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From the Editor-in-Chief

Stephen T. Crosson, MAI, SRA

Thought Leadership

Dear Readers:

Each year, the Spring issue of The Appraisal Journal recognizes exceptional work within this forum for ideas on real estate valuation, and on the following pages you will see the announcement of our 2019 article awards. It is important that we pause and acknowledge these noteworthy articles and their authors. In addition, we recognize the outstanding service of Stephen D. Roach, MAI, SRA, AI-GRS, who during the past year has contributed valuable volunteer hours to the Journal as a member of The Appraisal Journal Editorial Board.

We also have three peer-reviewed feature articles in this issue aimed at helping professional appraisers develop value analyses related to special-use properties, each with distinctive ownership and income streams. The cover article, “Golf Course Communities as Multisided Markets: Ownership Implications,” explains the connection of golf courses to land value in golf course communities and the unique challenges that homeowners associations face as they try to reconfigure golf course operations and preserve property values within their communities. The second article, “Is the Eiffel Tower Worth More Than the Statue of Liberty? Techniques for Determining the Value of Iconic National Landmarks,” is part one in a two-part series on the valuation of iconic national landmarks. It summarizes the appraisal profession’s debate as to whether historically or culturally significant structures and land areas have a special type of value that is higher than their market value. It presents a case study of the iconic Statue of Liberty and Eiffel Tower to explore alternative cost and income analyses that can be used to estimate the value of historic landmarks. The third article, “They Paved Paradise: Appraising a Parking Lot,” discusses valuation of parking lots and the elements of a parking lot operation that are the subject of the real property appraisal; the article offers a streamlined case study to highlight the components of parking lot analysis. In this issue, you will also find a special edition of Resource Center that reviews the nature of black swan events in general—and the potential impacts of the COVID-19 pandemic in particular. This column will prompt readers to consider the impact of predicted market changes on the income streams of the properties examined in the feature articles.

We appreciate the dedication of all who have contributed to The Appraisal Journal’s peer review process as well as the authors who have shared their knowledge with our readers. As always, we welcome your comments regarding any aspect of The Appraisal Journal.

Stephen T. Crosson, MAI, SRA
Editorial Board Chair and Editor-in-Chief
The Appraisal Journal
Stephen D. Roach, MAI, SRA, AI-GRS, is the winner of The Appraisal Journal’s 2019 Outstanding Service Award. This award recognizes the member of The Appraisal Journal’s Editorial Board, Review Panel, or Academic Review Panel who during the previous year showed exceptional commitment to The Appraisal Journal through outstanding service.

Roach is a principal of Jones, Roach & Caringella, Inc. His practice includes appraisal, review, and consulting assignments on complex matters throughout the United States. He has extensive deposition and trial testimony experience.

Roach has been published in The Appraisal Journal and is a past recipient of the Journal's Swango Award. He is a contributing editor to ten Appraisal Institute books and over thirty courses and seminars. He has taught over 200 courses and seminars across the United States and in Europe, Latin America, and Asia.

Roach serves as vice chair of the Appraisal Institute’s Education Committee. He also serves on the General Comprehensive Examination Panel, the Editorial Board of The Appraisal Journal, the Body of Knowledge Committee, and is a trustee of the Appraisal Institute Education and Relief Foundation. Roach is also a principal member of the Real Estate Counseling Group of America.
Winning Article: “Improving Market Analysis in Commercial Real Estate Appraisal Assignments”


The Armstrong/Kahn Award is presented by The Appraisal Journal’s Editorial Board for the most outstanding original article published in The Appraisal Journal during the previous year. Articles are judged on the basis of pertinence to appraisal practice; contribution to the valuation literature; provocative thought; thought-provoking presentation of concepts and practical problems; and logical analysis, perceptive reasoning, and clarity of presentation.

In “Improving Market Analysis in Commercial Real Estate Appraisal Assignments,” Koepke presents techniques to increase the reliability of commercial real estate appraisals. The article discusses methods to improve employment analysis and analysis of market supply and demand. The simple methods used result in a better understanding of the market of the subject property. The more detailed analysis of population and employment, along with use of fair share tables, provides a much clearer picture of the actual competitiveness of the subject in its market. The additional dissection of information in the market analysis section of an appraisal report can help identify and focus areas requiring additional discussion. It also increases the accuracy of the many assumptions required in the appraisal assignment.

David W. Koepke is a candidate for designation of the Appraisal Institute. He has over twenty years of commercial real estate experience in loan purchasing due diligence, and over ten years of experience in commercial real estate appraisal services and appraisal review services, environmental reports, property condition reports, and surveys. Koepke has a bachelor of science degree from Texas A&M University–Kingsville.

To read the award-winning article, go to http://bit.ly/TAJ_Articles.


The Appraisal Journal’s Editorial Board presents the Swango Award to the best article published during the previous year on residential, general, or technology-related topics, or for original research of benefit to real estate analysts and valuers. The article must be written by an appraisal practitioner. Articles are judged based on practicality and usefulness in addressing issues faced by appraisers in their day-to-day practice; logical analysis, perceptive reasoning, and clarity of presentation; and soundness of methodology used, especially in an area of original research.

In “Residential Government Agency Requirements and Case Studies on Measuring Market Reaction to Energy-Efficient Features,” Adomatis examines techniques for measurement of market reaction to energy-efficient features. How to measure market reaction has been the subject of debate and confusion among users of residential lending appraisals and appraisers. This article offers methods and examples of how to measure market reaction to energy-efficient features, especially as market reaction pertains to government agency requirements of Fannie Mae, Freddie Mac, and FHA.

Sandra K. Adomatis, SRA, LEED Green Associate, NAR Green, is an appraiser, consultant, and educator with Adomatis Appraisal Service in Punta Gorda, Florida. She specializes in the valuation of green and energy-efficient residential properties and is a frequent national speaker on the topic of green valuation. Adomatis is the author of the Appraisal Institute text Residential Green Valuation Tools, a developer of educational materials for the Appraisal Institute’s Valuation of Sustainable Buildings Professional Development Program, and the developer of the Appraisal Institute’s residential and commercial energy-efficient addendums. She received the Appraisal Institute’s Dr. William N. Kinnard, Jr. Award in 2012 for her work in appraisal education, the Appraisal Institute’s President’s Award in 2013 for her work on behalf of the Institute, and The Appraisal Journal’s 2016 Armstrong/Kahn Award for most outstanding original article.

To read the award-winning article, go to http://bit.ly/TAJ_Articles.
Richard U. Ratcliff Award

Best Article by an Academic in 2019 • Sponsored by the Appraisal Institute Education and Relief Foundation

Winning Article: “The Tradeoff between Selling Single-Family Houses as Vacant or Lived-In: Evidence from the Bloomington–Normal Housing Market”

Adebayo A. Adanri, PhD, SRA, and Han B. Kang, PhD, are the winners of the 2019 Richard U. Ratcliff Award for their article, “The Tradeoff between Selling Single-Family Houses as Vacant or Lived-In: Evidence from the Bloomington–Normal Housing Market,” published in the Fall 2019 issue of The Appraisal Journal.

The Richard U. Ratcliff Award is presented annually for the best original article published in The Appraisal Journal written by an academic author. Articles are judged on the basis of pertinent appraisal interest, provocative thought, logical analysis, perceptive reasoning, clarity of presentation, and overall contribution to the literature of valuation. To be eligible for this award, an article must have been peer reviewed by members of The Appraisal Journal’s Academic Review Panel and an author must be primarily engaged in teaching at a college or university.

In “The Tradeoff between Selling Single-Family Houses as Vacant or Lived-In: Evidence from the Bloomington–Normal Housing Market,” Adanri and Kang present a case study to explore whether the widely held view that vacant houses have longer marketing times and sell at a discount is true for the Bloomington–Normal market area. The study uses data from the local multiple listing service, and the analysis employs...
a hedonic regression model. Findings from the study show that vacant houses had longer marketing times than non-vacant homes, but occupancy status had no significant effects on home sale prices.

Adebayo (Bayo) A. Adanri, PhD, SRA, earned his doctorate degree in public policy and administration from Walden University, Minneapolis, Minnesota, and received a master's degree in urban planning from the University of Illinois at Urbana-Champaign. He is the president and chief executive officer of Planning and Valuation Consultants, Inc., a firm of urban planners, real estate consultants, and public policy analysts office in Normal, Illinois. Adanri has published more than ten peer-reviewed articles and has a book chapter to his credit.

Han B. Kang, PhD, received a doctorate degree in finance from the University of Illinois at Urbana-Champaign. He is a professor emeritus of the Department of Finance, Insurance, and Law at Illinois State University at Normal, where he taught various corporate finance, insurance, and real estate courses for over thirty-five years. Kang has published more than forty-five articles in various academic and trade association journals.

To read the award-winning article, go to http://bit.ly/TAJ_Articles.
Evidence of reasonable probability of rezoning permitted in condemnation proceeding

The Helmick Family Farm consisted of 168 acres in Culpeper County, Virginia. The land was essentially vacant and was being used for cattle grazing and growing hay. The area around the property included some businesses, including auto repair facilities and a mulch processing plant as well as more vacant land.

In order to build a diamond highway interchange, the state Commissioner of Highways (Commissioner) filed a certificate to take a portion of the farm—2.155 acres in fee simple as well as less than an acre of easements for drainage, construction, and utilities. The Commissioner offered Helmick $20,281 for the taking, which was refused, so the Commissioner filed a petition for condemnation in the county circuit court.

Helmick planned to offer testimony from a former county planner at trial. In his written report, the planner opined that the property had been planned for commercial or industrial development for several years. He acknowledged that the property was currently zoned agricultural and that no application for rezoning was pending at the time of the taking.

Helmick also obtained an appraisal. The appraiser detailed his conversations with the County planning staff and the proximity of the land to major roadways in concluding that the highest and best use of the land would be to rezone 31.5 acres for commercial or industrial use and hold the remaining property for investment purposes. As a result, in his valuation he used sales of land zoned industrial or commercial and comparable sales, rather than land zoned agricultural, and concluded to a total value of the taking of $321,000.

Prior to trial, the Commissioner filed a motion to exclude all evidence concerning a hypothetical rezoning of the property before the date of the taking. The court agreed, reasoning that such evidence would be too speculative and remote. Accordingly, the planner was prohibited from testifying as to the area surrounding the property or the probability of rezoning, and the appraiser could not testify regarding the comparable sales he used in his appraisal, nor his opinion of highest and best use.

Following a trial in which only the Commissioner's appraiser and Helmick's manager testified, the court instructed the jury that it should only consider uses of the property that can be made under its existing zoning category, not a hypothetical rezoning before, on, or after the date of the taking. The jury awarded Helmick $22,592, and Helmick appealed, arguing that it should have been permitted to introduce evidence of the reasonable probability of a rezoning of the land taken.

The state supreme court acknowledged that none of its prior decisions had directly addressed whether such evidence is admissible in a condemnation proceeding. However, prior cases held that everything which affects the market value is to be taken into consideration, including the property's adaptability and suitability for any legitimate purpose in light of existing or reasonably expected conditions.

The court then noted an “avalanche of authority” from other jurisdictions making clear that such evidence is widely permitted. The reason, according to the court, for allowing the factfinder...
to hear such evidence is obvious: a willing buyer would pay more for a property that presents a fair prospect for more favorable zoning than a property that offers no such prospect.

The Commissioner agreed that evidence of the reasonable possibility of rezoning is relevant, but that the evidence here was too remote and speculative. The court disagreed, noting that the entire enterprise of assessing the market value of property hinges on proof concerning the acts of a hypothetical third party who would purchase the property. In some instances, it would be speculative to indulge in predictions about the probable decisions of third parties, but in other cases, the known facts may make such a determination possible.

The court concluded that its cases reflect an unwillingness to accept transparent manipulations by a landowner to artificially inflate land values based on conjecture and speculation. But here, Helmick sought to prove the actual present market value based on the reasonable probability of rezoning. Accordingly, the court held that the reasonable probability of rezoning should be taken into consideration in compensating landowners, and the trial court’s order was reversed with an instruction to conduct a new trial.

Helmick Family Farm, LLC v. Commissioner of Highways
Supreme Court of Virginia
August 29, 2019
297 Va. 777

Credible evidence needed to determine if Section 1031 like-kind exchange price is indicative of market value

Inland Edinburgh (Inland) owned real property in Brooklyn Park, Minnesota, improved with a shopping center with two adjacent strip malls and an anchor grocery store. For property tax purposes, the Hennepin County Assessor estimated that the property’s value as of January 2, 2015, was $8,384,300. Inland petitioned the tax court, challenging the assessment and asserting that the assessed value exceeded the property’s actual market value.

In June 2017, while the tax court case was pending, Inland sold the property for $9.6 million. The sale was completed as a like-kind exchange under Section 1031 of the Internal Revenue Code. At the time of the sale, the property had few vacancies, and several leases were at above-market rates.

In May 2018, the tax court conducted a trial. Inland offered an appraisal that estimated the 2015 market value at $7.1 million using both an income and sales comparison approach. Before trial, Hennepin County (County) notified the tax court that it did not intend to call an expert, and at trial, the County called no witnesses and offered only one exhibit, Inland’s rent rolls. Instead, the County urged the tax court to review the information in Inland’s appraisal report and to “take the credible information from that report and disregard the rest.”

In its findings, the tax court declined to give any weight to the appraiser’s indication of value under the income approach. Then, relying on a single transaction—the June 2017 like-kind exchange of the subject property—the tax court found that the fair market value of the property in January 2015 was $8,461,400, a figure at which the tax court arrived by trending the sale price back and adjusting for age. Inland appealed.

The supreme court began its analysis by finding that it had no basis to overrule the tax court’s conclusion not to give weight to the appraiser’s income approach. The tax court found that the appraiser failed to properly explain the data on which he relied and the basis for his opinions. The supreme court stated that, because property valuation is an “inexact science,” the tax court is free to accept all or only part of an expert’s report to determine
value. Thus, the tax court’s findings about the income approach were not clearly erroneous.

The Minnesota Supreme Court then turned to the tax court’s analysis of the property’s sale. Real property in Minnesota is assessed at its market value, which is the price that could be obtained at a private sale or another arm’s-length transaction. The sale price of the property in question may be an important fact to consider when valuing real estate, but the court has not held that the sale of the subject property alone is sufficient to determine market value.

The supreme court, though, concluded it was not necessary to reach that issue, because the 2017 sale of the property cannot serve that purpose, at least based on the record before the court. Inland sold its property in a Section 1031 like-kind exchange, which the court described as occurring when real property of the same type that is used for business or investment is exchanged between owners. This type of transaction may not represent the property’s fair market value because when investment property owners conduct a Section 1031 exchange, any property that is of the same nature or character may be traded, even if the properties differ. Section 1031 exchanges also offer additional tax benefits for business owners, because they can defer recognition of gains or losses in some circumstances.

The supreme court found no information in the record that indicated the motivation of the buyers in the exchange of the property, including to what extent the price was driven by market forces or tax-saving motives. Thus, neither court had a way to determine whether the $9.6 million sale price reflects the fair market value of the property, with or without adjustments. The supreme court stated a Section 1031 sale price may well be indicative of market value, but with no testimony or other evidence explaining the considerations that went into the sale price, the tax court could not correctly rely on that single transaction to determine market value.

Furthermore, the state supreme court held that the tax court erred in adjusting the 2017 sale price. The tax court used the sale price as a base, and then adjusted it to account for market condition changes between 2015 and 2017, but it did so without any market data submitted by the parties. Similarly, the tax court made an age adjustment, since there was no dispute that the property was two years older when it sold, but the record did not establish what amount of deterioration, if any, occurred between 2015 and 2017. Thus, the tax court lacked a basis for its adjustments.

The state supreme court noted that Inland’s evidence “was minimal, to be sure.” But the County provided no assistance to the tax court, declining to offer affirmative evidence or an alternate valuation. The tax court’s decision was therefore reversed, and the state supreme court remanded the case for the tax court to determine whether to re-open the record to make a value determination based on admissible, credible evidence.

Inland Edinburgh Festival LLC v. County of Hennepin
Minnesota Supreme Court
February 12, 2020
938 N.W.2d 821

Only property owner of record can assert right to condemnation compensation

At the time of her death in December 2015, Audra Newton owned two contiguous parcels of property in Kokomo, Indiana, one on Union Street and one on Main Street. For many years, both parcels were used by Kokomo Glass Shop, a company owned by Newton. In her will, Newton devised both parcels to her son, Bradley.

In December 2016, the City of Kokomo (City) filed a complaint to condemn the Main Street parcel, which was still owned by Newton’s estate. The estate did not object to the taking, and the
The trial court appointed three appraisers to assess the estate's damages from the taking. In July 2017, the appraisers concluded that the fair market value of the Main Street parcel was $100,000. They also found that the taking of the Main Street parcel would cause an additional $43,000 in damages to the residue, the Union Street parcel. The City deposited the total amount with the trial court, and the court granted the City possession of the Main Street parcel.

When the City took title to the Main Street parcel, Kokomo Glass, which had operated its business from both parcels, was unable to continue operations. Kokomo Glass, which was managed by Newton's son, moved its business, and the estate offered the Union Street parcel for sale. The estate filed exceptions to the appraisers' assessment of damages. At the close of the evidence at trial in March 2019, the City moved for a directed verdict stating that while the estate had presented evidence of damages to the Union Street property sustained by Kokomo Glass, it had not presented evidence that the estate had sustained any such damages. The trial court denied that motion, and the jury awarded the estate $305,600 – $100,000 for the taking of the Main Street parcel and $205,600 for damages to the Union Street parcel. The City appealed.

The fundamental purpose of the statutory eminent domain scheme is to ensure that landowners are given just compensation when their property is taken. In determining the appropriate amount of damages, generally all elements of the landowner's interest is compensable, including the rights of ingress, egress, and air space.

On appeal, the City contended that the trial court erred when it denied the City’s motion for directed verdict. The decision was reversed, and the trial court was instructed to enter judgment in favor of the estate in the amount of $100,000, the amount attributable to the Main Street parcel.

City of Kokomo v. Estate of Newton
Court of Appeals of Indiana
December 18, 2019
136 N.E.3d 1172

Provisions in agreement control whether covenant runs with the land

In 2003, Suburban Land Reserve (Suburban) owned a 245-acre undeveloped property in Mapleton, Utah (Mapleton). Suburban entered into a development agreement with the city, wherein Suburban conveyed 76 acres to Mapleton, and in exchange, Mapleton passed an ordi-
nance zoning the remaining 170 acres with a 136-residential-unit maximum density. The city also overlaid the property with transferable development rights (TDRs), which allow landowners to be compensated for loss of development opportunities by being given development rights that can be used elsewhere. Suburban was granted 77 TDRs.

The agreement between Suburban and Mapleton included several relevant provisions. The agreement provided that the owner had a vested right to develop a maximum of 136 single family homes. The agreement was also to be recorded as a covenant running with the land. But the agreement provided that Suburban’s rights under the agreement are personal to it, only running with the land if the new owner was an affiliate of Suburban, or if the city provided express, prior written approval to transfer the rights under the agreement to a new owner.

Ultimately, Suburban did not develop the property as planned. In December 2005, it sold the property to another entity, “The Preserve.” The city approved this transfer. Later, at the request of The Preserve, the city council approved a zoning change to “planned residential community” with a 92-unit density cap. The changes in zoning were entirely in line with The Preserve’s request.

After obtaining the zoning change, The Preserve executed a promissory note in favor of developer LD III LLC (LDIII), and in 2008, LDIII foreclosed on the property. At the time of the foreclosure, the property was still zoned with a cap of 92 units. The city did not approve the transfer of ownership, before or after the foreclosure.

In 2017, LDIII contracted with another company to develop the property. The development company sought approval to develop a 176-unit development on the property. The city council modified the zoning to include a TDR overlay and a maximum of 169 units. Shortly thereafter, though, Mapleton citizens challenged the rezoning through a voter referendum invalidating the zoning change, and the referendum passed.

LDIII filed suit, seeking to rely on the original Suburban agreement to allow its development plan or to otherwise invalidate the referendum. The district court dismissed the lawsuit, ruling that any rights under the original agreement did not survive LDIII’s foreclosure proceedings. LDIII appealed.

The court of appeals began by noting that the original agreement did not confer zoning rights to LDIII, and the rights enjoyed by Suburban and The Preserve did not run with the land to LDIII. For a covenant to run with the land, as opposed to being a personal covenant, the original parties to the covenant must have expressly or impliedly intended the covenant to run with the land, among other things. The court held that this element was unambiguously absent under the plain language of the original agreement. The agreement specifically limited the extent to which the covenants might run with the land, dictating that LDIII either meet the affiliated-ownership requirement or the city-approval requirement for the zoning rights to pass contractually.

The court agreed that there were other provisions of the original agreement that indicated that it would be binding on Suburban’s successors, and that it should be recorded as a covenant running with the property. But the court held that none of those provisions contradicts the provisions governing transfer of the contractual rights; rather, they merely elaborated on how the original agreement operated. The city-approval requirement is unambiguously part of the agreement, and LDIII indisputably never received the city’s approval. Accordingly, the court upheld the district court’s conclusion that the zoning rights did not pass to LDIII.

LDIII also challenged the validity of the referendum. This issue turns on whether the rezoning of the property was legislative or administrative.
When a city exercises its legislative authority, voters retain the power to challenge that decision, but where a city is acting under its administrative authority, the voters have no such right. The state supreme court, though, has held that site-specific rezoning is a legislative act, and thus subject to referendum, because it requires the weighing of broad, competing policy considerations and results in a law of general applicability. Therefore, the court concluded that the referendum was valid, and the district court’s judgment was affirmed.

*LD III LLC v. Mapleton City*
Court of Appeals of Utah
March 19, 2020
2020 UT App. 41
WL 1295083

**Profits from management and value of common areas in timeshare building not added to assessed value of individual timeshares**

The Jackson Gore Inn and Adams House are a two-phase condominium project located near the Okemo Ski Resort in Ludlow, Vermont (Town). The first phase contains 117 condominium units, owned in timeshare quarter interests. The first floor is under separate ownership from the timeshare interests and consists of ski-related services like a lounge and restaurant. The second phase includes 39 units also owned in timeshare quarter interests.

For 2018, the Ludlow Board of Listers appraised the properties at $41,770,800 and $11,564,600, respectively. The timeshare owners disagreed with the assessed values and appealed to the Director of the Property Valuation & Review Division (PVR).

Both the Town and the timeshare owners presented expert testimony. The owners’ appraiser appraised the property using sales of timeshare interests in the properties, segregated by size, room count, and view. The sales occurred from January 2017 through mid-2019, identifying a stable market over that period. He calculated a value for each group of units, then summed them to reach a cumulative appraisal of the whole project. He testified that his values included the common elements to the project—halls, elevators, pool—that are owned in full by the timeshare owners. But he did not include the commercial elements, such as the restaurant, bars, retail shops, and real estate office that are listed separately by the Town and were not part of this appeal.

The Town’s consultant valued the properties using a similar market approach to the owners’ appraiser, grouping units into categories and using sales to establish their value. He concluded, however, that sales after April 2018 should not be considered because of a declining market. He also used an income approach to add value for the common areas, as well as the value associated with the contract to manage the complex. The management company earns $1.3 million annually on the contract, which the appraiser capitalized and added to the unit sales data.

In June 2019, the PVR hearing officer issued her decision, finding in favor of the owners’ appraisal. The hearing officer noted two main differences between the appraisers’ approaches: the value added for common areas and profits for the management company, and the market trend. The hearing officer concluded that state statute designates the management company as the agent to handle tax liability for the owners, but it says nothing about whether management fees are common property. Instead, the sales evidence reflected the expectation of buyers regarding all of the contracted interests that go with owning a timeshare condominium, including the common interests and management fees.
The Town appealed the PVR’s decision to the state supreme court. The Town insisted that state statute requires it to consider the units and the common property separately. In its view, the statute calls for a distinct valuation methodology for timeshares as contrasted with condominiums. The owners, in opposition, argued that the statute simply provides that the tax bill be issued to a single entity and assessed under one name but does not dictate an alternative analysis of fair market value.

The court agreed with the owners’ and the PVR’s interpretation. In the case of timeshare properties, there is not a single owner of a property—the two properties were owned by 624 separate timeshare owners. Recognizing the administrative burden it would place on towns to list each individual owner, the legislature created an exception that individual owners be billed. The statute appoints the management company as the agent of the timeshare owners for property tax purposes. The court agreed that the statute says nothing about how real property is appraised, only how it is listed and billed for taxes.

The underlying real property in a timeshare project is appraised at fair market value. Here, because the real property consists of both the unit and the common elements, no separate tax or assessment may be rendered against any common elements. Furthermore, membership in a condominium association, which includes the obligation to pay fees, is an intangible asset, but that membership is an intrinsic feature of the condominium unit that influences value.

Thus, the court held that the PVR hearing officer correctly determined that the profits of the management company could not be added to the value of the sale price of the individual timeshare units. Because the unit sales data is sufficient to determine the value of each quarter interest, as the sellers and buyers are considering all rights and amenities and contracted obligations in the unit and the common areas that go with that ownership, the court concluded that the hearing officer applied the correct legal principles and appropriately relied on the owners’ appraisal.

Jackson Gore Inn v. Town of Ludlow
Supreme Court of Vermont
February 21, 2020
2020 WL 858171

Listing of suits related to remodeling in violation of a commercial lease

In 2013, Balboa obtained title to commercial property in San Diego. The property, which had an existing franchise restaurant, was subject to a twenty-year lease. Balboa took assignment of that lease and was subject to its terms. California Food Management (CFM) also took an assignment of the lease as the tenant.

The lease included provisions obligating CFM to undertake repairs and maintenance, but to avoid any alterations to the premises without Balboa’s prior written consent. The lease also contained a provision entitling Balboa to file suit at any time for the recovery of deficiency or damages for installments of rent, additional rent, or any other charge due under the lease, rather than having to wait until the term expiration date to bring suit.

In 2014, CFM renovated the property, including removing a large greenhouse structure and building a new entrance. CFM did not notify Balboa, show Balboa any plans, or obtain Balboa’s consent.

In 2015, Balboa retained a contractor to inspect the building. The contractor found that numerous alterations were performed in a substandard manner in violation of building codes. In part, Balboa’s counsel advised CFM that its remodel resulted in the destruction and
removal of 348 square feet of building area, which it claimed negatively impacted and diminished the value of the property. Balboa did not terminate the lease but demanded that CFM repair the property and put it in a condition acceptable to Balboa.

In February 2016, Balboa sued CFM for breach of lease and damages arising out of waste to real property. CFM admitted it had made a mistake in failing to obtain Balboa's approval for the remodel, but took the position that Balboa had not sustained damage to its reversion interest or suffered any diminution in value. CFM presented testimony from an appraiser, who opined that the value of the property in 2015 was $2.4 million, which rose to $2.7 million in 2017. He concluded the property’s value was not impacted by the greenhouse's removal.

Balboa presented testimony from an expert contractor that $351,000 was the approximate cost to repair the structure, an amount which included demolishing the face of the building and restoring the greenhouse. Balboa also presented testimony from a roofing consultant, who testified that the roof did not conform to building plans, showed deficient workmanship, and led to standing water on the roof on one of his visits.

The jury returned two verdicts. On the issue of waste of real property, the jury found the lease did not permit CFM to make alterations, that CFM's removal of the greenhouse caused permanent injury to the property, and Balboa incurred $280,000 in damages as a result of the remodel. To the issue of breach of lease, the jury found that Balboa fulfilled its obligations but CFM did not, harming Balboa in excess of $351,000. CFM appealed.

On appeal, CFM contended that a lessor cannot recover damages for breach of lease or waste before lease termination, so even if CFM breached the lease, Balboa could not recover damages while the lease was still in effect. Balboa, in response, argued that the lease permitted it to file suit before the end of the lease term to make repairs, and also gave the lessor an immediate possessory interest in the property in order to make the repairs.

The court of appeals reviewed prior case law which held that, though the lessee had breached the repair and maintenance covenant of the lease, the lessor had not terminated the lease, the lease had not expired, and the lessee continued to pay rent. In that case, the court stated that the measure of damages was the diminution in value of the lessor's reversion interest, not the cost of repair damages.

The court held that fundamental principles of tenancy and contract interpretation prevent the court from interpreting the lease as granting Balboa a possessory or property interest beyond its reversionary interest. The lease, as a matter of law, gave CFM as tenant the right to exclusive possession as against the whole world, including Balboa, so long as CFM timely pays rents and the lease is not terminated.

The lease itself did not support Balboa's view that the repair and maintenance provision changed the lease's grant of exclusive possession. Rather, it gave Balboa nothing more than a temporary and limited right of entry solely to make repairs or remedy unauthorized construction or waste while the lease remains in effect. That provision is not a grant of a right of possession, much less immediate possession. During the pendency of the lease term, Balboa retained only a future reversionary interest in the premises. Because the lease did not expire until 2031 and CFM continues to have exclusive possession of the premises, Balboa was not entitled to recover cost of repair damages for waste while the lease remains in effect.

CFM also argued that there was no evidence of permanent injury to Balboa's reversionary interest. Balboa's expert testified that any damage resulting from the greenhouse demolition was
CFM argued that damage cannot be both permanent and repairable. The court rejected Balboa’s argument that the jury’s waste award was supported by substantial evidence. None of the testimony permitted the jury to conclude or reasonably infer that the property suffered substantial or permanent injury. The sole competent evidence of market value was presented by CFM’s appraiser, whose conclusion was that the reversion interest was not impacted by the remodel work or greenhouse removal.

Accordingly, the court held that Balboa was not entitled to the cost of repair damages, and there was not substantial evidence to support the jury’s award of waste damages. The trial court was instructed to enter judgment in favor of CFM.

6401 Balboa Avenue LLC v. California Food Management LLC
California Court of Appeal, 4th District
December 12, 2019
2019 WL 6767800

Sale price for an LLC constitutes best evidence of real estate value

Palmer owned a 264-unit apartment complex in New Albany, Ohio. The property was originally valued at $16 million for the 2015 tax year, but the Columbus City School Board (School Board) filed an increase complaint with the Franklin County Board of Revision (BOR). Based on a recorded mortgage that secured a loan amount of $25.5 million, the School Board inferred a sale price of $34 million by applying a loan-to-value ratio. The BOR rejected this argument, and the School Board appealed to the state Board of Tax Appeals (BTA).

At the BTA hearing, the School Board presented a variety of evidence. This evidence included a deed executed in 2015 conveying the real estate from an entity called Palmer Square to Palmer House Borrower, constituting a capital contribution. The School Board also introduced the mortgage evidencing a $25.5 million loan to Palmer Square, which was later assumed by Palmer House Borrower. The School Board also produced a purchase agreement from June 2015, in which Palmer Square agreed to sell the real estate to PPG for $35 million.

The purchase agreement included a provision giving the purchaser the option to structure the sale as a “drop-down LLC sale,” in which the purchaser would organize a limited liability company in Delaware with the seller as the sole owner. The seller would then convey the property to the LLC using a warranty deed. Finally, the seller would sell the membership interests in the drop-down LLC to the purchaser at closing.

The purchaser elected to employ the drop-down LLC provision. The final settlement statement on a real estate title agency’s form indicated the transaction type as “purchase of membership interest in Palmer House Borrower LLC.” The statement corroborated a sale price of $35,250,000.

Palmer presented contrary evidence before the BTA, namely an appraisal. That appraisal gave most weight to the income approach and took into account the personal property that would transfer in a sale. The appraiser noted the $0 transfer of the property from Palmer Square to Palmer House Borrower but did not take into account the sale price of the entity. He arrived at an indicated value of $25 million.

The BTA relied on the documents presented by the School Board to determine the real estate value. The BTA concluded that the transaction by which the ownership interest was transferred was effectively the sale of real estate, and the purchase agreement reflects an intent to engage in a real estate transaction. Having determined that an arm’s-length sale had occurred, the BTA rejected Palmer’s appraisal, took the $35,250,000 sale price as a starting point, and deducted
$792,000 for personal property to arrive at a final real estate value. Palmer appealed.

The Ohio Supreme Court began by reiterating that the best evidence of the true value of real property is an actual, recent sale of the property in an arm's-length transaction. Such a sale creates a rebuttable presumption that the sale price constitutes the value of the property. The main issue in this appeal was whether that presumption applies to the contract price in the Palmer transaction.

Palmer contended that two earlier decisions of the court barred the application of the presumption when a transfer was consummated through the sale of an LLC rather than as a sale of the property. In both cases, the BTA grappled with whether the sale of an entity was functionally equivalent to the sale of real estate owned by the entity. But the court distinguished those earlier cases since both involved the acquisition of corporate shares or partnership interests without an explicit reference to an intent to sell and buy the real estate itself.

In “stark contrast,” the BTA was provided a document labeled as a purchase agreement for real estate and taking “the classic form of a purchase agreement for commercial real estate” by identifying the specific property at issue. This particular contract includes an explicit provision setting forth an optional method for consummating the deal as a transfer of corporate ownership. The state supreme court concluded that this documentation made it reasonable for the BTA to find that this sale reflected the parties’ intent to sell and purchase income-producing real estate. Accordingly, the court affirmed the BTA’s decision.

*Columbus City Schools Bd. of Educ. v. Franklin County Bd. of Rev.*

Supreme Court of Ohio
February 6, 2020
2020 WL 573459

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**Proof of vesting of Western water rights necessary in takings proceeding**

Ministerio Roca Solida (the Ministry) is a church incorporated in Nevada, which in 2006 purchased a forty-acre parcel of land within the Ash Meadows National Wildlife Refuge (AMNWR). The property, which the Ministry uses as a camp, is one of the few remaining privately owned parcels within the AMNWR, which the US Fish and Wildlife Service (FWS) purchased in 1984. A desert spring-fed stream traversed the property since at least 1881, which the Ministry used for baptisms and for a meditative atmosphere.

In 2009, FWS began developing a conservation plan for the refuge complex that included the AMNWR. In conjunction with the plan, FWS initiated a restoration project to restore the outflows of the springs that feed into the Carson Slough. “Anthropogenic alterations” to the water from the springs in the Slough had caused the entire wetland ecosystem to become infested with noxious weeds and invasive species.

To mitigate these conditions, FWS planned to remove existing physical barriers and reroute the spring waters that traversed the Ministry’s property to an unobstructed route on refuge land. Despite robust discussions and administrative proceedings, the Ministry was unable to persuade FWS to adopt an alternative that would not reroute the water that crossed the property. The Ministry also alleged that its property was subject to destructive floods as a result of the dam’s construction.

In Nevada, water law is not based on riparian rights but rather on usufructuary rights, i.e., the right to appropriate and use water for beneficial purposes. Further, Nevada, like most western states, is a prior appropriation state, adopting the right to a consumptive use of water to the first person to make beneficial use of it. That person becomes the owner of a right to the quantity of water put to beneficial use, and that right takes
priority over later claimants to the water. Finally, Nevada law recognizes two types of water rights: vested rights, which are those that existed before the enactment of the state’s statutory water law, and permitted rights, which are acquired under Nevada’s statutory scheme.

The Ministry did not seek a permit or assert any vested water rights until October 2011, after the completion of the restoration project. First, the Ministry claimed a vested water right to use 0.0031 cubic-feet per second of surface water—equivalent to the flow in a garden hose. Over the next four years, the Ministry engaged in various administrative actions and took various positions as to its vested water rights.

In 2016, the Ministry filed a complaint asserting claims under the Takings Clause, including that FWS actions resulted in a taking of its vested water rights, and that FWS actions caused repetitive flooding and extensive erosion. It sought an award in excess of $3 million for the taking.

To establish entitlement to compensation under the Takings Clause, a plaintiff must show that it has a property interest, and that the government’s actions amounted to a compensable taking of that property interest. Physical appropriation of water may constitute a taking. Here, the Ministry claimed that it has vested rights under Nevada law in surface water which it alleges has flowed through its property for decades.

Although the Ministry’s argument shifted repeatedly, at oral argument, it settled on asserting a claim to vested water rights based on the alleged prestatutory diversion and appropriation of surface water for use in irrigation by its predecessors in interest. The Ministry pointed to a brochure prepared by the state engineer describing how it assesses vested water rights claims.

The court was not persuaded by this argument. The Ministry’s documentation failed to meet the state engineer’s standards because it did not support the assertion that the Ministry’s predecessors used the waters of the Carson Slough before 1905 for the purpose claimed (irrigation) on the land claimed as the place of use (the Ministry’s property).

The court engaged in a detailed analysis of the documents presented by the Ministry. For example, maps from 1881 reflect that a stream passed through the property with marsh land on either side of it, but the maps do not provide evidence that the property was being farmed or that water was being diverted for irrigation purposes. Published historical accounts also did not address whether the property was used for farming or if water was diverted for irrigation. Even a 1931 county tax map showed that the property was classified as third-class grazing land, a category that usually lacked irrigation and that was just one level above barren or mountain land.

In short, the Ministry failed to submit evidence sufficient to create a genuine issue of material fact regarding whether its predecessors diverted the waters of the Carson Slough to irrigate the Ministry’s land before 1905. Therefore, the government was entitled to summary judgment as to the claim that it effected a taking of a vested water right.

Ministerio Roca Solida Inc. v. United States
U.S. Court of Federal Claims
November 20, 2019
145 Fed. Cl. 756

Use of cost trend analysis used in valuation of reservoir for property tax purposes

Merrill Creek Reservoir is owned by a consortium of electric utility companies (Merrill Creek). The reservoir property consists of ten parcels totaling 840 acres in Harmony Township, New Jersey (Harmony). The reservoir itself spans 650 acres, as well as a main dam, several
smaller saddle dikes, a spillway, a pumping station, an electric substation, and a visitor center, among other items.

The reservoir was constructed between 1985 and 1988 following a directive from the Delaware River Basin Commission. It was designed to provide fresh water to offset consumptive use of river water by electric power plants during droughts. Although the reservoir makes regular releases of water for conservation purposes, there have only been four ordered large-scale releases to counter drought conditions since completion in 1988.

For the 2011 to 2013 assessments, the reservoir property was assessed a value in excess of $220 million, which Merrill Creek appealed to the tax court. The parties stipulated to the highest and best use as a reservoir, and that the cost approach is the appropriate method for valuing the improvements. They also stipulated that the value of the land was $4.8 million. The only issue in dispute was the application of the cost approach, which differed substantially between the parties.

Merrill Creek’s experts employed the quantity survey method to estimate costs. Its construction cost estimator visited the site and used as-built drawings. He identified the materials used to construct each component and estimated the quantities used in construction. He used a nationally recognized cost survey, then summed them to obtain total hard costs. He added various costs, then deducted depreciation using the age-life method.

Merrill Creek’s appraiser used the cost estimates as the basis for his proposed value of the property, but he further reduced the value of the improvements by 15% for functional obsolescence, reasoning that a reservoir of substantially less capacity would have been sufficient in light of the limited number of times water was ordered released into the river. The appraiser rejected adding entrepreneurial profit, because the consortium only built the reservoir because it was ordered to. He opined a total value of the property of around $104 million.

Harmony’s experts instead relied on a trend analysis, which involved looking at the actual costs of the project and applying a multiplier to trend those costs forward to the tax years. For proof of actual costs, Harmony used the head of construction estimating for the utility consortium, who explained how he estimated the original cost of the reservoir project and how it compared to the actual costs incurred by the owners. He observed that, despite several difficulties Merrill Creek encountered during construction, the final cost of the project only exceeded his original estimate by $3 million.

To trend the costs forward, Harmony’s expert consulted historical cost indices and construction and building cost indices. He believed that trended actual costs were the most reliable method because dam construction typically involves many unknowns. He concluded to a value after depreciation above $324 million.

The tax court found that both parties’ experts produced generally credible valuation reports. The judge concluded, though, that the conclusions of Harmony’s cost estimator was more compelling, and the trended cost approach used by Harmony’s expert was most appropriate on the facts. The judge found, however, that entrepreneurial profit was not appropriate, and a 15% functional obsolescence deduction should be taken. He arrived at a value for the property of $263.7 million and affirmed the assessments.

Merrill Creek appealed, arguing the tax court erred by using a cost trend analysis based on inflated historic costs dating back more than twenty years. The appellate court disagreed. Although it is “likely correct” that the methodology is rarely used, at least as compared to other cost approach methods, the trended cost analysis is most often used in valuing special purpose properties, which are relatively rare.
Merrill Creek presented no evidence to rebut Harmony’s expert’s testimony that the dam and reservoir would be built the same today as in the 1980s. That testimony undercut one of the practical limitations of the trended cost method, that as time span increases, the reliability of the current cost indication tends to decrease. Further, the historical costs were ascertained with accuracy by a witness with first-hand knowledge of the original construction.

Accordingly, the appellate court affirmed the tax court’s decision adopting the original cost trending analysis presented by Harmony, without entrepreneurial incentive and with a deduction for functional obsolescence.

Merrill Creek Reservoir v. Harmony Township  
Superior Court of New Jersey, Appellate Division  
August 22, 2019  
218 A.3d 327

Utility easement compensation considers impact on marketability of developable property

James Hobgood owns 374 acres of contiguous land near Calhoun, Georgia. The property consists of two undeveloped residential lots totaling 6 acres, and an adjacent agricultural tract of 368 acres. The farm tract is bounded to the west by the Oostanaula River, and 95% of the farm is in the floodplain. The property is unimproved except for an irrigation system.

In 2013, the Tennessee Valley Authority (TVA) announced a project to build a transmission line to provide a second source of electric power to Calhoun and other nearby cities. The selected route crossed part of all three tracts of Hobgood’s land. In November 2016, TVA filed a declaration of taking to acquire permanent easements totaling 15.66 acres of Hobgood’s land. For the farm parcel, the easements are 150 feet wide and cross 13.38 acres of the farm adjacent to its borders. TVA constructed transmission towers and power lines within the easements.

The district court set the matter for a jury trial to determine just compensation for the taking. Before trial, TVA moved to exclude evidence of Hobgood’s post-taking plans to develop the farm into subdivided residential lots. The court granted TVA’s motion, but TVA did not move to exclude more general testimony from Hobgood’s experts to the effect that the farm was suitable for future residential development, which affected its market value.

At trial, TVA’s appraiser opined to just compensation of $68,435, while Hobgood’s appraiser opined to just compensation of $921,125. The most significant difference between the appraisals was the analysis of highest and best use. After the taking, in TVA’s appraiser’s view, the value of 353 acres of the farm remained unchanged because that acreage could still be farmed without interference. The value of the acreage within the easements was damaged by 90%.

In contrast, Hobgood’s appraiser used a paired sales analysis to conclude that the presence of the power lines diminished the value of the farm by 45%. He explained that the farm pre-take was marketable to investors because floodplain land in the area “provides premium value to a prospective buyer” and tends to hold value comparable to high-end dry land. The power lines, regardless of their placement on the property, cause the greatest loss in value because they “lose the investor market” because the land becomes good only for agriculture.

TVA also hired a rebuttal witness who explained that Hobgood’s appraiser did not analyze the housing market in the area to review current lot inventory and absorption rates for lots. He testified that there was not a market for residential development at the time of the taking because across the county there was a five-to-six-year backlog of available residential lots.
Hobgood himself also testified that the pre-take value of the farm had been cut in half post-take because the property lost its scenic vista over the river. The jury credited Hobgood’s appraiser’s valuation and awarded $921,125 in compensation, and TVA appealed.

On appeal, TVA argued that Hobgood failed to overcome the presumption that the property’s existing agricultural use was its highest and best use. While the highest and best use of property is presumed to be its current use, landowners may prove that the actual use is not the highest and best use for the property as viewed by a potential purchaser. When a landowner proposes a different highest and best use, the landowner must present evidence of a market for the proffered element of value. In other words, the landowner needs to show a reasonable probability that the proposed use will be needed and wanted at a near enough point in the future to affect the current value of the property. TVA argued that Hobgood’s appraisal was premised on residential development use, and so Hobgood was required to present evidence of market demand for residential property.

The court of appeals agreed with TVA that landowners must produce credible evidence of reasonable probability of market demand, and that physical adaptability alone is not enough. But the court concluded that substantial evidence supported the jury’s award for the takings of Hobgood’s farm. The appraiser explained that the farm pre-take was desirable land from an investment or development standpoint and was located in an area where investors buy and sell land to hold and to resell. Hobgood also testified that the farm had beautiful views, photos of which were presented to the jury.

The court saw no reason why the jury could not have credited the appraiser’s appraisal based in part on the property’s suitability for potential use for residential development. Of course, there is a substantial difference in value between farmland susceptible to future development and land already sold as a residential or commercial development. But Hobgood’s appraiser valued the farm pre-take as a large tract of farmland that was susceptible to future development; he did not calculate the value of the farm based on a hypothetical subdivision. While the farm may not have been in demand for residential use at the time of the taking, the jury was presented with enough evidence to conclude that development was foreseeable and feasible. The jury’s decision was affirmed.

United States v. Easements and Rights-of-Way Over a Total of 15.66 Acres of Land
U.S. Court of Appeals, 11th Circuit
June 19, 2019
779 Fed. Appx. 578

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Golf Course Communities as Multisided Markets: Ownership Implications

by Bruce K. Cole, PhD, and David Hueber, PhD

Abstract

This study investigates the relationship between property values and ownership of golf facilities by homeowners associations (HOAs). The research considers whether HOA ownership of golf facilities affects lot values in those golf course communities when compared to similar properties in communities where golf amenities are alternatively owned. This research informs appraisers, developers, homeowners, investors, municipal authorities, and policymakers of the potential impacts of HOA ownership of golf facilities at golf course communities. The study finds that while HOA ownership of golf facilities might be seen as the best alternative for maintaining values in such communities, HOAs should consider additional approaches for ensuring the financial security of their golf course communities, such as repositioning the assets, investing in training, and increasing access to low-cost financing.

Introduction

Charles Fraser was a pioneer in the development of master-planned community resorts, and he is credited with inventing the concept of golf course communities. His most notable development is Sea Pines Plantation, in Hilton Head Island, South Carolina. This development, which began in 1956, became a training ground for community developers, architects, and land planners. Fraser was often quoted as saying he could sell all of the waterfront real estate he had at Hilton Head, but Sea Pines and his other iconic residential developments never would have been possible without golf courses creating value on the interior property.

The US golf industry is experiencing a period of natural correction following a twenty-year period of the most dramatic growth in the game's history. Since the downturn in the real estate market in 2006—followed by the Great Recession and economic stagnation—the golf industry has been in a decline, with around 200 golf course closings per year versus 10 to 15 openings. This trend continues today. The literature indicates that the loss of golf as an amenity...
adversely affects property values in golf course communities (GCCs). Faced with the risk imposed by a failing business model, residents of GCCs must decide how best to manage their golf facilities and, in the worst-case scenario, plan for “life after golf.” This research evaluates the decision by many GCC homeowners associations to purchase their golf facilities in order to avoid the consequences of their discontinued operations and to preserve the value created by the resulting views.

This study of vacant lots in GCCs introduces a new variable into the literature on real estate pricing. It is the first known study to construct a hedonic model to examine the effect of golf course ownership (HOA versus developer or other private entity ownership) on lot sale price. The research focuses on eight mature GCCs in Beaufort County, South Carolina. Data was collected on 227 vacant lots sold between January 2008 and December 2018 with a total transaction value of $18 million.

The study begins with a review of the academic literature on the pricing of vacant lots in GCCs. Next, a hedonic model is constructed to estimate the pricing of vacant lots at GCCs in Beaufort County. The results are then summarized and implications for homeowners and their associations at GCCs are discussed. Finally, possible approaches that might help these communities offset the effects of current negative market trends are discussed.

### Literature Review

#### Impact of Golf Course Amenities

The positive impact of a golf course view on property values in golf course communities has been well documented in the literature. Properties within GCCs may carry premiums of 35% to 40% compared to similar properties in non-GCCs. Since the majority of purchasers in GCCs do not actually play golf, the premium paid for property adjacent to a golf course appears also to be related to the views afforded by the golf course in addition to the prestige of being located in a golf community.

The academic studies of golf course developments have concentrated primarily on the price premium paid for golf course lots (i.e., a proximity effect) from the developer’s perspective during the “sell out” stage of a planned community’s life cycle. The trade literature suggests that golf course lot premiums can range from as little as 5%, for merely being located within a golf course community, to more than 100% for prime property located on a fairway.

Hedonic pricing models are frequently used to understand the contributions of a property’s attributes to its price and are generally well accepted in the real estate literature. Sirmans, Macpherson, and Zietz provide an overview of real estate hedonic pricing studies, which offers guidance in choosing independent variables to include in a model. Sirmans and Macpherson also provide a...
comprehensive review of the literature on hedonic models for the National Association of Realtors; that literature review identified the following categories and characteristics for consideration:

1. Structural features: lot size, square feet, age, number of bathrooms, and number of bedrooms;
2. Internal features: full baths, half baths, fireplace, air conditioning, hardwood floors, and basement;
3. External features: garage spaces, deck, pool, porch, carport, and garage;
4. Natural environmental features: lake view, lakefront, ocean view, and good view;
5. Neighborhood and location: location, crime, distance, golf course, and trees;
6. Public services: school district, public sewer;
7. Marketing, occupancy, and selling factors: assessor’s quality, assessed condition, vacant, owner-occupied, time on the market, and time trend; and

Hedonic pricing models are effective predictors of value in healthy real estate markets. However, they are less reliable when markets are distorted by oversupplies of housing inventory and unanticipated stochastic events.

Golf course ownership structure is neither an intrinsic property attribute (e.g., lot size, location) nor an amenity (disamenity), but the result of a strategic decision made by golf course communities. It has grown in importance because of the increasing number of golf course failures within the industry.

Decline of US Golf Industry

The development of amenity-based master-planned communities in the United States, led by Charles Fraser in the late 1950s, has been a source of wealth and ruin for developers over the past sixty years. Rooney and Higley found that in many instances the addition of a golf course immensely increased the value of vacant lots in rural communities; for example, grazing parcels selling for $500–$600 per acre had been transformed into half-acre golf course lots priced upwards of $40,000 each. Developers of golf course communities did not care if they lost money on the golf course because the higher prices they garnered from lot sales more than subsidized their losses. What would be considered irrational for the golf course owner (i.e., operating at a loss) was rational for the developer.

However, the high-profile bankruptcies of golf course projects like Sea Pines and Port Royal Plantation in Hilton Head Island, Reynolds Plantation and Sea Island in Georgia, Bella Collina and Old Palm in Florida, and the Cliffs Communities in North Carolina and South Carolina provide cautionary examples of the consequences of developer overexuberance.

A boom in the business of golf started in the mid-1980s, with player participation peaking in 2000 when approximately 30 million individuals participated in golf play. However, the high-profile bankruptcies of golf course projects like Sea Pines and Port Royal Plantation in Hilton Head Island, Reynolds Plantation and Sea Island in Georgia, Bella Collina and Old Palm in Florida, and the Cliffs Communities in North Carolina and South Carolina provide cautionary examples of the consequences of developer overexuberance.

A boom in the business of golf started in the mid-1980s, with player participation peaking in 2000 when approximately 30 million individuals participated in golf play.
played 515 million rounds in the United States. During the period from 1986 to 2005, almost 5,000 new golf courses were constructed—a 44% increase in the total stock of American golf courses. By the early 2000s, three-quarters of all golf course construction was tied to real estate developments. The driving force for the real estate developers was the positive premium earned in sales of both golf-course-fronting and interior lots in GCCs. Mothorpe and Wyman studied sales of lots in three high-end GCCs bordering South Carolina’s Lake Keowee. They found that the mean price of interior lots (i.e., lots without a premium lake, mountain, or golf course view amenity) sold at three times the mean sale price of comparable interior lots in non-GCCs in Pickens County in 2000.

In recent years, however, the golf course industry has been on the decline. US Census Bureau data shows a decrease in approximately 800 golf courses between 2009 and 2016, about a 7% decrease. Industry revenues declined by an estimated 1.1% between 2017 and 2018, with a corresponding increase in expenses of 2.2%. These figures correspond to a 20% decrease in golfers between 2006 and 2017. One study found that while championship golf courses were key to the successful sale of high-end lots, these courses were too expensive, too difficult, and took too long to play for the average golfer.

Mothorpe and Wyman note that the jolt of the “financial economic crisis of the late 2000s,” and the ensuing capital market freeze, impacted the financing of vacant lot purchases by consumers and was the catalyst for the collapse in the market for vacant lots at GCCs. This market collapse persists today in South Carolina and nationally. Because of the lack of available financing, developers’ traditional launch marketing programs became ineffective and were canceled. Another key factor that has stifled GCC lot sales is the heavy annual carrying costs that can be associated with owning a piece of property in a GCC. For example, vacant lot owners in the Belfair golf community in Bluffton, South Carolina, incur mandatory annual association fees of $15,000. Such carrying costs do not include mortgage payments or property taxes. Wyman, Hutchison, and Tiwari found that interior lot prices started to fall precipitously, earning them the nickname “inferior interiors.” However, the results of the present study suggest that even the once-desirable golf course frontage lots have not been left unscathed.

The perceived and actual risk of golf course closure can have an adverse effect on GCC property values. One consequence of the rise in golf course closures has been the attempt by HOAs to mitigate the perceived and actual risk to property values from golf course closures. An HOA’s pur-

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15. Laing, “A Rough Round.”
19. See chart at https://bit.ly/GolfParticipants. This data was accumulated from reports published by the National Golf Foundation available at https://www.ngf.org/golf-industry-research/.
22. Fees do not include club dues of $20,000 per year. Several real estate professionals in the Hilton Head-Bluffton area interviewed for this study reported that Belfair HOA sells vacant lots from its inventory at $1 if the buyer agrees to assume its regime of fees.
pose is to preserve and/or enhance the value of its members’ home investments. When presented with a failing golf facility, a HOA is faced with limited options:

1. Buy the golf facility (e.g., out of foreclosure);
2. Enter into an arrangement with a third-party owner to maintain the course and clubhouse;
3. Permit some or all of the golf course land to be developed for other purposes (e.g., more homes, commercial property); or
4. Return the former golf course land to natural, planted, or maintained open space that is operated by the GCC or by a local parks and recreation entity.

This study takes a closer look at the implications of the first option, i.e., HOA purchase of the golf facility. Under this scenario, the HOA finances the purchase of the golf facility with the expectation that through a combination of volunteer efforts by the members, the hiring of a professional golf management company, and higher assessment fees, the HOA can make the golf enterprise work financially.

Case Study

Study Area

Golf is a major tourist attraction for South Carolina; the United States Golf Association lists 355 golf courses in the state. This represents 2.5% of the nation’s 14,482 active golf facilities. Beaufort County, South Carolina, has a rich and storied tradition of golf-centered residential developments, with Charles Fraser’s Sea Pines Country Club and Resort in Hilton Head Island being the first major community in the United States built on this model. There are 68 golf courses in Beaufort County, 78% of which are concentrated in the Hilton Head–Bluffton area. Some of the world’s best golf architects have left their mark in the sand there, including Robert Trent Jones, Davis Love III, Rees Jones, Gary Player, Arnold Palmer, Pete Dye, Jack Nicklaus, and George Fazio. Hilton Head is also home to the Professional Golfers’ Association’s RBC Heritage Tournament.

An analysis of the sustainability of Beaufort County’s golf market offers mixed results. On the one hand, the existence of 68 active golf venues across the county suggests a vast oversupply of golf courses in the area. A common industry rule of thumb is that an 18-hole course requires a surrounding population of 30,000–40,000 people to be viable.25 The US Census Bureau’s population estimate for Beaufort County was 186,844 for 2017.26 Based on conventional wisdom, then, the average estimated demand from Beaufort County residents would support six golf courses at best. Recent course failures in Beaufort County and other parts of the state are consistent with national trends and suggest that the number of golf courses in Beaufort County represents a saturated market.27

On the other hand, the demand from golf tourism appears more than adequate to support the number of courses in the area. According to golf business strategist J. J. Keegan, demand and supply are considered “in balance” in a market when 1,711–2,268 golfers are available per 18-hole golf course (e.g., national average versus top-100 golf market).28 With an estimated average 3,095 golf

24. Examples include Sapelo Hammock Golf Club in Shellman Bluff, Georgia, where the club closed in 2010 due to a financial shortfall and local residents raised the money to buy it, reopened the course, and currently volunteer to help maintain it; Crickentree Golf Club residents, who expressed concern about a potential plan to replace their bankrupt golf course with up to 450 homes in Richland County, South Carolina; and Mungo Homes, which donated its 116-acre course, the former Coldstream Golf Club, to Irmo Chapin Recreation Commission in Lexington County, South Carolina.

25. This guideline was suggested in an email from Steven M. Ekovich, senior managing director of Marcus & Millichap and national managing director of the company’s Leisure Investment Properties Group, whose focus includes golf courses and master planned communities.


27. Within the first few months of 2020, the Sanctuary Club at Cat Island was sold for $425,000 and a new owner bought Crescent Pointe and Eagle’s Pointe in Bluffton, each as a result of foreclosures. In addition, prospective new owners of Bluffton’s Island West golf course plan a mix of residential and commercial development on part of the existing golf property. Stephen Fastenau, “Closed Beaufort Co. Golf Course Has Raised Questions about Possible Development,” Island Packet, March 10, 2020, https://bit.ly/2Z4hPUY.

trips per course in the Hilton Head market, the boost from tourism exceeds the benchmarks for success. Therefore, the rash of golf course foreclosures may actually be a marketing problem (e.g., ineffective business practices) rather than a supply problem.

While concern about the health of the golf industry in Beaufort County may not be warranted, the sheer volume of GCCs appears to have created an oversupply of vacant golf course lots. This oversupply, combined with poor management practices, could have dire implications for all real estate values in GCCs across the county.

**Beaufort County Assessment Process**

Beaufort County appraises and taxes real property every five years at 100% of fair market value or at the taxable capped value. The county assessor’s office maintains a database of the physical characteristics for over 129,000 properties within Beaufort County. The data includes information such as heated square footage, garages, decks, pools, type and quality of construction, land area, water features, and several other attributes required for the mass appraisal process. The county groups properties into one of approximately 900 appraisal models based on similar market characteristics.

The county uses a computer-assisted mass appraisal (CAMA) platform to update its property database. According to the International Association of Assessing Officers (IAAO), “Prop-erly administered, the development, construction, and use of a CAMA system results in a valuation system characterized by accuracy, uniformity, equity, reliability, and low per-parcel cost.”

Licensed staff appraisers test property values for each of the appraisal models based on an analysis of actual vacant and improved property sales. After testing, the result of the mass appraisal model for Beaufort County is then measured against statistical standards of the IAAO. Structural improvements to the land are valued using a market-based sales model provided by the Marshall & Swift product suite from CoreLogic. The valuations produced for each appraisal model are tested for accuracy using actual market sales.

The market value of real property is constantly changing due to factors such as location, market demand, age and physical condition of a neighborhood, and the state of the economy. Therefore, the assessed values represented are only a reasonable proxy for actual market value. Even so, they give a rough measure of the phenomenon under investigation. For the purposes of this study, assessed value, as determined by the Beaufort County assessor’s office, serves as a reasonable benchmark against which to determine discounts from, and premiums over, market value.

**Exhibit 1** shows that in GCCs where the HOA owns the golf facility, vacant lots sell at a greater discount (lower premium) to the assessed value than in communities where the golf facilities are privately held. This appears true at golf courses where access is open to the public as well as where it is restricted to private members only. The data is from eight golf communities in Beaufort County. Lots in GCCs where HOAs own their golf amenities sell more consistently below assessed value than those where the facilities are owned by third parties. Exhibit 2 ranks eight GCCs in Beaufort County by the size of the change in assessed value of vacant lots between 2008 and 2018. GCCs where HOAs owned their golf facilities exhibited the worst performance.


30. South Carolina, with five-year reassessments, has a cap of 15% over the period between assessments. The assessment cap is in response to complaints from property owners about huge jumps in assessed valuation at reassessment, and thus in their property tax bills. When a property is sold, it is assessed at the new market value with no cap on the increase (excluding transfers within families and other special cases).


Exhibit 1  Average Lot Sale Price Premium over Assessed Value
Comparison of Lots in GCCs with HOA-Owned Golf Facilities and with Privately Owned Golf Facilities

Exhibit 2  Percentage Change in Assessed Value of Vacant Lots in GCCs, 2008 vs. 2018

<table>
<thead>
<tr>
<th>Golf Course Community</th>
<th>HOA or Privately Owned</th>
<th>Number of Vacant Lots</th>
<th>% Change in Assessed Value (2008 vs. 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lady's Island Golf Club</td>
<td>Private</td>
<td>36</td>
<td>86.6</td>
</tr>
<tr>
<td>TGC at Pleasant Point Plantation</td>
<td>Private-HOA*</td>
<td>26</td>
<td>53.4</td>
</tr>
<tr>
<td>The Sanctuary at Cat Island</td>
<td>Private</td>
<td>43</td>
<td>19.9</td>
</tr>
<tr>
<td>Indigo Run Golf Course</td>
<td>Private</td>
<td>51</td>
<td>(23.2)</td>
</tr>
<tr>
<td>Hampton Hall</td>
<td>Private</td>
<td>53</td>
<td>(30.7)</td>
</tr>
<tr>
<td>Dataw Island Country Club</td>
<td>HOA</td>
<td>94</td>
<td>(36.8)</td>
</tr>
<tr>
<td>Wexford Plantation</td>
<td>HOA</td>
<td>53</td>
<td>(43.9)</td>
</tr>
<tr>
<td>Belfair Golf Club</td>
<td>HOA</td>
<td>61</td>
<td>(76.0)</td>
</tr>
<tr>
<td>Total Lots</td>
<td></td>
<td>417</td>
<td></td>
</tr>
</tbody>
</table>

* Pleasant Point HOA purchased golf facilities from bank in 2012. Prior to that, assets were privately owned.

Data Source: Beaufort County Assessor Propertymax database
Research Method

This study examines the effects of golf course ownership on property values in GCCs. Because the study data is collected from two different types of ownership structures, within separate communities, it has the form of a natural experiment. The goal of this research is twofold:

1. To determine if the decision of HOAs to purchase golf facilities positively impacts lot value in GCCs; and
2. To determine if private membership golf courses preserve lot value better than golf courses with public access.

The sale price premium or discount over assessed value (i.e., whether or not investors can beat the market) is used as a proxy for value created or destroyed for property owners.

The hedonic approach suggests that a property's sale price is derived from a bundle of individual attributes, with each contributing to the value of the whole and each attribute having its own implicit price. The purpose of the hedonic pricing method is to separate a property into its constituent elements in order to calculate the implicit price of a particular attribute. Under the hedonic approach, the factors that influence the price of a property are the result of a complex set of interactions between individual attributes.

In Model 1, sale price of individual GCC properties is the preferred measure of value (and thus the dependent variable) in the hedonic analysis, because it reflects the buyer's allocation of expenditures among a range of competing alternatives in real estate. The assessed valuation is an alternative measure, used here to validate the initial findings. However, assessed value is widely perceived to be a less accurate measure because it relies on an assessor's best estimate rather than the price actually paid. Both sale price and assessed value are used as dependent variables in this study. This enables comparisons to be made between the two sets of results and determine the extent that HOA price premiums or discounts are recognized by county assessors. Spurious figures were removed from the sales data (e.g., tax sales, as indicated by deed type; and transactions of less than $1,000). The independent variables included were determined by their availability in the Propertymax database, Esri GIS technology, and information obtained from the Beaufort County Tax Assessor's website. Maps of properties were acquired in electronic format to display the study area through a feature offered in Propertymax. Exhibit 3 lists the full set of dependent and independent variables used in the study as well as the expected sign on the coefficient of each variable in the regression analyses. Except for HOA ownership—which is presumed to have a negative impact—the expectation is that the coefficients will be positive and statistically significant.

For this study, the property records for eight gated GCCs in Beaufort County, South Carolina, are examined. The primary variables of interest are golf facility ownership structure (HOA) and whether or not golf access is restricted to members only (PRIVATE). The research hypotheses are as follows:

\[ H_1 \] HOA ownership of golf course assets is negatively associated with the sale prices of vacant lots in GCCs.

\[ H_2 \] The restriction of access to golf course facilities to club members is positively associated with the sale price of vacant lots in GCCs.

Other independent variables include whether or not the lot is located on a golf course (GOLF), the size of the lot in acres (ACREAGE), and the year the property was sold (YEAR). Based on the previous literature, all three variables are expected to be positive in direction and significant.

Sale price and assessed value information was available for 2008–2018, representing $18 million in total transaction value over this period. Exhibit 4 contains descriptive statistics for the

33. A “natural experiment” is an empirical study in which research observations exhibit experimental and control conditions that are determined by nature or by other factors outside the control of the investigators. The process governing the distribution of the attribute of interest among the observations resembles a random assignment.

34. Propertymax is the legacy brand name for a software product line offered by Manatron, now owned by Thompson-Reuters. An enterprise information management system with embedded Esri GIS technology, Propertymax (now Aumentum Cadastre) helps local municipalities collect and manage property data and make it accessible to the public; for more information about this product, see https://tmsnrt.rs/3cyej8V. For more information regarding Esri GIS technology and products, see https://www.esri.com/en-us/home.

35. ACREAGE was not used in the final analysis because its coefficient was not found to be significant and the \( R^2 \) was low for all treatments.
The final sample pool consisted of 227 vacant lot sales. This represents the total number of lots sold in the eight communities during the study period. The data excludes tax sales, multiple transactions involving the same parcel within six months, transactions with a sale price below $1,000, and parcels with a water view. In addition, a random sample of 106 properties was selected from this pool on which the initial regression analysis was run. Since only a subset of properties in the Propertymax database included information on lot size, a smaller sample of 74 lots was also developed to run a parallel regression analysis using the variable ACREAGE. However, ACREAGE was not found to be significant in any of the models, therefore this variable was not included in the final regression analysis and the larger sample was used. Using the GIS data available in the Propertymax system, each parcel was labeled with the following attributes: golf-course-fronting or interior lot, lot size (where available), year the lot sold, assessed value of lot, and whether or not the golf course facilities were owned by an HOA or by a corporation.
private entity. From each GCC website it was determined whether or not course play was open to the public or restricted to members only.

**HOA Impact Model**

A standard regression model was used to examine the relationships between lot price, golf facility ownership structure, exclusivity of the golf course (i.e., open to public or not), golf course proximity, and assessed sale year. The Model 1 may be written as follows:

\[
SP_i = \beta_0 + \beta_1 \text{HOA} + \beta_2 \text{PRIVATE} + \sum_{j=2}^{n} \beta_j \Upsilon_{ji} + \varepsilon
\]

where,

- \( SP_i \) = Sale price of the \( i \)th vacant lot
- \( \text{HOA} \) = (1,0) dummy variable representing HOA ownership of the golf course or not
- \( \text{PRIVATE} \) = (1,0) dummy variable indicating golf privileges are open to the public or not
- \( \Sigma \Upsilon_{ji} \) = Standard lot amenities and other control variables that account for the remaining value impacts on lot prices (as defined in Exhibit 2)
- \( \beta \) = Parameters to be estimated including a constant term
- \( \varepsilon \) = Random error term

It is expected that the coefficient \( \beta_1 \) on HOA in equation (1) would be negative because of the initial observation that HOA ownership of golf assets is correlated with deeper discounts in sale price on both abutting and interior lots. However, it is presumed to be statistically significant. The impact of restricted golf course access is captured by the \( \beta_2 \) coefficient. It is expected to be positive and statistically significant.

Using the natural log of the sale price allows for an estimate of the percentage change in sale price associated with each of the explanatory variables. Both forms have been accepted in prior regression studies of this type.\(^{36}\)

**Results**

The results of the regression analysis are shown in Exhibit 5. The variables of interest—HOA and PRIVATE—both had a statistically significant impact on sale price of the approximate magnitude and in the direction expected. Because the study’s purpose is to assess the externality effect of HOA ownership of golf course facilities on sale price, equation 1 is expressed as the natural logarithm of the sale price of property \( i \):

\[
\ln(SP_i) = \ldots -0.80 \times \text{HOA}_i
\]

The coefficient of HOA is positive and significant at the 0.001 level. These findings led to rejection of the null hypothesis that HOA ownership of golf facilities within a GCC has no effect on a lot’s sale price.\(^{37}\) An HOA coefficient of \(-0.80\) implies a 55%\(^{38}\) discount for vacant lots at GCCs compared to GCCs where HOAs do not own their facilities.

Similarly, the coefficient of PRIVATE is positive and significant at the 0.001 level. This leads to rejection of the null hypothesis that restricted access to golf facilities within a GCC to membership only has no effect on a lot’s sale price. The percentage change in the dependent variable for a one-unit change in

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38. Applying the Kennedy technique to the HOA coefficient, \( \exp(-0.80) - 1 \) yields a 55% discount for HOA ownership. Kennedy, “Estimation with Correctly Interpreted Dummy Variables in Semilogarithmic Equations.”
the corresponding independent variable results in a PRIVATÉ coefficient of 0.71 and implies a 103%\(^{39}\) premium on sale price for vacant lots at GCCs compared to GCCs where golf facilities are open to the public.

The coefficients of determination, \(R^2\), for Models 1 and 2 are 0.31 and 0.40, respectively. The relatively low values compared with other regression analyses on undeveloped property values suggest that there are explanatory variables missing from the formula. Some of these variables have been suggested in the previous literature, including the effects of neighborhood conditions and of proximity to amenities and disamenities. However, the goal of this research is neither to identify nor to reconfirm all the elements of price but to assess the impact of heretofore unexamined variables. The results show no evidence of multicollinearity among the various measures of property characteristics using a standard technique, indicating the general reliability of the regression results. Upon comparison with Model 2, HOA shows no significant impact on assessed value, whereas PRIVATÉ is significant at the 0.001 level. This suggests that county assessors may not be aware of the potential impairment on sales value that HOA ownership of golf course facilities might impose. On the other hand, assessors appear keenly aware of the value created by the exclusivity factor.

Model 1 provides strong evidence that HOA ownership of golf course amenities has a negative effect on the sales price (value) of vacant lots in golf course communities. The very low \(p\)-value of the independent variable HOA (i.e., less than 0.001) when regressed against other variables in Model 1 suggests that it is a fundamental factor in the model. When regressed by itself in a \(t\)-test against sales, HOA ownership of golf facilities explains 24% of the change in sale prices (i.e., adjusted \(R^2\) of 0.24).

**Discussion**

This research identifies the adverse effect on lot sale price that results from the decision of an HOA to purchase its community golf facility. This finding was developed through a grounded theory of amenity ownership structure through a natural experiment. The research suggests the conceptual framework, shown in Exhibit 6, where homeowner (investor) value is driven by the interaction between both exogenous and endogenous variables, which are mediated by HOA decisions and the existence of amenities.

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\(^{39}\) Applying the Kennedy technique to the PRIVATÉ coefficient, \(\text{EXP}(0.71) - 1\) yields a 103% premium for membership exclusivity.
The popular golf literature of the 1990s agreed that a frontage lot on a golf course should sell for an average premium of 40%–70% relative to an interior lot in the same community or up to double the value of an equivalent lot in a non-golf master-planned development. The academic literature estimates a premium of 7.6%–7.9% for a completed frontage home over the price of a home not on the golf course. Rinehart and Pompe estimate price premiums for undeveloped golf course lots at 39%. The present study did not find golf course frontage to be a significant influence on sale price in the eight seasoned, master-planned golf communities examined. Also no significant relationship was seen between sale price and lot size. These findings do not support the findings in much of the earlier literature. Whereas the earlier research was done in the context of a healthy market for vacant lots at GCCs, the findings here could be indicative of an apparent collapse in demand. This observation corresponds with the work of Mothorpe and Wyman, which identifies a convergence in price for golf-course abutting, interior, and nearby non-GCC lots beginning in 2011. There is evidence that lots at many seasoned GCCs represent perceived and/or actual risk to investors and prospective homebuilders.

In addition, given that all of the transactions observed were in GCCs, the golf course proximity effect may have been offset by the influence on sale price of confounding variables, such as other amenities (e.g., pool, dining, tennis, exercise facilities). This is consistent with contradicting findings by Benefield, who found the effect of different bundles of amenities to have contradictory effects depending on the components of the bundle of amenities offered.

Other issues that can distort a planned community’s micro-market for undeveloped lots include foreclosure on the golf assets owned by a third party, high recurring HOA fees for investors in undeveloped lots, and pending HOA debt service events. Similarly, a growing body of literature shows the indirect impact of HOA restrictions on property values.

In examining the direct effects of HOA governance on amenities and its indirect effects on lot value, this research breaks new ground. The impact of HOA decisions regarding golf course ownership on home prices has yet to be determined and will be considered in future research.


42. Rinehart and Pompe, “Estimating the Effect of a View on Undeveloped Property Values.”

43. Because of a lack of significance in any of the models in which ACREAGE was used (e.g., Sales, Assess, InSales and lnAssess), the research used the larger sample (including properties without lot size data) to run the analysis shown here.

44. Mothorpe and Wyman, “Collapse.”


A possible reason for the discount observed on lot price at GCCs where HOAs own the golf facilities is a stigma effect. For example, because HOA leadership may lack the acumen required to run a golf operation effectively, the value of the lot is discounted for that implied risk. Another conceivable reason is the implication that such a purchase is indicative of failing golf operations. A third possible reason for the observed HOA effect on lot pricing is the likelihood that when HOAs own golf facilities, the lot owner will be subject to mandatory assessment fees to cover operating deficits. This has an effect similar to an explicit tax on the land.

Hedonic regression models commonly used in real estate appraisal suggest that the value of residential real estate depends primarily upon features specific to the property (such as lot size, number of rooms, the view), which are endogenous to the property. However, hedonic models are notorious for their omitted-variable bias. Capitalization theory addresses the omitted-variable problem by suggesting that, in addition to physical differences (e.g., market goods), residential real estate values are also positively affected by exogenous variables such as geographic differences (e.g., proximity to central city) and the level of public services (nonmarket goods) available to a property.

Public services include those provided by the municipality in which the property is located (e.g., police, fire, public education). The value of public services is evident in the price premium homeowners are willing to pay to purchase a property located in a community with better schools, parks, and other attractive features. The literature also suggests that property value is adversely affected by the property taxes. Property taxes are the allocated costs to provide public benefits enjoyed by a specific property.

Taking these factors into account, a generalized predictive model of residential real estate valuation can be specified as follows:

\[ V = f(D,G,T,F) \]  

where,

\[ V = \text{Property value} \]
\[ D = \text{Distance from the center city (i.e., commuting distance to job)} \]
\[ G = \text{Present value of public benefits} \]
\[ T = \text{Present value of property taxes} \]
\[ F = \text{Bundle of property-specific features} \]

A 1969 study by Oates is the only empirical research on property tax capitalization published to date. His findings indicate that an increase in property taxes unaccompanied by an increase in the output of local public services will be capitalized in the form of reduced property values. Conversely, an increase in public services (e.g., improved school system) will offset (and possibly more than offset) the negative effect of higher local property taxes. These results are consistent with the Tiebout model, which suggests that rational consumers are willing to pay more to live in a community that provides a high-quality program of public services or, conversely, a community that provides the same services with lower taxes.

Property taxes vary based on a property’s assessed value. They tend to grow over time, if only because of inflation, but primarily as public infrastructure continues to be enhanced. Tax capitalization theory suggests that real estate val-


49. Oates, “Effects of Property Taxes.”

50. Tiebout, “Theory of Local Expenditures.”
ues will vary directly with receipt of different levels of local government services and inversely with the cost of those services. Since property taxes have attributes similar to growing perpetuities, the present value of their depressive impact on property value can be captured using the Gordon Discount Model as shown below:

\[
T_0 = \frac{\Pi_1}{(r - g)}
\]

where,

- \(T_0\) = Present value of all future property tax payments
- \(\Pi_1\) = Next property tax payment
- \(r\) = Discount rate
- \(g\) = Growth rate

The higher the anticipated growth rate in property taxes, the greater the negative impact on overall property value, all else being equal.

Property values in certain subdivisions and planned unit developments are also affected by “club goods.” Club goods are quasi-public amenities that are available exclusively to a particular subdivision (e.g., a golf course, pool, clubhouse) or on a membership basis. HOA fees are like property taxes in that they are levied on all properties located within a subdivision and are typically the primary means used to support the cost of providing amenities within a subdivision. Unlike a property tax, the HOA fee is a flat charge levied on each unit of property owned by members of a community (as opposed to an ad valorem tax). This study holds that HOA fees have a capitalization effect on property value similar to property taxes. To the extent that the present value of HOA fees is greater than the perceived benefits of quasi-public amenities received, property values will be adversely affected.

This research considers the effect of HOA ownership of golf course facilities on property values within GCCs. In choosing to sample only vacant lots in GCCs within Beaufort County, South Carolina, the researchers were able to isolate the effects of HOA ownership on property value. This variable proved to have a significantly negative relationship with vacant lot values. Property values in gated communities where HOAs owned their golf facilities were on average 55% lower than property values where the facilities were owned by an independent outside party.

The negative effect of HOA ownership on community property values can be explained by the aforementioned model for property tax capitalization. The researchers submit that it is the expectation that HOA fees will grow faster when HOAs own golf facilities that causes the depressive effect observed on property value. This may be because the typical HOA leadership team has neither the management experience nor the industry expertise to make the business decisions necessary to minimize golf facility operating costs. Such inexperience might increase the likelihood that the board would recommend an increase in HOA fees over other more creative options to compensate for an increase in amenity costs over time. Moreover, in communities where average home values and household incomes are lower, homeowners may not be able to collectively invest in the type of new infrastructure and/or amenity improvements wherein the benefits would outweigh the additional costs. This is especially true if the utilization of current amenities is already at a sub-scale level and access to additional land limits the community’s growth potential. Therefore, as amenities grow older and maintenance fees increase, the burden to subsidize the anticipated monetary deficits will fall increasingly on property owners through increasing HOA fees. To the extent that buyers are able to get similar club-level benefits for lower HOA

51. Tiebout, “Theory of Local Expenditures.”
55. The research design controls for effects on value caused by distance from the central city, differences between municipalities, and specific property features other than lot size and golf course view. In addition, the same methodology is used to appraise all properties in the sample.
fees (or more precisely, the supply of lots will tend to be elastic and capitalized HOA fees will depress lot values. Given the large number of GCCs in Beaufort County and the availability of vacant lots, this appears to be the case.

The research also finds the private club effect to be significant. Over the study period, the saturated market has driven down prices for vacant lots even in high-end, membership-restricted golf communities. However, in communities where club membership is both exclusive and mandatory for homeowners, the increase in benefits appears to offset the depressive effects of higher HOA fees on property value. As a result, lots in these communities on average sell for more than their appraised value. Buyers appear willing to pay more to live in a community that provides a high-quality program of public services.\(^{56}\)

**Golf Communities as a Two-Sided Market**

This research offers evidence that the current business model followed by many GCCs regarding their golf course operations is not working. With an understanding of the conundrum that many golf communities face today, industry operators are exploring innovative ideas to generate additional revenue to offset anticipated losses. These range from greater investment in hospitality activities (e.g., restaurants and event hosting) to repositioning the golf facilities to appeal to larger audiences (e.g., Topgolf).\(^{57}\)

Golf operations in GCCs have many elements of two-sided (platform) markets. Platform markets are characterized by the existence of one or more user groups linked by a service or product provider that mediates their interactions in the presence of network externalities. In other words, platform users’ utility is related to the number of other users on the platform.\(^{58}\) The platform must enable a direct relationship between users and have its own membership.\(^{59}\)

This understanding of a successful platform market suggests HOAs should seek alternatives to the traditional HOA golf-facility ownership model. The financial benefits provide a rationale for why GCCs should consider transitioning their golf facilities to this business model. The economics literature identifies circumstances that are applicable to GCCs’ golf courses and suggests it is more profitable to charge a flat fee, such as a homeowners’ annual assessment, and to subsidize some user groups as in other examples of platform business models, rather than charge all users a marginal cost-based price per round of golf.

Network externalities also can increase the benefits enjoyed by the different user groups in various ways. Subsidizing one user group and charging the other is a common way of attracting and retaining a critical mass of users in a platform market.\(^{59}\) A classic example of a platform strategy is a credit card system that subsidizes cardholders by issuing a free credit card. This attracts merchants who pay a fee. As a result of that basic exchange, other services are offered, such as extended payment programs and frequent flyer miles.

Similarly, residents of planned communities can view their golf course and club facilities as an economic platform. The opportunity to play a round of golf can be offered at a low price
and bundled with other services to incent repeat customers (e.g., loyalty cards). As the number of repeat golf course users grows, merchants will be attracted by the opportunity to provide ancillary services to visitors and residents alike, such as restaurants, grocery stores, education programs, and health activities. If the HOA is willing to lease some of its golf course real estate on a build-to-suit basis, the rental fees also will offset homeowner assessments that otherwise may have been required.

“Themed” planned communities are another approach to enhance the feasibility of a GCC and its golf amenities. The emergence of the themed planned community is indicative of the possibilities of using community facilities as a platform that can foster economic exchanges between third-party service providers and homeowners and visitors. One example of a themed planned community is The Villages, an older adult community located in central Florida. The Villages’ developers adapted the concepts of active lifestyle community and New Urbanism design to add value to the development. The Villages’ themes are “Florida’s Friendliest Hometown” and “year-round vacation.”

Conclusions

With every boom in golf course development and participation there has been a corresponding bust. The first boom (private clubs) occurred in the 1920s, and that bubble burst with the Great Depression. The second boom (public golf courses), following the nation’s recovery from WWII, occurred in the 1960s. The third boom (real estate/private clubs) occurred in the 1990s. Today, the outlook for golf courses is uncertain. Right sizing is occurring as the supply of golf courses is adjusted and redefined to meet declining demand. The economic future of golf course developments will depend on a new golf course business model.

Golf operations at GCCs are by definition not-for-profit. They were used as a mechanism by developers to sell interior lots. While it makes sense for HOAs to own their golf facilities (i.e., to maintain control over assets that affect property values and to avoid property tax, to name two reasons), they might benefit from considering additional models. For GCCs and their HOAs there are ways to avoid some of the pains of economic adjustment—assuming the communities are willing to deal with the current realities. They must realize that the practice of providing too many amenities to too few paying homeowners is unsustainable. Private, membership-only golf course communities appear to have dealt with this dilemma because members commit to preserve real estate value by subsidizing the costs of amenities. New home buyers in golf communities, however, often are unaware of the risk to property values when community members refuse to support their golf club. Homeowners ultimately pay for the cost of amenities, either by subsidizing the cost through higher homeowner assessment fees or through the loss in the value of their homes by not doing so. It therefore behooves GCCs’ HOAs to seek additional revenue streams to help offset likely deficits resulting from golf course operations.

This article makes a case for the professionalization of HOA leadership. A firm understanding of real estate development and management principles will better equip these organizations with the skills required to implement the best business operating practices in the interest of the homeowners they serve. Many HOAs outsource the operations and governance activities to professional property management companies; however, the work herein considered requires a more hands-on commitment. HOA training and certification opportunities are available through organizations such as the Institute of Real Estate Management (IREM) and the Community Associations Institute (CAI). With many states currently exploring initiatives to regulate HOAs, this article provides a rationale for why this might be an appropriate path to consider.

In order to support the new platform-centric business model suggested in this article, HOAs will have to learn to operate more effectively. Unfortunately, HOAs lack the incentives to make the suggested operational changes and to attract the talent such new strategies might require. Therefore, training and some regulatory oversight may be required. In addition, new state

laws may be required to allow HOAs to issue tax-exempt debt to raise funding necessary for new capital projects. Future research will include the effect of HOA ownership on lot values in other counties and states, key success factors in the operation of themed communities, and the operational differences between community development districts and HOAs.

The study suggests that HOA fees will be higher where the HOA owns the golf course. This is probably due to a number of interrelated factors, including (1) lack of HOA management expertise; (2) insufficient number of paid memberships to cover costs of the golf amenity and thereby shield homeowners from having to cover the costs; and (3) choice of opening golf facilities to nonmembers, which results in loss of exclusivity, which, in turn, drives down property values. Higher HOA fees have an effect similar to that of a property tax. After a certain point, the assessment fee drives down property value. To avoid this negative feedback loop, property owners should investigate the possibility of converting common areas to cash-generating activities. Future research will investigate these relationships.

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Recommended by the Authors


Additional Resources
Suggested by the Y. T. and Louise Lee Lum Library

**Appraisal Institute**
- **Lum Library, Knowledge Base [Login required]**
  - Special use properties/sports, recreation, and entertainment/golf courses
- **Publications**
  - *Analysis and Valuation of Golf Courses and Country Clubs*
  - *Golf Property Analysis and Valuation: A Modern Approach*

**Lincoln Institute of Land Policy—Research and Data Research**
https://www.lincolninst.edu/research-data

**National Golf Foundation**
- **Golf Industry Facts**
  https://www.ngf.org/golf-industry-research/
- **Golf Participation in the United States**

**Urban Land Institute**
*Urban Land—Golf*
https://urbanland.uli.org/search-results?q=golf
Is the Eiffel Tower Worth More Than the Statue of Liberty? Techniques for Determining the Value of Iconic National Landmarks—Part I

by Richard J. Roddewig, JD, MAI, Anne S. Baxendale, and J. Andrew Stables

Abstract
This article is part 1 in a two-part series on the valuation of iconic national landmarks. It summarizes the appraisal profession’s debate during the last fifty years as to whether historically or culturally significant structures and land areas have a special historic value or public interest value that is higher than their market value. It then presents a case study of the iconic Statue of Liberty and Eiffel Tower to explore alternative reproduction cost techniques and income approach elements that can be used to estimate the value of historic landmarks. Part 2 of this article will appear in a forthcoming issue of The Appraisal Journal; it will discuss techniques for estimating land value under the Statue of Liberty and the Eiffel Tower, and the economic impact tools for estimating the additional elements of public interest value generated by such symbolic icons.

Introduction
Over the past fifty years, some in the appraisal profession have argued that historically or culturally significant buildings and land areas have a special historic value or public interest value that is higher than their market value based on a comparison of prices paid for buildings or land with similar physical or locational characteristics but not historically significant. Whether there is such a thing as “historic value” or “public interest value” has caused significant debate and public policy discussion. A number of articles on that topic have been published in The Appraisal Journal over the years.¹

Proponents of strong legal protections for significant landmarks and historic districts emphasize the cultural importance of preserving such properties and areas, and also claim that their protection creates significant economic benefits to the community and public at large.² Opponents of strong protections emphasize the potential adverse impact on market value from legal restrictions that prohibit alterations or demolitions—in particular in relation to commercial buildings—and the interference with private property rights. Proponents of official designation of landmarks and historic districts counter with studies showing that property prices and values in most residential historic districts increase at rates that equal or exceed those in nearby neighborhoods. Iconic commercial or institutional landmarks are important tourist


attractions and, at a minimum, important to establishing a distinctive character or setting for a particular neighborhood or location.\textsuperscript{3}

The focus of that debate typically has been on privately owned property. Both sides in that debate would agree that there is a category of iconic \textit{publicly owned} landmarks—or culturally, historically, or architecturally significant publicly owned properties—that have a historic value or a public interest value and are worthy of protection. Properties of this type include Mount Rushmore, the Washington Monument, and the Statue of Liberty in the United States; and the Eiffel Tower in Paris, the Tower of London, the Parthenon in Athens, and the Colosseum in Rome. Some argue that icons such as these have an “intrinsic worth” or “psychic value” due to their association with the myths that underlie (and create) the national character and civic cohesiveness of their respective countries.\textsuperscript{4}

But do such iconic landmarks as the Statue of Liberty or the Eiffel Tower have a “worth” or value that can be measured in economic terms in dollars or euros? If so, can traditional appraisal techniques and methods be used to derive that value, and is the result market value or something else?\textsuperscript{5}

This article attempts to answer these questions through an analysis and comparison of the value of the Statue of Liberty and the Eiffel Tower as of early 2020, before the COVID-19 pandemic shut down tourism sites. As part of the discussion, the following issues will be addressed:

- What is the difference between the definitions of \textit{public value} and \textit{market value}, and how does that difference affect the valuation assignment and value conclusion?
- What are the appropriate techniques for analyzing the value of iconic special-purpose properties such as publicly owned landmarks?
- How can we extrapolate the real estate value from the business value, investment value, or public interest value of such icons as the Statue of Liberty and the Eiffel Tower?

**Defining the Assignment Purpose and Professional Standards to Apply**

The purpose of the valuation assignment, the intended users, and the appraisal standards to apply must be clarified before any questions can be addressed related to valuation of a landmark. Possible purposes of such an assignment include the following:

- To generate civic support for costs of maintaining or restoring the landmark
- To compare various alternative ways to handle ownership and ongoing operating costs or budgets
- To understand the potential market value if the icon is put on the market
- To aid in renegotiation of an existing public/private ownership/operational structure or the creation of a new one
- To understand any enhancements in value to nearby real estate or economic benefits to the local economy in the form of additional tax revenues from various sources

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Many iconic national landmarks around the world are poorly maintained. Some are in desperate need of repair and restoration. The Statue of Liberty and the Eiffel Tower both have gone through expensive restoration projects, as will be discussed later. Many other iconic government-owned structures and properties need similar expenditures to preserve them for future generations. Before such projects begin, governments may want to know if there is a method that allows comparison between the project cost and the economic benefit, at least as measured in terms of the value of the landmark in public ownership after project completion. In other words, will the value of the restored landmark exceed the public cost of the restoration project?

Another reason for an assignment may be public pressure to privatize ownership of a publicly owned heritage resource. Here the question is, Is it less expensive to sell the iconic landmark and reinvest the proceeds rather than continue to own and subsidize the operation? If so, what is the price of the cultural icon that the government could obtain if the property were sold in the private marketplace? The valuation client in that situation could be either the government or potential private market bidders.

Depending on the purpose of the assignment—and the use of the valuation report—one or more sets of appraisal standards may apply. In a valuation involving either the Eiffel Tower or the Statue of Liberty, the professional standards that could apply might be the Uniform Standards of Professional Appraisal Practice or the International Valuation Standards or the European Valuation Standards, depending on the professional organization to which the valuer belongs, the country or jurisdiction in which the valuer is located or licensed, or the requirements of the user of the appraisal/valuation service and report. Supplemental standards issued by a lender or by a government agency also could be involved.

**What Type of “Value” Is to Be Determined?**

Even when the purpose and intended use and user are known, essential questions remain concerning the type of “value” that will be the subject of the assignment. Professional standards clearly differentiate between various types and concepts of value and require any report to identify the type


8. The Dictionary of Real Estate Appraisal, sixth edition, defines an economic impact report as “a report detailing a major real estate project's potential impact on the local economy, which may include estimates of the project's market value and potential gross sales as well as indications of its business, occupational, and tax impact on the community.” Appraisal Institute, The Dictionary of Real Estate Appraisal, 6th ed. (Chicago: Appraisal Institute, 6th ed., 2015), s.v. “economic impact report.”


10. For example, in the United States the Uniform Appraisal Standards for Federal Land Acquisitions apply to property acquisitions by the federal government and also apply to state property acquisitions in which federal funds are involved. Other federal agencies, such as the Internal Revenue Service, have issued supplemental standards related to the content of real estate appraisal reports.
and definition of value that apply. Among the various potential types of value that could be involved in an assignment to value the Statue of Liberty or the Eiffel Tower are the following:

- Market value
- Investment value
- Business value
- Going concern value
- Public interest value
- Value in use

The type and concept of value will define the research and analysis needed in an assignment. When going concern value, business value, or public interest value is part of the assignment, there may be a need to differentiate the value of the real estate from the value of the business operating the landmark. There are various definitions of each of those value terms. The key elements in the most common US/Canadian definition of market value are:

1. the most probable price as of a specific date;
2. obtained in an open and competitive marketplace after reasonable exposure;
3. involving specified property rights and interests;
4. with both buyer and seller acting prudently, knowledgeably and for their self-interest; and
5. neither buyer nor seller are under duress.

The International Valuation Standards define market value in similar terms.

In an assignment involving the Statue of Liberty or the Eiffel Tower, a governmental client might state that it wants an estimate of the “public interest value,” a term that has no generally accepted definition in valuation standards. The Appraisal of Real Estate, fourteenth edition, states as follows regarding public interest value:

Historically, public interest value has been used as a general term covering a family of value concepts that relate the highest and best use of property to noneconomic uses. (Other terms for similar concepts include natural value, intrinsic value, aesthetic value, scenic value, and preservation value.) The analysis of public interest value tends to be driven by social, political, and public policy goals rather than economic principles.14

However, none of the value terms in the above excerpt—including public interest value—is defined in the Appraisal Institute’s Dictionary of Real Estate Appraisal, sixth edition.

Given its relationship to noneconomic uses, the concept of public interest value is related to use value, which is discussed as follows in The Appraisal of Real Estate, fourteenth edition:

In estimating use value, an appraiser focuses on the value the real estate contributes to the enterprise of which it is a part or the use to which it is devoted, without regard to the highest and best use of the property or the monetary amount that might be realized from its sale.15

Can the public interest value of the Eiffel Tower and the Statue of Liberty be measured in terms of the dollars and euros they generate for their local and national economies? If so, public interest value can be thought of in terms of going concern value, at least if the going concern of the

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11. According to The Dictionary of Real Estate Appraisal, sixth edition, “the most widely accepted components of market value are incorporated in the following definition: The most probable price, as of a specific date, in cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.” The Dictionary of Real Estate Appraisal, 6th ed., s.v. “market value.”

12. The Uniform Appraisal Standards for Federal Land Acquisition states, “Willing and reasonably knowledgeable buyers and sellers are not defined as all-knowing, but rather as having the knowledge possessed by the typical ‘willing buyer-willing seller’ in the marketplace. An arm’s-length transaction cannot be disregarded solely because a buyer or seller lacked ‘perfect’ knowledge.” Interagency Land Acquisition Conference, Uniform Appraisal Standards for Federal Land Acquisitions, 2016 ed., Section 4.2.1.3.

13. The International Valuation Standards state, “Market value is the estimated amount for which an asset should exchange on the valuation date between a willing buyer and a willing seller in an arm’s-length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently, and without compulsion.” International Valuation Standards Council, International Valuation Standards (London: IVSC, 2011), 20–21.


Eiffel Tower or the Statue of Liberty is the French or US governments. This is the meaning of “public interest value” as used in this article.

The Statue of Liberty and the Eiffel Tower as Special-Purpose Properties

The Statue of Liberty and the Eiffel Tower meet the following definition of a special-purpose property:

A property with a unique physical design, special construction materials, or a layout that particularly adapts its utility to the use for which it was built; also called a special design property.

The characteristics that mark properties as special purpose can also be listed as follows:

• They were constructed for a specialized use
• They exhibit a specialized design
• They are difficult or expensive to convert to another use
• They have limited utility for alternative uses; in other words, they have high functional obsolescence when considered for alternative use
• There are few, if any, market transactions involving similar properties

The history of the Statue of Liberty and the Eiffel Tower demonstrate their special-purpose character. Both icons have all the noted characteristics of a special-purpose property and, perhaps most significantly, since they are one-of-a-kind, there are no sales of truly comparable properties that can be used to estimate their value.

In 1875 construction of the Statue of Liberty began in France. It was later disassembled and transported to the United States. It was intended as a gift from the citizens of France to the citizens of the United States to commemorate the alliance between the countries during the American Revolution. The torch and arm of Lady Liberty were first exhibited at the Philadelphia International Centennial Exposition in 1876, and the entire statue was installed on its base on Bedloe’s Island (later renamed Liberty Island) in 1886. In 1924, the Statue of Liberty was designated as a national monument, and in 1933, responsibility for it was transferred to the National Park Service (NPS).

The supporting iron framework for the Statue of Liberty as well as the Eiffel Tower was engineered by Gustave Eiffel. The Eiffel Tower was constructed for the Paris World’s Fair of 1889. Unlike the Statue of Liberty, the Eiffel Tower was conceived of as a commercial venture. Gustave Eiffel received a permit to build and operate it and was authorized to keep all income from commercial exploitation of the tower for twenty years, at which time it was to revert to the City of Paris, which intended, at least at the time of construction, to demolish it.

Special-Purpose Properties and the Cost Approach to Value of the Eiffel Tower and the Statue of Liberty

The Appraisal of Real Estate notes the particular appropriateness of the cost approach for the valuation of special-purpose properties. But, can cost approach techniques be used reliably to value iconic landmarks originally constructed in the 1870s and 1880s?

Inflating the original construction cost and determining the cost of constructing a new structure with similar utility are two commonly used methods for determining the undepreciated cost of improvements. Neither of those methods work very well for the Statue of Liberty and the Eiffel Tower, but both techniques can be tried.

For special-purpose, one-of-a-kind historic icons, a calculation of undepreciated reproduction cost—rather than replacement cost—is the goal. The Dictionary of Real Estate Appraisal, sixth edition, defines reproduction cost as “the estimated cost to construct, at current prices as of the effective date of the appraisal, an exact dupli-

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16. A going concern is “1. An established and operating business having an indefinite future life. 2. An organization with an indefinite life that is sufficiently long that, over time, all currently incomplete transformations [transforming resources from one form to a different, more valuable form] will be completed.” The Dictionary of Real Estate Appraisal, 6th ed., s.v. “going concern.”
19. For example, see The Appraisal of Real Estate, 14th ed., 45, 566, and 567.
cate or replica of the building being appraised, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, superadequacies, and obsolescence of the subject building.” (emphasis added) In contrast, replacement cost is defined as “the estimated cost to construct, at current prices as of a specific date, a substitute for a building or other improvements, using modern materials and current standards, design, and layout.” (emphasis added) The most important differences between the two types of construction costs are in the elements emphasized—reproduction attempts to provide an exact duplicate, while replacement does not.

The Eiffel Tower was reportedly constructed by over 300 workmen over twenty-six months. It is 1,063 feet high (including its antenna), with 18,038 metal parts connected by 2.5 million rivets22 and 7,300 tons of specialty structural “puddled iron” pieces.23 (Exhibit 1)

Reported cost of the Eiffel Tower was almost 8 million francs, equivalent to US$1.5 million in 1890.24 Can a current reproduction cost be calculated based on the original 1887 to 1889 Eiffel Tower construction cost? Using the 2.55% annual inflation rate in the United States since 1888, the 2019 cost of the $1.5 million original construction expenditure would be approximately $38.35 million.25 But, at best this is a modified form of reproduction cost since it does not consider the following:

• Construction techniques originally used and how they affect cost
• Cost of today’s stricter safety standards
• Inflation in French wages relative to general price inflation since the original construction
• Possible indirect costs omitted from the original cost figures

Is it appropriate to use replacement cost for some/all of the construction materials in the cost approach? What would it cost to build a replica of the Eiffel Tower using today’s construction materials and construction techniques?

There are two famous replicas of the Eiffel Tower. The first is the Tokyo Tower built in 1958 in Japan at a reported cost of ¥2.8 billion,

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23. According to the *Encyclopedia Britannica*, puddling was a “method of converting pig iron into wrought iron,” and “allowed wrought iron to be produced on a large scale.” “Puddling Process,” *Encyclopedia Britannica Online*, https://bit.ly/3e5StreY.


25. Deriving an inflation rate for France since the 1880s is difficult. The US inflation rate is retrieved from Officialdata.org at https://bit.ly/37xadw6. This does not take into account inflation in the daily wages of French laborers, which is much higher than the overall average US inflation rate of 2.55% per year since 1888. Nor does it consider costs related to current safety regulations of construction projects or the current cost of steel compared to the cost of puddled iron in 1888.
or US$8.4 million. At a 2.5% rate of inflation since 1958, the current construction cost would be $37.88 million.\(^{26}\) The tower was reportedly mortgaged in 2000 for ¥10.0 billion (US$82.3 million).\(^{27}\)

The second replica of the Eiffel Tower is at the Paris Hotel and Casino in Las Vegas (Exhibit 2). It is a half-scale replica made using steel and welds rather than iron and rivets. A National Geographic Channel program in the Pricing the Priceless series explored the cost of replicating the Eiffel Tower and included detailed information related to the cost of the Las Vegas half-scale version. The estimated 2011 cost of this reduced version was a reported $60 million.\(^{28}\) Given the dimensions of the Las Vegas version, a full-size equivalent would contain eight times the steel in the Las Vegas replica. Assuming no economies of scale, the cost of a full-size version (based on the Las Vegas replica’s costs in 2011) would be $480 million,\(^{29}\) which inflated at a 2.5% annual rate since 2011 would indicate a current cost of $584.8 million.\(^{30}\)

Las Vegas also has a Statue of Liberty replica at the New York-New York Hotel and Casino. Its construction cost is not likely to be relevant to the costs discussion here based on a New York Times’ description that says the structure is “about two-fifths the height of the original (150 feet versus 350 feet), weighs far less (150 tons versus 27,000 tons) and is way younger (about 15 years compared with 127). It is also made of less stern stuff, mostly carved Styrofoam coated with reinforced fiberglass and exterior drywall, rather than the iron supports and beaten copper of the original.”\(^{31}\)

Information is available but inconsistent about the historic cost to construct the Statue of Liberty. One source estimates the cost was 2.25 million francs,\(^{32}\) equivalent to somewhere between US$435,000 and US$1.09 million in 1875 to 1885 when the statue was completed in Paris.\(^{33}\) However, that is only part of the total cost. The

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\(^{29}\) Cook, “The Eiffel Tower.”

\(^{30}\) It is not clear from the information available whether the Tokyo Tower or Las Vegas construction figures include indirect costs.


\(^{33}\) Conversion of French francs from the late nineteenth century to US dollars is difficult. One source estimates the exchange rate in 1865 to be 2.06 francs to USD 1, and an 1890 exchange rate of 5.15655 francs to USD 1. “Historical Value of French Franc (in Comparison to US Dollar),” Ask MetaFilter, https://bit.ly/3dbyOTT. Using the 1865 figure, the cost in 1875 would be equivalent to $1,092,233, and using the 1890 conversion rate, the 1885 cost in France of 2.25 million francs would be equivalent to $436,338. A New York Times article, “Drive for Statue of Liberty Nears $100 Million” (August 19, 1984), estimated the original cost in 1881 as equivalent to $400,000 with an additional amount of $270,000 raised four years later to construct the statue pedestal.
Statue of Liberty was shipped to New York City in pieces and reassembled at an unspecified cost. Its special pedestal reportedly cost $102,000 to build in 1885.34 Using 1880 as the midpoint of construction, the current cost today based on a 2.5% annual inflation rate would be approximately $9.57 million.

There have been significant additional improvements on Liberty Island over the years that must also be considered if the “cost” or value of the Statue of Liberty is to be fully understood. These include the fill, riprap, and perimeter bulwark to protect the island35 and the visitor services improvements on the island.

Exhibit 3 lists some of the capital expenditures for improvements for the Statue of Liberty. Similarly, Exhibit 4 shows some (but not all) of the improvements and restoration costs for the Eiffel Tower. Based on the data in Exhibits 3 and 4, reasonably supportable estimates of the undepreciated reproduction costs of the Statue of Liberty and Eiffel Tower would be as follows:

- Statue of Liberty — $285 million
- Eiffel Tower — $515 million to $585 million

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### Exhibit 4 Eiffel Tower Capital Expenditures

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Historic Costs (US$)</th>
<th>Approx. Cost in 2019 (US$) (2.5% per year)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eiffel Tower Capital Expenditures, 1887–1969</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1887–1889</td>
<td>Original construction</td>
<td>7.8–8.0 million French francs, or about US$1,510,000</td>
<td>38,000,000</td>
</tr>
<tr>
<td>1890</td>
<td>Based on visitor patterns, “a few small adjustments” to improve visitor circulation</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1900</td>
<td>Improvements to revamp circulation on first to third platforms by demolishing and relocating structures on them and rebuilding exterior restaurant façades. New elevators installed in the east and west pillars.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1937</td>
<td>Four restaurants demolished and replaced by two new restaurants. Lighting improvements. Removal of some original decorative elements on first level.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1965</td>
<td>New electric elevator with capacity of 100 installed.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1969</td>
<td>Ice skating rink installed.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Total Costs 1887–1969</strong></td>
<td></td>
<td>$1,510,000</td>
<td>$38,350,000</td>
</tr>
</tbody>
</table>

| **Eiffel Tower Capital Expenditures Since 1981**                      |                                                            |                                            |                                            |
| 1981–1983  | Original elevators between second and third levels replaced. Two new emergency staircases installed. Some structural beams removed to correct sagging. Lighting system revamped. Tower sealed and repainted. | 38,000,000                                  | 94,740,000                                  |
| 1986       | Original lifts in the east and west legs refurbished; small service lift added to the south leg. | NA                                                        | NA                                          |
| 2015       | Installation of glass skywalk and electricity-producing wind turbines. Updates to restaurant and gift shop. Renovation and replacement of pavilions on first platform. | 38,400,000                                  | 42,390,000                                  |
| January 2017 | Fifteen-year renovation plan announced to reverse physical deterioration and functional obsolescence. Structural reinforcements to protect tower from terrorist attacks. | 321,000,000 (estimated)                      | 337,250,000                                 |
| **Total Costs**          |                                                            | $398,910,000                             | $512,730,000                                 |
| **Rounded to**          |                                                            | $400,000,000                             | $515,000,000                                 |

*As indicated earlier, the US inflation rate since the late 1880s has been used because deriving an inflation rate for France is difficult.

The next step is to consider how to measure physical depreciation as well as functional and external obsolescence on iconic landmarks. One way to measure physical depreciation and functional obsolescence is to analyze historic restoration and improvement costs.

Most of the work in the NPS’s Statue of Liberty projects during the 1930s through 1960s involved improvements for the Liberty Island visitor experience and for NPS administration. However, the 1984 to 1986 project involved an actual restoration of the statue itself as well as improvements to functionality for visitors. The NPS spent approximately $39 million to rehabilitate and restore the Statue of Liberty. At a 2.5% annual rate of inflation, that would equate to $90.3 million in 2019 dollars, or more than four times the inflated original 1880s cost of fabricating the statue.

It was acknowledged at the time of that 1980s restoration that the Statue of Liberty had not been properly maintained over the years. So, one way of measuring the physical life of the original statue in the 1880s is to calculate how long it would have taken for an appropriate “reserve for replacement” set aside in 1886 at the date of its dedication to accumulate an equivalent of $39 million in 1985 dollars. If 3.5% of the original estimated expenditure of $865,000 (including the base) was set aside annually as a replacement reserve, the fund would have grown to approximately $79 million by 1985 at what is considered to be the relatively risk-free market interest rate in effect in 1885. That would indicate that the Statue of Liberty was suffering from physical depreciation (deterioration) of about 49% as of 1985, 100 years after its dedication.

Given the extensive restoration and improvement projects from the 1980s through 2019, the capital expenditure improvements made in the 1930s through the 1960s should be considered to have reached the end of their useful lives and therefore contribute little, if any, to the current value. The restoration in the 1980s, and the more recent $100 million expenditure to build a new museum and interpretive center, can be considered to have offset any lingering functional obsolescence issues for visitors to the Statue of Liberty. The quality of that 1980s restoration work and the museum and interpretative center construction argues for a 100-year economic life for those improvements. Using straight-line depreciation, the cost approach to value after considering physical depreciation can be estimated as shown in Exhibit 5.

Although the calculation leading to the $515 million reproduction cost estimate for the Eiffel Tower is missing some expenditures from the early 1900s, those expenditures, like

37. Significant statue renovation and restoration in 1984–1986 included replacement of the original torch with one whose flame is covered in 24-carat gold and the installation of both passenger and emergency elevators. The statue’s arm and shoulder were also considered for replacement, but at the insistence of the NPS, they were repaired instead. Richard Seth Hayden et al., Restoring the Statue of Liberty (McGraw-Hill, New York, 1986).
38. The hospitality sector (hotels and motels) in the United States typically sets aside 3.5% to 5.0% as a reserve for replacement. That reserve includes a set aside for replacement of furniture, fixtures, and equipment, which must be replaced more frequently than long-term capital items. As a result, the 3.5% reserve for replacement derived from an analysis of historic capital replacement costs at the Statue of Liberty is supported by general hospitality industry data. For example, see the 2019 HOST Almanac for the Year 2018 (https://bit.ly/2AGuSr) published by STR Inc., which includes various calculations of reserve for replacement in a range between 2.5% and 5.5% depending upon the category of hotel/motel.
39. The best proxy for a risk-free interest rate in 1885 is US railroad bonds, because long-term government bonds of that era could be used to secure bank notes and therefore carried interest rates well below what was considered the acceptable relatively risk-free rate. Railroad bond rates were declining during the last two decades of the nineteenth century, from 6.45% in 1878, to 5.98% in 1879, and to 4.43% in 1889. A 4.5% to 5.0% rate of return would likely have been considered appropriate in 1885. Murray N. Rothbard, History of Money and Banking in the United States: The Colonial Era to World War II (Auburn, Alabama: Ludwig von Mises Institute, 2002), 163. That rate also appears to be a supportable rate of return in general since the late 1880s, assuming an average inflation rate during the 1885 to 1985 century of 2.5%. The “trend in world real interest rate” (after adjusting for inflation) “has fluctuated close to 2 percent for more than a century.” Marco Del Negro et al., Global Trends in Interest Rates, Federal Reserve Bank of New York, Staff Report No. 866, September 2018.
40. The $100 million expenditure in 2016 to 2019 replaced or renovated most of the improvements made in the 1930s through the 1960s.
older improvements at the Statue of Liberty, now would be fully depreciated. Similarly, improvements at the Eiffel Tower between 1900 and 1937, for which cost data has not been found, are likely to have reached the end of their useful lives.

Even though some of the historic costs of improvements made to the Eiffel Tower are not available, for the sake of consistency in approach the analysis uses the inflated original reproduction cost estimate ($515 million) rather than the higher reproduction cost estimate ($585 million) as estimated in the Pricing the Priceless calculation based on the cost of the Las Vegas Paris Hotel half-scale version.

The 1981–1983 expenditure of $38 million after 93 years of use of the Eiffel Tower is not very different from the NPS Statue of Liberty Centennial expenditure of $39 million. If 3.5% of the original estimated cost of the Eiffel Tower of $1.51 million was set aside annually beginning in 1890 as a replacement reserve, the fund would have grown to approximately $37.9 million by 1982 at the long-term government bond rate in

### Exhibit 5  Statue of Liberty Expenditures, Physical Depreciation and Functional Obsolescence

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Approx. Cost in 2019 (US$) (2.5% per year)</th>
<th>Est. Physical Depreciation &amp; Functional Obsolescence (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-National Park Service Capital Expenditures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1875–1884</td>
<td>Original construction</td>
<td>22,460,000</td>
<td>50% or 11,230,000</td>
</tr>
<tr>
<td>1882–1886</td>
<td>Pedestal construction</td>
<td>2,860,000</td>
<td>50% or 1,430,000</td>
</tr>
<tr>
<td>1916</td>
<td>Replacement of elements damaged by New Jersey ammunition dump explosion</td>
<td>1,625,000</td>
<td>50% or 812,500</td>
</tr>
<tr>
<td>1916</td>
<td>Improvements to torch beacon lighting</td>
<td>975,000</td>
<td>50% or 487,500</td>
</tr>
<tr>
<td></td>
<td><strong>Total Inflated Costs 1875–1916</strong></td>
<td><strong>$27,920,000</strong></td>
<td><strong>$13,960,000</strong></td>
</tr>
<tr>
<td>National Park Service Capital Expenditures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1937–1941</td>
<td>Construction of administration and concession buildings; demolition of army structures; landscaping</td>
<td>18,020,000</td>
<td>100% or 18,020,00</td>
</tr>
<tr>
<td>1952–1953</td>
<td>Improvements to employee housing units and housing courtyards</td>
<td>915,250</td>
<td>100% or 915,250</td>
</tr>
<tr>
<td>1966</td>
<td>Completion of 1937 Master Plan. Improvements to roads, trails, buildings, and utilities</td>
<td>2,250,000</td>
<td>100% or 2,250,000</td>
</tr>
<tr>
<td>1984–1986</td>
<td>Centennial restoration</td>
<td>90,300,000</td>
<td>34% or 30,702,000</td>
</tr>
<tr>
<td>2011–2012</td>
<td>Updates to elevators and restrooms</td>
<td>32,795,000</td>
<td>8.5% or 2,788,000</td>
</tr>
<tr>
<td>2013–2014</td>
<td>Demolition and reconstruction after Hurricane Sandy</td>
<td>6,415,000</td>
<td>6.0% or 384,900</td>
</tr>
<tr>
<td>2016–2019</td>
<td>New museum and interpretative center</td>
<td>105,000,000</td>
<td>2.5% or 2,625,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total Costs</strong></td>
<td><strong>$283,615,250</strong></td>
<td><strong>$71,645,450</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Rounded to</strong></td>
<td><strong>$285,000,000</strong></td>
<td><strong>$70,000,000</strong></td>
</tr>
</tbody>
</table>

Source: “Repair and Renovation of the Statue of Liberty,” Wonders-of-the-World.net
France in 1889.\(^4\) That indicates a 100-year physical life for the Eiffel Tower, assuming that it had received appropriate routine maintenance during those first 100 years.\(^3\) Using a 100-year physical life and straight-line depreciation, the appropriate depreciation factors to apply to the 1981–1983 and 2015 Eiffel Tower projects would be 37% and 4%, respectively.

The fifteen-year, $321 million Eiffel Tower project announced in 2017 primarily involves functional improvements necessary to handle the massive increase in world tourism in today’s international travel market.\(^4\) A large portion of the project cost will involve not the tower itself but the area around the tower, “creating a new way of discovering the tower and its immediate surroundings,” with greater visitor amenities throughout the whole site, offerings enabling visitors to rediscover the site’s heritage, and increased security.

Building a new bulletproof

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\(^41\) Between 1885 and March 1889, 3.0% French perpetual government bonds (rentes) traded at levels between 79.98 and 85.38 francs per 100-franc share. That indicates a yield of between 3.5% and 3.75%. “Prices of Three Per Cent Perpetual Rentes (Terme) for France,” FRED Economic Research, https://bit.ly/3e4RWcj. This is additional support for the conclusion that a reserve for replacement of 3.5% is appropriate for both the Eiffel Tower and the Statue of Liberty.

\(^42\) Perhaps the most important routine maintenance for an iron structure is repainting, which has been done on average every seven years at the Eiffel Tower. “Painting the Eiffel Tower,” Toureiffel.paris, https://bit.ly/3fy5u0h. Also see “Eiffel Tower History—Renovations,” Wonders of the World, https://bit.ly/2Y5d3FN.


\(^44\) That portion of the overall project is called “The Eiffel Tower Great Site: Discovering, Approaching, Visiting” and went out for project proposals in 2018, and it involves a large area surrounding the tower. “International Projects Call to Redesign the Eiffel Tower Area,” Toureiffel.paris, https://bit.ly/30JIDuk.
glass wall around the tower is estimated to have cost $40 million to $55 million and additional millions will be spent reinforcing the structure of the tower itself to withstand terrorist attacks.

Using straight-line depreciation, the cost approach to value after considering physical depreciation at the Eiffel Tower can be estimated as shown in Exhibit 6.

The depreciated reproduction costs of the Statue of Liberty and Eiffel Tower would be calculated as follows:

<table>
<thead>
<tr>
<th></th>
<th>Reproduction Cost</th>
<th>Physical &amp; Functional Depreciation</th>
<th>Depreciated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statue of Liberty</td>
<td>285,000,000</td>
<td>70,000,000</td>
<td>215,000,000</td>
</tr>
<tr>
<td>Eiffel Tower</td>
<td>515,000,000</td>
<td>78,500,000</td>
<td>436,500,000</td>
</tr>
</tbody>
</table>

As will be discussed in the forthcoming part 2 to this article, two additional factors must be considered. First, land value must be added to the depreciated reproduction costs to arrive at a final value for each icon by the cost approach. Second, consideration of potential external (economic) obsolescence must be considered in an age of terrorism, COVID-19, and other concerns affecting iconic landmarks, travel, and tourism. That can be analyzed, in part, by considering the effect of those concerns on visitor numbers at the Eiffel Tower and the Statue of Liberty in recent years.

Special-Purpose Properties and the Income Approach to Value of the Eiffel Tower and the Statue of Liberty

From its very inception, the Eiffel Tower was envisioned as an income-producing venture. Gustave Eiffel and later the City of Paris have operated it to generate revenue. Visitor levels were 2 million during the original Exposition of 1889 and 1 million during the additional exposition in 1890. Visitor levels were well under 1 million in the intervening years up to and including the 1937 International Exposition of Arts and Technology in Modern Life. In the decades after World War II, visitation surged; by 2011 the tower was attracting almost 7 million visitors annually, and it has maintained that level on average (Exhibit 7).

One important question is whether the Eiffel Tower is profitable for its owner, the Council of Paris. In 2005, the Council entered into an agreement with the Société d’Exploitation de la Tour Eiffel (SETE) to manage and operate the site. SETE keeps all revenues (except from the antenna) but pays a “royalty” (in effect, a percentage rent) to the Council of Paris. Profitability to the Council of Paris from its contractual arrangement with SETE is difficult to determine. The operating agreement set an increasing royalty payment that started at 13% of operating income in 2006 and increased to 25% in 2015. Annual operating income and royalty payments during those first ten years are shown in Exhibit 8.

47. The Council of Paris has local legislative authority for the Paris metropolitan area.
Exhibit 7  Annual Visitors to the Eiffel Tower, 1889–2017

Source: Official statistics of the successive operators of the Eiffel Tower, retrieved from https://fr.wikipedia.org/wiki/Fr%C3%A9quentation_de_la_tour_Eiffel

Exhibit 8  Eiffel Tower Annual Concession Payments and Operating Income

<table>
<thead>
<tr>
<th>Year</th>
<th>Concession Payment (€)</th>
<th>Operating Income (€)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>−10,620,000</td>
<td>83,980,000</td>
<td>−13</td>
</tr>
<tr>
<td>2016</td>
<td>18,500,000</td>
<td>79,690,000</td>
<td>23</td>
</tr>
<tr>
<td>2015</td>
<td>21,070,000</td>
<td>83,950,000</td>
<td>25</td>
</tr>
<tr>
<td>2014</td>
<td>27,000,000</td>
<td>96,000,000</td>
<td>28</td>
</tr>
<tr>
<td>2013</td>
<td>10,800,000</td>
<td>73,900,000</td>
<td>15</td>
</tr>
<tr>
<td>2012</td>
<td>9,600,000</td>
<td>66,600,000</td>
<td>14</td>
</tr>
<tr>
<td>2011</td>
<td>11,700,000</td>
<td>74,300,000</td>
<td>16</td>
</tr>
<tr>
<td>2010</td>
<td>9,400,000</td>
<td>68,000,000</td>
<td>14</td>
</tr>
<tr>
<td>2009</td>
<td>8,500,000</td>
<td>65,700,000</td>
<td>13</td>
</tr>
<tr>
<td>2008</td>
<td>9,000,000</td>
<td>63,900,000</td>
<td>14</td>
</tr>
<tr>
<td>2007</td>
<td>8,100,000</td>
<td>59,800,000</td>
<td>14</td>
</tr>
<tr>
<td>2006</td>
<td>7,489,990</td>
<td>56,471,742</td>
<td>13</td>
</tr>
<tr>
<td>Avg.</td>
<td>10,878,333</td>
<td>72,690,979</td>
<td>15</td>
</tr>
</tbody>
</table>

The original SETE 2005 agreement was extended for two years to 2017 when a new agreement with SETE took effect. That revised agreement required SETE to implement the $321 million improvement program to be completed by 2032. As part of the agreement, the annual royalty payment was decreased. As shown in Exhibit 9, it represented only 23.0% of revenues in 2016, and in 2017 no royalty payment was made.\(^49\) Also, as shown in Exhibit 9, visitation peaked in 2014 at slightly more than 7 million visitors but has declined since. In 2017 (the last year for which information seems to be available) visitation was at only 6.2 million, a 10% decline from 2014. The decline in 2016 was due to the negative effect on tourism in France because of terrorist attacks in 2015 and 2016.\(^50\) Strikes related to pension reform and yellow vest demonstrations related to fuel tax increases in 2019 are likely to also have affected visitation numbers and revenues in 2019.

What should be the appropriately supported number of visitors and operating revenues in a stabilized operating statement? Given the continuing risks of terror attacks, continued disruptions to the Paris economy from demonstrations, COVID-19 concerns, and diminished economic conditions, a return to the peak 7 million visitors in the immediate future is unlikely. A more cautious approach would use 6.5 million visitors as a stabilized base despite the expected expenditures for heightened security and visitor facilities.\(^51\) Revenues per visitor have remained remarkably stable at around €13.40 to €13.50 per year. So, €13.45 and an exchange rate of US$1.12 to the euro (as of early 2020) and an operating agreement royalty rate of 23% are supportable.

<table>
<thead>
<tr>
<th>Exhibit 9 SETE Operating Statistics for Eiffel Tower, 2014–2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>Visitor Numbers</td>
</tr>
<tr>
<td>Marginal Revenue (€)</td>
</tr>
<tr>
<td>Turnover Revenue (€)</td>
</tr>
<tr>
<td>Operating Costs (€)</td>
</tr>
<tr>
<td>City of Paris Royalties (€)</td>
</tr>
</tbody>
</table>

However, both management expenses and a reserve for replacement must also be included in a stabilized income approach to value.\(^52\) Management fees (as opposed to franchise fees) in the hospitality sector of the real estate industry have typically varied on average between 3% and 5% of total gross revenues.\(^53\) Given the inefficiencies in public ownership/management of a real estate asset due to the additional legislative and political oversight concerns, a higher management expense percentage is appropriate.

An indicator of the inefficiencies in public ownership is evidenced by the NPS experience. As of April 2016, there were a total of 488 concession contracts at the more than 100 units of the US National Park System. Gross revenues generated by those various types of commercial concession activities were approximately $104 billion.\(^54\) The NPS budget request for fiscal year 2017 indicated that the actual 2016 park service

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49. SETE Annual Report for 2017, https://bit.ly/3d6M7ti. It is not entirely clear why no royalty payment was paid in 2017, although the likely reason is the SETE’s agreement to make a significant investment in additional security in the wake of terrorist attacks in France. The City of Paris provided an additional €10.62 million to SETE for security improvements.


51. This was the expectation as of early February 2020, before the COVID-19 pandemic began to affect world tourism.

52. Management expenses are considered variable operating expenses, while replacement allowance can be accounted for “as a line item or implicitly in the capitalization or discount rate. Appraisers must deal with replacement allowances in a manner that is consistent with the method used in the relevant market for comparable properties.” The Appraisal of Real Estate, 14th ed., 453–454.

53. For example, see Eric E. Belfrage, “Business Value Allocation in Lodging Valuation,” The Appraisal Journal (July 2001): 277–282, at 280, distinguishing between a 4% management fee and additional franchise fees. Also compare, PKF Consulting and PKF Hospitality Research, Trends in the Hotel Industry USA Edition—2007, Figure No. 4 at 31, and STR Inc., 2019 HOST Almanac for the Year 2018, at 47, showing management fees in 2018 averaging 3.5% of total sales.

expenditures for “commercial services” was $16.294 million, equivalent to about 1.5% of total commercial revenues. However, given the $104 million in 2016 concession fees paid to the NPS based on the gross concession revenues, the apparent commercial services management cost would be about 15.7%.

NPS management staff is actively involved in the day-to-day operation of commercial services. As a result, the $16.294 million in NPS commercial services expenditures goes well beyond simple collection and administration of the concession fees. More appropriate support for a proper management fee can be obtained from a review of NPS information related to “external administrative costs.” Those costs as a percentage of annual NPS expenditures have varied between 7.25% and 7.98% since 2013 and averaged 7.64%. That percentage has been decreasing in recent years, however, and since 2017, it has averaged only 7.36%. Based on that information, 7.5% of concession revenues is reasonably supportable as a public sector annual management fee.

As indicated above, a 3.5% reserve for replacement is also supportable. The French rate of inflation was 2.1% annually in 2018, and preliminary results for 2019 indicate only 1.17% annually for 2019 and an average rate of 1.57% annually since 2000. Based on these inputs, a stabilized financial statement as of end of 2019 (based on the most recent 2017 data) would be constructed as follows for the Eiffel Tower.

<table>
<thead>
<tr>
<th>Eiffel Tower — Stabilized Annual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilized Annual Visitation</td>
</tr>
<tr>
<td>Revenues per Visitor</td>
</tr>
<tr>
<td>Stabilized Gross Revenues</td>
</tr>
<tr>
<td>Annual Royalty Revenue (23.0%)</td>
</tr>
<tr>
<td>Less: Annual Maintenance</td>
</tr>
<tr>
<td>Less: Management Expenses (7.5% of Royalty Payment)</td>
</tr>
<tr>
<td>Less: Reserve for Replacement (3.5%)</td>
</tr>
<tr>
<td>Net Income to Council of Paris</td>
</tr>
<tr>
<td>Rounded To</td>
</tr>
</tbody>
</table>

Note that none of the generally accepted methods of supporting an appropriate direct capitalization rate can be applied to an iconic landmark like the Eiffel Tower or the Statue of Liberty. For example, there are no comparable sales transactions from which to derive a direct capitalization for a government-held iconic landmark, and the government does not invest “equity” in such properties, so an expected return

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55. Commercial services are described in the NPS 2017 budget request as follows: “Visitor services are provided to visitors to national parks via a range of private-public partnerships such as concession contracts and commercial use authorizations, known collectively as commercial services. The scope of commercial services in individual parks ranges widely in size and complexity...” The NPS Commercial Services Program oversees these services and regulates organizations and businesses that use park resources for compensation, monetary gain, or benefit through concession contracts, commercial use authorizations, and leases in order to ensure visitors receive fair value for the goods or services provided and the federal government receives a fair return from concessioners. Oversight of park facilities leases is also provided through the Commercial Services Program.” US Department of the Interior, National Park Service, “Budget Justifications and Performance Information Fiscal Year 2017,” https://bit.ly/2UXk50A. According to the GAO, “the agency’s concessions staff do not normally have the business, financial, and contracting backgrounds needed to successfully carry out the concessions program.” GAO, Park Service: Need to Address Management Problems that Plague the Concessions Program, GAO/RCED-00-70 (Washington, DC: March 31, 2000), 3, https://bit.ly/3eaa8RG. Another GAO report emphasized the relatively high cost of managing concession contracts at the National Parks due in some degree to the difficulties and extensive staff time involved in issuing new prospectuses at the end of franchise agreements. Concessions Program Has Made Changes in Several Areas, but Challenges Remain, GAO-17-302 (Washington, DC: February 2017), 12, https://bit.ly/3e713Jc.

56. The 2021 budget request for the National Park Service states, “External Administrative Costs activity funds costs that are largely determined by organizations outside the National Park Service and for which funding requirements are less flexible. The requirements for these costs are mandated in accordance with applicable laws. To promote efficient performance, these costs are managed centrally. The categories funded from this activity support all activities and programs of the National Park Service.” US Department of the Interior, National Park Service, “Budget Justifications and Performance Information Fiscal Year 2021,” https://on.doi.gov/2YBwEMF.


58. Those methods as detailed in the fourteenth edition of The Appraisal of Real Estate are (1) a rate derived from the sale of similar, competitive income-producing properties; (2) a weighted average rates of return to the debt and equity investors based on their respective investment amounts (band of investment method); (3) band of investment based on rates of return to land and building components of the real property; (4) a rate based on the relationship between the debt coverage ratio, the mortgage constant, and the loan-to-value ratio; (5) investor surveys; (6) various residual techniques; and (7) gross income or gross rent multiplier formulas. (Pages 493–508)
Is the Eiffel Tower Worth More Than the Statue of Liberty? Part I

...subject to a lease—for the indefinite future; consequently, the longer 30-year bond rate is more appropriate than the 10-year rate. Using the midpoint of the French 30-year bond rate for the past year (1.242%), the capitalized value of the Eiffel Tower can be determined as shown below.

<table>
<thead>
<tr>
<th>Eiffel Tower — Stabilized Capitalized Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income to Council of Paris</td>
</tr>
<tr>
<td>Capitalization Rate</td>
</tr>
<tr>
<td>Capitalized Value: Income Approach</td>
</tr>
<tr>
<td>Rounded to</td>
</tr>
<tr>
<td>Capitalized Value in US$</td>
</tr>
</tbody>
</table>

Since 2014, the number of visitors to the Statue of Liberty has been relatively stable, varying between 4.2 and 4.5 million, with an average of 4.35 million visitors. Like the Eiffel Tower, there are royalties (franchise fees) paid to the government from the direct revenues generated by tourism at the Statue of Liberty. There are two concession operations at the Statue of Liberty: the passenger ferry cruise to the statue and Ellis Island, and the island retail and food concession. The passenger ferry service concession includes the rights to revenues generated by ticket sales for the cruise as well as ticketed access to the pedestal and the crown, food and beverage service on the ferry boats, and audiovisual tours of Liberty Island. The second concessioner operates the food service and gift shops on Liberty Island as well as Ellis Island.

59. In fact, governments such as the United States that run annual operating deficits could be considered to have “negative equity” in their government-owned assets.


65. The retail concessioner also provides “event planning and management services to groups who wish to host Service-approved events in authorized locations on Liberty Island and within the Ellis Island Immigration Museum.” Department of the Interior, National Park Service, CC-STLI004-20 “Concession Prospectus for Food and Beverage, Retail and Event Services at Statue of Liberty National Monument and Ellis Island,” August 8, 2019, https://bit.ly/2N3b8MM.
The cruise line currently pays a 21% concession fee (franchise fee) to the NPS, and the food service and gift shop on Liberty Island has paid a 17% concession fee since 2008. However, in 2019 the NPS issued prospectuses for potential new operators for both concession contracts. The prospectus for the food service and retail concession on Liberty Island and Ellis Island proposes an increase in the franchise fee to 22% of gross receipts up to $37.5 million in sales and 44% of gross receipts in excess of $37.5 million. The prospectus forecasts 2021 visitation at 4,387,500 and total revenues between $33.43 and $38.27 million, with a midpoint of $35.85 million.

At the proposed 22% food service and retail concession fee, concession revenues to the NPS from that part of the operation would be $7,887,500. The 2019 prospectus for the ferry service and tours concession projects 2021 gross receipts to be between $62.9 and $70.5 million as shown in Exhibit 10. The proposed minimum ferry service franchise fee would be raised to 32.9% of gross receipts.

At the midpoint of the NPS projection for 2021, the ferry service concession would generate $21.93 million in franchise fees to the park service.

The combined 2021 concession fees to the NPS as outlined in the two 2019 prospectus documents would be approximately $29.82 million. However, a management fee and a reserve for replacement must also be included in a stabilized

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**Exhibit 10** Statue of Liberty Ferry Concession Operations Projected Ridership and Revenue for 2021

<table>
<thead>
<tr>
<th></th>
<th>Projected Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Passenger Ferry Ridership</td>
<td>4,300,000 – 4,600,000</td>
</tr>
<tr>
<td>Average Transportation Revenue per Ferry Passenger</td>
<td>$13.50 – $14.00</td>
</tr>
<tr>
<td>Number of Special Event Charters</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Average Revenue per Charter</td>
<td>$10,000 – $20,000</td>
</tr>
<tr>
<td>Average Food &amp; Beverage Revenue per Ferry Passenger</td>
<td>$0.85 – $0.95</td>
</tr>
<tr>
<td>Audio Tour Handling Fee (3.5% of Audio Tour Revenue)</td>
<td>$650,000 – $750,000</td>
</tr>
<tr>
<td>Annual Pedestal/Crown Reserve Tickets</td>
<td>1,000,000 – 1,200,000</td>
</tr>
<tr>
<td>Locker Fee</td>
<td>$0.30</td>
</tr>
<tr>
<td><strong>Total Projected Revenue</strong></td>
<td><strong>$62,855,000 – $70,480,000</strong></td>
</tr>
</tbody>
</table>

Source: Adapted from Department of the Interior National Park Service, Exhibit 5 in National Park Service Statue of Liberty National Monument and Ellis Island: A Concession Business Opportunity for Food and Beverage, Retail, and Other Services (2019), 12.

66. These are the concession fee percentages in the contracts that are now up for renewal. Evelyn Hill, Inc., has operated the food service and retail operations at the Statue of Liberty for many years. Statue Cruises LLC currently operates the ferry tour service. Both concessions were put out for new bids in 2019. The retail concession percentage was established at 17% in 2008. Patrick McGeehan, “Statue of Liberty Concessionaire Wins Contract Renewal, and Ellis Island,” New York Times, December 1, 2008.

67. CC-STLI004-20 Department of the Interior, National Park Service, “Concession Prospectus for Food and Beverage, Retail and Event Services at Statue of Liberty National Monument and Ellis Island.”


69. The 2019 ferry service concession business opportunity report proposes significant increases in adult ticket prices from $16 in October 2021 to $20 by 2027. However, any increase in the number of visitors is constrained by the NPS’s limit on visitors. According to the 2019 passenger ferry prospectus, “the Service limits the number of visitors to 4,500 visitors at any one time on each island. Consequently, the Concessioner must monitor the number of visitors on each island (by counting passenger arrivals and departures) and limit mainland boardings to maintain these limits.” CC-STLI001-20, “Prospectus Solicitation to Provide Ferry Transportation and Related Services at Statue of Liberty National Monument and Ellis Island.”
income approach to value.\textsuperscript{70} Based on those inputs, a stabilized financial statement as of 2021 (based on the 2019 prospectus forecast) would be constructed as follows.

<table>
<thead>
<tr>
<th>Statue of Liberty Stabilized Annual Income* (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021 Gross Receipts: ferry service, tour tickets</td>
</tr>
<tr>
<td>Annual Franchise Fee (32.9%) (rounded)</td>
</tr>
<tr>
<td>2021 Gross Receipts: food service, retail sales</td>
</tr>
<tr>
<td>Annual Franchise Fee (22.0%) (rounded)</td>
</tr>
<tr>
<td>Total 2021 Franchise Fees</td>
</tr>
<tr>
<td>Less: Concession Management Expenses (7.5% of franchise fees)</td>
</tr>
<tr>
<td>Less: Reserve for Replacement (3.5%)</td>
</tr>
<tr>
<td>Net Concession Income to National Park Service</td>
</tr>
<tr>
<td>Rounded to</td>
</tr>
</tbody>
</table>

*Based on 2019 projection.

In early 2020, the daily yield on 10-year US Treasuries varied between 1.51% and 1.88% and was between 1.83% and 2.21% for 20-year Treasuries,\textsuperscript{71} with a median of 1.70% and 2.01%, respectively. Unlike the Eiffel Tower—for which a 30-year holding period was considered appropriate based on the most recent SETE contract extension—the appropriate holding period for the Statue of Liberty (given the terms of the two 10-year concession proposals in the 2019 prospectuses) would be only 10 years to 13 years.\textsuperscript{72} At the midpoint of the early 2020 10-year US Treasury yields (1.695%), the capitalized value of the Statue of Liberty can be determined as shown in the following table.

<table>
<thead>
<tr>
<th>Statue of Liberty Stabilized Capitalized Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income to National Park Service Disregarding Operating Costs</td>
</tr>
<tr>
<td>Capitalization Rate</td>
</tr>
<tr>
<td>Capitalized Value: Income Approach</td>
</tr>
<tr>
<td>Rounded to</td>
</tr>
</tbody>
</table>

Note that this net income analysis does not consider NPS operating costs. Unlike the Eiffel Tower, the Statue of Liberty has government employees—Park Service rangers and some administrative personnel—in involved in the operation of the Statue of Liberty. Staffing includes 100 full-time staff and 32 part-time employees (not including US park police).\textsuperscript{73} The NPS also incurs utility costs and costs related to maintenance of the improvements, docks, grounds, and bulwark surrounding Liberty and Ellis Islands.

There are at least four ways to derive an appropriate estimate of the operating costs incurred by the NPS at the Statue of Liberty: (1) review the agreement between the State of New York and the NPS to keep the Statue of Liberty open during the 2013 government shutdown; (2) review the Department of the Interior budget; (3) review operating costs of other privately owned or nonprofit national heritage sites; or (4) estimate the savings on operations that might occur if the operation were privatized.

During the federal government shutdown in October 2013, the State of New York agreed to pay the National Park Service $61,600 per day to keep the Statue of Liberty open given its

\textsuperscript{70} Management expenses are considered variable operating expenses, while a replacement allowance can be accounted for “as a line item or implicitly in the capitalization or discount rate. Appraisers must deal with replacement allowances in a manner that is consistent with the method used in the relevant market for comparable properties.” *The Appraisal of Real Estate*, 14th ed., 454.

\textsuperscript{71} Daily 2020 yields through February 7, 2020, as reported by the US Department of the Treasury at https://bit.ly/37DzXHw. Later, rates began to fall significantly due to the economic effects of the COVID-19 pandemic.

\textsuperscript{72} The NPS has been shortening the length of new concession contracts as part of its attempt to increase revenues from park concession contracts. See discussion in GAO, *Park Service: Need to Address Management Problems that Plague the Concessions Program*, GAO/RCED-00-70 (Washington, DC: Mar. 31, 2000); and GAO, *National Park Service: Revenues from Fees and Donations Increased, but Some Enhancements Are Needed to Continue This Trend*, GAO-16-166 (Washington, DC: Dec. 15, 2015).

importance to tourism in New York City. That equates to an annual operating cost of $22,484 million in 2013. Inflating the 2013 figure to 2019 at the 2.5% long-term annual inflation rate indicates an equivalent 2021 operating cost of $27.4 million, slightly higher than the estimated revenue from the concession contracts. Using that operating cost figure, the Statue of Liberty would have no net operating income and essentially a net value of zero based on traditional methods of considering the income approach to value. The average US inflation rate between 2013 and February 2020 was about 1.41%.

Using that figure, the 2021 operating cost would be $25.15 million, about $1.4 million less than the expected revenues generated by the new concession contracts.

The basis for the State of New York and the NPS agreement that the cost of operating the Statue of Liberty in 2013 was $61,600 per day is not clear. A more accurate estimate of current operating costs for the Statue of Liberty can be derived from the Department of the Interior budget for the National Park Service. The 2021 NPS budget document for the Statue of Liberty National Monument (which includes Ellis Island) reports actual direct operating expenses in 2019 of $15.93 million, or about $43,643 per day, significantly less than the 2013 NPS estimate.

Inflating that figure forward at 1.41% per year to 2021 would indicate a stabilized operating expense of $16.38 million in 2021 and an indicated net from operations of $10.16 million, or about 38.3%. However, direct operating expenses per park do not cover many services provided to the individual national parks from budget allocations to field offices and central management services. For example, the 2021 budget indicates that the 2019 actual cost of park police for New York area units of the National Park System was $20.59 million. If only half of that cost is allocated to the Statue of Liberty, it would offset virtually the entire difference between direct operating expenses and total revenues.

There are many national heritage tourism sites that are owned and operated by private, typically nonprofit, entities. Among the national landmarks and iconic heritage tourism sites operated outside the National Park System are Mount Vernon, George Washington’s home; Monticello, Thomas Jefferson’s estate; Fallingwater, Frank Lloyd Wright’s architectural gem; the Seattle Space Needle; the Durango and Silverton Narrow Gauge Railroad; the International UFO Museum and Research Center in Roswell, New Mexico; the Major League Baseball Hall of Fame; and various presidential libraries. Information on these entities’ operating costs, and in some cases the actual financial statements, is publicly available. Since these heritage sites are operated as nonprofits, they do not show a “profit” on their books. Revenues in excess of operating expenses go back into education programs, research, or reserves/endowments for future operations and improvements. Deriving from their financial reports an appropriate net operating income to apply to the Statue of Liberty is problematic. However, comparing the amount that these nonprofits put into reserves or endowments (after accounting for all operating expenses) with annual revenues is an indication of a net operating income. In 2018, for exam-

75. It is unclear if this figure was based on exact operating cost information; however, it was stated that the $61,600 daily figure would “fully fund National Park Service personnel.” New York State, “Governor Cuomo Announces Agreement with Federal Government to Reopen the Statue of Liberty.” October 11, 2013, https://on.ny.gov/37A8q9G.
77. US Department of the Interior, National Park Service, “Budget Justifications and Performance Information Fiscal Year 2021,” ONPS-103. This budget document also indicates that the park-by-park operating cost figure excludes the cost of central office concession management and “total park administrative support.”
78. There are many non-government-owned nonprofit tourism destinations in New York City—such as the Metropolitan Museum of Art, the American Museum of Natural History, the Museum of Modern Art, the Museum of the City of New York, and the Guggenheim Museum—that are members of the New York City Cultural Institutions Group (CIG). These institutions are “located on City-owned property, and receive significant capital and operating support from the City to help meet basic security, maintenance, administration and energy costs.” In return for the city’s financial support, the institutions operate as publicly owned facilities “providing cultural services accessible to all New York City residents.” Given the manner in which revenues and expenses are reported, it is difficult to derive any standard estimate of net operating income as a percentage of revenues. “Cultural Institutions Group (CIG),” NYC Cultural Affairs, https://on.nyc.gov/302H3I.
ple, those reserves/surpluses amounted to 13.4% for Mount Vernon and 23.4% for the National Baseball Hall of Fame. 79

A more productive source of appropriate operating expense ratios is from the hospitality sector. PKF Consulting publishes annual reports on the hotel industry with detailed information on various sources of revenues and expenses by hotel category. In 2007, immediately before the Great Recession, PKF reported that net income after operating expenses (including management fees and property taxes) but before fixed charges (EBITDA) was 28.0% of gross revenues from all sources, up from 26.73% in 2005. The 2019 HOST Almanac for the Year 2018 published by STR Inc. shows “net income” (after fixed charges and a 4.0% reserve for replacement) for the hospitality sector as a whole varying between 19.2% and 28.2% for 2009 through 2018, with a median of 24.9%. 80

Information from the theme park industry is also helpful. A review of the operations of eleven theme parks found operating incomes as a percentage of gross revenues ranging between a net loss (Disney Paris) and 44% (Universal Studios); see Exhibit 11. 81 For the five parks reporting EBITDA, the median was 16%. Six Flags Entertainment, which operates seven US theme parks, reported EBITDAs as between 17% and 43% since 2006 and had a reported profit margin in 2019 of 12.4%. 82 The 2005 book The Global Theme Park Industry—earnings before interest, taxes, depreciation, and amortization. 83

This review of actual NPS results and budgets, nonprofit heritage sites, hospitality industry reports, and theme park industry information, combined with experience with other income-producing properties in the tourism sector, provides a basis for estimating operating margins. In the current analysis, somewhat less weight has been given to the review of the actual operating expenses in the NPS budget document since the additional operating costs related to other parts of the Park Service operation that benefit the Statue of Liberty are unknown.

Based on the available information, it could be expected that a privately operated Statue of Liberty might hold operating costs (including

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**Exhibit 11 Theme Park EBITDA Margins**

<table>
<thead>
<tr>
<th>Park</th>
<th>Margin (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disney Domestic Average</td>
<td>31</td>
<td>Op Inc + D&amp;A</td>
</tr>
<tr>
<td>Six Flags Average</td>
<td>26</td>
<td>Op Inc + D&amp;A</td>
</tr>
<tr>
<td>Cedar Fair Average</td>
<td>35</td>
<td>Op Inc + D&amp;A</td>
</tr>
<tr>
<td>Universal Studios Average</td>
<td>44</td>
<td>Op Inc before D&amp;A</td>
</tr>
<tr>
<td>Tokyo Disney Average</td>
<td>31</td>
<td>Op Inc + D&amp;A</td>
</tr>
<tr>
<td>Hong Kong Disneyland</td>
<td>15</td>
<td>EBITDA</td>
</tr>
<tr>
<td>Ocean Park</td>
<td>19</td>
<td>Surplus from operations</td>
</tr>
<tr>
<td>Tivoli Gardens</td>
<td>17</td>
<td>EBITDA</td>
</tr>
<tr>
<td>Disney Paris</td>
<td>Loss</td>
<td>EBITDA</td>
</tr>
<tr>
<td>Legoland Average</td>
<td>40</td>
<td>EBITDA</td>
</tr>
<tr>
<td>Merlin Resort Theme Park Average</td>
<td>16</td>
<td>EBITDA</td>
</tr>
</tbody>
</table>

Source: Adapted from “The Business of Theme Parks (Part I): How Much Money Do They Make?” The Park Database.

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79. The Mount Vernon estate had 2018 operating revenue of $65,011,406 and operating expenses of $56,317,541 ($33,229,686 for education; $15,391,839 for preservation and collections; $3,753,361 for management and general expenses; and $3,942,655 for fundraising—which produced $8,693,865 that was added to its net assets). Mount Vernon Ladies’ Association of the Union—2018 Audited Financial Statements and Report Thereon, 4, 11, https://bit.ly/3hwvNZ2. Similarly, the National Baseball Hall of Fame and Museum reported 2018 total revenues of $17,070,904 and total expenses of $13,084,374, consisting of $5,614,001 in employee compensation and other related expenses, $42,000 in professional fundraising fees, and $7,428,373 in other expenses. This produced a $3,986,530 surplus that went into the organization’s net assets. See 2018 IRS Form 990 for National Baseball Hall of Fame and Museum Inc., Nonprofit Explorer, https://bit.ly/2YSX8at.

80. Income before fixed charges excludes charges such as interest on mortgages or other loans, rent, depreciation, and income taxes, essentially equating “income before fixed charges” to “net operating income.” This is typically referred to as EBITDA—earnings before interest, taxes, depreciation, and amortization.

81. STR Inc., 2019 HOST Almanac for the Year 2018, 18. Fixed charges are described in that report as including property taxes, land and building rent, equipment rental, insurance, a reserve for capital replacement, and “other fixed charges” consisting of “other expenses that relate to the ownership of the hotel and gains or losses from any sale of assets.” (Page 51)


management expenses and a reserve for replacement) to 80% of current revenues, leaving 20% of stabilized gross revenues as net operating income. The resulting stabilized value with an outsourcing of management by the NPS (but still ownership in the hands of the Park Service) would result in the following capitalized value of the Statue of Liberty.

<table>
<thead>
<tr>
<th></th>
<th>Statue of Liberty: Outsourced Stabilized Annual Income and Capitalized Value (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021 Gross Receipts: ferry service, tour tickets</td>
<td>66,667,000</td>
</tr>
<tr>
<td>Annual Franchise Fee (32.9%) (rounded)</td>
<td>21,930,000</td>
</tr>
<tr>
<td>2021 Gross Receipts: food service, retail sales</td>
<td>35,850,000</td>
</tr>
<tr>
<td>Annual Franchise Fee (22.0%) (rounded)</td>
<td>7,890,000</td>
</tr>
<tr>
<td>Total 2021 Franchise Fees</td>
<td>29,820,000</td>
</tr>
<tr>
<td>Less: Operating Costs, Management Fee, Reserve for Replacement (80%)</td>
<td>23,856,000</td>
</tr>
<tr>
<td>Net Income to National Park Service</td>
<td>$5,964,000</td>
</tr>
<tr>
<td>Capitalization Rate</td>
<td>1.695%</td>
</tr>
<tr>
<td>Capitalized Value: Income Approach</td>
<td>351,858,000</td>
</tr>
<tr>
<td>Rounded to</td>
<td>$350,000,000</td>
</tr>
</tbody>
</table>

The results from two approaches to value for the Eiffel Tower are relatively close, while the results from the two approaches for the Statue of Liberty are significantly different due to the disregard of the NPS operating costs.86

### Conclusion

A depreciated reproduction cost and a value based on income generated can be estimated for iconic landmarks, such as the Statue of Liberty and the Eiffel Tower, as part of an analysis of their market value or their public interest value. Techniques for estimating the value of the land under each landmark and the additional contribution to their public interest value resulting from the economic benefits they generate in various types of tax revenues will be discussed in part 2 of this article in a forthcoming issue of The Appraisal Journal.

85. A 2006 report by the GAO noted that where “daily operations allocations were not sufficient to address increases in operating costs, such as salaries, and new Park Service requirements,” the parks “either eliminated or reduced some services or relied on other authorized sources to pay operating expenses that have historically been paid with allocations for daily operations.” The NPS “directed its park units to spend most of their visitor fees on deferred maintenance projects. While the Park Service may use visitor fees to pay salaries for permanent staff who administer projects funded with these fees, it has a policy prohibiting such use.” US GAO, National Park Service: Major Operations Funding Trends and How Selected Park Units Responded to Those Trends for Fiscal Years 2001 through 2005, GAO-06-631T, April 5, 2006, https://bit.ly/3e3hLSF.

86. Another reason for the difference between the Statue of Liberty cost and income approaches is that the sum of the income also applies to the improvements on Ellis Island while the cost approach only considers the reproduction cost of the improvements on Liberty Island.
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Additional Resources

Suggested by the Y. T. and Louise Lee Lum Library

Appraisal Institute

- Lum Library, Knowledge Base [Login required]
  - Business Valuation
  - Public lands
  - Special use properties/sports, recreation, and entertainment/parks

- Publications
  - Valuing Conservation and Historic Preservation Easements
They Paved Paradise: Appraising a Parking Lot

by Barry A. Diskin, PhD, MAI, AI-GRS, and David C. Lennhoff, MAI, SRA, AI-GRS

Abstract

Appraising a parking lot can involve some of the same difficulties encountered in the appraisal of a hotel. That is because the fee paid to park often includes much more than simply rent for a parking space, just as the room rate at a hotel includes more than only rent for the room space. This becomes an issue in both the sales comparison approach and the income capitalization approach. In situations where the appraisal problem is to value the fee simple interest in the parking lot real estate, the appraiser’s job includes separating the portion of the parking fee attributable to services from the portion attributable to space rent. This article will use a mini case study of an appraisal of an airport parking lot to illustrate how this particular valuation problem might be solved.

Introduction

The valuation of a parking lot appears to be a simple problem. One would expect it to be straightforward, but it is not. Among the complicating issues are the type of value sought, the rights to be appraised, and the specific asset to be valued. This article will begin with a review of the parking industry and industry trends, introduce the appraisal problem and issues with the various approaches to value, then present a mini case study of an airport parking lot appraisal. The case study will illustrate the appraisal process and expose and address the unique issues that will be encountered with such an assignment.

Trends in the Parking Sector

Over the previous seventy years, automobile storage has evolved substantially. Traditional solutions for storing vehicles have included surface lots and parking garages. Technology has allowed both surface lots and covered parking facilities to include paid lots without attendants and multistory facilities with guidance systems indicating the nearest vacant space. The focus of this article is surface parking. The following summarizes a few of the major trends; the trend comments are not intended to be exhaustive.

Autonomous Vehicles (AVs)

The most obvious and often-mentioned technological influence on the demand for parking of all types is the coming of self-driving cars. And, while the eventuality is exciting on several levels, the current thinking concerning the common use and impact is mixed. Some reports had indicated that by 2020, the effect of autonomous vehicles would be significant. Others have suggested that 2030 is more likely for marketplace impact. Still others opine that we are 20 to 25 years from a majority reliance on such vehicles. The issue of autonomous vehicles can be a major value concern in some valuation assignments. Prospective purchasers do not want to pay for a parking space supply that will, in the near future, turn out to be excess supply. Furthermore, much of the literature reviewed from planning perspectives as well as valuation viewpoints addresses the concern.

Why does the increase in autonomous vehicles matter? First, it is likely that there will be diminished parking demand. Self-driving cars...
will reduce the need for storage supply adjacent to high-value real estate. Downtown parking storage areas can be replaced, in part, by parking in areas of lesser value. Presumably, vehicle owners will be able to summon their cars from a more remote location at an appropriate time. Second, a drop in the concentration of cars helps the environment and aesthetics. For example, the tendency to continue to search for the closest parking space increases traffic congestion and adds to pollution. Less traffic, especially in high-density areas, is an attractive consequence. Certainly, there are other effects from diminished demand for traditional transportation, and discussion of the host of possible results can be found elsewhere.\(^2\)

**Generational Issues and the Increase in Urban Living**

Younger professionals are increasingly choosing to live nearer their central city workplaces.\(^3\) This trend may reduce demand for privately owned vehicles and in turn may dampen demand for parking. The phenomenon has been gradual so far and has not yet brought on a major change in parking demand. One possible counteracting trend to the move away from private cars is the Baby Boom generation’s continued representation as a substantial segment of the workforce.\(^4\) Baby Boomers still prefer the suburbs over an in-town residential choice, suggesting that in the near term the need for private vehicles and associated car storage will remain. This demand for parking will diminish as they eventually leave their jobs and, perhaps even sooner as AVs become the norm.

Alerted by the considerable acceptance of ride-hailing services, those planning the need for vehicle storage already expect a decline in demand.\(^5\) Even the customary large supply of parking spaces at theme parks, sports arenas, and shopping centers has been under review over the last several years.

**Zoning Changes Allowing Lower Parking Ratios**

For decades, it has been all but axiomatic that parking ratios must be tied to allowable development density. At times otherwise viable projects were prevented from moving forward because they were out of sync with existing zoning regulations. The organization Strong Towns published an insightful paper on the issue, stating as follows:

> These minimums result in more parking than we actually need. They rob our cities of financial productivity. They hinder those who contribute value to our cities, from small business owners to developers to renters to homeowners. And they result in dead zones of empty, underutilized space.\(^6\)

Consequently, planning and zoning regulations are being rewritten to accept the change in preferences and, therefore, the declining need for parking in high-density areas. Moving away from the marginal costs brought on by the parking-ratio rules will be slow. The need to do so is clear.

In 2018, for surface lots the building cost on a per-space basis ranged between $5,000 and $10,000.\(^7\) The range is wide because the cost to create each parking space includes the land. Rents for temperature-controlled commercial and residential space are inevitably higher than for other parking lots. If the supply of parking stalls is reduced due to lack of demand, we could expect an accompanying drop in rents for temperature-controlled parking areas. The decrease in rents, however, is unlikely to be proportional.

All these factors, plus others such as changes in gas prices and modified consumer spending, will influence the future of parking as an industry. As

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7. Strong Towns, “Costs of Too Much Parking.”
of late 2019, indicators pointed to continued expansion but at a slower rate: “Over the next five years to 2024, IBISWorld expects industry revenue to grow an annualized 0.6%.”

The Appraisal Problem

Different circumstances can necessitate appraisals of different values for various rights and assets. The most typical parking lot appraisal assignment, however, calls for an opinion of the market value of the fee interest in the real estate. This is the assignment for most condemnation appraisals, lending valuations, and tax assessment evaluations. Key elements of the problem are the type of value sought, the rights appraised, and the asset valued.

With respect to market value, the assumption is the property has been exposed to the open market prior to the effective date of value, and that the hypothetical sale price reflects a willing buyer and seller. As Lovell stated in his 1991 article,

Market value estimates presume the existence of an active market of purchasers who will use a property in some well-defined manner. Market value estimates are not predicated on the worth to a single owner or user. They are also not based on the presence of a group of purchasers who are so limited in number that it is unlikely one would come forward in the near future to purchase a property for a highly specialized purpose.

Market value estimates are not to be confused with investment value, which is the value to a specific investor based on that investor’s specific requirements. Nor should market value estimates be confused with use value, which assumes a specific use (such as the current use) rather than the property’s highest and best use. Estimating the wrong type of value inevitably results in an incorrect value conclusion.

8. IBISWorld, “Parking Lots and Garages,” 9. This prognostication predates the COVID-19 pandemic. It remains to be seen whether COVID-19 will affect demand for parking; parking demand might change if there is a shift from public transportation to private vehicles or if there is a permanent shift toward telecommuting.
The type of value, rights appraised, and asset valued all require careful attention in the valuation of a parking lot and will be addressed and illustrated later in this article, as will application of the three approaches to value and the unique considerations that must be given in each approach.

**Highest and Best Use Issues Related to Parking**

In many cases, parcels used for vehicle storage are not assessed (for tax purposes) as high as nearby land with residential, office, or hotel improvements. With the advent of self-driving vehicles, some developers/investors already are eying these sites for conversion to high-rise multifamily, hotel, and office uses.\(^{12}\)

A market analysis leading to the determination of the highest and best use must be part of the valuation process. The question of whether a surface lot is ripe for conversion to an alternate use should be answered by a study of various submarkets. For example, investors considering transformation to hotel or residential condominium usage must discover the replacement use that provides a higher value to the land than continuation as vehicle storage. Appraisal theory suggests that the use providing the highest return to the land is the one that should be pursued. In the end, we cannot know whether a new use is justified without examining the probable returns from alternative uses. The concept is addressed by various appraisal publications, including those of the Appraisal Institute.

Consideration must also be given to the possibility that an existing parking structure is just an interim use. That is, it might not be ripe for redevelopment immediately, but a parking facility is not the property's highest and best use. An interim use is never the highest and best use.\(^{13}\) Regardless of the potential advantages of converting surface parking areas to, for example, multistory office or residential buildings, the four-pronged traditional test for highest and best use (plus reasonably probable and adequately supported) will need to be conducted to gauge whether such alternative uses achieve the maximally productive use. With that in mind, it is helpful to take another look at the four components of highest and best use.

- **Legal Permissibility.** The process of moving the property's use away from that of vehicle storage may need to take into consideration parking ratios that have been in place for decades and require planning officials to adopt a change in thinking. Achieving a change in what is allowable on the site is the first step. For some jurisdictions, the change will require not only a zoning change but also the more difficult-to-secure amendment to the jurisdiction's comprehensive plan.

- **Physically Possible.** Whether an alternate use of an existing surface lot is physically possible depends on the use or uses envisioned. The required footprint of a multistory hotel or office, for instance, will influence the list of potential uses. Height restrictions likewise factor into the physically possible prong of the highest and best use progression. In some instances, such limitations can be relaxed so that consideration of various alternative uses can pass onto the next component of highest and best use test.

- **Financial Feasibility.** As with all prospective uses for a site, only those that pass the first two points are realistic possibilities as replacement for a vacant surface lot. Again, market analysis will be required to make a rational and economic decision. This is not unique to appraising parking lots. Instead, it is just standard valuation practice.

- **Maximally Productive.** At this juncture, the results of a market analysis will point to one of two general conclusions: either continue operating the parcel for parking or move to another improved use. Once more, this follows traditional appraisal and economic principles.

It is important to keep in mind that highest and best use is time sensitive. It is highly possible that a decision to continue the current use—parking—will be the wrong choice when market conditions and technology move toward a differ-

\(^{12}\) The focus of this analysis is not property tax challenges. Instead, this comment is intended to simply point out that a change in use from parking to temperature-controlled area is likely to result in an increase in the tax base.

\(^{13}\) An interim use is “the temporary use to which a site or improved property is put until a different use becomes maximally productive.” Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 6th ed. (Chicago: Appraisal Institute, 2015), s.v. “interim use.”
ent direction. At times, appraisers treat highest and best use as a foregone conclusion. In the face of rapidly changing preferences, however, this is riskier than ever. In some parts of the country, increased urbanization and declining private automobile ownership will force appraisers to reexamine their conclusions as to what is maximally productive.

The Approaches to Value
All three traditional approaches to value—cost, sales comparison, and income capitalization—are potentially applicable to a parking lot assignment. The sales comparison and income capitalization approaches, however, involve extra steps related to removal of the tangible and intangible personal property.

Cost Approach
The appraisal of surface parking lot real estate seems well suited to a cost approach analysis. This approach eliminates the need to separate the tangible and intangible personalty, as it is not included to begin with. Usually these parking properties have only minor ancillary improvements, perhaps a small office/garage building, perimeter fencing, and paving, so the valuation method rests mostly on analyzing site sale comparables. Assuming sales of sites with a similar highest and best use are available, the value of the land should be straightforward. Cost new of the improvements is not challenging either. Major cost estimating providers include a section on surface parking lots. For example, the Marshall and Swift Valuation Service compiles and sells the cost manual by CoreLogic. The manual (Section 66) includes estimates on both a cost-per-space and cost-per-square foot basis. In addition the manual includes a section on parking lot equipment costs (automatic pay station, traffic exit spikes, gate operator, for example) and parking lot improvements, such as signs, metal guard rails, and parking bumpers. The usual level of difficulty will be involved in the necessary estimate of entrepreneurial incentive (probably best handled with anecdotal evidence, such as a personal survey of lot owners) and depreciation. With respect to the latter, most of the standard methods can be used, although market extraction is problematic because sales of surface lots almost always involve the total assets of the business and any extraction application would first require trying to convert the total asset sale price to the sale price of just the real estate component. The economic age-life method is potentially applicable, assuming solid evidence of both the effective age and the total life. The latter is available from the Marshall and Swift Valuation Service manual. Evidence of extraordinary external obsolescence probably would necessitate using the modified age-life method, which is explained with examples in The Appraisal of Real Estate. Use of published depreciation tables should be avoided. These are often out-of-date and not disaggregated by property type or location to the extent necessary to be meaningful.

Sales Comparison Approach
The sales comparison approach in valuation of parking lots is much like the use of this approach for hotel appraisals, where “the sales comparison approach seldom is given substantial weight... [but] can be used to bracket a value or to check the value derived by the income capitalization approach.” The reason the sales comparison approach is not given weight is because nearly all potential comparables involve sales of the total assets of the business and include both tangible and intangible personal property. As such, the sales cannot be true comparables when the subject is exclusively the real estate. Use of these transactions, after verification and adjustment, however, can provide an indication of the market value of the subject total assets, and is evidence of what the subject real estate alone cannot be worth. For example, if after adjustment the indicated value of the subject’s total assets is $8,500 per space, then it is obvious the real estate alone cannot be worth that much. This will be useful in comparison to an indication of value by either the cost approach or the income approach.

Income Capitalization Approach

According to the literature, “the primary method of estimating the value of a surface parking lot is the Income Approach.”\(^{17}\) As with hotels and senior housing, however, deriving the real estate income typically involves more work than with more conventional real estate such as a warehouse. Owner-occupied lots do not separate real estate income from revenue of the parking business, which includes both the tangible and intangible personality. As a result, in attempting to estimate market rent of the real estate alone, the appraiser must begin with revenue to the total assets, then reduce that to net income, then remove contributions to that for return on and of the tangible and intangible personal property. Discussions and illustrations of how this might be accomplished can be found in the Appraisal Institute course Fundamentals of Separating Real and Personal Property from Intangible Business Assets.\(^{18}\)

Many lots are leased by operators. These arrangements can specify allocations of revenue and expenses. For example, a contract might provide that the lease is based on “a fixed annual rent, a percentage of gross customer collections, or a combination of both. Under a lease type contract, [operators] collect all revenue and are responsible for most operating expenses, but typically are not responsible for major maintenance, capital expenditures or real estate taxes.”\(^{19}\) Use of these transactions enables an appraiser to sort the real estate income from the total asset revenue, and results in an income approach much more like conventional real estate.

Finally, the overall capitalization rate, or the discount rate in a discounted cash flow analysis, is more difficult to identify. For the same reason sales comparison is problematic, extracting a rate from comparables sales is not doable. A rate extracted from total asset income and sale prices would not be applicable to developing the value of the real property alone. Surveys specific to parking lot real estate might work if they are disaggregated sufficiently to the subject’s location and asset character. Other techniques to develop a rate, such as the band of investment and underwriter’s method, suffer the same shortcomings they exhibit with more conventional real estate and are not recommended.

Mini Case Study of an Airport Surface Parking Lot Appraisal

The following case study is an abbreviated valuation; the purpose of the study is to illustrate some of the more unique and significant issues typically encountered in parking lot assignments. It is based on an actual case but has been customized and streamlined to highlight the key points. It has also been necessarily fictionalized.

The Subject Property and Environ

The case study subject property does business as “EasyPeasy Parking.” It comprises 12 acres and is being used as an airport parking lot. It is owner occupied, with a five-year operating history. The subject property fronts on Airport Boulevard and is just two blocks from MIAA, a medium-hub primary commercial service airport. This FAA classification defines airports that account for 0.25% to 1.00% of total US passenger boardings.\(^{20}\) Twelve airlines serve the airport with daily nonstop departures to forty cities. The airport features a single terminal building with fifty gates spread over three concourses. Passenger volume has increased modestly at about 3% per year over the preceding three years.

There are three direct parking competitors, including one on airport land that consists of two lots. The other two competitors are not on airport land but are on Airport Boulevard very near the subject. Based on a performance review of both the subject and the competitive set, as well

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as anecdotal evidence from interviews of market participants, it is clear supply and demand for airport parking here are in equilibrium. The highest and best use and market analysis resulted in the conclusion that continuation as a surface parking lot was the property's highest and best use.

The site is well located relative to the airport and enjoys good visibility from both directions on Airport Boulevard. There is also excellent access from both directions and good traffic movement. Daily traffic count at this location exceeds 25,100 vehicles per day. Travel time to the airport is just under five minutes. The level lot is rectangular, which is the most adaptable shape for surface parking. The site accommodates 1,700 spaces, all uncovered. There is no excess or surplus land.

The site has pole lighting as well as concrete curbs and gutters. There is a small retention pond at the rear of the lot and perimeter chain-link fencing. There is a one-story office/garage building that comprises 1,400 square feet, of which 650 square feet are office and the balance garage. The office is modestly finished with acoustical tile ceilings, drywall walls, and resilient tile flooring. The office is heated and air conditioned with a rooftop-mounted electric unit, and there are two restrooms. The garage is concrete floored and unfinished on the walls. It is used to support the vans that shuttle the parking customers to and from the airport.

The lot has a canopy with parallel entry and exit design. It has six automatic gate arms, two of which are dedicated to shuttle vehicles. There is one gate arm for entry and three for exiting. Two of the exiting gate arms are express and unmanned, while the third is adjacent to the ticket/attendant booth. There is also a canopy-covered rock salt storage area just north of the office/garage building.

The original lot and building are seven years old as of the valuation date. The typical life expectancy of asphalt paving is 5–17 years, depending on quality. Significant cracking was observed, and the estimated remaining life is approximately 5 years. The office/garage was built at the same time as the paving was laid. The building has an estimated remaining life of 25 years.

The parking facility is staffed 24 hours a day, 365 days per year. Amenities include outdoor-rated ground fault circuit interrupter (GFCI) outlets for electric automobiles, complimentary newspaper and bottled water, emergency car care services (flat tires, battery jumps, snow removal, etc.), mobile rewards program, complimentary luggage assistance, and onsite security.

**Valuation**

All three traditional approaches to value will be applied to one degree or another in this assignment. Cost is the most straightforward approach given the appraisal problem. The income capitalization approach is the method relied on most by the market. Sales comparison is the weakest approach, as most of the transactions involve sales of the total assets rather than just the real estate. It will be used here primarily as an indicator of value for the total assets, and thus as a benchmark for how much the real estate alone cannot be worth.

**Cost Approach**

As previously mentioned, the highest and best use for the subject has been determined to be airport parking, which is supported by a thorough market-ability study. Therefore, the cost approach will consist of an estimate of land value, based on sites with a similar highest and best use; cost new of real estate improvements; and depreciation from all categories. Since this is an estimate of the fee simple interest, no additional cost is necessary to account for lease up. The assignment assumes the property would be ready to lease at the market rate. The lessee would be an operator; alternatively, the most probable buyer might be an owner occupant.

The cost analysis includes the following elements:

- **Site Value.** Recent sales of land with a similar highest and best use were available, as was one listing. The appropriate unit of comparison is the price per parking space. Adjustments were considered in all categories of elements of comparison. Most important were proximity to the airport, measured in drive time; access and visibility; and shape and topography. All sales were rela-

They Paved Paradise: Appraising a Parking Lot

They Paved Paradise: Appraising a Parking Lot

Recently and reflected the fee simple interest. The conclusion was $2,000 per parking space, or $3,400,000.

- Cost New of Real Estate Improvements. Given the relative lack of complexity, a national cost service was used to provide an estimate of cost new. Included were all appropriate multipliers. After adding entrepreneurial incentive and contingency, cost for the lot on a per-space basis came to $1,750, or $2,975,000 total. The office/garage represented an additional $200,000. The low unit rates relative to parking costs reflect the Midwest location, in a low-density environment.

- Depreciation. The economic age-life method was applied separately to the lot and the building. The former was depreciated a total of 40%. The latter was depreciated 17%. Depreciated cost, therefore, was $1,785,000 for the lot and $166,000 for the building.

For the cost approach analysis, the indicated market value of the fee simple interest in the real property is found by adding the value of the site vacant to the depreciated cost of the improvements, or $3,400,000 plus $1,951,000, which equals $5,351,000, or $3,150 per parking space.

Sales Comparison Approach
Ordinarily the sales comparison approach, along with the income capitalization approach, provides the best evidence of market value. The problem with using this method in the valuation of a parking lot is the lack of truly comparable sales. Most sales involve either leased lots or sales of the total assets. The subject study is an appraisal of the fee interest in the real estate; and while several sales from other jurisdictions were available, just one involved only the real estate. It involved the sale of a leased fee interest and involved an airport car rental site rather than a parking lot. The other two sales were sales of the total assets. For the case study, the analysis will use the sales of the total assets as an indicator of subject total asset value and as an amount that the subject real estate could not possibly be worth. Still, it is a valuable benchmark in that regard. The one leased fee transaction will be analyzed as an indicator of the value of the real estate, recognizing it is only one data point, and one from a much less robust location.

The comparable sales analysis includes the following sales:

- Comparable sale one. Comparable sale one involved an owner-operated airport lot on the West Coast, at a superior airport to that of the subject. It comprised 6.1 acres and 600 uncovered surface spaces. Daily rates were about $7.00. The sale involved the total assets and included airport services quite like those offered by the subject. Proximity to the airport and access and visibility were all about equal to the subject, although traffic counts were higher. It was sold near the date of value at a unit price of $7,650 per space.

- Comparable sale two. Comparable sale two also involved an owner-operated West Coast airport lot at a superior airport. It included some covered spaces, but otherwise was very similar to comparable sale one. It comprised 14 acres and 2,252 spaces, and it traded near the date of appraisal for $7,950 per space. Daily rates here were $7.75. After verification and adjustment for differences between comparable and the subject, the unit price of $6,250 per space was concluded as the indicated market value of the subject going concern—that is, the value of the real estate and tangible and intangible personality. This equates to $10,625,000 for the total assets of the business.

- Comparable sale three. Comparable sale three was the sale of an airport lot leased to a national car rental company. It was very similar in relative location to the local airport, but the airport was much smaller and located in a smaller southern city. The lot comprised 8.2 acres and could accommodate 1,152 spaces. It traded for what equated to $1,900 per space. The average daily parking rate at this airport’s surface lots was $2.00. After verification and significant adjustment upward, primarily for location but also for rights appraised, this transaction indicated $3,200 per space as the market value of the fee interest in just the real estate, or $5,440,000.

Income Capitalization Approach
It is likely that the income capitalization approach generally will be most reflective of the motivations of the various marketplace participants for parking storage facilities, surface lots,
and garages. With that in mind, however, there are a number of issues that suggest cautions in applying direct capitalization.

For parking storage facilities, among the potential issues to guard against is the application of direct capitalization under the assumption that all components of a parking business are tied to the real estate. The misapplication sometimes occurs in property tax cases and sometimes has been supported, inappropriately, by courts. Automatically considering all revenue generated by a parking lot/garage is a fundamental misunderstanding of correct appraisal procedure. Doing so overstates the value of the real estate, because the result could include non-realty components.

For example, in the case study some portions of the activities at EasyPeasy Parking are clearly real estate functions. The parking lot operator, and presumably any successor operator, offers paved parking spaces, lighting, and typical management. Those elements are part of the real estate. Storage of automobiles is a clear example of a use of real estate.

It is also true, however, from a marketplace/economic perspective, that not all the factors contributing to successful operation of a parking business are intertwined with the parking facility. For example, recall that the subject parking lot serves a midsize airport. A major attractive feature at EasyPeasy Parking contributing to revenue is the shuttle service, and customers rely on its bus service to and from the airport terminal.

There are, however, successful airport-related parking operations that do not transfer their customers to and from the airport terminals. One such facility is at Chicago’s Midway Airport, where customers walk to a transit system station. With this phenomenon in mind, a shuttle system clearly is not a requisite real estate function.

Furthermore, there is no reason that a system moving patrons to and from an airport terminal must be run by the firm that owns the real estate. It is entirely rational for the owner to engage another firm to move customers between the parking lot and the airport. The ground transportation sub-function is not tied to the real estate, would not have to transfer upon sale of the parking lot, and is not a “stick” in the bundle of rights that must accompany the real estate.

Segregation of these functions can be found at many airports around the United States. For example, rental car agencies in small and large cities no longer use their own buses to move customers between the airport terminals and their respective rental car pick-up locations. Instead, these airports use consolidated rental agency centers (CONRACs), including at the locations listed below:

- Nashville
- Oklahoma City
- Portland (Oregon)
- Tampa
- San Diego
- Newark
- Atlanta
- San Antonio
- Houston (IAH)
- Dallas (DFW)
- Minneapolis
- Detroit
- Seattle
- Miami
- New Orleans
- Fort Lauderdale
- Charlotte
- Memphis
- Kansas City
- Las Vegas
- Phoenix

Similar facilities in other cities are under construction.

The relevance for the present appraisal assignment is that some portion of the fee charged by the parking operators does not provide a return to the real property but to other, nonrealty, items instead. In addition to shuttle service, lots offer other non–real estate services. Here, the case study subject lot is open and staffed 24 hours a day, 365 days a year, and provides GFCI outlets, complimentary newspaper and water, emergency car care services, complimentary luggage assistance, and more. Like the shuttle, costs associated with these items must be captured in the daily rate, which is $4.00.

**Application of Direct Capitalization Process and Estimating Net Operating Income**

As is generally understood, direct capitalization is one type of income approach. The analyst divides the net operating income (NOI) to the real estate by a real estate capitalization rate. Both the numerator and the denominator should be derived from marketplace indicators. If either the NOI or the capitalization rate is incorrectly estimated or presented, the resulting value estimate will not be supportable and is likely incorrect.

The scope of the case study assignment includes an opinion of market value of the fee simple interest in the real estate. It does not involve an estimate of the value of the going concern. This is key in the valuation, as the valuation must avoid answering the wrong question.

As with any real property valuation of an income-producing entity, the scope of the task involves gathering information to estimate a net
operating income. Information on the daily rates paid by parking customers and assembled data on revenue, by itself, will not produce the right answer. As discussed, daily-rate revenue includes not only real estate rent but potentially also services. Consequently, there are two choices in terms of estimating real estate rent.

First, the appraiser can research, verify, and adjust ground lease information for similarly located parking lots to isolate the real estate market rent. Note, the similar locations do not have to be nearby. Instead, similar linkages should influence the choice of relevant data. The air traffic volume of the airport, however, is a critical consideration.

Second, operators often pay a percentage of total revenue to the lot owner as real estate rent. Therefore, the real estate rent also can be estimated by first forecasting the total revenue, at market rate, then multiplying that by the appropriate percentage. It is important to note that this percentage is not uniform. It will vary depending on location, expenses, and services provided. For example, if the property is in a market that regularly receives heavy snowfall, the expenses associated with clearing will be higher than in another location. Because this influences the net revenue to the operator, it will also influence how much (what percentage) can be paid to the owner in rent. The higher the expenses, the lower the percentage that is paid the fee owner of the lot. On the other hand, in special types of surface parking, where only a limited amount of staffing is involved, the rate of rent to revenue could be much higher.22

For the case study property, both methods (ground lease and percentage of revenue) were considered, although only one comparable ground lease was found, and it was not similar enough to provide a meaningful indication of market rent. The comparable was helpful, however, in terms of identifying an appropriate capitalization rate. Therefore, the rent estimate is developed by forecasting one year’s total revenue then multiplying that by a market-extracted percentage. Since all expenses are borne by the operator, the result is net income to the landlord.

**Estimating total revenue**

Three years of actual collected revenue were available for analysis to estimate total revenue. In addition, average daily rates for the subject and comparable parking facilities were reviewed, as was a survey of parking rates disaggregated by location and facility type.23 This allowed a determination of whether the subject operating history was approaching market rate. Working forward from the oldest annual revenue indication, the following are the three most recent annual figures for the subject lot, EasyPeasy Parking:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,901,202</td>
<td>$1,960,020</td>
<td>$2,021,683</td>
</tr>
</tbody>
</table>

These figures are based on the current daily rate, $4.00. The average annual rate of increase has been roughly 3%.

To judge whether the subject’s daily rate is indicative of the market rate, the daily rates at the three competing lots near the same airport were examined:

<table>
<thead>
<tr>
<th>Peaceful Easy Parking</th>
<th>Park It Here</th>
<th>ParkPlace</th>
<th>EasyPeasy Parking (Subject)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3.90</td>
<td>$4.75</td>
<td>$4.25</td>
<td>$4.0024</td>
</tr>
</tbody>
</table>

The daily charges at the competing parking lots clearly suggest the subject’s rate is consistent with the market. Therefore, it is reasonable to apply the subject’s operating history as a projection of expected revenue. Based on the market daily rate indications from competing lots and the three-year history of the subject, the first-year total revenue is forecast at $2,082,300.

23. Colliers International, for example, publishes parking rate surveys that are disaggregated sufficiently to allow comparison to the subject.
24. In evaluating the market figures, one consideration was that Park It Here offers a limited supply of covered spaces, while Peaceful Easy Parking, ParkPlace, and the subject only have uncovered/open spaces. ParkPlace is located inside the airport perimeter, although it is privately operated. For purposes of this analysis, it was assumed the covered spaces account for the average rate differential.
Indicated market rent

For the analysis, information was gathered on leases based on a percentage of the annual revenue as well as traditional ground lease arrangements. Participants in the parking lot submarket range from small local players to firms with regional and multiregional presence.

One multiregional firm provided customary percentage lease details. The firm indicated that in general its typical range of percentage agreements is 10%–25% of total revenue. As pointed out earlier, the range is highly reliant on the operating expense ratio. Higher operating expenses for the lot operator decrease the percentage of revenue allotted to the fee owner. The concluded market-indicated rent to the fee owner was 20% of gross revenue. Applying this finding to the first-year revenue indicates a market rent for the real estate of $416,460 ($2,082,300 × 20%).

Estimating capitalization rate

Reliable sources of capitalization rate indicators are necessary to apply the income approach. For this segment of the case study a number of data sources were examined.

Survey data from RealtyRates.com. The Florida-based firm RealtyRates.com gathers land lease rates for various types of real estate. The table in Exhibit 1 summarizes their recent research. Although the table does not include a category for surface parking lots, the data still provide some indication of a reasonable estimate for a capitalization rate.

There are at least two reasons why the overall rate applied to the lease income would be toward or at the low end of the ranges presented in Exhibit 1.

1. Typical lease structure for airport ground leases. Many institutional and retail ground leases have limited interim rent increases. Airport ground leases typically have consumer price index escalators. In addition, these leases typically have market rent rate resets on a periodic basis. For example, every five years the rental rate is reset based on a new appraisal. In these instances, every existing lease is reset to the new rate and all new ground lease opportunities are marketed at the new rate.

2. Ground leases have inherently less risk and lower overall rates. Ground leases have less risk than building leases because there are few issues with building functional obsolescence, replacement reserves, capital improvements, and management. In addition, at the end of the lease term, if there is no renewal, the property value may be enhanced by the building improvements that revert to the ground lessor. However, it should be noted that there are significant threats to the off-airport business model (pricing power of government-run, on-airport parking facilities; off-airport operator fees; mobility ride-sharing services; and the future prospect of self-driving cars). These potential threats are likely to manifest themselves in the overall rate applied to the lease income.

The lower end of the figures pulled together by RealtyRates.com places a reasonable capitalization rate near 7.25%.

<table>
<thead>
<tr>
<th>Property Type</th>
<th>Capitalization Rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td>Apartments</td>
<td>2.03</td>
</tr>
<tr>
<td>Golf</td>
<td>1.79</td>
</tr>
<tr>
<td>Health Care/ Senior Housing</td>
<td>2.59</td>
</tr>
<tr>
<td>Industrial</td>
<td>2.25</td>
</tr>
<tr>
<td>Lodging</td>
<td>1.96</td>
</tr>
<tr>
<td>Mobile Home/ RV Park</td>
<td>2.12</td>
</tr>
<tr>
<td>Office</td>
<td>2.35</td>
</tr>
<tr>
<td>Restaurant</td>
<td>3.51</td>
</tr>
<tr>
<td>Retail</td>
<td>2.29</td>
</tr>
<tr>
<td>Self-Storage</td>
<td>2.41</td>
</tr>
<tr>
<td>Special Purpose</td>
<td>2.84</td>
</tr>
</tbody>
</table>

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Survey Data from Real Estate Research Corporation. A survey specific to parking lots by Real Estate Research Corporation resulted in the capitalization rates shown in Exhibit 2.\(^{25}\) The article that originally accompanied the survey results reported an average capitalization rate for parking facilities in the Midwest (the location of the subject parcel) at 7.2%. These data support the interpretation of the information from RealtyRates.com presented in Exhibit 1.

### Exhibit 2 Parking Facility Capitalization Rates

<table>
<thead>
<tr>
<th>Region</th>
<th>Seller</th>
<th>Buyer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National</strong></td>
<td>Range (%)</td>
<td>4.6–10.0</td>
</tr>
<tr>
<td></td>
<td>Average (%)</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>West Region</strong></td>
<td>Range (%)</td>
<td>4.5–8.5</td>
</tr>
<tr>
<td></td>
<td>Average (%)</td>
<td>6.4</td>
</tr>
<tr>
<td><strong>Midwest Region</strong></td>
<td>Range (%)</td>
<td>5.0–10.0</td>
</tr>
<tr>
<td></td>
<td>Average (%)</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>South Region</strong></td>
<td>Range (%)</td>
<td>4.5–8.05</td>
</tr>
<tr>
<td></td>
<td>Average (%)</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>East Region</strong></td>
<td>Range (%)</td>
<td>5.0–8.05</td>
</tr>
<tr>
<td></td>
<td>Average (%)</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Ranges and other data reflect the central tendencies of respondents; unusually high and low responses have been eliminated. Sources: Situs RERC, JNL Parking, and Parking Property Advisors

Capitalization rate conclusion and indication by direct capitalization

Combining the earlier estimate of NOI with the capitalization rate data produces in the following range of value indications using the income capitalization approach.

- $416,460 ÷ 7.2 = $5,784,200 per acre
- $482,000 ÷ 7.5 = $3,400 per space

Based on the analysis as described, the indicated value by direct capitalization is $5,600,000, or $3,300 per space.

Reconciliation of indicated values from three approaches

The cost approach resulted in an indicated market value of the fee interest in the airport parking lot real estate of $5,351,000, or $3,150 per space. The method relied on a national cost service for cost new, and age-life for depreciation, both of which diminish the reliability somewhat. The site value was reasonably well supported with local transactions. The conclusion is considered reliable, although it is not the method typically used by market participants.

The sales comparison was of limited use because of a lack of sales of just the real estate component. Two transactions provided a solid...

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\(^{26}\) The information has been modified to ensure privacy of the parties. The indicated ground lease rate, however, is unchanged.
indication of the market value of the total assets of $6,250 per space. After verification and adjustment, one transaction of just the real estate pointed to a market value of the fee simple interest of $5,440,000, or $3,200 per space.

The income approach employed direct capitalization. This method is the one relied on most by the market participants. The rent is strongly supported using a percentage of revenue methodology, which is often used by participants to establish rent. The capitalization rate was reasonably well supported by surveys and corroborated by one recent transaction. The indicated market value of the fee interest in the real estate was $3,300 per space, although the range indicated was $3,260 to $3,400.

With most weight to the income approach and with strong support from cost and sales comparison approaches, the conclusion of market value of the fee interest in the subject real estate is $5,600,000, or $3,300 per space.

Summary and Conclusions

When the highest and best use of a parking lot is for parking, then the most applicable approach to valuing it will be the income capitalization approach. This is because these properties are purchased in anticipation of the receipt of income. The other two approaches to value—cost and sales comparison—have applications too, but the best method to determine how much an informed buyer would pay for a parking lot is to study the reason it is being bought: for the generation of income. As noted in the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA), which sets forth the guiding principles and practical applications for the appraisal of property in federal acquisitions, “only income generated by the real estate itself—typically rental or royalty income—can be considered and capitalized…income generated by a business conducted on the property...is not considered.”

All assignments in which just the real estate is being valued, not just UASFLA appraisals, must adhere to this principle. Therefore, when valuing a parking lot using the income approach the appraiser must take care to separate the real property from the tangible and intangible personalty. The same is true when using the sales comparison approach. The cost approach, on the other hand, does not include the non-realty to begin with, so it is not necessary to remove it when applying that method.

This article has sought to explain the unique issues involved in the appraisal of a parking lot, has highlighted the assignment conditions and elements that accompany it, and then illustrated, using a mini case study of an airport parking lot, how these issues can be resolved.

SEE NEXT PAGE FOR ADDITIONAL RESOURCES >
About the Authors

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Additional Resources

Suggested by the Y. T. and Louise Lee Lum Library

AnythingResearch

US Industry Statistics and Market Research—Parking Lots and Garages
https://www.anythingresearch.com/industry/Parking-Lots-Garages.htm

Appraisal Institute

Lum Library, Knowledge Base [Login required]
- Business valuation
- Commercial Properties/parking facilities

National Household Travel Survey
http://nhts.ornl.gov/

National Parking Association—Parking Industry Tools and News
https://weareparking.org/page/resources

Parking Network—Parking Literature
https://www.parking-net.com/parking-literature

Parkopedia
https://business.parkopedia.com/data
Black Swans: When the Impossible Occurs

About This Column
Resource Center is about all types of information resources that may be helpful for real estate market analysts and valuers—from print and online publications to data sources and websites. This edition of Resource Center takes a look at the COVID-19 pandemic and real estate expectations from this unexpected event.

Economic Forecasts and the COVID-19 Pandemic

The preceding “Resource Center” column (Winter 2020) included information about the real estate market projections for 2020 and beyond. That content was written just before the COVID-19 outbreak was declared a national emergency. The reality of the pandemic meant that those projections were no longer realistic. Massive, worldwide change occurred instead.

The COVID-19 pandemic has caused widespread shutdowns of business, entertainment, sports, and social activities; triggered massive federal and state aid programs, increasing national debt and causing financial problems for governments; produced serious mental and physical health problems in non-COVID-19 patients arising from delays in diagnosis and treatment of serious medical conditions; caused sharp increases in unemployment; and created a wide variety of legal issues for income property investors and business owners.

At this time speculation is rampant about the outlook for the economy, the coming general elections, and the financial conditions of entities reliant on sales tax revenue. The real estate sector of the economy is faced with the fallout effects of the pandemic as well. Real estate markets and property uses are tied to human behaviors that have been severely limited in the face of the pandemic. For example, social distancing has affected willingness to share high-density/close-proximity environments endemic to city housing, public transportation, sports, entertainment, and travel (although it is unknown how long the social-distancing paradigm will persist).

Forecasts, such as those made by experts at the start of 2020, are always subject to unforeseen events and adjustments. The pandemic, however, is a catastrophic event with major implications that call for much more than mere adjustments to forecasts. Now, and into the future, there will be extensive discussion of how to analyze the event’s economic impact; what we can learn from this circumstance; how long the economic, behavioral, and legal/governmental effects will last; and how to better prepare for the next such event.

For prognostication purposes, it is important to analyze how past catastrophic events changed society, the economy, and markets (for our purposes, primarily the real estate market)—and for how long. The pandemic-related economic slowdown has quite different causes than other recent major events, such as the 9/11 attacks, the dot-com bubble crash, and the Great Reces-

For easy, direct access to the URL addresses noted throughout this article, read this column online. Go to https://bit.ly/TAJ_Articles and click on “Latest Issue.” (Login required.)


sion. But we can still look at the aftermath of these events to check individual, societal, and governmental post-event reactions and learn from those experiences.

The Black Swan Strikes

What Is a Black Swan?
You have probably heard the COVID-19 pandemic referred to as a “black swan event.” The term black swan event was popularized by Nassim Nicholas Taleb. In his 2007 book, The Black Swan: The Impact of the Highly Improbable, Taleb describes a black swan event as an unexpected occurrence with widespread significant effects. The term was subsequently popularized after the 2008 financial crisis. Taleb has cautioned those who may believe analysis of a past black swan event can meaningfully help prepare for future events:

A black swan is an outlier, an event that lies beyond the realm of normal expectations. Most people expect all swans to be white because that’s what their experience tells them; a black swan is by definition a surprise. Nevertheless, people tend to concoct explanations for them after the fact, which makes them appear more predictable, and less random, than they are. Our minds are designed to retain, for efficient storage, past information that fits into a compressed narrative. This distortion, called the hindsight bias, prevents us from adequately learning from the past.

The primary characteristics of a black swan event are it is unpredictable, it is not what is normally expected, and it has severe consequences. Black swan events can cause catastrophic damage to an economy, and because by definition they cannot be predicted, we can only prepare for them by building robust systems. Standard forecasting tools not only fail to predict these events, they potentially increase vulnerability by providing a false sense of security.

The “black swan” analogy has been extended and modified to describe events with other degrees of predictability. For example, the term grey swan event is used to describe a potentially very significant event (positive or negative) that is considered unlikely but still possible. The distinction between a black swan and grey swan event is the degree of probability. In economic analysis there are also white swan events. As you might expect, a white swan event is a highly predictable event. Whether an event is a black, grey, or white swan is a matter of personal or collective judgment; there is no set metric or criteria for distinct categorization.

We do not study black swans to forecast future events since, by definition, black swans are unpredictable. We study black swan events to develop strategies to better deal with the aftermath of such events and to learn lessons for general preparedness. We study grey swan events, i.e., events with a higher probability, to understand cause and effect and to take steps that might prevent or mitigate such events.

3. Historically, “black swan” has been used to describe something that had been thought impossible. The use of this terminology is based on the fact that Europeans were unaware of the existence of black swans until the seventeenth century. See, for example, “Black Swan: The Impossible Bird,” https://bit.ly/3eNfPoE.


6. This discussion will focus on economic impact, but of course the effects can extend to people (death, disease, injury, psychological), structures, and land (massive flooding or earthquake, for example).


If the COVID-19 pandemic is a black swan, perhaps other black swan events can be analyzed to project its effects on society, the economy, and, in particular, real estate markets. If the cause and nature of a past black swan are different, however, then we need to recognize that the aftermath might be different as well in terms of depth, breadth, coverage, and duration. Whatever the swan color, or the nature of the sudden catastrophic event, the important point is that we analyze what happened to be better prepared for next time.

Below are some commonly suggested examples of black swan events:

- **Black Death in Europe, 1347–1351**
- **European Flu Pandemic, 1889–1890**
- **World War I, 1914–1918**
- **Spanish Flu Pandemic, 1918**
- **Stock Market Crash of 1929 and Great Depression**
- **Black Monday Stock Market Crash of 1987**
- **Collapse of the Soviet Union, 1991**
- **Birth and Rapid Growth of World Wide Web and Internet**
- **Savings and Loan Crisis, 1986–1995**
- **9/11 Terrorist Attacks**
- **Dot-Com Bubble Collapse, 2000–2002**
- **Great Recession and Financial Crisis, 2008–2011**

Sudden, major catastrophes without significant impact on the economy or society generally are not labeled black swan events. Also, not all major historical events qualify as black swan events. Finally, changes that occur gradually over time do not qualify as black swan events.

### Black Swans, Grey Swans, and Grey Rhinos

The future is full of uncertainty: pandemics involving new diseases, new weapons of biological and nuclear warfare, global economic collapse, natural disasters, catastrophic internet collapse, massive political change, riots, and more. Given that such uncertainty is ever present, there is considerable commentary as to whether the COVID-19 pandemic was truly a black swan event or whether such an event was foreseeable. Many observers would call the COVID-19 pandemic a black swan event because of its far-reaching effects on society, government regulations, the economy and finance, consumer behavior, and business methods and attitudes. But there is some difference of opinion as to whether the current pandemic is a black swan or grey swan event as some believe that it was predictable, and almost inevitable, that an unknown pathogen would hit and spread. Whether the current pandemic is or is not a black swan or an event with another name is a matter of judgment considering the general criteria for such events: unpredictability, unexpectedness, and severe consequences. For examples of such discussions, see the following.

**“Is Coronavirus Really a Black Swan Event?”**


**“Black Swan: A Rare Disaster, Not as Rare as Once Believed.”**

WSJ article at [https://on.wsj.com/2L2xMCC](https://on.wsj.com/2L2xMCC).

**“Welcome to the Black Swan Event: The Future of Pandemic Response.”**


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9. Note most of these events are of greatest significance to Western societies, and a black swan event in one part of the world may not have the same major significance elsewhere. Dates shown are not necessarily precise.

10. For additional discussion on Taleb’s black swan concept, uncertainty in markets, and the fallacy of predictions, see Hugh Kelly, “Black Swan—The Original Rara Avis,” *Real Estate Issues* 42, no. 5 (March 21, 2018), [https://bit.ly/3gJYsXw](https://bit.ly/3gJYsXw).

“COVID-19 Is Truly a Black Swan Event, and We Can’t Rely on History to Predict the Outcome.” Everest Group article at https://bit.ly/2zXVP3H.


“Coronavirus Is Significant, but Is It a True Black Swan Event?” The Conversation article at https://bit.ly/2SPgHAm.

“What Are Lessons for Leaders from This Black Swan Crisis?” Harvard Business School Working Knowledge article at https://hbs.me/2WwFB8U.11

“Why the Coronavirus Crisis Is a ‘Gray Rhino’ and Not a Black Swan.” Fast Company article at https://bit.ly/2AgRmsY. This article references policy analyst Michele Wucker’s “gray rhino” for events that are “obvious, visible, coming right at you, with large potential impact and highly probable consequences.”


Nassim Nicholas Taleb, the renowned commentator on black swans, is among those who hold the view that the current pandemic is not a black swan event. Taleb argues that the COVID-19 pandemic is not a black swan because it was not unpredictable. Instead, he calls it a white swan because of its predictability, if not inevitability. To see Taleb’s commentary on the nature of the COVID-19 pandemic, check out the following.


**Potential Effects of COVID-19 Pandemic on Real Estate**

Regardless of the specific swan label given the pandemic, the important point for valuers is the aftermath of the disrupting events. At this point there is much conjecture about the full effects of the pandemic on the economy. What will be affected and for how long? Black swans (and probably grey swans) affect investor and consumer sentiment and outlook for months, years, or even decades. They may impact regulations and laws, business health, capital expenditures on equipment and facilities—either expansion or contraction, costs, and purchasing power. Valuers interested in following the changing status of the

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11. The Harvard Business School also offers a COVID-19 Business Impact Center webpage with articles covering the pandemic’s likely impacts on economics and finance, technology, health care, work life, and business leadership and adaptation; see https://www.hbs.edu/covid-19-business-impact.
economy should visit the website of the Federal Reserve Bank of St. Louis’s Economic Research Division (FRED), which features a “COVID-19 Research Resources” section (https://research.stlouisfed.org/resources/covid-19/). The resources include continuously updated research data and reports on economic conditions.

Although the pandemic’s ramifications are wide reaching, our discussion here will primarily focus on the real estate sector. The broader economic situation will impact real estate markets in terms of real estate demand, values, pricing, marketing methods, volume of transactions, and leasing and investment strategies. Contractual provisions in place before the pandemic are sure to come under close scrutiny. In the face of general economic stress, the stakes will be high in how these provisions are interpreted. The following are some areas that will be the focus of special consideration.

**Force majeure clauses.** The courts will be called on to interpret force majeure clauses in real estate–related contracts, and cancellation of all or part of these agreements, as parties seek relief from contract performance. Threshold questions include, Does a pandemic constitute a force majeure as referenced in the agreement? Do the pandemic-related responses of the public and government constitute a force majeure? For discussion of these issues see “Emerging Legal Issues Arising from the Coronavirus Pandemic” (https://bit.ly/2WzbON7) and “Is the Coronavirus a Force Majeure that Excuses Performance of a Contract?” (https://bit.ly/2zNsIFX).

**Demand effect.** Unemployment and underemployment are expected to affect demand by buyers and investors for real estate. Similarly, impacted businesses are expected to adjust their demand for space, layout and design, and willingness to make real estate lease commitments. Local unemployment data is available from the US Bureau of Labor Statistics (https://www.bls.gov/lau/).

**Rent obligations.** Rent obligations cause financial stress for many tenants—residential and commercial, large and small—in tough economic times. Real estate occupancy costs and expenses are a major budget item for most tenants and users. Loss or reduction of income significantly affects the ability to pay rent, which in turn affects property owners. This results in a cascade of effects, such as the following:

- Temporary eviction moratoriums in some states allow rent to continue to accrue, with the balances increasing to potentially unsustainable levels for tenants.
- The lack of rental income impacts the landlord’s ability to hold and maintain the property.
- Rent stress may result in rent strikes, particularly in rental apartments in some areas with extensive economic disruption.
- Rent postponement, abatement, and adjustment through modification of the lease and agreement of the landlord and tenant may permit the tenant to continue its occupancy, but the landlord may not be able to meet its expenses related to taxes, insurance, loan payment, and maintenance.

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12. *The Dictionary of Real Estate Appraisal*, 6th ed. (Chicago: Appraisal Institute, 2015) notes that force majeure literally means “superior force,” and the term “usually refers to an unavoidable event (e.g., a strike, severe weather, a natural disaster) that results in failure to perform a contractual obligation.”

**Mortgage payments.** Borrowers and lenders—individuals and investors, commercial and residential—are affected as tenants’ ability to pay rent is adversely affected. Debt service goes on and accrues regardless of economic conditions. Creative solutions will be explored, including loan modification to allow temporary payment postponement, interest-only payments, and forbearance agreements. Borrowers will be looking for guidance from agencies such as the Consumer Financial Protection Bureau, which has published a “Guide to Coronavirus Mortgage Relief Options” (https://bit.ly/2ADGMMt).

**Hospitality-related real estate.** All hospitality types have relatively big real estate investment and significant holding and fixed costs. Hotels, resorts, bed and breakfasts, and Airbnb property owners/operators/investors therefore are facing serious difficulties due to the greatly reduced number of travelers. Hospitality-related associations can be helpful sources of information and data on the health of this real estate sector. A list of hospitality associations (with links to websites) can be found at https://bit.ly/306kv4W.

**Transportation industry.** The pandemic is affecting not only transportation equipment (planes, trains) design and layout, but terminal and station facilities as well, predominantly in terms of future layout and design configuration, use density, and income generation necessary to meet real estate–holding costs and expenses. The Airport Restaurant and Retail Association (https://airportxnews.com/news/) is one source of information on how COVID-19 is affecting transportation facilities.

**Public venues.** Sports venues, arenas, and convention centers all have pandemic-related concerns. Each of these sites needs population density paying to attend events to cover these properties’ fixed costs. For information on the state of this real estate sector, see associations such as the National Independent Venue Association (https://www.nivassoc.org/) and the International Association of Venue Managers (https://www.iavm.org/).

**Food and beverage enterprises.** Restaurants, pubs, bars, and other similar businesses are all facing reduced demand from a slowing economy and uncertain economic outlook. In addition, there is the possibility of months (or years) of regulations calling for lower densities than are needed to support real estate costs and expenses and to ensure enterprise feasibility. Use modifications may be considered to help some real estate enterprises stay afloat. For example, ordinances, zoning, or lease restrictions that prohibit outdoor dining or grocery store use may be revised. Rent levels may be restructured or reduced rather than allow a property to fall vacant. The National Restaurant Association (https://www.restaurant.org/research) is a good starting point for data on the food and beverage industry.
Post-Pandemic Changes Likely in Real Estate

The current pandemic is likely to affect the real estate sector in the future in a number of ways. Some of these changes are obvious extensions of the recent behavioral modifications.

First, the pandemic led to more virtual gatherings. Teleconferencing increased dramatically for education, and businesses similarly shifted to telecommuting and teleconferencing. If these practices continue, they are likely to affect space demand, layout, and design. See, for example, the following discussions of impact of office space demand: “Pandemic Threatens to Upend a Thriving Real Estate Model” (https://nyti.ms/3f7Dwlf), “The Post-Pandemic Workplace Will Hardly Look Like the One We Left Behind” (https://wapo.st/3cLHPHS), “What the Future of Work Might Be after the Pandemic Is Over” (https://n.pr/30oMBbw), and “Working from Home May Be a Permanent Feature of the Post-Pandemic World” (https://bit.ly/3OlKYeS). Second, there is likely to be a return of some manufacturing from foreign countries, especially manufacturing related to critical products (e.g., medical, pharmaceutical, security, and defense items). This will impact demand for industrial and warehouse properties. Third, the trend toward virtual marketing of real estate will accelerate, with increased reliance on technology (e.g., drone video, virtual property tours, video conferencing, electronic escrow closings, and transaction mechanics).

Prognosticators are looking to past global events to get a broader picture of what the future may hold for real estate in terms of uses, prices, transaction volume, and mechanics. For example, see the Zillow article “Information from Past Pandemics, and What We Can Learn: A Literature Review” (https://bit.ly/3dtIJjy). This article looks at research and data on the effects of other global pandemics, including annualized loss in GDP, and presents a case study of the 2003 SARS epidemic in Hong Kong. The article cites over twenty sources and is well worth reading.

Residential Real Estate

There is much speculation about how the pandemic and sequester will impact the residential housing market. Potential effects include changes in housing transaction volume and sale prices. Some prognosticators are sanguine about the housing market’s prospects at this point but cautious about the future; see for example the following commentaries.

“The COVID-19 Recession Might Not Be as Bad for Housing as the Last One.” Barron’s article at https://bit.ly/2WrjF.


“What Will America’s Housing Market Look Like after the Coronavirus Pandemic Ends? Here’s What 5 Top Producing Real Estate Agents Had to Say.” Forbes article at https://bit.ly/3c2eGbL. This article suggests that post-pandemic there will be a shift in buyers’ housing priorities, such as increased demand for home office space and outdoor space.

“Why Home Prices Are Rising during the Pandemic.” WSJ article at https://on.wsj.com/2L8n5hP.

Redfin’s website includes weekly residential market updates with the latest data and charts on housing. Some articles of interest include the following.


“Home-Buying Demand Surges on Record-Low Mortgage Rates; Up 17% from Pre-Coronavirus Levels.” Redfin article at https://bit.ly/2TNRYwX.

Commercial Real Estate
It is expected that the commercial real estate market, like the residential market, will be impacted by the pandemic and sequestration. Commentators suggest that different market segments will have different post-pandemic experiences. The following articles offer analyses of the commercial real estate market and suggest segments that will do better or worse than the rest.

National Real Estate Investor provides a look at current commercial real estate trends and offers projections for specific market sectors. Some articles of interest include the following.

“CRE’s Potential Winners and Losers in a Virus-Hit World.” National Real Estate Investor article at https://bit.ly/2TLhz9V. This article identifies expected post-pandemic real estate winners, such as warehouses, data centers, grocery-anchored centers, distressed real estate funds, commercial mortgage-backed securities, and medical office buildings. Real estate losers are expected to include regional malls, senior housing, coworking operators, and hotels and resorts. The “yet unknown” category includes the multifamily rental, student housing, and self-storage segments.

“The Short- and Long-Term Implications of COVID-19 for Seniors Housing.” National Real Estate Investor article at https://bit.ly/2SEQFA1. This article covers implications of COVID-19 on the senior housing market and addresses issues of reduced demand, lower loan-to-value ratios because of perceived risk, operational changes, and items with longer-term implications, such as change in operations and management, patient density, and design and layout.

The following articles in Real Estate Issues also cover expected changes in commercial real estate.

“8 Ways COVID-19 Will Change Architecture.” Architizer article at https://bit.ly/2YJXHXK. This article forecasts a shift away from large city offices; new restaurant layouts for social distancing and sanitation measures; an increase in modular structure construction that permits fast build-outs in emergency situations; and innovations in lightweight flexible building systems with adjustable walls to make transitions in space use. Also see “What the Coronavirus Reveals..."

“Life after the Pandemic: How New York and Its Real Estate Market Will Recover.” Forbes article at https://bit.ly/3dJ8gVN. While primarily about one part of the country, this article has some points to keep in mind for most metro area markets.


“Rent Is Due Today, but Many Tenants Can’t—or Won’t—Pay.” WSJ article at https://on.wsj.com/2YzWFxC.


Conclusion

Valuers are economists—perhaps more specifically, applied land economists. They study market influences, macro and micro, and the behavior of market participants and what influences them. Black swan events widely influence societal, individual, and market behaviors and are an example of one big, unforeseeable type of risk. Black swan and grey swan events have broad, deep, and sometimes long-lasting impact on markets including real estate markets. Such influences may, or may not, affect prices, volume of transactions, location preferences, various types of property use demand, and design preferences. These types of events remind us of risk, and the unavoidable uncertainties in forecasting. Even though grey swan events are expected, the timing is invariably a sudden event with high impact. Future analysis will most likely be directed toward best practices to mitigate the impact of the next—yet unknown—black swan event.

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If you know of additional resources of interest to real estate analysts and valuers—or would like to suggest topics for this column—please contact the author.
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