *The Appraisal Journal* summarized the published literature as typically indicating either no effect on prices, or a relatively small effect when there are impacts. It then commented as follows: "(T)heir [high voltage transmission lines} presence is apparently not given sufficient weight by buyers and sellers of real estate to have had any consistent material effect on market value." That article ended with the following statement about the published literature: "the findings in the published literature (are) that property value effects cannot be presumed and are generally infrequent."

The literature confirms the conclusion of the appraisal profession that power lines do not always or automatically adversely impact prices and values of adjacent or nearby properties.

THE TRANSMISSION LINE CORRIDOR IN ILLINOIS: ANALYSIS OF SINGLE-FAMILY HOME PRICES IN SOUTH ELGIN

A number of the interveners, as well as many of those submitting public comments to the Illinois Commerce Commission, lived in the Sugar Ridge and River Ridge subdivisions in South Elgin, a western suburb in a fast-growing part of the Chicago metro area. These two adjacent single-family home neighborhoods were developed in the early 1990s. There is a transmission line right-of-way along the south border of the two neighborhoods. That corridor was authorized in a 1994

Illinois Commerce Commission proceeding⁴⁵ and the 138kV line constructed on 95- to 110-foot monopoles with eight cross arms was energized on August 1, 1996. The transmission line corridor also is part of a railroad right-of-way.⁴⁶ In the 2014 proceedings, many Sugar Ridge and River Ridge residents expressed concern that the addition of a second line in the corridor would intensify an adverse effect of power line proximity on prices and values.

Residents of the two neighborhoods had opposed the earlier 1994 power line corridor. During that earlier proceeding, residents submitted a report from an appraiser who studied prices there as well as in eight other subdivisions near power lines and concluded that the proposed corridor would reduce home values by about five percent.⁴⁷

As experts for ComEd, we were asked to analyze the history of home prices in those two neighborhoods since 1994 to determine if the existing power line was adversely impacting the neighborhood. We collected and analyzed multiple listing sales data between 1994 and 2013 in Sugar Ridge and River Ridge. We then undertook two types of analyses. First, we analyzed the average price each year for homes located within 500 to 700 feet of the transmission line corridor. We compared the average prices for those homes to the average price for other homes located further away in the same subdivisions. Prices were analyzed based on price paid per square foot of home area in order to eliminate any effect from differences in home size on the absolute sale price paid.

The map in Figure 2 shows the sales in the area within 500 to 700 feet from the transmission line corridor compared to sales in the rest of the subdivision. The existing transmission line is shown by the dashed line.

The northern edge of Area 1 on the map is located between 500 feet and 700 feet north of the northern edge of the transmission line corridor.

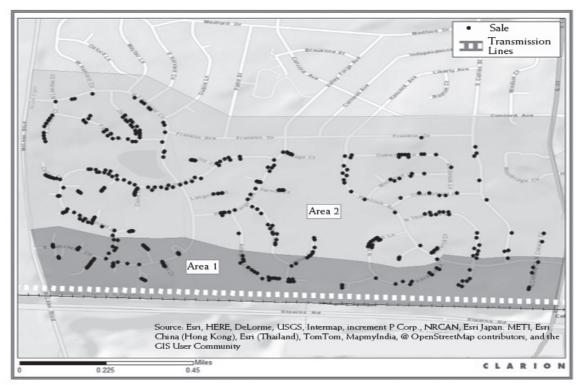
The comparison of average sale prices between 1994 and 2013 is shown on the graph in Figure 3.

In 15 of the 20 years studied, the average price of a home in the area located closest to the transmission line corridor was higher than in the rest of the Sugar Ridge and River Ridge neighborhood. Overall, the average price per square foot paid for homes in the portions of the subdivisions closest to the transmission line corridor was about 3.5 percent higher than the average price paid for homes not located in proximity to the transmission line corridor.

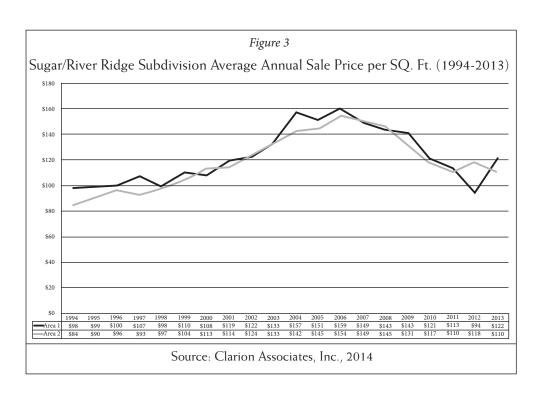
Power Lines and Property Prices

Figure 2

Map of Sales of Homes in Sugar/River Ridge Subdivision near the Transmission Line Corridor (1994 to 2013)



Source: ESRI.com and Clarion Associates, Inc.



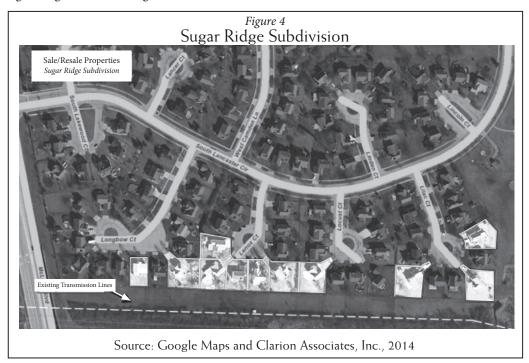
Power Lines and Property Prices

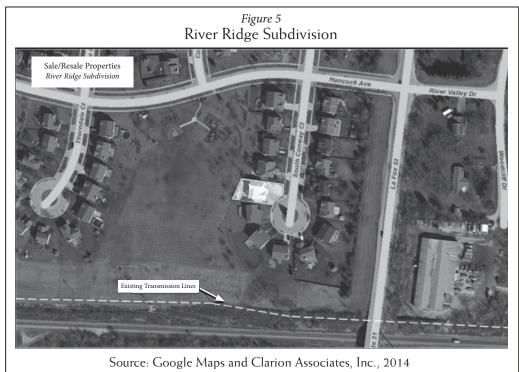
We also used a paired sales analysis involving primary pairings⁴⁸ to determine if prices were lower for homes that either backed up to the existing transmission line corridor or had clear views of the power lines and supporting poles. We compared the rate of appreciation for those homes in the paired sales analysis to the average rate of appreciation for homes in Sugar Ridge and River Ridge that sold over

the same period of time but were far enough away from the transmission line corridor not to be affected.

The paired sales analysis involved 17 sales and subsequent resales involving 12 homes.⁴⁹ The locations of the homes are shown in the satellite maps in figures 4 and 5.

The sale/resale comparisons are as indicated in Figure 6.





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Figure 6
Analysis of Sale and Resale Comparisons

Address	First Sale Year	Second Sale Year	ROW Annual Compound Rate of Appreciation	Non-ROW Sugar Ridge Rate of Appreciation	ROW to Non-ROW Appreciation Rate Worse
7 Lenox Ct.	1997	2008	3.70%	4.10%	Same
9 Lenox Ct.	1995	2002	4.60%	4.70%	Better
11 Lenox Ct.	1996	2004	5.80%	5.00%	Better
	1999	2004	8.27%	6.40%	Better
15 Lenox Ct.	1996	2005	5.80%	4.70%	Same
17 Lenox Ct.	1997	2004	6.30%	6.20%	Better
11 Longbow Ct.	1993	2005	6.60%	5.10%	Better
	2003	2005	7.50%	4.40%	Better
17 Longbow Ct.	1996	2004	5.80%	5.00%	Better
	1996	2013	0.90%	0.60%	Better
	2004	2013	-4.60%	-2.90%	Worse
7 Lilac Ct.	1996	2013	2.10%	0.90%	Better
11 Lilac Ct.	2003	2009	-4.90%	-0.30%	Worse
19 Lilac Ct.	2001	2003	8.20%	8.00%	Better
15 Locust Ct.	2003	2010	-0.80%	-1.80%	Better
25 South Conway Ct.	2008	2011	-4.10%	-8.80%	Better

Source: Clarion Associates, Inc.

Power Lines and Property Prices

The data in Figure 6 indicate that homes either backing up to the right-of-way (ROW) or with clear views of power lines appreciated at a rate either equal to or better than non-ROW homes in Sugar Ridge and River Ridge in 13 of the 16 sale/resale comparisons. In other words, homes immediately adjacent to the power lines outperformed the rest of the market in Sugar Ridge and River Ridge.⁵⁰

DO HIGH-VOLTAGE POWER LINES AFFECT PRICES AT NEW SUBDIVISIONS DEVELOPED ADJACENT TO THEM?

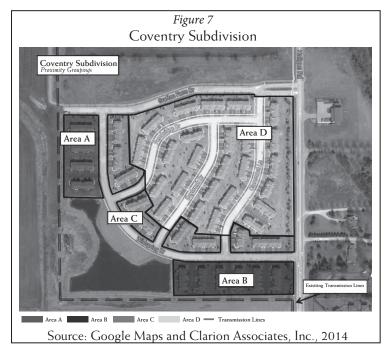
Some of the comments and testimony submitted to the Illinois Commerce Commission claimed that constructing a power line through undeveloped suburban areas zoned (or planned) for future development would adversely affect future development and prices. Our experience as zoning and planning consultants, however, has indicated that residential development can be planned in such a way as to minimize conflicts between power lines and planned developments. For example, required open space, stormwater detention ponds, surface parking or even garages can be planned in such a way as to minimize the visibility and proximity of power lines.

To test the effect of power line construction in rapidly growing suburban areas, we investigated development along a McHenry County transmission line corridor between Huntley and Algonquin, two rapidly growing communities in northwest metropolitan Chicago. ⁵¹ The corridor had been acquired and developed by ComEd

and energized in 2001⁵² and is one of the most recent transmission line corridors developed in the Chicago metro area. The corridor contains a 138kV double circuit line on 64- to 99-foot monopoles. When it was developed, there was considerable undeveloped land adjacent to the right-of-way. Much of the land has subsequently been developed with new residential housing since the date of completion of the power line installation.

We investigated the route of the Huntley to Algonquin line that was the subject of a prior 1996 Illinois Commerce Commission approval proceeding.⁵³ We identified the Coventry development, a townhouse project at the northwest corner of the intersection of Haligus Road and Wildspring Road in Lake in the Hills, Illinois, as a good test case.⁵⁴ The townhouses were developed after the creation of the power line corridor and installation of the line.

We collected and analyzed Coventry sales data between 2004 and 2013. First, prices on the south and west side of Wildspring Road immediately adjacent to the transmission line right-of-way (areas A and B in the map below) were compared to prices on the other side of Wildspring Road (Area C in the map below). The average sale price between 2004 and 2013 was exactly the same. Second, sale prices for the townhouses on both sides of Wildspring Road (areas A, B and C) were compared to prices in the rest of the townhouse complex (Area D) located away from the right-of-way.



Power Lines and Property Prices

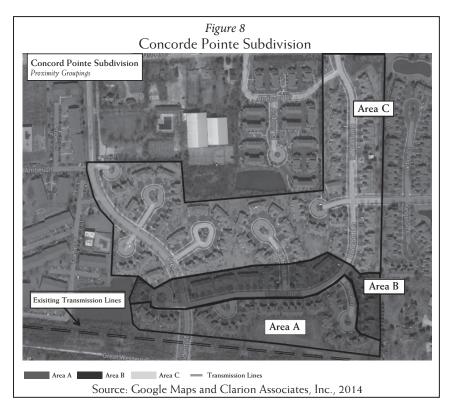
The average price for the Wildspring Road townhouses was 8.3 percent higher than for townhouses in the rest of the development. And townhouses on the south and west side of Wildspring Road located immediately adjacent to the transmission line right-of-way sold at an average price about 8.6 percent higher than in the rest of the development. The analysis indicated there has been no adverse impact from proximity to the transmission line on the townhouse sale prices at Coventry. And note the configuration of the townhouse clusters closest to the power line corridor—they were oriented in such a way as to minimize the views of the towers and power lines, an example of how good site planning for new subdivisions adjacent to power lines can minimize the potential for adverse impacts on prices and values.

DO MULTIPLE SETS OF ADJACENT POWER LINES AND SUPPORT TOWERS ADVERSELY IMPACT PRICES AND VALUES?

Some of the opponents of the proposed corridor were concerned that even if a single power line might not affect prices and values, the addition of a second power line adjacent to the Sugar Ridge and River Ridge subdivisions in South Elgin would adversely impact home prices. To understand if a double line corridor automatically adversely impacts prices and values, we studied prices at the Concord Pointe development in Carol Stream, Illinois,

another western Chicago suburb. The expert report submitted by the South Elgin residents who opposed the 1995 Illinois Commerce Commission proceeding involving the original transmission line to be constructed in the railroad right-of-way adjacent to Sugar Ridge had included an analysis of townhouse prices at Concord Pointe. That 1995 expert report stated that the Concord Pointe townhouse developer was offering \$3,500 discounts to purchasers of the units located immediately adjacent to the transmission line right-of-way.⁵⁵

That right-of-way adjacent to Concord Pointe consists of a double set of open lattice towers. One of the lattice towers supports two 138 kV lines and the other supports two 345 kV lines.⁵⁶ To understand the impact of the double set of power lines, we collected Northern Illinois Multiple Listing Service sales data from 1995 to 2013. Sale prices per square foot for townhouses located adjacent to the transmission line corridor (Area A in the map below) were compared to prices paid for other Concord Pointe townhomes not located adjacent to the power lines (Areas B and C in the map below). Some of the townhomes in Area B have views of the tops of the two sets of lattice towers. The map below shows three areas in Concord Pointe—areas A, B and C—defined by their relative proximity to the transmission line corridor located adjacent to the south end of the development.



Power Lines and Property Prices

Figure 9
Comparisons of Average Annual Sales Price per Square Foot

	•		·	
F	Area A v. Area B & C			
Year	Area A	Areas B & C	% Difference	
1995	\$107	\$95	12.7%	
1996	\$78	\$98	-20.2%	
1997	\$102	\$100	1.6%	
1998	\$99	\$97	1.8%	
1999	\$99	\$98	1.3%	
2000	\$99	\$103	-3.4%	
2001	\$115	\$112	2.3%	
2002	\$118	\$122	-3.2%	
2003	\$122	\$136	-10.4%	
2004	\$152	\$140	8.8%	
2005	\$155	\$150	3.7%	
2006	\$145	\$157	-7.5%	
2007	\$163	\$156	4.4%	
2008	\$157	\$150	4.0%	
2009	\$143	\$127	12.6%	
2010	\$112	\$113	-1.2%	
2011	\$92	\$110	-16.2%	
2012	\$110	\$99	10.7%	
2013	\$111	\$106	5.5%	
		Average	0.4%	

	A 0 1	D 4	<u> </u>	
Area A & B v. Area C				
Year	Area A B	Areas C	% Difference	
1995	\$107	\$95	12.7%	
1996	\$81	\$106	-23.4%	
1997	\$99	\$103	-3.6%	
1998	\$97	\$98	-0.8%	
1999	\$98	\$98	0.8%	
2000	\$101	\$103	-1.8%	
2001	\$113	\$113	0.0%	
2002	\$122	\$121	1.0%	
2003	\$130	\$134	-2.8%	
2004	\$139	\$141	-1.9%	
2005	\$155	\$148	4.3%	
2006	\$151	\$156	-3.3%	
2007	\$162	\$155	4.1%	
2008	\$157	\$148	6.2%	
2009	\$135	\$127	5.9%	
2010	\$119	\$112	5.9%	
2011	\$98	\$113	-13.6%	
2012	\$104	\$100	3.5%	
2013	\$105	\$108	-3.6%	
		Average	-0.5%	

Source: MRED LLC and Clarion Associates, Inc.

As indicated in the Figures 9, the average price differentials when comparing Area A to areas B and C, and then comparing areas A and B to Area C, were less than one percent.

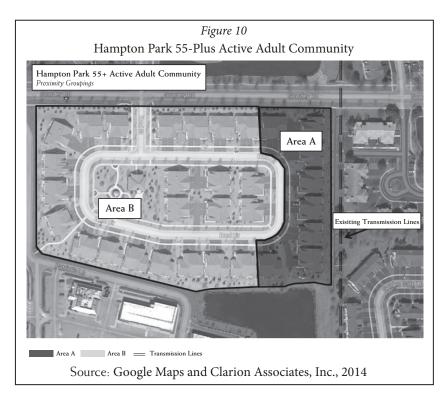
The comparison indicates there has been no adverse impact on average prices at Concord Pointe from proximity to the power lines. The good buffering of the power line corridor by vegetation may have contributed to the lack of impact. The sales data also indicates the original \$3,500 price discount given in 1995 was not warranted.

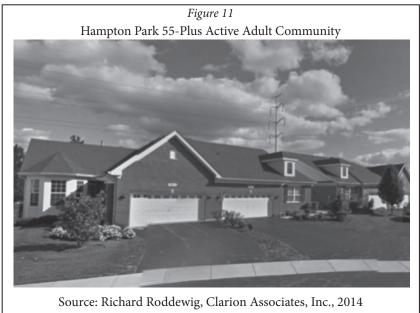
IS AGE-RESTRICTED SENIOR HOUSING MORE SIGNIFICANTLY AFFECTED BY POWER LINE PROXIMITY THAN OTHER TYPES OF HOUSING?

Many of the comments and statements in opposition to the proposed corridor linking the Byron power plant and the western Chicago suburbs were filed by residents of the 55-and-over age-restricted Bowes Creek townhome community in Elgin. The proposed power line would be constructed in a railroad right-of-way that ran adjacent to a portion of that development. Many of their comments in opposition referenced studies indicating that power lines can interfere with the operation of implanted pacemakers.⁵⁷

Hampton Park in Naperville, Illinois, is an age-restricted senior development adjacent to a power line corridor. It reportedly was developed between 2005 and 2008⁵⁸ long after the installation of the adjacent monopole transmission line corridor. The location of those townhomes (and the transmission line adjacent to it) is shown in Figure 10.

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The map and photo in figures 10 and 11 show a Google Maps Street View of some of the Hampton Park townhomes showing the monopole power line with four cross arms behind them.

Sale prices in Hampton Park for the years between 2005 and 2013 were collected from the multiple listing services

and analyzed. Prices paid per square foot for townhomes adjacent to the transmission line corridor were compared to prices in the rest of the community. Townhomes adjacent to the transmission line corridor sold on average for 4.3 percent more than townhomes in the rest of the community, as shown in Figure 10.

Power Lines and Property Prices

Figure 12

Area A v. Area B			
Year	Area A	Areas B & C	% Difference
2005	n/a	\$190	n/a
2006	\$208	\$200	4.2%
2007	\$215	\$226	-4.9%
2008	n/a	n/a	n/a
2009	n/a	\$150	n/a
2010	\$170	n/a	n/a
2011	n/a	\$130	n/a
2012	\$184	\$157	17.1%
2013	\$170	\$169	0.8%
		Average	4.3%

Source: MRED LLC and Clarion Associates, Inc.

ARE FARMS CROSSED BY (OR ADJACENT TO) POWER LINE EASEMENTS ADVERSELY AFFECTED IN VALUE?

Some portions of both the preferred and alternative Illinois transmission line corridors would require acquisition of easements across farmland. Many of the comments received by the Illinois Commerce Commission involved concerns about the effect of transmission line corridors on agricultural operations⁵⁹ and farmland prices and values.

A number of published articles going back to the 1970s discuss the effect of power line easements and corridors on rural and farm land property values. For example, "Impact of Electric Power Transmission Line Easements on Real Estate Values," authored by Louis E. Clark, Jr., MAI, and F. H. Treadway, Jr., MAI, and published in 1972 includes the following statement at page 19:

"If a farm contains 150 to 200 acres or more, as many do now, the loss of a fraction of an acre in tower sites cannot be considered critical. This factor is continually demonstrated in farm sales throughout the country. Of course, few farmers want power lines on their farms. However, studies are not based upon popularity polls, but upon sociological interactions between an informed buyer and an informed seller, each acting without duress in negotiating a sale price for a farm. When one examines a farm sale dispassionately, he often finds that even though

few sellers want to have a transmission line on their farm, when selling fewer still are willing to accept a reduced price for their property (reduced even by the amount paid them by the utility). As a result, with this type property little empirical evidence can be found to show conclusively that price reductions are incurred because of transmission lines."

A 2012 Appraisal Journal article involved an analysis of 19 transactions involving "Production Agricultural Lands" in Montana. The analysis indicated that "there was no market evidence to support a claim of adverse effect of the transmission lines on sale prices." That research also involved investigation of whether farmers and ranchers made an adjustment to their asking prices when selling productive agricultural properties with transmission line easements:

"Interestingly, there was no indication of adjustment to the sale price for the extent of the encumbrance of the property by the transmission line easement. The implication is that the owner at the time of construction gets compensated for the easement by the utility, but does not have to make a corresponding adjustment in the subsequent sale of the property. Presumably this is because the overall agricultural productivity of the property is not affected by the transmission lines."

The 2012 Appraisal Journal article studying rural western land values looked at a variety of other situations in which power lines are located close to rural western land. The author concluded that "the research reported here is certainly consistent with the findings in the published literature that property value effects cannot be presumed and are generally infrequent."⁶²

That 2012 Appraisal Journal article also referenced two other farm land impact studies. The first found "no negative influence on [the] number of towers or the presence of HVTL (high voltage transmission lines) relative to otherwise similar parcels without HVTL."⁶³ The second was a study of 88 rural land transactions between 2002 and 2008 in Wisconsin that were "encumbered by a transmission line easement."⁶⁴

According to the author of the 2012 *Appraisal Journal* article, that Wisconsin study indicated a "small (1.1 to 2.4 percent), but statistically insignificant effect for the sale of properties crossed by HVTL relative to uncrossed properties" and that when the author of the Wisconsin study grouped the sales by location, "edge locations showed no effect, while properties crossed by the line showed a small price effect of -2.1 to -3.4 percent."

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SUMMARY AND CONCLUSIONS

The power industry is going through a radical transformation that raises many issues and includes a significant expansion and reconfiguration of the distribution grid to meet the new challenges of providing electricity in the 21st century. One result will be the construction of thousands of miles of new power lines either in existing rights-of-way or in new corridors. In the public approval processes mandated by law and regulation in every state before transmission corridors can be upgraded or constructed, long-standing public concerns about the effect of power lines and transmission corridors on property values typically will be raised.

The real estate appraisal profession has developed generally recognized and accepted methods for determining the impact of power lines on property prices and values. These methods are all based on analysis of actual prices paid for properties either on or adjacent to power lines. The appraisal profession has long recognized that proximity to a source of an adverse environmental condition such as EMFs from power lines does not automatically cause an adverse impact to prices and values of nearby properties and that while opinions of homeowners and other non-real estate professionals may have some relevance to understanding a marketplace, such opinions are not a substitute for analysis of actual sales prices.

ENDNOTES

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And the real estate appraisal profession has been studying those prices since the 1960s. Some of the many published studies have found adverse impacts to property prices and values while others have found no impact or statistically insignificant impacts despite media attention given possible health effects of exposure to EMFs. When price impacts are found, they typically are rather small.

As examined in this article, a recent proposal related to a new 60-mile corridor in Illinois generated significant public comments and submissions about possible adverse impacts to prices and values of single-family homes, age-restricted townhomes, and farmland. Studies of detached single-family and attached townhouse prices in the Chicago suburbs submitted in the proceedings by the authors of this article, who were retained by the electric utility company, found no adverse impact on attached or detached home prices or on prices paid for age-restricted townhomes. The studies also found that sound land use planning and subdivision layout procedures can eliminate any adverse impact on prices.

The authors would like to acknowledge Ms. Anne S. O'Connell, real estate analyst in the Chicago office of Clarion Associates, for her assistance in the preparation and analysis of the sales data that went into many of the charts in this article.

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- 11. A 1996 article cites 1979 as a turning point year due to publication of one of the first studies to link EMFs to health effects. See, R. Gregory and D. von Winterfield, "The Effects of Electromagnetic Fields from Transmission Lines on Public Fears and Property Values," *Journal of Environmental Management*, Vol. 48, pp. 201–214. The 1979 study they cite is N. Wertheimer and E. Leeper, "Electrical Wiring Configurations and Childhood Leukemia in Rhode Island," *American Journal of Epidemiology*, Vol. 109, pp. 273–284.
- 12. Olsen, J.H., A. Nielsen, and G. Schulgen, "Residence Near High-Voltage Facilities and the Risk of Cancer in Children," *British Medical Journal*, Vol. 307, pp. 891–895; P. K. Verkasalo, E. Pukkala, M. Y. Hongisto, J.E. Valjus, P. J. Drvinen, K. V. Heikkil, and M. Koskenvuo, "Risk of Cancer in Finnish Children Living Close to Power Lines," *British Medical Journal*, Vol. 307, pp. 895–899; and M. Feychting and A. Ahlbom, "Magnetic Fields, Leukemia, and Central Nervous System Tumors in Swedish Adults Residing Near High-Voltage Power Lines," *Epidemiology*, Vol. 5, pp. 501–509.
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- 19. We have not attempted in this article to summarize or reference all of the published literature on the subject of power line impacts on property prices and values. And we have focused on the studies of power line impacts in North America. There have been many studies conducted in Europe and Australia as well that are not referenced here. Many of the articles referenced or cited in this article, however, contain detailed lists and summaries of the published literature in cluding some of overseas studies. Readers are encouraged to review those citations for more detail about the various past studies that have been done.
- Pitts, Jennifer M. and Thomas O. Jackson, "Power Lines and Property Values Revisited," *The Appraisal Journal*, Fall 2007, p. 323.
 Professor Jackson was a member of the Appraisal Standards Board that promulgated Advisory Opinion 9 (AO9).

- 21. For information on a variety of power line proposals around the United States and the opposition they have created, see http://www.energyjustice.net/powerlines.
- 22. See, for example, Sarah Imboden, "State's Power Line Plan Electrifies Local Opposition," *The Observer*, Nov. 27, 2013, www.rhobserver.com/20700/states-power-line-plan-electrifies-opposition/. Barring local acceptance, the new corridors will need to be acquired via use of the government's power of eminent domain.
- 23. Matthew L. Wald, "Power Line Project Faces Challenges in California Valley," *The New York Times*, Nov. 27, 2010. In March of 2014, the California Public Utility Commission failed to approve a much shorter 3.5-mile transmission line that would cut through parts of the communities of Thousand Oaks, Moorpark and Simi Valley, and improve substation connectivity.
- 24. For various points of view about the project, see www.grainbeltexpresscleanline.com/site/home and https://www.blockgbe.com/.
- 25. Information and filings related to this corridor proposal can be found at www.icc.illinois.gov/docket/CaseDetails.aspx?no=13-0657.
- 26. As of May 9, 2014, after the official close of public testimony, the llinois Commerce Commission website had posted 289 comments from the public.
- Direct Testimony of John Tomasiewicz, Tomasiewicz Ex. 1.0, 4: 57–64.
- 28. Direct Testimony of Robert Mason, Mason Ex. 1.0, 3: 36-37.
- Direct Testimony of Jeffrey King, Chief Operations Officer, School District U-46, Ex. 1.0, 4: 83–84.
- 30. One website link (no longer accessible) was to http://www.brucejme/Fact.9.pdf. On that website was a "Fact Sheet # 9" dated Jan. 30, 2010. The intervener also referenced the website http://burythe cable.ie/askon.pdf referencing an ASKON Consulting Group "Media Information Pack" dated Oct. 9, 2008, and published in Ireland.
- 31. In the aftermath of the federal bailout of the savings and loan industry in the 1980s, Congress passed legislation establishing an Appraisal Standards Board to develop a set of professional standards for the real estate appraisal profession. Congress also required all states to establish a process for licensing real estate appraisers and to require all licensed appraisers to follow the Uniform Standards of Professional Appraisal Practice (USPAP) promulgated by the Appraisal Standards Board.
- 32. USPAP 2014-2015 Advisory Opinions, p. A-20, lines 177–178. This is echoed in many publications of the Appraisal Institute including "Real Estate Damages: Applied Economics and Detrimental Conditions," Second Edition, 2008, which at p. 238 says the following: "In the analysis of detrimental conditions, it is important that the appraiser be knowledgeable about the available tools, properly select and apply those tools, avoid unproven or suspect methodologies, and ultimately have relevant market data to support opinions and conclusions."

Power Lines and Property Prices

- 33. USPAP 2014–2015 Advisory Opinions, p. A-20, lines 181–183.
- 34. USPAP requires licensed appraisers to complete the research and analyses "necessary to develop credible assignment results." USPAP, 2014-2015 Edition, Scope of Work Rule, p. U-14, lines 429-430. The Scope of Work Rule in USPAP then says that the acceptability of the research and analysis is measured based on what "an appraiser's peers' actions would be in performing the same or a similar assignment." USPAP, 2014-2015, Scope of Work Rule, p. U-14, lines 433-434. The phrase "an appraiser's peers" is defined in USPAP as "other appraisers who have expertise and competency in a similar type of assignment." USPAP, 2014-2015, Definitions, p. U-1, line 32. The answer to USPAP Frequently Asked Question 160 entitled "Judging the Actions of An Appraiser's Peers" states that "journals and publications, professional meetings and conferences, education through courses and seminars, and appraisal discussion groups" (USPAP, 2014-2015, supra, FAQ 160, p. F-73) are the sources of knowledge about what an appraiser's peers would do in a similar assignment.
- 35. "The fact that a property is impacted by a detrimental condition does not automatically mean that it has a material impact on the property's value. Detrimental conditions may or may not cause a material impact on value. Frequently, detrimental conditions have no material impact on value whatsoever." Randall Bell, with contributing authors Orell C. Anderson and Michael V. Sanders, "Real Estate Damages: Applied Economics and Detrimental Conditions," Second Edition, The Appraisal Institute, 2008, p. 238.
- 36. As with many detrimental conditions, subjective fear of hazard does not necessarily equate to objective evidence of diminished property value.
- 37. Op. cit. at 35, p. 110.
- 38. See, for example, Clark, op. cit. at 9, pp. 11–12: "Many persons have indicated by their actions a preference for a specific property, even though encumbered by an easement, as compared to other properties which are not. The reason for their actions is not as important as the effect, individually and collectively, on values... few within the real estate profession have factual knowledge of the impact of these easements on the value of real estate. Some appraisers rely on, and frequently express, opinions with no factual foundation. Thus, transmission line easements and their effects, if any, on adjacent or nearby properties are controversial subjects."
- 39. Pitts and Jackson, op. cit., p. 324.
- Wolverton, Martin L. and Steven C. Bottemiller, "Further Analysis
 of Transmission Line Impact on Residential Property Values,"

 The Appraisal Journal, July 2003, p. 244.
- 41. Pitts and Jackson, op. cit., p. 323.
- 42. Chalmers and Voorvaart, op. cit., p. 229.
- Chalmers, James A., "High Voltage Transmission Lines and Rural, Western Real Estate Values," *The Appraisal Journal*, Winter 2012, p. 31.

- 44. Ibid., p. 44.
- 45. Petition of COMMONWEALTH EDISON COMPANY for a Certificate of Public Convenience and Necessity, under Section 8-406 of the Illinois Public Utilities Act to construct, operate and maintain a new electric transmission line in Kane and DuPage Counties, Illinois, Docket No. 94-0179.
- 46. As part of the prior authorization of the 138kV line, a previously existing distribution line on wooden poles was relocated within the existing corridor.
- 47. See Illinois Commerce Commission Order, dated Aug. 9, 1995, 1995
 Ill. PUC LEXIS 501, *15-*16. We also presented expert testimony in that prior proceeding. As it related to Sugar Ridge, our 1994 work reviewed the expert report prepared for residents. In our sales analysis in 1994, we found no discernible adverse effect on Sugar Ridge home prices from the announcement of the proposed transmission line project.
- 48. The 14th Edition, 2013, of The Appraisal of Real Estate, p. 399, defines "paired data analysis" as "a quantitative technique used to identify and measure adjustments to the sale prices or rents of com parable properties; to apply this technique, sales or rental data on nearly identical properties except for one characteristic is analyzed to isolate the single characteristic's effect on value or rent." It then defines "pure pairings" as "pairs of sales or rental data from properties that are identical except for the single element being measured."
- 49. There were 17 sales but only 12 homes because some of the homes sold more than once.
- In this case, the width of the power line right-of-way provided additional buffering of the homes from the towers and the lines.
- 51. The population of Huntley increased from 5,953 in 2000 to 24,291 in 2010, a 308 percent increase, while Algonquin grew more than 30 percent from 22,989 to 30,046 persons during the same decade. http://censusviewer.com/cities/IL.
- 52. Application of COMMONWEALTH EDISON COMPANY for a Certificate of Public Convenience and Necessity, under Section 8-406 of the Illinois Public Utilities Act, and for an Order, under Section 8-503, of the Illinois Public Utilities Act, authorizing and directing ComEd to construct, operate and maintain new electric transmission lines in Kane and McHenry Counties, Illinois, Docket No. 96-0410.
- 53. Application of COMMONWEALTH EDISON COMPANY for a Certificate of Public Convenience and Necessity, under Section 8-406 of the Illinois Public Utilities Act, and for an Order, under Section 8-503, of the Illinois Public Utilities Act, authorizing and directing ComEd to construct, operate, and maintain new electric transmission lines in Kane and McHenry Counties, Illinois, Docket No. 96-0410.

Power Lines and Property Prices

- 54. Townhouse developments make excellent case studies for this type of proximity impact studies. Unlike single-family home developments, townhouse developments more frequently involve the same type of unit with the same number of bedrooms, bathrooms, garage spaces, square footage and finishes.
- 55. As part of our review of that expert report in 1995, we interviewed a sales agent at Concord Pointe who indicated that even though some potential buyers were not concerned about the proximity of some of the units to the transmission line or did not even mention proximity to power lines as a concern, the sales technique for the townhomes located adjacent to the transmission line was to automatically tell the purchaser that a \$3,500 discount will be provided if the buyer takes one of those units. There was no bargaining involved, and the discount was a sales promotion device. Such a discount amounted to about a two to three percent discount from the average sales price in 1995. (Rebuttal Testimony of Richard J. Roddewig, MAI, CRE, President, Clarion Associates, Inc., Docket No. 94-0179.)
- 56. The 345 kV lattice towers adjacent to Concord Pointe are approximately 135 to 170 feet in height, and the 138 kV lattice towers are approximately 110 to 160 feet in height.
- 57. See, for example, Alexandre Trigano, MD, et al., "Clinical Study of Interference with Cardiac Pacemakers by a Magnetic Field at Power Line Frequencies," *Journal of the American College of Cardiology*, Vol. 45, No. 6, March 2005, pp. 896–900.

- 58. http://www.55places.com/illinois/communities/hampton-park.
- 59. Dairy farmers seemed to be especially concerned. "Stray voltage" that can be produced by power lines and other sources has been found in some studies to affect dairy cow behavior and milk production. See, for example, Public Service Commission of Wisconsin, Environmental Impacts of Transmission Lines, p. 22. In Minnesota, dairy farmers have sued utility companies alleging that their cows have produced less milk and even died as a result of proximity to power lines. See, for example, www.postbulletin. com/business/capx-court-case-to-test-minnesota-s-buy-the-farm/article_3c6af2d0-8bf1-58d0-9c63-6007dc5a5f30.html.
- 60. Chalmers 2012, op. cit., p. 35.
- 61. Ibid.
- 62. Ibid., p., 44.
- 63. Brown, Dean J.A., "The Effect of Power Line Structures and Easements on Farm Land Values," *Right of Way*, December 1975/January 1976, pp. 33–38.
- Jackson Thomas, "Electric Transmission Lines Is There am Impact on Riral Land Values?" *Right of Way*, November/December 2010, pp. 32–38.
- 65. Chalmers 2012, op. cit., p. 31.

Weathering the Storms with the Lights On: Creating a Reliable and Resilient 21st Century Transmission Grid

BY DAVID K. RICHTER, ESQ.

INTRODUCTION

"The United States is a superpower with a third-world transmission grid." That was the critical but, for the most part, accurate evaluation provided by then Secretary of Energy Bill Richardson in 2003 after the August 14, 2003 blackout left more than 50 million people across eight states and Ontario without power for several hours. More than a decade after the Northeast blackout cost the U.S. and Canadian economies approximately \$6 billion, steady improvement has been made to the grid, but more is still needed.

The concern for the power grid is real. The grid delivers electricity to more than 144 million end-use customers in the U.S., but is strained by a rising demand for electricity that is being served by an aging infrastructure. In the past few years extreme weather events such as Hurricane Sandy and Hurricane Irene have affected large portions of the transmission grid, causing severe power outages, which in turn, has cost the U.S. economy billions of dollars.

Although investment in transmission infrastructure has increased between 2006 and 2010, there remain numerous obstacles to transmission development. Property for new rights-of-way in the urbanized areas where transmission is most needed is hard to locate and can take years to acquire. Nearby property owners raise concerns regarding property values, visual impacts, and impacts from electromagnetic fields. Environmental advocates and agencies require extensive environmental impact studies, and permitting is slowed by various governmental agency reviews. The permitting process is fractured between federal, state and sometimes local authorities

About the Author



David K. Richter, Esq. is an associate general regulatory and property counsel for PSEG Services Corporation in Newark, New Jersey. He provides regulatory counsel to Public Service Electric and Gas Company (PSE&G), the oldest and largest public utility in the State of New Jersey, as well as other PSEG affiliates, on federal and state energy

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Prior to joining PSEG, Richter was an associate at the law firm of Drinker Biddle & Reath in its Florham Park, New Jersey office, providing legal services to business clients on real estate and commercial litigation issues.

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creating time-consuming and overlapping approvals. As the president and chief executive officer of the North American Electric Reliability Corporation, which oversees the reliability of the country's transmission grid, stated, "Faster siting, permitting, and construction of transmission resources will be vital to keeping the lights on."²

Insider's Perspective

Weathering the Storms with the Lights On: Creating a Reliable and Resilient 21st Century Transmission Grid

HISTORY OF TRANSMISSION

When people plug in a computer, turn on the lights or charge a cellular phone, not only are they connecting into a power grid made up of local distribution stations connected to their homes via wooden utility poles, but they also are connecting to the transmission grid that connects those local stations to power generation sources over long distances. This was not always the case. In the early 19th century, power systems were basically distributed generation systems with the generators immediately adjacent to the machines that used the electricity.

It was not until the development of alternating current (AC) first demonstrated in the 1891 International Electro-Technical Exhibit in Germany that electricity was transmitted over long distances. In 1896, the first long-distance line was an 11,000 volt AC line connecting a hydroelectric generation plant in Niagara Falls, New York, to Buffalo, 20 miles away.³ This prompted an industry-wide competition to build an even larger voltage system.

Figure 1 New Transmission Lines Voltages During Electrification of United States		
Date	Typical Voltage	
1896 1900 1912 1930	11,000 60,000 150,000 240,000	
Source: Smithsonian Institute, 2002		

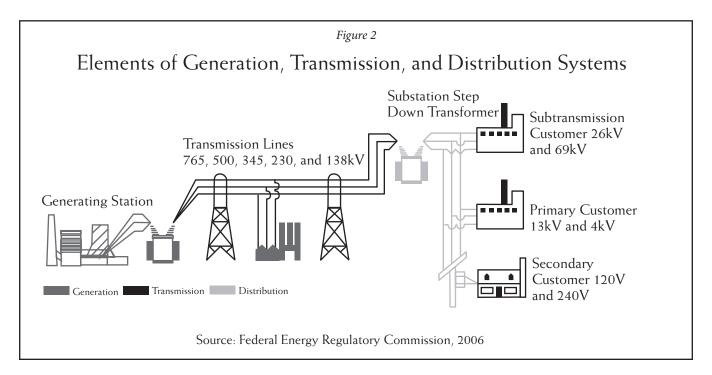
As Figure 1 illustrates, by 1900, the first 60,000 volt transmission systems was created and transmission system and accompanying voltages grew rapidly from there. By the 1930s, the typical voltage was 240,000 volts (240kV) and transmission infrastructure development began to explode. In the 1950s, utility companies began to construct larger power plants that spurred the advent

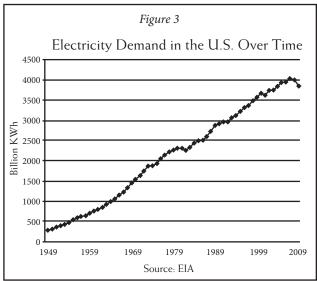
of high voltage transmission lines—transmission lines with voltages 100kV and higher. In the 1960s there were more than 60,000 high voltage transmission circuit miles compared to less than 20,000 in the 1950s.⁴

Early development of transmission was completed with very little coordination. One exception to that was the Pennsylvania-New Jersey Interconnection (PNJ). This later was replaced by PJM in 1956, and today is PJM Interconnection LLC, the first coordinated, interconnected power pool.⁵ The PNJ was a 210-mile-long transmission ring that connected the electrical networks of three independent utility companies: Pennsylvania Power & Light (now known as PPL Electric Utilities or PPL), Public Service Electric and Gas Company (PSE&G), and the Philadelphia Electric Company, now known as PECO. One of the first transmission lines that became a part of the PNJ was the 230kV Roseland-Bushkill line, built between 1925 and 1931. The line ran from PSE&G's Roseland Switching Station in Roseland, New Jersey, to PPL's Bushkill Station in Middle Smithfield, Pennsylvania, more than 50 miles away. The PNJ agreement and transmission line was the first large-scale interconnection of its kind in North America and served as the model for the onset of the independent system operator (ISO) or regional transmission organization (RTO).

With the expansion of transmission infrastructure came federal regulation over transmission. Through the issuance of Orders Nos. 888, 889 and 2000, the Federal Energy Regulatory Commission (FERC) encouraged transmission owners to turn operational control over the transmission system to FERC-regulated ISOs and RTOs in order to maintain reliability and meet the requirement of open access, non-discriminatory transmission service. ISOs/RTOs became responsible for planning the system to ensure the reliability of the electric transmission system under its functional control and coordinating the movement of wholesale electricity within the larger interconnect. Currently more than two-thirds of the population of the U.S. and half the population of Canada obtain electricity from transmission systems operated by RTOs or ISOs. See Figure 2 for a breakdown of the ISO/RTO regions.

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Today, the transmission system has more than 150,000 circuit miles of high voltage transmission lines which connect generating stations to utility substations. It is a highly complex system upon which the technology-dependent country has become increasingly reliant.

THE NEED FOR A RELIABLE AND RESILENT TRANMISSION GRID

Aging Infrastructure and Increased Demand for Electricity

The transmission system in the U.S. is at a crossroads because of increased demand being served by a grid built mostly prior to 1950. Electricity consumption in the U.S. totaled nearly 3,826 billion kilowatt-hours (kWh) in 2012, according to the United States Energy Information Administration. This is approximately 13 times greater than electricity consumption in 1950. See Figure 3 for a chart showing electricity demand since 1950. Despite a recent dip owing to the recession, analysts believe that demand in the U.S. is increasing. Based on projections of

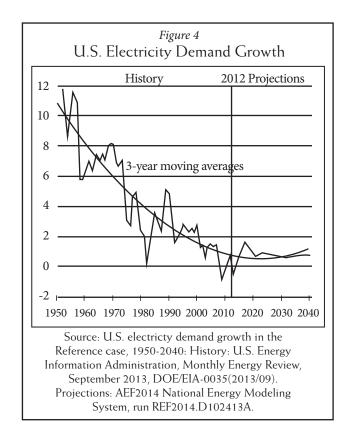
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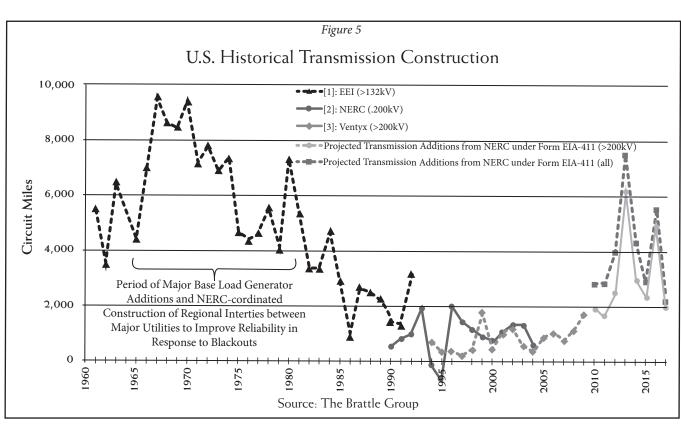
the Energy Information Agency, a subset of the United States Department of Energy (DOE), electricity use is expected to increase by eight percent between 2012 and 2020 and by 29 percent from 2012 to 2040.8 See in Figure 4.

Much of the backbone of the transmission system that this country relies upon to provide electricity—138kV and 230kV lines—was built in the 1920s and 1930s. Most of these facilities are nearing the end of their useful life.

In fact, according to the DOE, 70 percent of transmission lines and transformers are 25 years or older (with an average age for transformers of 42 years), and 60 percent of the circuit breakers are 30 years or older. See Figure 5 outlining U.S. Historical Transmission Construction. The age of the grid's components has contributed to an increase in both weather and non-weather-related power outages.⁹

In fact, transmission investment declined by 44 percent from 1980 to 1999. ¹⁰ In response to the underinvestment and aging infrastructure, projections of the spending necessary to replace the aging transmission infrastructure vary greatly, but all agree that spending will be in the



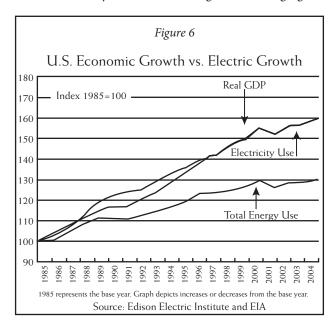


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trillions. As an Edison Electric Institute Study by the Brattle Group determined, "by 2030, the electric utility industry will need to make a total infrastructure investment of \$1.5 to \$2.0 trillion." Recent evidence suggests transmission investment has been on the rise since 2006, but is still below rates experienced between 1960 and 1980. As evidence, in 2013, the American Society of Civil Engineers in its Report Card on American Infrastructure gave the electric industry a D+, which although was an increase from the D it gave the industry five years earlier, is not a positive sign for the industry. 12

ECONOMIC IMPACT OF RELIABLE AND RESILIENT SERVICE

Electricity is the lifeblood of the U.S. economy as it powers homes, businesses, offices and industries; keeps our food fresh; provides for communication and entertainment; connects people through technology and the Internet; and assists with transportation. A recent study by the Edison Electric Institute indicates that electricity intensity in the U.S. economy is significantly related to the general level of economic activity as illustrated in Figure 6.¹³ But aging



infrastructure, increased demand and lack of sufficient investment in transmission all lead to one outcome—increased outages. Whether in the form of lost output or wages, spoiled inventory, delayed production, increased costs on the consumer to purchase backup generators or costs incurred due to damage to the grid, experts all agree that the failure to maintain a reliable electric system can have a significant impact on the economy.

Unexpected occurrences such as weather or equipment failure, usually on the transmission system, are the main causes of outages. Since 1960, the country has endured a number of significant power outages on the transmission system. For a description, see Figure 7. In 2013, the President's Council of Economic Advisers and the DOE's Office of Electric Delivery and Energy Reliability prepared a report on the economic benefits of increasing electric grid resiliency. The report found that between 2003 and 2012, weather-related outages were estimated to have cost the U.S. economy an inflation-adjusted annual average of \$18 billion to \$33 billion. Annual costs fluctuate significantly but are highest in the years of major storms such as Hurricane Ike in 2008, a year in which cost estimates range from \$40 billion to \$75 billion, and Hurricane Sandy in 2012, a year in which cost estimates range from \$27 billion to \$52 billion.14 Overall, between 2003 and 2012 the United States endured approximately 679 weather-related power outages, each affecting 50,000 customers.¹⁵ And it is clear that weather-related disasters are increasing. Since 2000, billion-dollar weather-related disasters have increased significantly. See Figure 8.

Smaller duration outages common to transmission systems are just as costly. The average cost of a one-hour power interruption has been estimated to be nearly \$1,000 per business and up to \$12,000 per large industrial and commercial customers. ¹⁶ A 2004 study estimated that outages of five minutes or less cost the U.S. economy nearly \$50 billion annually. ¹⁷ Similarly, other studies have that number closer to \$200 billion. ¹⁸ These numbers add up to a shrinking economy because of higher costs for electricity and the loss of jobs. The American Society of Civil Engineers estimates that by 2020 an unreliable electric system could cost the U.S. GDP nearly \$656 billion and nearly \$2.3 trillion by 2040. ¹⁹

The good news is that ISOs and transmission owners have done an excellent job in maintaining the reliability of the electric grid given increased demand. The North American Electric Reliability Corporation (NERC) in its 2013 State of Reliability Report indicated that the "reliability of the transmission system continues to remain high." With mandatory oversight by NERC and development of new transmission lines, the outlook remains positive. Additionally, transmission owners are investing significantly in upgrades to both maintain reliability and improve the resiliency of the system to weather events. Although costs for electricity may

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Date	States Affected	Customers Affected	Duration	Cause
November 6, 1965	NY, CT, MA, RI, PA, NJ, substantial parts of Ontario, Canada	30,000,000 and over 20,000 MW of demand	Up to 13 hours	Operational error
July 13, 1977	New York City	9,000,000 and 6,000 MW of demand	Up to 26 hours	Cascading event due to lightning strike
December 22, 1982	West Coast	5,000,000 and 12,350 MW of demand	Unknown	High winds knocked over a 500kV line onto an adjacent 500kV line
July 2, 1996	AZ, CA, CO, ID, MT, NE, NV, NM, SD, TX, UT, WA, WY and Alberta and British Columbia, Canada	2,000,000 and 11,850 MW of demand	A few minutes to several hours	Cascading event caused by tree contact
August 10, 1996	AZ, CA, CO, ID, MT, NE, NV, NM, SD, TX, UT, WA, WY and Alberta and British Columbia, Canada	7,500,000 customers and 28,000 MW of demand	Up to 9 hours	Cascading event due to high temperatures and several tree contacts
June 25, 1998	MN, MT, ND, SD, WI and Ontario and Saskatchewan, Canada	152,000 customers and 950 MW of demand	19 hours	Cascading event due to lightning strikes
August 14, 2003	OH, MI, PA, VT, MA, CT, NY, NJ and Ontario, Canada	50,000,000 and 61,800 MW of demand	4 days to a week	Operational issues caused cascading event after loss of transmission lines due to tree contact
August 31, 2005	LA, MS, AL, FL, and GA	2,600,000	Most restored in 2-3 weeks, others longer due to flooding	Hurricane Katrina
September 8, 2011	CA, AZ	2,700,000 and approximately 7,000 MW of demand	Several hours	Operational issues caused cascading after loss of 500kV
August 27, 2011	Northeast and Mid-Atlantic	6,690,000	Several hours	Hurricane Irene

Sources: Comparing the Impacts of Northeast Hurricanes on Energy Infrastructure, U.S. Department of Energy April 2013; FERC and NERC Report on Arizona – Southern California Outages April 2012; Final Report on the August 14, 2003 Blackout, U.S.-Canada Power System Task Force, April 2004

More than 3,000,000

8,600,000

Several days

Up to 14 days

Snowstorm

Hurricane Sandy

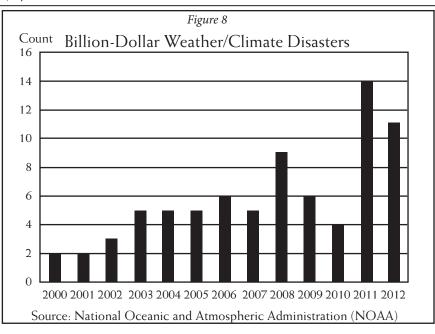
region (14 States)

Northeast

20 States

October 2011

October 29, 2012



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temporarily increase because of increased investment in power plants and transmission, these capital investments will result in more stable prices in the long run. An improved electric system that maintains reliability also may reduce secondary expenditures by companies or individuals on items such as backup generators or secondary utility feeds used to mitigate the effects of outages. Ultimately, a consistently reliable and weather-resilient system is a win for the consumer with lower, stable electric bills and additional money to spend in the economy.

OBSTACLES FACING CONSTRUCTION OF NEW TRANSMISSION

Although there is ample evidence of the need for additional transmission infrastructure, actually designing, permitting and constructing transmission is a time-consuming, complex and expensive process. Significant obstacles to construction include siting, environmental permits, property acquisition, financing, and "not in my back yard" (NIMBY) complaints. While permitting times for major transmission vary by state, the average time for permitting has risen to approximately three years and longer. The Wyoming-Jacksons Ferry line between Virginia and West Virginia, which required approval from the U.S. Forest Service and the states involved, spent 13 years in the permitting phase.²¹ These delays ultimately jeopardize construction and impact reliability.

Currently, unlike gas transmission facilities, there is no federal siting authority for transmission facilities. The Energy Policy Act of 2005 had included a federal backstop authority for projects that were not approved by a state siting authority within 12 months of application submittal, but that authority was limited to areas designated as a National Interest Electric Transmission Corridor. Although the DOE did originally designate a number of National Interest Electric Transmission Corridors, those designations were overturned by the United States Ninth Circuit Court of Appeals.²² Therefore a new transmission line typically requires siting approval from the states within which the line crosses, environmental permits from either the state environmental agency or the United States Environmental Protection Agency, and may include permits from special governmental areas such as national parks and wildlife preservation areas. In addition, a new line may require the acquisition of real estate rights necessary for new rights-of-way, which could trigger extensive eminent domain proceedings.

In 2008, PSE&G and PPL Electric Utilities began the process of siting a PJM-mandated upgrade to the existing 230kV Roseland-Bushkill Transmission Line which, as noted above, was originally part of the historic Pennsylvania-New Jersey Interconnection. The upgrade called for the installation of a new 500kV line from PSE&G's Roseland Switching Station in Roseland, New Jersey, through Bushkill, Pennsylvania, and north to PPL's Susquehanna Generating Station on the existing transmission right-of-way that was created for the Roseland-Bushkill line. The proposed 500kV line was in addition to, and not a replacement of, the existing 230kV line. While PSE&G was responsible for the permitting on the New Jersey side, PPL took that responsibility on the Pennsylvania side.

The proposed Susquehanna-Roseland 500kV Project (the Project) required siting approval from both the New Jersey Board of Public Utilities and the Pennsylvania Public Utility Commission. In addition, on the New Jersey side alone, wetland and flood hazard permits were required from the New Jersey Department of Environmental Protection, Army Corps of Engineers approval was required for crossings of major waterways, and significant property acquisition was required for two new switching stations, temporary construction access, storage and lay down areas, helicopter fly yards (since a number of towers were constructed with air cranes in order to avoid impacting sensitive environmental areas) and some minor expansions of the existing right-of-way.

The Project had to overcome many obstacles. While permitting at the state public utility commissions took approximately a year to complete, the Project spanned the Delaware Water Gap National Recreation Area and the Appalachian National Scenic Trail, which is governed by the National Park Service, a part of the Department of the Interior. Even though the existing right-of-way (and thus the existing Roseland-Bushkill 230kV line) pre-dated the Delaware National Recreation Area, the Project required a special use permit from the National Park Service. Since the issuance of a special use permit is a federal action, it triggered a mandatory review under the National Environmental Policy Act. The National Park Service prepared an Environmental Impact Statement and ultimately found no adverse impacts, but the process took approximately four years and delayed the Project in-service date by two years.

This type of federal review is not uncommon given the nature of interstate transmission lines, especially

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in the western U.S. where approximately 53 percent of land is federally owned. A recent study by NERC has indicated that a majority of transmission projects were experiencing delays of up to three years and that nearly 6,500 transmission construction projects were considered delayed by RTOs as of the end of 2009.23 The National Electrical Manufacturers Association has prepared a flow chart outlining many of the different federal permits that may be required and how those permits can delay a proposed transmission project.²⁴ However, these delays can be shortened as the federal government has pledged to move these types of projects through the permitting process more effectively. For example, the interagency Rapid Response Team for Transmission was created to improve the time necessary to obtain federal approvals. The Susquehanna-Roseland Project was one of the first transmission projects to benefit from this process.

Nevertheless, the Susquehanna-Roseland Project also faced significant NIMBY challenges that are similar to obstacles faced by most large transmission projects. A grass roots group of residents in New Jersey calling themselves Stop-the-Lines opposed the Project and raised issues ranging from property values and health effects from electromagnetic fields (EMF) to the impact of the Project on residents' ability to obtain an FHA mortgage. Additionally, environmental groups raised concerns regarding the impact that construction access roads would have on environmentally sensitive areas. Although these emotionally charged issues typically make for a good sound bite, they are becoming easier to deal with as the issues are thoroughly studied and new technology is implemented.

For example, two literature reviews recently were completed on the effects of electric transmission lines on property values. These reviews studied all of the analysis completed during the past 30 years. The results showed that electric transmission lines have very little if any effect on neighboring property values, especially within existing rights-of-way.²⁵

Likewise, after nearly 40 years of studying the health effects of EMF, the conclusions reached by national and international scientific and health agencies and the guidelines for exposure they have recommended make clear that exposures to EMF that people encounter in their daily lives, including those from transmission lines, do not

pose any recognized long-term health risks.²⁶ However, despite these conclusions, these same agencies recommend the use of a policy called "Prudent Avoidance."

Prudent Avoidance is a precautionary principle in risk management, stating that reasonable efforts to minimize potential risks should be taken when the actual magnitude of the risks is imprecise. A report for the Office of Technology Assessment of the U.S. Congress described prudent avoidance of power line fields as:

... looking systematically for strategies which can keep people out of 60 Hz fields arising from all sources but only adopt those which look to be 'prudent' investments given their cost and our current level of scientific understanding about possible risks.²⁷

Similarly, the World Health Organization recommends in a recent fact sheet: "When constructing new facilities ... low-cost ways of reducing exposures may be explored. Appropriate exposure reduction measures will vary from one country to another. However, policies based on the adoption of arbitrary low exposure limits are not warranted." Such reduction measures typically include implementing low field designs. For example, bringing the lines closer together, increased tower heights, increased right-of-way width or phase splitting (assigning multiple conductors per phase) are low-cost options to mitigate EMF exposure. These measures along with the reports of the scientific community have reduced the effectiveness of EMF complaints by opponents to transmission construction.

Similarly, property acquisition also can be a challenge to transmission construction, especially in densely populated areas like the Northeast where commercial and residential development has encroached upon existing transmission lines. For the New Jersey portion of the Susquehanna-Roseland Project, it was nearly impossible to increase the width of the existing 150-wide right-of-way or change the route because of significant development constructed immediately adjacent to the right-of-way since it was established in 1928. In these cases, utilities can either consider underground construction or build higher towers.

Underground construction, although exhorted by the NIMBY crowd, comes with its own challenges and complications. The cost of underground transmission lines has been estimated to be anywhere from five to 20

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times as expensive as overhead lines, and those costs are passed to customers. While underground lines are less prone to weather events, the time to repair such an outage is measured in days, weeks and in some cases, months as compared to hours or days to repair an overhead line. This is because faults are harder to locate and more difficult to repair. Underground transmission lines also may require large transition stations to convert the transmission line from underground to overhead.

Although rights-of-way can be smaller with an underground installation (20-50 feet wide for a typical underground right-of-way to 75-200 feet wide for a typical overhead right-of-way 29) the impacts to the environment are greater. Typically, for overhead construction, a tower is placed every 600-1,000 feet, and one or more foundations are required that may be several feet in diameter. At a minimum, underground construction requires a continuous trench at least five feet in width and a significant access road immediately adjacent to the trenched area. The road is necessary to carry heavy loads such as large excavation equipment, concrete trucks, tractor-trailers with 80,000-lb. manholes and 50,000-lb. cable reels. This type of construction would have a permanent effect on the environment and would be difficult to permit given the nature of environmental regulations.

Given these issues, overhead construction is still, and will be, the main type of construction for years to come. As of 2006, less than one percent of 230kV lines were underground in the U.S. and that number drops to 0.5 percent for 345kV and to near zero percent for 500kV lines and higher.³⁰ However, with implementation of new technologies, the decrease in the cost of underground construction and the limited availability of land to construct overhead lines, the number of underground lines going forward will likely increase. In fact, the Edison Electric Institute's 2012 analysis has indicated that the percent of underground transmission has been rising since 2006 to a high of 15 percent of total transmission investment in 2008.³¹

CONCLUSION

Despite all of the hurdles, transmission construction is being completed. For example, the Susquehanna-Roseland Project is nearly complete as half of the project was energized on April 1, 2014, with the other half planned to be completed by June 2015. PSE&G has also recently

completed construction and energized two intrastate 230kV upgrade projects within the past year and is currently permitting two other projects. In addition, the Trans-Alleghany Interstate 500kV Line connecting Pennsylvania, West Virginia and Virginia consisting of 661 towers was energized in May of 2011; and the 55-mile, 345kV Alexandria-Waite Park portion of the Fargo to St. Cloud Project was completed in 2014. As reported in FERC's Energy Infrastructure Update, transmission construction has been and continues to rise. 32

The federal government also has identified that transmission infrastructure is needed for reliability and resiliency and has provided help. The Energy Policy Act of 2005 has authorized FERC to offer transmission providers incentives to promote new transmission. Federal agencies have begun to acknowledge the difficulties of permitting by federal and state agencies, and efforts such as the rapid response team and a discussion on one-stop siting will help address major challenges to the siting of transmission. Given the age of the current system and the country's reliance on the transmission grid, investing in a new, reliable and resilient transmission grid will be vital not only to keep the lights on, but to maintain a strong, growing economy.

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BY ROBERT F. KENNEDY, JR.

INTRODUCTION

THE PROLIFERATION OF HIGH-VOLUME HORIZONTAL hydraulic fracturing, commonly known as fracking, to extract natural gas from previously unreachable shale deposits, has exploded as a potent policy debate over recent years. Fracking's negative effects on surrounding communities have inflamed a grassroots political movement organized around opposition to fracking. This article reviews some of the common risks to communities associated with fracking, all of which can impact longand short-term real estate values and availability.

Gas companies extract "frack gas" by injecting water, sand and chemicals deep underground to open seams in miledeep shale formations to release trapped gas. Much of the fluid mixture returns to the surface as toxic wastewater, followed by the newly released gas and poisonous "produced water" formerly trapped in rock. Each well requires upwards of six million gallons of freshwater and generates hundreds of thousands to millions of gallons of wastewater. Fracking companies generally refuse to disclose the exact chemical mixtures of their fracking fluids. Special federal exemptions to environmental laws allow the gas industry to keep specific chemical mixtures secret. Most formulas include methanol, isopropanol and ethylene glycol.²

Fracking has revolutionized natural gas production in the United States, with 33 states now producing more than 25 trillion cubic feet (tcf) of gas annually.³ The shale gas boom could continue indefinitely as the U.S. boasts an estimated 665 tcf of recoverable shale gas—fourth in the world behind China, Argentina and Algeria.⁴

All of this production means that an increasing number of communities across the country are dealing with the effects of fracking in their backyards. The fracking process—from well drilling through wastewater

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disposal—can result in several negative effects including ground and surface water contamination, industrialization of rural, suburban or agricultural communities, air pollution, nuisance and dangerous truck traffic, chemical spills, extensive road damage, noise pollution, declines in neighborhood desirability associated with an influx of out-of-state workers and, in some areas, earthquakes. The risks of these impacts are exacerbated by regulatory

loopholes and an uneven patchwork of standards and enforcement that can vary from state to state. Recognizing these impacts and the risks associated with fracking, some banks are refusing to grant mortgages for homes with a drilling lease or gas well, and others are becoming increasingly concerned about the long-term investment risks associated with drilling leases and mortgages.⁵

GROUNDWATER CONTAMINATION

Groundwater contamination is one of the most publicized issues affecting fracking communities, thanks to the images of tap water catching fire that were made famous in the documentary *Gasland*. Poisoned groundwater can destroy property values and make homes practically unlivable. Groundwater contamination often forces homeowners to find alternative water sources—often spending large sums of money to transport water from outside the contaminated watershed. Homes without potable water are almost impossible to sell at their prior value, leaving families trapped or with few options.

The risk of groundwater contamination is not limited to properties with drilling leases, but is borne by entire communities. For example in Dimock, Pennsylvania, nearby fracking activities have left several neighbors with unusable water contaminated by methane and other chemicals. State and federal investigations, litigation between homeowners and drilling outfits, and years of high profile contentious debate between gas companies, regulators and the public have exacerbated diminished quality of life and property values. In one recently settled case, homeowners were able to win enough from a drilling company to sell their property and move. The company resold the land at a much reduced price, with the condition that no residence would ever again be built there.

Dimock is not the only Pennsylvania town to experience water contamination problems. A 2013 Scranton *Sunday Times* review of records from the Pennsylvania Department of Environmental Protection revealed instances of water contamination linked to oil and gas drilling affecting at least 161 homes, farms, churches and businesses between 2008 and 2012.⁷ A Duke University study of Pennsylvania drinking water wells found methane concentrations an average of six times higher for homes located less than one kilometer from natural gas wells.⁸

Similarly in Pavillion, Wyoming, a 2011 draft report by the Environmental Protection Agency found methane, benzene, glycols and alcohols associated with drilling fluid in water supplies. The report followed a three-year investigation by the Agency at the request of Pavillion residents. Under political pressure from the fracking industry, the Agency later declined to finalize the report and turned the investigation over to the State of Wyoming, which has put the study on ice.

A 2012 study published by the National Bureau of Economics Research analyzed the effects of shale gas development on property values in Washington County, Pennsylvania. Those researchers found that, "by itself, groundwater risk reduces property values by up to 24 percent." Similarly, a more recent investigation by the same researchers found large negative impacts on property values for groundwater dependent homes in areas with shale gas development. 11

AIR POLLUTION AND CLIMATE

Air emissions caused by gas extraction are not just a global climate problem—gas drilling, production, transportation and processing all have local impacts that shrink property values.

Gas fracking releases hazardous air pollutants such as volatile organic compounds, benzene, and compounds that lead to the formation of ground-level ozone, or smog, all of which can negatively impact the health of local residents.

In a study conducted by the Colorado School of Public Health, researchers found that residents living less than a half-mile from oil and gas wells face cancer risks that are 66 percent higher than for those living farther away. 12 The Weather Channel—along with *InsideClimate News* and The Center for Public Integrity—recently unveiled the results of an eight-month investigation into emissions of air pollutants and related health impacts from fracking in the Eagle Ford Shale in southern Texas. Residents in communities surrounding fracking activities reported numerous health problems including aggravated asthma and other respiratory problems, migraines, nausea, nose bleeds and chest pains. 13

Higher levels of smog caused by gas development can also lead to lifestyle changes as neighboring property owners avoid outdoors on high-smog days. In portions of rural Wyoming, smog is on par with that of Los Angeles¹⁴ and has increased health clinic visits in affected areas, according to the Wyoming Department of Health.¹⁵

Accelerating natural gas production could also have disastrous implications for climate change. Methane emissions associated with natural gas extraction, production, processing, transport and infrastructure

can undercut the climate benefit of reductions in carbon dioxide from the use of natural gas, because methane is at least 72 times more potent as a greenhouse gas than carbon dioxide over a 20-year period.16 A number of recent studies have found that the amount of methane currently emitted into the atmosphere from the natural gas supply chain, from extraction through processing and distribution, has been consistently underestimated by regulators¹⁷ and is high enough, in combination with greenhouse gas emissions from other sectors, to push us toward the climate tipping point in the next 20-30 years. Increasing the use of natural gas could also delay transition to renewable energy sources necessary to stem climate change over the long term. These developments will have dramatic and widely distributed impacts on real estate value.

CHANGES IN COMMUNITY CHARACTER

A number of changes—from increased road traffic to an influx of out-of-state workers—can greatly affect the character and desirability of communities newly inundated by fracking. Fracking communities are struggling to accommodate these changes, with demands pushed to the limits for community services including hospitals, police, first responders and housing.

Transporting both the water and the waste requires large trucks to make thousands of trips—an estimated four thousand heavy truck trips per well¹⁸—which can snarl traffic and obliterate local roads. Most communities new to fracking are small and/or rural, and can have difficultly accommodating the increased traffic, much of which occurs on roads ill-suited for the continuous movement of large trucks. Increases in the number of traffic accidents have been reported, along with deterioration of local roads. Heavy truck traffic can also increase air pollution from truck emissions, dust and fine particulate matter.

Many communities also have seen a large influx of outof-state workers with the necessary experience to work in fracking operations. This increase in workers also can strain community resources, particularly housing. Rental prices can soar, making it difficult for local families accustomed to paying much lower rents to pay more. Increases in transient workers have also been associated with increases in crime, including prostitution.²⁰

Recent case studies from researchers with the Multi-State Shale Research Collaborative provide insights into community changes as a result of the fracking boom.²¹ The researchers focused on four small, rural, generally poorer counties experiencing shale gas industry development: Carroll County, Ohio; Greene and Tioga counties, Pennsylvania; and Wetzel County, West Virginia. All four counties experienced increases in large truck traffic, along with road damages and a higher number of accidents. All four counties also saw an influx of out-of-state workers.

While the counties also gained some positive economic benefits and new jobs from gas drilling, the benefits varied, and three of them—Carroll, Greene and Tioga—faced additional costs for police, emergency services, road damage and social services. They also faced shortages of affordable housing and climbing rents, up to two to three times previous rents in Carroll County, for example. Both Greene and Tioga counties also saw increases in crime.²²

EARTHQUAKES

Fracking and the disposal of fracking wastewater have also been linked to a rise in seismic activity in some parts of the country. Increases in earthquakes, particularly in areas ill-equipped to deal with them, can lead to injuries and property damage.

The U.S. Geological Survey has linked this practice of injecting fracking wastewater deep into underground disposal wells with increased seismic activity. Researchers found that earthquakes measuring 3.0 or higher in the central and eastern U.S. have increased dramatically since 2010. Prior to 2010, earthquakes of that size averaged approximately 30 per year, while from 2010 to 2013 they averaged more than 100 per year.²³

In eastern Ohio, investigations conducted by the state's Department of Natural Resources concluded that fracking itself was the likely cause of several small earthquakes in the area, likely because of drilling near a previously unknown microfault. This discovery led the state to issue new permit requirements for drilling near faults or areas of past seismic activity.²⁴

CONCLUSION

The impacts presented in this article are merely a snapshot of the issues fracking communities across the country are facing. As shale gas development continues to industrialize and change the face of communities, expect continuing effects on housing, land use and neighborhood character.

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Collaborative Valuation: When Equipment and Real Estate Intersect

BY PARK R. JOHNSON, MBA, ASA, MRICS

APPRAISERS SHARE VALUES

It might be said within the valuation community what has long been remarked about the English and the Americans: two peoples can be separated by a common language. Indeed all the appraisal disciplines, whether real or personal property or business and intangible asset valuation, share the same pedagogy; yet so often the shared concepts differ in their applications. For example, prevailing accounting rules may apply to certain equipment or business valuations, whereas the real estate appraiser looks to standards of practice. Rules are objective, regardless of outcome, whereas application of standards may vary with the individual, however rigorously applied.

Appraisers share professional values and a work ethic. In the United States, valuers subscribe to the Uniform Standards of Professional Appraisal Practice (USPAP).¹ The purpose of USPAP is to promote and maintain public trust that professional appraisers remain independent, impartial and objective in their respective valuation practices.²

It should also be noted that appraisers, regardless of the asset, deal in "value" as an economic concept, or as USPAP defines it: "the monetary relationship between properties and those who buy, sell or use those properties." The "property" can be real, personal or intangible.

Preparing an appraisal involves research, analysis of all pertinent information and the proper experience, knowledge and judgment to make a reasonable and supportable opinion of value, regardless of asset type.

THE EMERGENCE OF THE EQUIPMENT VALUATION PROFESSION

Machinery and equipment (sometimes referred to as M&E) is a subset of personal property, but is most often

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associated with industrial or purpose-built real estate. In this article, the author will adopt the more encompassing term "equipment" to denote this type of asset valuation. Equipment appraisal has its roots in the valuation of entire industrial plants for rate setting and property taxation. The valuation of individual pieces of equipment has a deeper legacy related to security for collateral lending and insurance purposes. Beginning in the 19th century, regulated utilities needed uniform replacement cost information to set rates of return when setting pricing.

The educational and business experience of appraisers varies with the asset type. While there is overlap, equipment appraisers specializing in whole plant valuations tend to come from an engineering background. Those who specialize in valuing for asset lending have bought and sold equipment, perhaps as auctioneers. Contrast this with real estate appraisers, traditionally schooled in finance, perhaps having worked in banking. Business valuers will be grounded in accounting.

Most of the equipment appraisal literature seems to have

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originated with the practitioners who have an engineering background. The Machinery and Technical Specialties discipline of the American Society of Appraisers (ASA), with nearly 1,200 members, is the best-recognized professional group of equipment appraisers.

The U.S.-based ASA is the largest multiple discipline professional valuation organization. The Royal Institution of Chartered Surveyors (RICS), a London-based international organization, has come to embrace professionals working in all aspects of the real estate industry as well as valuers, regardless of asset type. The MAI-designating Appraisal Institute, in contrast, limits itself to real estate valuers.

Many valuers have worked where asset types intersect. Look no further than financial reporting and property tax appeals. Both require real estate and equipment appraisers, if not business appraisers, to work together on behalf of a common client. Yet while all asset experts nominally use the cost, market and income approaches in valuation, the distinctions are significant, even as they are subtle.

COMPARE AND CONTRAST: PERSPECTIVES ON THE APPROACHES TO VALUE

Whereas real estate appraisers typically apply two, if not all three approaches to value, equipment appraisers may consider all three, but more often rely on only one: the cost approach. Equipment appraisers look to the other approaches for validation and support of the primary approach. The following discusses each of the three approaches to value from both the real estate and equipment perspectives:

The Market Approach - Real estate appraisers go to the market all the time. There is an abundance of data (not all of it good) available in the real estate arena. Equipment appraisers have more problems sourcing data and therefore do not use the market approach as often. Transactional data is at the heart of the market approach, yet availability and quality of this data is significantly different between the two asset classes. Equipment appraisers, when valuing equipment for lending, use the market approach. Most of the equipment sales data available comes from public auctions. These auction results are considered Forced Liquidation Values (FLV), which correspond to quick sales in the real estate industry. The premise of an FLV is acceptable when performing a valuation for lending against equipment. Another reason the market approach is not as frequently used to value equipment is that equipment valued in exchange does not incorporate the costs of installing and putting the

asset in service, which can be several times the base cost of the asset. When valuing equipment in an ongoing operation, it should be valued as operating, which usually means it is installed. The market approach is used in these circumstances carefully, and with adjustments to validate conclusions of value generated by another approach. If the market values are close to those generated by the cost approach, the appraiser then has confidence that the cost approach is correct.

As an example of the market approach, the valuation of aircraft is considered. Three comparable sales are located:

- 1. The first similarly configured plane was sold 12 months prior for \$350,000. It was located close to where the subject aircraft is situated. Its maintenance condition was worse than the subject aircraft and would require a \$25,000 adjustment to make it comparable to the subject aircraft. Indicators are that prices for this type of aircraft increased by five percent in the intervening year.
- 2. A very similar aircraft of the same vintage was sold in an adjacent country with a reported price of \$750,000. No other details are available.
- 3. The same model aircraft that is two years newer was sold for \$425,000 on the other side of the country. It was in a similar maintenance condition. An adjustment for the newer aircraft of seven percent is appropriate.

In considering the comparable assets, the foreign transaction is disregarded. Based on the other data, it appears to be an outlier and may include other assets than merely the aircraft. No adjustment is deemed necessary for the location of the third transaction, as the aircraft market is national, and even international in scope. The remaining data is evaluated as shown in Figure 1.

Figure 1					
	Transaction #1	Transaction #3			
Selling Price	\$350,000	\$425,000			
Maintenance Adjustment Factor (1.05)	17,500				
Age Adjustment Factor (.93)		(27,750)			
Adjusted Amount	367,500	395,250			
Maintenance Adjustment	25,000				
Final Adjusted Amount	\$393,500	\$395,250			
Source: Park Johnson					

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In this case, the rounded conclusion of value might be \$395,000, or if the rounding convention were greater, \$400,000. Of note, aircraft are assets that are transacted frequently and sales data about them is relatively publicly available.

The Income Approach – This approach also is commonly used by real estate appraisers and is less commonly used by equipment appraisers. Equipment appraisers do not use it as frequently because it is difficult to attribute income to a specific piece of equipment. Equipment also usually generates income in conjunction with other assets, such as real property and intangible assets. The income approach is used to value equipment in the lease arena and in the case of unitary facilities such as chemical plants and refineries. Even in these cases, other approaches to value are used as well.

As an example of the income approach, consider a group of equipment assets with a specifically identifiable and attributable stream of income of \$100,000 per year for the next five years and a future value at the end of the period of \$75,000. The required rate of return of this category of assets is seven percent. The date of valuation is day one of year one. The valuation might look as shown in Figure 2:

approach, incorporating all forms of obsolescence, is the most commonly used approach to value equipment. In the cost approach, real estate appraisers will start with building dimensions, building class and quality of construction. They will then refer to a replacement cost source such as Marshall Valuation Service, RSMeans or Gardiner & Theobald. An equipment appraiser will start with a fixed asset ledger containing historical costs and will apply a trend factor to bring these entries to a current reproduction costs (the indirect cost approach). If the number of equipment assets to be valued were ten, or even 20, an appraiser could contact a vendor and try to determine the selling price of the current version of a piece of equipment. However, asset listings can range from the tens to the hundreds of thousands of assets. The number of assets precludes individual research on each asset. Additionally, replacement cost data for machines are not published and are frequently regarded as a trade secret because some clients get better prices than others; therefore, vendors are frequently unwilling to share this data.

Trending a historical cost renders a Reproduction Cost New, which is defined as "the current cost of producing

Figure 2							
	Year 1	Year 2	Year 3	Year 4	Year 5		
Income Stream	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000		
Future Asset Value					75,000		
Present Value Factor	.9346	.8734	.8163	.7629	.7130		
Value	93,460	87,340	81,630	76,290	124,775		
Sum of Values	463,495						
Value Conclusion	\$465,000						
Source: Park Johnson							

As one can imagine, there are a number of assumptions in this analysis, which may or may not be determinable. This example is based upon the assumption that all cash proceeds are received on the final day of the year. Another way to look at this would be that the income is received equally over the year and the proceeds from the sale of the equipment are received at the end of the year. This would result in a slightly higher conclusion of value.

The Cost Approach – The reason that equipment appraisers apply the cost approach differently than do real estate appraisers is because of the number of equipment assets. If one disregards valuation for lending, the cost

a new replica of a property with the same, or closely similar materials, as of a specific date"⁴ as opposed to a Replacement Cost New, which is defined as "the current cost of a similar new property having the nearest equivalent utility as the property being appraised as of a specific date."⁵ It is possible, perhaps even common, for a replacement cost to be less than a reproduction costs because of technological advancements. If this is the case, adjustments may be appropriate to bring the reproduction cost to replacement cost.

An example of valuation using the cost approach reviews a five-year-old asset that cost \$500,000 when new, with

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an expected useful life of 15 years and no value at the end of that period. Inflation on this type of asset has averaged three percent since it was built. No functional or economic obsolescence exists. The valuation might look as shown in Figure 3.

Figure 3					
Cost	\$500,000				
Trend Factor	1.15	1+(.03*5)			
Reproduction Cost	\$575,000				
Percent Good	.667	(1-(5/15))			
Unrounded Conclusion	\$383,333				
Rounded Conclusion of Value	\$385,000				
Source: Park Johnson					

With due consideration of asset categories that have different lives, inflationary effects and disposal values at the ends of lives, this method of valuation can be used to value many thousands of assets.

OPPORTUNITIES FOR COLLABORATION

Despite the fact that real estate and equipment appraisers approach valuation differently, there are areas in which they value assets for the same purpose. They frequently work together on appraisals for financial reporting purchase price allocation [Accounting Standards Codification {ASC} 805] and impairment [ASC 350 and ASC 360]—and appraisals for property tax appeals. Using an example of an integrated paper mill, there will be a building and there will be a paper machine. One of these assets is real estate and one is equipment. There will also be a steam boiler, which will provide steam used in production. It may also provide steam used for heat. There will be large built-in tanks with a mixer at the bottom. There will be overhead cranes and crane-ways. Inside the building there will be holes in the floors, walls and ceilings through which materials will be transported. Purely from an appropriate division of assets, it is helpful for the equipment and real estate appraisers to work together. If the sale involves some distress, as many do because the use of paper is declining, then additional functional and economic obsolescence needs to be considered. In the case of an appraisal for a purchase price allocation, a key client deliverable is a fixed asset ledger populated with fair value entries that enable the client to start depreciating assets as of the acquisition date. As equipment appraisers already use the fixed asset register as a key source document in

their valuation, they will usually incorporate the real estate appraiser's values into their work as opposed to the other way around. There are opportunities for the two appraisers to work together to ensure that all relevant assets are captured and none are duplicated.

The two appraisers can work together to ensure that:

All real estate-related assets are appropriately classified as real estate for valuation purposes. While the fixed asset entries are not used by the real estate appraiser in conducting the valuation, the historical and depreciated costs are used by the client in evaluating the concluded values. Appropriately matching the numbers makes for a more relevant comparison.

The asset entries on the ledger match up to the assets that should be there. Fully depreciated assets frequently are not removed from the asset ledger (ghost assets) when they are disposed of as they no longer affect the financial statements. If these assets that have been disposed of are left on the asset register during the appraisal, they may lead to an inaccurate comparison of value to cost (real estate) or the valuation of an asset that does not exist (equipment). Cleaning up the asset register (removing ghost assets) can provide a better resource to the client and lead to a more meaningful appraisal.

The asset entries on the asset ledger match up to the items included in the valuation source used. If the cost source, or the market comparable data, or the income stream used for comparative purposes does not include an asset that is included in your appraisal, that asset must be considered separately, perhaps by the equipment appraiser.

In an appraisal for impairment testing under ASC 350 or ASC 360, goodwill and long-lived depreciable (amortizable) assets are tested for impairment annually (goodwill) or when an event occurs that leads management to believe that the asset is impaired (goodwill and long-lived assets). Other than the regularly scheduled annual test of goodwill, events that lead to an impairment test usually involve the deteriorating financial results of a business or a business-reporting unit. This type of analysis usually means that a third type of appraiser is involved—a business valuation specialist. They like to say they are in the valuation business as opposed to the appraisal business. This appraiser will perform a valuation of the business or business-reporting unit, the intangible assets, and will provide assistance in performing a cash flow analysis on long-lived assets.

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Collaborative Valuation: When Equipment and Real Estate Intersect

Real estate appraisers are familiar with using an income approach to value assets and frequently source their discount or cap rates from the real estate market. Equipment appraisers, on average, are less experienced in using an income approach because it is less frequently used in equipment valuation. Even within the infrequent occasions they use the income approach, they rarely capitalize a stream of income. The shorter life span of equipment precludes this. They use a discrete period discounted cash flow analysis. In an impairment analysis, the cost of capital risks associated with the equipment are closer to those of the business as a whole than they are to an independent lease market. Therefore, the discount rate used in an income approach used for equipment in an impairment analysis frequently comes from the business valuation appraiser. Real estate and equipment appraisers have an opportunity to work together to understand how their discount rates coincide and differ, and why they do so.

Another area in which real estate and equipment appraisers can work together is in property tax appeals. To be frank, appraisers are not engaged because a client agrees with an assessment. Clients hire appraisers in the hope that their conclusion of value will be lower than that of the assessor. Equipment is usually only a material component of certain types of property, such as special purpose industrial property, chemical plants and refineries.

Most assessors will use or mandate the use for selfreporting of some form of indirect cost approach based on Marshall Valuation Service (MVS) for equipment valuation. In a valuation performed for property tax appeals, functional and economic obsolescence not contemplated in MVS depreciation are examined and applied if present. While functional obsolesce in real estate may be manifest in rooms that are too small or high bays that are too low, and economic obsolescence may be manifest in the form of changing zoning, the two forms of obsolescence are measured differently for equipment. Functional and economic obsolescence for equipment in a plant as a whole is measured by output or economic benefit provided. For purpose-built facilities, this type of analysis would be appropriate for the real estate appraiser as well.

If the equipment is producing less than it was designed for, functional obsolescence may exist. If the demand for a product is such that a facility is operating under capacity or cannot operate at a capacity that is high enough to satisfy demand, then functional or economic obsolescence may exist. While it is possible for real estate and equipment appraisers to perform valuations for assessment appeals without speaking to each other, they may not be doing the client any good. Both reports will be going to the same assessor's office. The assessor can use difference in observed condition or assumptions in one report to attack the other. Obsolescence need not be the same in both reports, but both appraisers should understand how their assumptions on obsolescence are the same and different from those used by the other appraiser and why.

Property tax appraisals are done in a framework where the rules can be different in each jurisdiction. Laws are established by states. Rules are set by state and local assessing bodies. Courts affirm, interpret or overturn laws and rules. Local practices dictate what has become acceptable without challenge. The facts dictate that it is important for an appraiser to be intimately familiar with state/jurisdictional statutes, assessing policy and guidelines, and court rulings. Appraisals have been rejected for not complying with these items.

Not all states assess ad valorem taxes on equipment, however, those that do not sometimes classify items that are treated as equipment for appraisal purposes as real property for taxation. It is useful for a real estate appraiser to have someone who is experienced in valuing that type of equipment be available to help him or her when needed.

There are many types of property and valuation engagements in which real estate and equipment appraisers will not overlap. There are a few, such as valuation for financial reporting and property tax appeals, that probably will overlap because both asset categories are present and both reports will be reviewed by an external party comparing the assumptions used. While financial reporting and property tax appraisals are used as examples of cooperation between appraisers of different asset categories because the cooperation is common and well documented, opportunities to cooperate in other cases, such as litigation and feasibility studies, exist as well. Both real estate and equipment appraisers can benefit from working together. While the approaches they use to value the assets are the same, the methodologies they use to implement the approaches are different. Both sides can benefit from the fact that they look at things differently. There also can be an overlap of assets, which might be omitted or double counted if the two appraisers do not work together. In time of distress (impairment

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and property tax appeals), measurement of obsolescence should be made with an understanding of what the other appraiser thinks and is going to use in his or her analysis. If possible, the two appraisers should try to get to know each other prior to specific engagements. Client work is always performed under deadline pressure, leaving less time to constructively learn how the other appraiser works. When talking of how appraisers of different disciplines describe what they do, one might refer to the analogy of the three blind men describing an elephant. Each one felt a different part of the animal and described *only* what he felt. In order to work together, everyone needs to be able to describe the entire elephant.

POSTSCRIPT: RESOURCES AVAILABLE TO EOUIPMENT APPRAISERS

Most used equipment sales are private transactions whose prices are difficult to obtain, therefore it is difficult to obtain market data. A number of organizations have undertaken to compile transactional data for sale. These include: DataRef, HeliValue\$, Green Guide*, NADA guides. These sources differ in price, premise of value, how current the data are and where the transactions are located. Some Internet marketplaces such as Ritchie Bros. and eBay provide transaction information without charge. Some equipment resellers are willing to provide a quote for an item. These are good sources, but are by no means

comprehensive. Primary sources for pricing are dealers who buy and sell specific types of equipment. Because they are in the market regularly, they have a good knowledge of current values. Many of these dealers are also appraisers and therefore may be reluctant to give pricing data to someone they view as a competitive resource. The trick is to make friends and get them to share. It can be said that knowledge of a local market is a critical real estate appraisal skill. Knowledge of where to get data for specific types of equipment is a critical equipment appraisal skill.

ENDNOTES

- Outside of the United States there are other appraisal standards. Some
 countries require adherence to USPAP. Some countries publish their
 own standards and some require adherence to international valuation
 standards. All of these standards have similar goals. They use varying
 languages and approaches to achieve them.
- Uniform Standards of Professional Appraisal Practice (USPAP), The Appraisal Foundation, 2014-2015 Edition, p. U-5, lines 148-149.
- 3. Ibid., p. U-4, line 141.
- Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, the Machinery and Technical Specialties Committee of the American Society of Appraisers, 2nd Edition, p. 585.
- 5. Ibid., p. 585.

BY WILLIAM TED ANGLYN, CRE

INTRODUCTION

Parking represents an evolving \$30 billion¹ commercial real estate industry that is far more dynamic than perceived by most real estate professionals. Many real estate professionals see the parking industry as static, requiring little thought or attention. Still more believe there are few innovative solutions to the construction, management and operation of stacked parking garages, open lots or on-street metered spaces. Nothing could be further from the truth.

The parking industry is rapidly changing with creative revenue enhancements, technology updates, fresh designs, innovative management and new operating initiatives. Because of ever-increasing profit expectations, changing demographics and urban design differences, parking has had to quickly adapt. The face of parking is also changing because the average driver is changing. With a rapidly aging baby boomer generation living in the suburbs, and millennials flocking to the cities, sans cars, parking industry professionals have had to keep pace with the new dynamics. The result is that the value contribution of the parking component is evolving. Counselors need to be apprised of the significant changes occurring in the parking spectrum to appropriately advise clients on how to maximize their parking facilities for greater real estate investment returns. Often, parking revenue is considered a secondary income source with minimal value impacts, however, with evolving technology the returns for a property's parking component can add significantly to real estate returns while improving the customer experience.

Parking facility monetization is also gaining momentum. "More than \$2 billion was spent by infrastructure funds to acquire the parking concessions at The Ohio State University campus (\$483 million), Chicago on-street meters (\$1.15 billion) and Chicago Millennium Garages

About the Author



William 'Ted' Anglyn, CRE, MAI, CCIM, is president of Parking Property Advisors, LLC, in Roswell, Ga. The firm specializes in the valuation of parking facilities and complex assets. Anglyn is an active member of National Parking Association and has been published in "Parking Today."

He has published five seminar books for the

Appraisal Institute on commercial real estate.

(\$563 million)"². These three recent transactions represent "more than the value of the top North American parking companies."³ If these three transactions are any indicator, more and more investment capital is going to focus on parking facilities as well as on the parking industry.

Industry professionals should understand the trends behind the changing face of parking. Two key trend areas are technology impacts and societal demand factors.

TECHNOLOGY IMPACTS

Technology continues to push the parking industry in new directions. As such, exciting new developments such as real-time dynamic pricing models, greater use of advance reservations, mobile parking applications and mechanical parking systems are becoming more commonplace.

The following technology trends are changing the parking landscape:

 Connected Car: The connected car (car with Internet access) has gone from being a novelty to a major requirement of new car shoppers. Connected cars can load real-time data regarding parking

- availability, traffic conditions and estimated arrival time. Parking inefficiencies result in high costs to the consumer. With connected cars, these costs are reduced in large part because of the parking apps and the efficiencies gained by their use.
- Dynamic Pricing: Dynamic pricing models allow for variable pricing of parking spaces based on many different supply and demand factors including: time of day, current vacancy, turnover rate and special events. This new approach is becoming more popular as parking operators are seeking to maximize revenue streams. Dynamic pricing will optimize parking revenues when demand is higher (analogous to the last seats on a plane) and allow real-time pricing flexibility during low demand periods. The revenue implications of dynamic pricing are significant.
- Mobile Apps: Mobile phones already are being used for payment, searches, reservations and identification in parking facilities. This technology reduces drive times and informs customers of parking availability for spaces that are marketed through these mediums. A popular service with a corresponding app is Parkopedia, or "Wikipedia for parking." This app helps people find spaces and helps owners fill these spaces. Bottom line: online parking applications help reduce wasted space, help customers have a better parking experience and will, no doubt, serve as a source of new parking data to help owners and operators maximize parking facility revenue.
- Online Reservations: With high gas prices, customers are less willing to circle the block wandering aimlessly for a space. Parking facility operators understand this frustration and are developing new systems to enable online reservations for specific parking spaces in their facilities. This enhancement will ensure customers have parking destinations even before they depart. Online reservations are available directly through operator websites and also through many mobile apps.
- Payment Types: Parking has in many instances been a cash business, but with the onset of digital payments, currency and reservations, the process of paying without cash has become significantly easier. Consumers have come to expect card payments to be accepted everywhere, and more and more parking facilities accept them. Europe and Canada have actually been quicker to adopt the use of credit cards than has the United States, and process

- a much higher percentage of their transactions via credit card. In general, having fewer cash payments is perceived to benefit parking facility net revenue because of reduced slippage.
- LPR: License Plate Recognition is a technology used to assist in parking enforcement. Integrated with mobile apps and connected cars, this technology can remove the need for human enforcement and can make parking more convenient for the clients. Expenses and income will be easier to track as there will be fewer opportunities for parkers to violate the pay per space model. Improvements to make these technologies more reliable will likely be added to existing parking facilities and be considered in the construction of new parking facilities. Enforcing against violators and maintaining monthly payment information via LPR is another way to be more efficient and remove human error.



■ Mechanical Parking Systems: Mechanical parking systems are gaining momentum in high value (high density) real estate markets. These revolutionary parking systems are dramatically reducing the typical square footage required per parking space. The increased efficiency is further enhanced by reducing the number of drive aisles and ramps that traditional garages require. Lower ceiling heights also are possible, which allows for even greater parking density (overall total space savings can range from 50 to 66 percent). This technology has the potential to enable developers to consider sites that in the past were deemed not profitable because of the cost to develop subterranean parking or the overall inability to provide adequate parking. Many of these new mechanical parking systems are automated and do not require staffing to operate, which also reduces operating costs

TECHNOLOGY IMPACT SUMMARY

Technology significantly benefits revenue with both increased pricing flexibility and greater occupancy, but likely the most immediate benefit is reduced operating costs. An obvious side effect of the other upgrades in parking technology and vehicle features is the reduced need for human input in the field. Features such as payment collections to ticket monitoring to revenue calculation and more can be done remotely. College campuses, hospitals, office complexes and stadiums are turning to parking management companies that, in turn, are relying less on human staff.

SOCIETAL DEMAND FACTORS

In a 2013 International Parking Institute survey,⁴ parking market participants identified societal changes most significant to the parking industry. The most significant responses in order are as follows:

- Traffic Congestion: More and more people are moving to urban areas. While young drivers are decreasing overall, this trend may change as millennials enter the workforce in higher numbers. City planners are also making attempts to have smarter paid parking versus superfluous "free parking."
- Gasoline Prices: Though usually fluctuating, gas prices have remained at historic highs. A significant amount of drive time is wasted in attempting to find a parking space, so as gas prices continue to rise commuters are less willing use additional gas to find a space. Customers are turning to digital solutions to find a parking spot or make a parking reservation. High gas prices also are encouraging consumers to consider electric or natural gas vehicles. Electric charging stations are beginning to appear in parking facilities and present some unique challenges for parking lot owners and operators.
- Desire for Livable/Walkable Communities:
 Generational factors come into play here. Young commuters prefer to be close to work and within walking distances to their favorite events, eateries and services. Older commuters tend to live further away and drive longer distances. New community designs that integrate work and play within the same areas change the needs for parking as well as for general vehicular access.

- Focus on Environment and Sustainability: The green movement has increased interest in environmentally friendly cars and more sustainable land uses. The result for the parking industry has been more multi-purpose parking facilities and less redundant parking design. Trendy garages have been used to host weddings, parties and other events. Stylish parking facilities add to, rather than detract from, the urban landscape. Some garages even feature recreational uses on the roof.
- Aging Population: Baby boomers represent a huge portion of the population and they are slow to leave the workforce. As this generation continues to commute and purchase vehicles, they will continue to demand parking.
- Increase in Mass Transit Use: While mass transit has its challenges (and in many areas of the country is not available), there are still larger numbers of people turning to mass transit in order to save on gas, help the environment and avoid the stress of parking.
- Use of Bicycles for Commuting: Commuters are pursuing travel alternatives that are good for the environment and personal health. Bicycle commuting is made even more common by the influx of young professionals moving closer to their workplaces and urban areas in general. Parking facilities have to adapt in certain markets to increased bicycle demand.
- Migration to Urban Areas: As previously noted, professionals are choosing to live closer to work, which means even more population density in urban areas.
- Concerns about Safety: Parking garages and lots have developed a negative reputation over the years and many drivers are wary of where they park. To combat this issue, operators are seeking to improve facility lighting, security and navigability as well as to place parking in locations convenient for walking at different times of the day.
- also developed a negative reputation for their appearance. Architects and city planners are using more creative ways to present parking facilities and have made huge progress both in the feasibility of design and in the multi-use nature of the buildings. This trend has redefined what many people would even consider to be a parking garage.

Other Changes (not noted in the survey) with Potential to Affect Counselors

- Densification of Office Space: The space per square foot per employee in newly leased office space went from 300–350 square feet per person in 2005 to 150–200 square feet in 2010. Some of this reduction is linked to the recent recession, but much of it is because of open office design and the predominance of electronic storage which reduces the need for physical file storage. This change has the potential to increase the typical office demand parking ratios from three to four spaces per 1,000 square feet to five to six spaces per 1,000 square feet.
- **Growing Vehicle Population:** The vehicle population in the U.S. continues to increase, with the average vehicles per household rising more than 12 percent from 2000 to 2009.⁵ As the number of vehicles increases, so does the demand for parking.

CONCLUSION

Parking represents a dynamic industry. Via technology enhancements, owners/operators are making greater efforts to fill their garages at higher rates with reduced costs. Social media, Internet marketing, increased reservation system use and dynamic pricing are enhancing property revenue while technology enhancements are reducing payroll and other key operating costs. The net result is that more and more property owners are realizing

greater value from their existing parking structures; for new parking structures in densely developed, high land value markets, developers are maximizing potential with the advent of mechanical parking systems. Societal changes are affecting parking investment decisions as people are more cost conscious and more cognizant of environmental issues; these changes are ironically tempered by densification of office space as well as overall vehicle ownership. Counselors need to be apprised of these significant changes to appropriately advise clients on how to maximize their parking facilities for greater real estate investment returns.

The author wishes to thank Mary Smith of Walker Parking Consultants and Ryan Astrup with Park Plus, Inc., for their input on this article.

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BY RICHARD E. STRAUSS, ESQ.

INTRODUCTION

When buying or selling a business, there will likely be real estate tenant leases that are part of the business assets. If these leases are important to the business, their assignment to the buyer may be essential to the transaction. For example, the leased premises may be an essential office or plant. Implicit in the price may have been the buyer's ability to use and exploit these key locations through the tenancy. That means the seller and buyer need to deal with the assignment provisions found in those leases. Ideally, the assignment provisions of a lease should not hold up the sale of the entire business. Also, the parties should be aware that closing the sale may trigger the loss to the buyer of important lease rights based on the terms of the lease, or result in the seller or its principal continuing to be liable under the lease even after it was assigned. This article is intended to be informative and important to anyone involved in the real estate aspects of the purchase or sale of a business with leasehold interests among the assets.

Early in the transaction it is crucial for both buyer and seller to review the assignment provisions of the seller's tenant leases, analyze whether an assignment of the lease is required and, if so, determine what could interfere with the assignment. This assessment should take into account whether the landlord's consent is required for assignment and, if consent is required, how easy or difficult securing the consent will be. Obstacles to assignment of leases may affect structuring of the transaction, particularly where the leases in question relate to key operating assets or account for substantial revenue. Some structures (e.g., stock sale vs. merger) may facilitate assignments more readily than others. Nevertheless, the choice of structure is often driven by corporate and tax concerns, and then the parties must try to make problematic assignment provisions work with whatever transaction structure is selected.

About the Author



Richard E. Strauss, Esq., has been a partner with Moses & Singer LLP, New York City, since 1979, and is co-chair of its real estate practice. Strauss' practice covers a broad range of real estate transactions, with an emphasis on representation of financial institutions in their internal real estate throughout the country, including anchor tenant leases, data centers and disaster recovery centers.

Noteworthy representations include the lease up, and sale and leaseback of, a number of major office buildings on behalf of their institutional owners. Strauss' real estate background includes financings, such as the construction financing for a major office complex and retail center in lower Manhattan and the permanent refinancing of the multi-tenanted portion of an office building developed as a commercial condominium in Times Square. He also has represented lenders in the renegotiation and workout of, or the foreclosure or taking of title to, commercial real estate projects in default.

Strauss has lectured and published on such subjects as real estate workouts, corporate real estate disaster contingency planning, construction loans and lease issues. He was honored by Law & Politics in its listing of New York Super Lawyers® and rated AV^{\odot} Preeminent $^{\rm TM}$ in his field by Martindale-Hubbell®.

If there are serious problems involving assignability, the sale agreement should deal with the possibility that when the closing is to occur, the obstacles to an assignment have not been overcome.

The following issues are addressed in this article:

- general legal rules regarding assignability of tenant leases in sale transactions, and specific rules relating to different deal structures;
- determining how the specific assignment provisions found in the leases work with the structure of the deal;

FEATURE

Leases: A Ticking Time Bomb in Your Company's Merger?

- what the impact is on the closing of the sale if the lease is not assignable, and if the sale nevertheless closes;
- what can be negotiated in the sale agreement to cover these considerations;
- if the sale closes, what adverse consequences concerning the leases may nevertheless occur, such as loss of rights, unintended liabilities and unexpected taxes.

BASIC DEAL STRUCTURES

First, consider the common structures for selling a business:

- Equity Sale: Only the equity (stock or membership interest) of the business entity is being transferred, which could be all the outstanding equity of the entity or just a controlling interest. Or, possibly, new equity will be created and issued to the buyer so as to change control. Of importance is the fact that the seller is the owner of the business and the party to the lease does not change.
- Asset Sale: The buyer acquires the seller's business assets, and typically assumes some related liabilities (often, the buyer forms a new entity or uses an existing entity into which the business assets will be transferred). In an asset sale the seller is the business entity and it transfers its rights, duties and obligations under the leases so that the "new" tenant is a different legal entity than that of the seller. The leases of the business will be specifically assigned by the tenant to the buyer entity by a comprehensive assignment document in which the buyer would assume post-closing obligations thereunder.
- Merger or Consolidation: In a merger, two or more entities merge, with one of the entities being the "surviving company" and the other entities' separate legal existence ceases to exist. Whether or not an acquired company's agreements are deemed to have been assigned in a merger may depend on the structure of the merger itself—specifically, whether the acquired company is the surviving or non-surviving company. Very generally, if the acquiring company is the survivor, and thereby the transferee of the target's business agreements, an assignment of the agreements may be deemed to have occurred because the acquirer is now the legal entity party to the contract. But if the acquired company is the

survivor (a reverse merger), the target's business agreements may be seen as not to have been assigned, because the target is still the legal entity party to the contract.

BASIC PRINCIPLES

Generally, courts disfavor restrictions on the ability to transfer property. So if the lease is silent on assignability, an assignment by tenant is permitted (in most jurisdictions) without landlord consent. However, while express lease provisions prohibiting assignment are generally enforceable, a covenant against one form of transfer does not necessarily prohibit another form. With that in mind, the applicable lease must be analyzed to see what assignments are permitted without landlord consent, and the law of the state governing the lease might need to be consulted to determine how the provision (or the absence of a provision) would be treated under that law.

Applying these principles to deal structures:

- A general restriction against assignment by a tenant in a lease is usually construed by judges to apply to an asset sale and not to a merger. ["This lease may not be assigned without the prior written consent of landlord."]¹ That is because in a merger, the business entity's assets vest in the acquirer by operation of the merger statute.
- Therefore, a restriction on transfer "by operation of law" is usually construed to prohibit a merger.
 However, as noted previously, a reverse merger might not result in a transfer "by operation of law."
- A general restriction on the tenant's assigning the lease that does not specifically prohibit a transfer of the tenant's equity usually is construed not to prohibit an equity sale or changes in control of the tenant, as the identity of the tenant remains the same. ["This lease may not be assigned without the prior written consent of landlord."]
- A provision making transfer of equity of the tenant a prohibited assignment if read literally might not bar a change of control by way of creating new stock and issuing the new stock to a third party. Or a prohibition on transfer of the "stock of tenant" might not be construed as prohibiting the transfer of the stock of the parent entity of the tenant (where the tenant was a subsidiary), since technically the owner of the tenant's stock is unchanged.

PARTICULAR LEASE PROVISIONS FOR BUSINESS TRANSFERS

In order to fill in the gaps left by the legal rules, most real estate leases specifically define an assignment to include equity transfers, mergers and asset sales. Also some leases specify that "change of control" is a forbidden assignment and include a definition of change of control to the effect that: "This lease may not be assigned without the prior written consent of landlord. A merger or other transfer of stock of Tenant shall constitute a prohibited assignment hereunder. A change in the management and control of the Tenant from that in effect when the lease was signed shall constitute a prohibited assignment." These provisions thus trigger landlord consent for all the various business sale structures.

However, so that the assignment provision of a lease should not hold up the sale of an entire business, a sophisticated tenant may have negotiated "safe harbor" provisions in the lease to permit transfers resulting from the sale of its business without landlord consent. ["Notwithstanding anything to the contrary contained in this Lease, Landlord's consent is not required in connection with any merger or consolidation of Tenant with another entity or the sale of all or substantially all of Tenant's assets or of 50 percent or more of the ownership interests (whether partnership, stock or otherwise) in Tenant (or those of a parent or successor to Tenant) whether directly or indirectly." These lease provisions should be reviewed carefully because often there are requirements to be able to utilize the "safe harbor." A common requirement is that the assignment be part of a transaction to transfer an ongoing business rather than a means of circumventing the restriction on assigning the lease, or more specifically:

- that "the interest of Tenant in the Lease is not the sole or principal asset of Tenant," or that "the transfer be made for a good business purpose;"
- or a net worth test may substitute for consent. This could mean that the successor tenant must have a specific dollar net worth ["provided, however, that the net worth of Tenant immediately after the assignment shall not be less than a negotiated dollar amount;
- or, there could be a requirement that "the net worth immediately after the assignment be at least equal to that which the tenant had at the time the lease was entered into" (which can be an issue if there is no way of determining what that net worth was, such as

- when the lease was entered into some years ago and had already been assigned once, so the original tenant is now unrelated to the seller).
- a common requirement is that "the net worth of the Tenant immediately after the assignment be at least equal to that which the Tenant had immediately prior thereto." However, net worth could be reduced by the buyer's financing of the purchase price (which, if that results in more leverage than the seller had, could run afoul of the requirement that net worth not be diminished).

Very often the net worth tests are combined, requiring that the higher net worth be satisfied. The net worth test immediately after the assignment seems more appropriate, because the landlord could argue that in giving up its consent right it should not have its position diminished, while the net worth test at the time of the lease is at variance with the norm in leases where there are no financial requirements which must be maintained throughout the term. The net worth of the resulting entity upon the assignment usually can be demonstrated by a pro forma net worth statement prepared by the buyer and seller in cooperation.

While typically a lease specifies that an equity transfer of control is a lease assignment, oddly enough leases often fail to also have these safe harbor provisions apply to equity sales, leaving a requirement to obtain landlord consent in the situation where the tenant entity does not even change.

CONSENT REQUIREMENT TRIGGERED BY THE SALE

What if the lease does not permit the proposed sale without first obtaining landlord consent? This will happen when: 1) the particular sale structure is defined in the lease to be an assignment; 2) there is no safe harbor applicable in the lease, and/or; 3) there is a safe harbor but the buyer entity is unable to satisfy the condition for no consent to be required. The parties should then analyze whether the buyer entity will meet the requirements for obtaining consent, if the lease delineates requirements (e.g., financial responsibility; reputation, etc.). In some jurisdictions, unless the lease requires the landlord to act reasonably in determining whether to consent, the landlord may withhold consent arbitrarily in its sole discretion. Even if the lease requires consent not to be

unreasonably withheld, the consent could nonetheless be wrongfully withheld, so the reasonableness standard cannot necessarily be assumed to achieve the goal for consummating the sale.

SALE AGREEMENT PROCESS

Therefore, based on the deal structure in the sale agreement, the parties should agree as to each lease whether consent is required at all, what conditions to a transfer with or without consent need to be satisfied, and recognize whether there are problems in satisfying any conditions. Commonly, a sale agreement provides that the seller must use commercially reasonable efforts to obtain any required third-party consents to the assignment. A seller will not want to be required to commence litigation or incur any material expense to obtain consent, and the sale agreement may so provide. As most real estate leases provide for the landlord to be paid a fee or to be reimbursed for its legal fees in connection with the consent, the sale agreement should provide which of seller or buyer is responsible for payment.

It is important to consider whether the lease has a time period by which the landlord must grant or deny consent and how that time frame fits with the anticipated closing date under the sale agreement. The buyer should require the seller to provide it with all correspondence or material communications with the counterparty in the course of seeking the consent, and of course the consent itself. Some landlords grant consent pursuant to an elaborate agreement, which could even modify provisions of the lease for the future, by onerous clauses such as: "The Lease may not be further assigned without the consent of the Landlord which may be granted in its sole discretion." While this consent document is negotiable, the sale agreement should provide for what "consent" will actually qualify, such as "The consent shall be on a commercially reasonable form but shall not vary in any material respect the provisions of the Lease." Some leases provide that consent is deemed granted if, after properly notifying the landlord, consent is not actually granted or denied in a certain time (or if that time expired, after a second notice). The parties should decide whether for purposes of the sale agreement, a deemed consent will constitute consent.

If a deemed consent is not in the picture, and depending on the relationship between the parties to the agreement, it may be beneficial to reach out informally early on in the negotiation of the sale transaction to ask the landlord to confirm that no consent is required for the transfer or that the safe harbor conditions have been satisfied, or when consent is required to get a sense of whether consent will be granted. However, sometimes the negotiations and existence of the deal are highly confidential and sellers may be extremely sensitive to alerting their customers or major suppliers that they are considering a deal. Also prior notice to the landlord of the transaction might be of legal concern in the case of a public company. It might be helpful in these situations to ask the landlord to first sign a confidentiality agreement.

SALE AGREEMENT CONTINGENCIES

A well-drafted sale agreement should anticipate the possibility of:

- the landlord's consent being required and the landlord withholding consent to the proposed assignment;
- or, the landlord not granting consent in the time required for the closing under the sale agreement.

In analyzing the implications of these contingencies to the deal, the parties should determine how important the leased location is to the prospective buyer—does the business transaction hinge on the lease at this location? Is it the main business headquarters or asset? Is relocating a viable option if landlord consent is not obtained? Would the purchase price have been different if this location was not available? Based on this analysis, the parties should decide whether obtaining the consent is a condition of the closing.

ASSIGNING THE LEASE WITHOUT CONSENT

If the landlord properly withholds its consent to the proposed assignment or does not grant consent in the time required under the sale agreement, and the parties have agreed that the sale shall nevertheless close with the lease nevertheless being transferred, an assignment without consent constitutes a default under the lease and the landlord may exercise its remedies under the lease of eviction and/or damages. In an equity sale, the lease default occurring by failure to obtain the required consent practically becomes the buyer's problem because the tenant may incur damages, or the lease may be terminated, but the equity seller has no liability for that under the lease. In an asset sale in which the selling entity survives the transaction, the seller would remain liable under the lease for the damages. Quite possibly neither party has breached the sale agreement if there was no misrepresentation made by seller and if each party used

reasonable commercial efforts to try to obtain the consent. However, the sale agreement should provide which of the seller or buyer assumes liability caused by the lease being assigned upon closing without consent.

CLOSING WITHOUT ASSIGNING THE LEASE

If consent is not granted, but the parties decide to close the transaction without assigning the lease, they should provide for some sort of work-around. (Note, in an equity sale or a merger, it may be necessary to assign the lease pre-closing to a seller affiliate in order to avoid its automatic transfer.) A sale agreement often contains a clause such as:

If, on the Closing Date, any consent of another Person that is required for the assignment to Buyer of Seller's rights under any contract constituting a Purchased Asset is not obtained, so that the Buyer would not in fact receive all rights of Seller under such contract, Seller and the Buyer shall, consistent with any other legal or fiduciary obligation under applicable law, use reasonable best efforts to cooperate in a mutually agreeable arrangement under which the Buyer would obtain the benefits and assume the obligations and bear the economic burdens associated with such Purchased Asset, claim, right or benefit, in accordance with this Agreement, including subcontracting, sublicensing or subleasing to the Buyer, engaging the Buyer to provide research or other services, or another arrangement under which Seller would, subject to the Buyer performing the obligations thereunder, enforce for the benefit (and at the expense) of the Buyer any and all their rights against a third party associated with such Purchased Asset, claim, right or benefit, and Sellers would promptly pay to the Buyer all monies received by them under any such Purchased Asset, claim, right or benefit.

Here it is vaguely contemplated that, by some unidentified means, the parties will achieve the same result as if the lease had been assigned. But, this clause really is just an unenforceable agreement to agree, which the parties use because they have not negotiated exactly how they would resolve this problem.

Therefore, each party should more specifically focus in the sale agreement on what happens after the closing occurs without assigning the lease, which could include:

 which party should be responsible for paying for the cost and liabilities. If one party did breach the sale agreement, will the claim be preserved under the sale agreement, or will the operative provisions of that agreement prohibit the claim from surviving? If it is believed that the landlord wrongfully withheld consent, the sale agreement could allocate to seller or buyer the right or obligation to pursue the claim and the benefit resulting from the claim;

- the buyer and all employees of the business at the leased property could be required to vacate and cease to use the premises to conduct business within a specified time after the closing or within such shorter period thereafter as may be required by the landlord, but in this interim period the buyer should comply with the terms and provisions of the lease including paying the rent;
- as the seller will no longer need the space, if the landlord has not recaptured, the seller will need to relet and perhaps would be left with any loss upon such reletting but may retain any profits;
- the buyer will need to identify an alternative comparable location to the leased property; then the seller might bear the costs associated with the build-out and relocation to such alternative location, but, the buyer would pay the rent under the new lease. To be a comparable, the alternative location would be within a certain radius of the leased property and be of equivalent size and build-out to such leased property, or the parties may agree on what the relocation cost would be for an alternative location;
- as it takes some time to lease and build out an alternative location, the parties may not want to wait until closing to initiate the process, but may allow the buyer this right commencing some time prior to the anticipated closing date;
- the seller might indemnify and hold harmless the buyer against losses arising out of such inability to obtain such lease consent.

However, the allocation of responsibility can be varied. For example, if the inability to obtain a lease consent relates to any condition or requirement to be satisfied by the buyer under the sale agreement and the buyer wrongfully failed to comply, or is caused by the buyer's failure to cooperate to obtain the consent, then more of these liabilities and costs should be the buyer's responsibility. If, alternatively, such failure related to the seller's being in breach under the lease, or its failure to use commercially reasonable efforts to obtain the consent, the seller might be responsible.

LEASE DEFAULT

If the seller was in default under a lease, that default could either:

- be an obstacle to the lease assignment because the absence of a default is often a condition to a permitted assignment of the lease; and
- create costs and liabilities to the buyer after the closing when the landlord seeks to enforce its rights because of the default.

Therefore the sale agreement often contains representations by the seller, such as: "To Seller's knowledge, each Lease is in full force and effect, and Seller is not in material default of any of its obligations under any such Lease (and no event exists which upon the passage of time or the giving of notice would constitute a material default by Seller thereunder). To the knowledge of Seller, no landlord under any Lease is in material default of any of its obligations under such Lease (and no event exists which upon the passage of time or the giving of notice would constitute a material default by such party thereunder.") To back up this representation, a buyer may require that the landlord provide an estoppel certificate prior to closing in essentially the same language so that the certificate will reveal whether there are actually default concerns under the lease.

RECAPTURE

In some leases, if an assignment is proposed, the landlord may have the right to terminate the lease in lieu of consenting. This enables the landlord to control the leasehold without having to be reasonable about consenting to the assignment where, for example, the lease is significantly below market rent, or if the landlord has a better prospective tenant. If the landlord exercised this right, there is no lease to transfer. An exercise by the landlord of its recapture right creates similar issues to the buyer and seller as not consenting at all. Therefore, the buyer and seller should be aware of whether leases contain a recapture right and, in the sale agreement, provide for the possible exercise of that right. However, often this right is made inapplicable to a business transfer when no consent is required under the safe harbors.

LOSS OF RIGHTS

Some leases provide that certain rights are personal to the original tenant, and if the landlord's consent is required for the assignment, such rights will be lost (e.g., renewal

rights, expansion rights, early termination rights and signage). The buyer should carefully examine the lease for such provisions and determine how important these rights are to the buyer. Even if the assignment of the lease was permitted without consent, or a required consent was obtained, the fact that the sale closed could nevertheless trigger the loss of a lease right in the buyer's hands. If the loss of rights would be crucial, perhaps the transaction could be structured so as not to trigger a loss (e.g., a clause making renewal "personal to the named Tenant" might be inapplicable in a stock sale or a merger where the original tenant was the survivor).

PROFIT SHARING

A lease may require that all or part of the consideration received by the tenant/seller for the lease interest in excess of the rent payable under the lease and certain transaction costs (i.e., "profits") must be paid to the landlord. Often this right is made inapplicable as to a business transaction for which no consent is required under the safe harbors. If profit sharing did apply, however, consider a provision in the sale agreement that no part of the purchase price is allocated to the lease. However, since some leases do have independent economic value (e.g., the rent is below market for comparable space), the landlord might challenge a provision that does not allocate any part of the purchase price to the lease. Some deal structures could arguably not run afoul of profit sharing. For example, a clause requiring the landlord to be paid a share of "rent or other consideration paid to tenant" might not apply to a stock sale or merger where the consideration is paid to the tenant's shareholders.

CONTINUING LIABILITY OF SELLER AND ITS PRINCIPALS

In an asset sale in which the seller receives the sale proceeds and is a continuing entity (or liquidates and distributes the proceeds to its owners), the seller and perhaps the owners receiving liquidation proceeds could have a continuing liability for the lease obligations. This is similar to situations in which the tenant's obligations under the lease are guaranteed by a parent entity of the business being sold, or by an individual principal. Therefore, in the sale agreement the buyer should indemnify the seller and any guarantor against those liabilities. Of course, if the buyer does default, then most likely it will not be able to make good on its indemnity either.

In such a case, if after the transfer the seller or guarantor is forced to cure lease defaults of the buyer and the buyer does not make good on the indemnity, the obligor will be paying the rent but no longer will have any rights to the leased property. The seller may thus want to make the closing contingent on the landlord's agreeing to release the seller or guarantor, and may want the buyer to agree to substitute an equivalent credit guarantor so as to induce the landlord to agree to the release. Or the parties may instead have a creditworthy entity of the buyer back up the indemnity in favor of the obligor.

If none of the above can be accomplished, the parties might try to obtain an agreement of the landlord that, should the buyer default, the landlord will recognize the obligor as the tenant and evict the buyer, entering into a new lease with the obligor. Moreover, when the seller or guarantor will have continuing personal liability after the sale, perhaps they will want to preclude the buyer from exercising a future renewal or expansion option, as that would increase their exposure.

PARTIAL LEASE ASSIGNMENTS

If the business being sold is a division or subsidiary of an entity that occupies a part of the leased premises along with other divisions or subsidiaries not being sold, an assignment of the lease must deal with the need for both the seller and buyer to separately use the space after the closing. Either the lease will be assigned to the buyer which will sublet a portion of the space to the seller, or in place of an assignment, the seller could sublet to the buyer the portion of the space used by the business being sold. A sublet involves similar concerns with respect to landlord consent and recapture that must be considered by the parties. Often, leases do not have a safe harbor for sublets in the same way as for business transactions that take the form of an assignment.

If it is not intended to assign the lease or sublet space to the buyer, the buyer will have to arrange for its own space in which to house the business being sold. As locating, leasing and building out space will take time and often cannot be accomplished prior to closing, the parties may need to enter into a transitional services agreement. Under such an agreement, for a temporary period the buyer is given a license to use the leased premises and the seller provides additional business services there such as telecom, IT, etc. The license probably is considered under the lease to be a sublease triggering similar concerns as to landlord consent and recapture.

CLOSING ALLOCATIONS

Since rent is typically prepaid, a purchase price adjustment should be made under the sale agreement if the closing occurs in the middle of the month. Also, a lease often has annual reconciliation rent adjustment for payment on account of operating expenses which, after the closing, can require the tenant to either make an additional payment or allow the tenant a reimbursement. The sale agreement could provide for this possibility, allocating the seller's obligation or right as to the period prior to the closing.

TRANSFER TAXES

An assignment of a lease may trigger a real property transfer tax liability even in the context of a corporate transaction. This is true for New York, where a transfer tax of almost three percent of gross consideration (in New York City) applies when there is an asset sale or merger or a transfer (50 percent or more) of equity in an entity that owns a New York City lease. The consideration subject to tax is the fair market value of the lease (i.e., the amount that would be paid for the lease over and above the rent). Customarily the seller or assignor pays the transfer tax, but if it fails to do, the buyer is liable. Therefore, in the transfer of a business that owns real estate or real estate leases, the real property transfer tax provisions of the jurisdiction in which the real property is located must be considered, and if a tax is due, provision made in the agreement for payment of the tax.

CONCLUSION

When selling or buying a business, there will likely be real estate leases that are part of the business assets. In that case, both the buyer and seller need to determine how the leases may be assigned in the context of the sale of the business or else determine what could be done if a lease cannot be assigned. If there are serious issues about assignability, the sale agreement should deal with the possibility that when the closing is to occur an assignment has not been accomplished. Even though the lease may be successfully assigned, the sale itself may trigger loss of rights to the buyer and unwanted contingent liabilities to the seller. Hopefully this article delineated the issues to consider so that both parties may smoothly structure, document and conclude the sale without letting a lease assignment problem constitute a ticking time bomb in the transaction. ■

ENDNOTES

 Italicized material throughout are provisions of leases or sale agreements which are examples of the concept being discussed.

Planning Chicago

by D. Bradford Hunt, Ph.D., and Jon B. DeVries, CRE, AICP (© 2013, American Planning Association, 342 pages)

REVIEWED BY P. BARTON DeLACY, CRE



FEW IN THE REAL ESTATE community will begrudge Chicago its well-deserved reputation for architectural innovation and achievement. The legacy begun by the Chicago School of Architecture, revived mid-century with the modern masterpieces of Mies van der Rohe, continues into the 21st century with Jeanne Gang

and her signature undulating Aqua tower. Further, most concede that Chicago's downtown core has emerged as the quintessential 24-hour global city; as vibrant and beautiful as it is safe and accessible.

The path to this "post-industrial" viability, one that has evaded older Midwestern venues such as Cleveland, Detroit and St. Louis, was masterful city planning. So argue two urban historians and non-native Chicagoans D. Bradford Hunt, Ph.D. and Jon B. DeVries, CRE, AICP, in *Planning Chicago*. Written with the poignancy of a *New York Times Weekend Edition* essay, *Planning Chicago* is a story well told.

Both Hunt and DeVries are now associated with Chicago's Roosevelt University. Hunt is associate professor of social science and history. He previously chronicled the Chicago Housing Authority in his "Blueprint for Disaster: the Unraveling of Chicago Public Housing." DeVries capped a career as a planner and real estate consultant with Arthur Andersen and later URS to found and direct the Marshall Bennett Institute of Real Estate at Roosevelt.

Published by the American Planning Association, Messrs. Hunt and DeVries' book is no academic tome, but a cautionary tale of missed opportunity. This is because Chicago no longer plans on a regional scale. The City effectively dismantled its planning apparatus to favor balkanized wards where the last word on development is the prerogative of the alderman.

About the Reviewer



P. Barton DeLacy, CRE, FRICS, ASA, MAI, is principal at DeLacy Consulting, LLC, a Chicago-based boutique real estate advisory firm specializing in valuation counsel, property tax consulting and Green Energy Valuation. DeLacy's corporate experience includes practice leadership at Arthur Andersen, Cushman & Wakefield and CBRE.

Focusing on the real estate implications of power generation, DeLacy bas built valuation models and studied property value impacts for geo-thermal, solar, wind- and coal-fired power generation. He has also developed adaptive re-use studies for obsolete thermal plants. Published in The Appraisal Journal, Real Estate Issues and The Journal of the American Planning Association, he has prepared testimony for federal and state circuit courts and energy siting councils. He has qualified to testify as an expert witness in tax court in several states.

DeLacy holds a master's degree in Urban Planning from Portland State University and a bachelor of arts degree from Willamette University. He previously served as adjunct professor at the Business School at Portland State University.

Viewing the planning function as becoming both centralized and in retreat, the authors warn that this lack of comprehensive planning adversely impacts the neighborhoods beyond the celebrated Downtown Loop. Outside the core, joblessness and urban decay continue to threaten the long-term health of the city.

Hunt and DeVries find this deeply ironic. Chicago, after all, is the home of Daniel Burnham, considered by many as the father of urban planning. It was Burnham who famously urged in his landmark 1909 Plan of Chicago, that cities should "make no small plans."

The book is set up in four parts. The authors first show that the planning done 40–50 years ago, under the auspices of a growth coalition, has performed well in the central core area. They contend these plans still provide guidance and demonstrate positive impact on the city.

FEATURE Planning Chicago

Yet, moving away from the core, the now prevailing ad hoc, one-off nature of development projects prove less effective without underlying plans.

The book takes on the favored tool of real estate development today in Chicago, the so-called "TIF." TIF is the acronym for Tax Increment Financing, a local cottage industry. The authors lament that TIF financing has become "the only game in town" for development. In essence, TIFs pledge future property taxes attributed to development projects that would not have otherwise occurred "but for" the TIF.

The authors blame not Chicago so much as a very generous Illinois law. Illinois leaves much to municipal discretion in defining "blight" and criteria for the "but for" test. Further, in Illinois, TIF districts can continue for up to 23 years, much longer than other states. DeVries and Hunt consider the "but for" test weak. Whereas the intent for creating TIF districts was to encourage development of affordable housing or infrastructure improvements, too often the mechanism has been diverted to dubious projects like corporate relocation or hospitality in the name of economic development.

Critics argue that property tax revenues siphoned off to TIF districts could better be spent on schools and unfunded government pension obligations.

While Chicago TIFs provide flexibility to target complex projects, they lack the transparency, scrutiny and prioritization inherent in ordinary capital budgeting. In Chicago, such lack of specificity invites waste, if not abuse. Again, the implication of the authors is that this vulnerability could at least be mitigated within a comprehensive planning framework. Except that Chicago's planning leadership has been devolved and diffused.

The book critiques neighborhood responses to city hall plans, followed by the mixed experience trying to retain an industrial employment base. It concludes with a review of Chicago in the 21st century. The authors muse that Chicago may be a global city, but one built on sand.

As one who moved to Chicago mid-career from Portland, Oregon, I have found a city whose golden Midwestern skies cast in high relief the best and worst of excess. Where else are good government initiatives never out of fashion? Where else can one learn that however wrong conflicts of interest, cronyism and patronage may seem, in Chicago, they are seldom "illegal?"

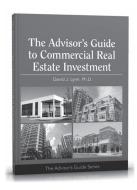
Hunt and DeVries bravely call out "the Chicago Way" of planning and development. Too often what gets built, or remains unbuilt, has more to do with money and politics than community need. On occasion interests coalign for the commonweal, but why not confirm such processes with a permanent planning department staffed by professionals?

One does not need to have interests in Chicago to find *Planning Chicago* a seminal text. Chicago has long been defined by its aspirations. It is a global city, but might the process of planning be better employed here to achieve those ambitions? *Planning Chicago* distills this conflict as one of "top down" mayoral dictate and aldermanic privilege versus "bottom up" consensus built from the bones of the city's complex communities. Planning done properly and in a comprehensive manner, the authors contend, is the best tool for resolving this age-old conflict. ■

The Advisor's Guide to Commercial Real Estate Investment

by David J. Lynn, Ph.D., CRE, with contributions from Peter C. Burley, CRE, Victor Calanog, CRE, Howard C. Gelbtuch, CRE, Kenneth P. Riggs, Jr., CRE, and Roy J. Schneiderman, CRE, and other experts (© 2014, The Advisor's Guide Series, The National Underwriter Company, 400 pages)

REVIEWED BY CHARLES NOEL SCHILKE, JD, AM, CRE, FRICS



THERE ARE LOTS OF GOOD books (and some bad books) on real estate investment, but the market has been waiting for a topflight book written by senior practitioners who are also gifted explainers to convey the essentials of this evervital field concisely, clearly and authoritatively to a wide audience.

The Advisor's Guide to Commercial Real Estate Investment is written by a galaxy of stars, including a constellation of CREs—lead author David Lynn, Peter Burley, Victor Calanog, Howard Gelbtuch, Ken Riggs, and Roy Schneiderman. It has the kind of clarity that only practitioners with decades of experience who know what is really important in real estate, and who have a strong sense of graphics, can offer. Because it is clear, the book is a great way for students and others unfamiliar with real estate investment to learn about the field. But because it is written by highly experienced practitioners, even advanced real estate investment professionals can learn a lot from it.

The book takes a standard "four quadrants," public/private, equity/debt approach to conveying the range of real estate investment and capital markets vehicles. In describing the four quadrants and each chapter of the book so as to convey the essence of real estate investment with a kind of aesthetic simplicity, the eight-page introduction alone is worth the price of admission.

About the Reviewer



Charles Noel Schilke, JD, AM, CRE, FRICS, is director of the Edward St. John Real Estate Program and senior lecturer at Johns Hopkins Carey Business School in Washington, D.C. and Baltimore. At Hopkins, he teaches courses in Real Estate Development, Real Estate Transactional Law, Real Estate Environmental and Land Use Law, Business Law, Financial Institutions,

Economics for Decision Making, The Firm and the Macroeconomy, and Financial Crisis and Contagion. Schilke has created commercial mortgage-backed securities (CMBS) on Wall Street, performed the real estate legal due diligence for the Exxon-Mobil merger, and financially restructured the real estate holdings of The American National Red Cross. He has developed major office buildings, large blood processing facilities, hotels, and mixed-use projects. He also frequently consults as an expert witness in real estate cases. Schilke earned a bachelor of arts degree from the University of Chicago, a master of arts degree from Harvard University, and a juris doctorate degree from Cornell Law School. He is currently completing bis doctoral degree at Harvard University, where he is writing a detailed financial analysis of the development of CMBS as his dissertation.

While all of the chapters are at the very least solid, several are outstanding.

Chapter 1, "Why Real Estate as an Investment," gets the book off to a good start and answers this question quickly and with verve. This chapter, and the other chapters with David Lynn as the lead author, are particularly straightforward and exhibit the same kind of focus and grace as Lynn's earlier books on real estate private equity.

RESOURCE REVIEW

The Advisor's Guide to Commercial Real Estate Investment

In Chapter 4, "Tax Considerations for Real Estate Investments," William Byrnes and Robert Bloink elucidate the basics of real estate tax for tax-inexpert real estate professionals in about as appealing a manner as possible, with a particularly good rundown of Section 1031 exchanges.

In Chapter 9, "Private Equity Real Estate," Jacques Gordon and Richard Kleinman have collected a handy list of "Key Performance Metrics" in Figure 9.3.

Glen Mueller's Chapter 13, "Investing in REITs," is particularly strong at conveying how REITs pass through the real estate business cycle.

Anatole Pevnev's Chapter 16, "The Importance of Yield," is a particularly sophisticated and creative effort to explain cap rates, and particularly to address the complicated issue of conveying how cap rates change over time. His "3-D" graphics make a strong effort to capture the dynamism of cap rates, although you may have to stare at them for hours to truly grasp Pevnev's arguments.

For such a concise work, this book is extraordinarily comprehensive, at least touching upon all significant aspects of real estate investment. Admirably, the book addresses international real estate in a robust fashion (chapters 11 and 14). Perhaps the only significant topic missing is investing in corporate real estate, although there is at least brief allusion to even this (page 277).

Generally, this book is well-edited. Though each chapter is written by one or more authors, for example, the sequencing and logic of chapters makes it read mostly as if there were a single author, and there is relatively little repetition among the chapters—unlike many multi-author works of this kind. There is, however, some mostly stylistic and graphic variance among the chapters.

In its high-level clarity, readability and accessibility to those just getting into real estate investment, the book is reminiscent of William Poorvu's *The Real Estate Game*. In time, perhaps, this book will do for real estate investment what Poorvu has done for the basic real estate purchase and sale transaction.

There are more scrivener's goofs than a fine book like this should have (i.e. Figure 2.4 on page 27 has a category of "Second Wave Boomers" whose birth years are described as "1965–1964"), perhaps reflecting a backward-looking nostalgia of Baby Boomers for their youthful past, but (barring time warps) clearly not a correct category. Similarly, Figure 6.2 on page 138 has a heading "Real Estate Investment Trusts (REITs) & Real (REITs) & Real Estate Operating Companies"—some proofreader forgot to delete REITS the second time.

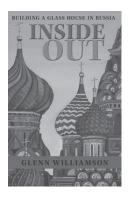
But these are minor nits and flits in a publication that promises to become a standard that will be revised at regular intervals in any case—they can be tidied up for the second edition.

On the whole, in *The Advisor's Guide to Commercial Real Estate Investment*, a lot of smart people just get real estate investment right, without muss or fuss. You'll want to be sure that you have a copy of this book in your library so you can readily brush up on those investment areas where a refresher is in order before the big presentation.

Inside Out: Building a Glass House in Russia

by Glenn Williamson (© 2014, Archway Publishing, 186 pages)

REVIEWED BY MARY C. BUJOLD, CRE



Inside Out: Building a Glass House in Russia is the memoir of Glenn Williamson's time in Russia as a real estate project manager for Walton Development out of Chicago. Walton had developed one office building in Warsaw and had started another in the early 1990s when Russia was beginning to open up for development from other countries. Williamson had

been assigned to Poland but was transferred to assist with the development of a new office building in St. Petersburg. The office building would be constructed with portions of the building that would be new (interior) while the exterior of the building was historic, converted from an Orthodox monastery.

The book recounts the many situations and challenges Williamson and his development team encountered while working in Russia, and the list is almost endless. Williamson graduated from Georgetown's school of Foreign Service and had wanted a career in that area, but ended up in finance early on and then in real estate development. His language skills in Russian landed him the position of project manager for "Krasotsky 23," the building to be developed. When Williamson first arrives on the scene in Russia, he is immediately involved in a dispute with the contractor over a "water-resistant" floor or a waterproof floor for the building. Walton and their investment partners wanted a waterproof floor for the simple reason that St. Petersburg experiences perhaps thirty freeze and thaw cycles each winter. They ended up paying for what is termed "runway concrete" for the building whereby an extra-thick concrete floor would be

About the Reviewer



Mary C. Bujold, CRE, editor in chief of Real Estate Issues®, president, Maxfield Research Inc., Minneapolis, Minnesota, is considered a market expert in the field of residential real estate and in market analysis for financial institutions. As well as providing strategic direction for the firm, Bujold heads project assignments for large-scale land use and redevelopment studies, including

downtown revitalization for private developers and municipalities in the Twin Cities and in the Upper Midwest. Her work spans public and private sector clients, including institutional clients. Bujold also regularly testifies as an expert witness for eminent domain, tax appeal and other types of real estate litigation. She holds a bachelor's degree in business administration from Marquette University and a master's degree in business administration from the University of Minnesota.

installed and bolted to the brick foundation walls with steel angles to hold it in place.

Williamson was young at the time, only 33 years old. Normally, he would not have been called in to handle this sort of a dispute, but the construction manager, Richard Bruce, a tough Australian with a black belt in karate, had just been arrested for tax evasion. As it turns out, he had signed what Williamson refers to in the book as a "protocol." When Williamson was studying Russian at Georgetown, his professor had informed the class that if they were taken to the police station, they were never to sign such a document, were never to tell the police that they spoke Russian, and ask for help. In fact, they were not supposed to sign anything. As it turns out, Bruce missed that lesson. Prior to working with Walton, Bruce had his own contracting company and had renovated apartments in Russia for lease to expatriates. When he signed the

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Inside Out: Building a Glass House in Russia

protocol—denying everything they were accusing him of—some of the statements conflicted with invoices that the police already had, so it meant that they could hold him. Bruce spent three months in the infamous Krestyani prison until he was finally able to sort things out.

The book recounts numerous delays, the endless permits needed for everything, almost just to breathe, the gifts that were given to public staff just to move the paperwork along. Finally the building was complete and then the financial crisis hit Russia, and the building lost most of its tenants—yet another setback. Eventually Williamson returns home to Chicago with his family on December 20, 1998, just in time for Christmas, having spent three years trying to get the building completed and leased. The building had a new set of tenants and Williamson had had the experience of a lifetime.

This book is generally low on development details, but full of interesting and somewhat hilarious stories of the machinations it took to accomplish the project. The project was actually somewhat of a public-private partnership between a government entity in St. Petersburg, Walton Development, EXPOC (an American organization) and UROBANK. In addition to the normal challenges of development, there were additional challenges to keeping all of these entities happy in the process.

If you are looking for a detailed book on how to invest in emerging markets, this is not that book. However, *Inside Out: Building a Glass House in Russia* provides some important lessons on cooperation, understanding different cultures, and is an entertaining and relatively quick read.



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