

Memorandum

To: CHAIR AND MEMBERS
Airspace Advisory Committee

Date: October 22, 2002

From: **PETER SCHULTZE**
Senior Right of Way Agent
Airspace Program
Division of Right of Way

File: AIRSPACE
Wireline Program

Subject: Fiber Update - Information on Fiber Consultant

Enclosed is information on Charles P. Bucaria, Sr., MAI who has been hired to assist the Department in developing a pricing matrix for fiber optics. Mr. Bucaria was originally scheduled to attend this meeting but due to the change in the meeting date he will be unable to attend. Mr. Bucaria is a scheduled speaker at a conference on corridor valuations being held in San Diego at the same time. I will forward any comments you may have on this topic at this meeting to Mr. Bucaria and will have Mr. Bucaria present at the next scheduled meeting.

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October 18, 2002

*Mr. Peter Schultze
CalTrans Headquarters Right of Way
Airspace/Wireless/Fiber Optics
1120 N Street, P.O. Box 1438
Sacramento, CA 95812-1438*

Subject: Status Report, Statewide Telecommunications Corridor Pricing Matrix

Dear Mr. Schultze:

This is to summarize current objectives, work plans and the status of our Telecom Corridor Pricing Matrix study. It may also be helpful to know of some of the data problems we have encountered and are solving.

The work is proceeding from a broad outline we have jointly discussed. The investigation is to include the following elements:

- 1. Corridor pricing from urban, suburban and rural areas of both northern and southern California.*
- 2. Market information usable for bridges.*

Among valuation factors to be considered are pricing based on linear footage in terms of the size and number of conduits or cables to be installed. In the alternative, if the current market is less sophisticated or may be effectively simplified through analysis, pricing based on dollars per linear foot of trench right of way may be considered. As well, we will attempt to define pricing differences between short segments and longer distance corridors.

Prior to our statewide work study assignment with CalTrans we had gathered a significant number of transaction evidences. These range across the United States. However, over thirty California transactions are included in our data base.

From this market experience we know that we must devise a method of converting contracts involving single payments for a number of years into annual rental rates. This conversion will allow us to compare most transactions on an annual rental rate basis.

We also know that it will be necessary to create a time adjustment index. This will allow us to adjust older market transactions to present values.

In order to analyze the data we seek contracts between knowledgeable parties. We are interested in understanding the relationship between price and terms. Significant terms which affect price include contract conditions limiting what is specifically allowed to go into a right of way, the length of the agreement, escalation clauses, revaluation provisions, options and termination provisions.

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At this time we have made a number of inquiries. These have been primarily with public agencies and large private companies which we have reason to believe are knowledgeable and have data. In some cases it has been necessary to make California Public Records Act requests for copies of specific agreements. In working with some federal agencies we have had to ask if U.S. Freedom of Information Act requests would be helpful. On the other hand, where we have dealt with other sources our requests have produced valuable information and more cooperative relationships.

We have found in this and other studies that the sources most likely to have the type of data we would most like to have are reluctant to provide us either contracts or market specific data. Among groups in this "reluctant" category are electric power and petroleum pipeline companies, telecommunications companies and railroads. We continue to attempt to gather data from these sources.

We plan that our pricing recommendations will be "user friendly." Our analysis will recognize that some sophisticated operators lease or license right of way based on the number of fiber optic fibers installed, and whether they are "lit" or "dark" (active, or inactive and held for future expansion). However, for CalTrans purposes this type of market evidence will be converted into a practical and understandable pricing regimen aimed toward ease of administration.

We have made good headway in developing a format for analyzing the "single-payment-for-terms-of-years" transactions. We will be testing our methods shortly.

We have received a number of agreements, all of which will be considered...many of which appear below market. The problem is that many sellers of telecommunications corridor rights lack knowledge of the market. Buyers of such rights are generally very well informed. We continue to gather market data. In each data confirmation we assess the respective knowledge level of the parties to the transaction.

It is early to tell how good our statewide coverage in rural areas will be. It is there that our weak position in asking railroads and utility companies for information is most worrisome. We are mindful of that problem and will do our best to find information useful in those geographic areas.

If we can supply additional background useful for your reviews please contact me.

Sincerely,

*Charles P. Bucaria, Sr., MAI
For Appraisals West*

Enclosures

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PROFESSIONAL QUALIFICATIONS
CHARLES P. BUCARIA, SR., MAI

PROFESSIONAL EXPERIENCE

Since 1974 Charles P. Bucaria, Sr. has provided services as a real estate appraiser and consultant to individuals, corporations and governmental agencies. He has an extensive background in both rural and urban properties. His practice in recent years has included valuation studies, consultations and presentations on both transportation and communications corridors.

He commenced his career in 1958 with the Sacramento County Assessor's Office. From 1960 to 1974 he was employed as a staff appraiser with the State of California's Board of Equalization and Department of Water Resources. During the years 1972 to 1976 Mr. Bucaria was an evening division real estate appraisal instructor with American River Community College. His professional territory has included the States of California, Nevada, Wyoming, Oregon, Arizona and Mississippi.

PROFESSIONAL AFFILIATIONS AND ACCREDITATIONS

MAI, Member, Appraisal Institute, 1983; certified through 12/31/2007
State of California Certified General Real Estate Appraiser License, valid until 4-26-2003
State of Arizona Certified General Real Estate Appraiser License, valid until 5/31/2003
State of Wyoming Certified General Real Estate Appraiser Permit, valid until 8/05/2004
State of Mississippi Certified General Real Estate Appraiser, valid until 8/31/2004
Certificate in Real Estate, University of California
Member, International Right of Way Association

PROFESSIONAL ACTIVITIES

Past President, Sacramento-Sierra Chapter, Appraisal Institute
Member, Appraisal Institute Northern California Chapter
Past Member, American Institute of Real Estate Appraisers Regional Ethics Committee
Past Member, American Institute of Real Estate Appraisers Required Examinations Sub-Committee
Seminar Developer, "The Law and Value, Communications Corridors, Tower Sites and Property Rights," April 2001
Speaker, Corridor Valuation topics, International Right of Way Association and The Appraisal Institute, 2001 and 2002
Author, "Fiber optic Communications Corridors, What is Market Value? The California Experience, Preliminary Conclusions," a paper presented at the Western States Land Commissioners Association meeting January 11, 2000, with additions, January 16, 2001
Co-Author, "Fiber Optic Communication Corridor Right-of-Way Valuation Methodology," *Valuation Insights and Perspectives*, Spring Quarter, 2002 (synopsis) ;and, *The Appraisal Journal*, April 2002
Formerly Real Estate Appraisal Instructor, American River Community College; Broker licensed in State of California

GENERAL EDUCATION

San Jose State University, BA degree (Real Estate - Business Administration)

PROFESSIONAL EDUCATION

Appraisal Institute:

Courses and seminars required for MAI designation, and continuing education requirements of the Appraisal Institute.

Boston University - Principles of Appraisal

Sacramento City College - Advanced Appraisal

Seminars and Short Courses: Appraisal Institute, Society of

Real Estate Appraisers, California State Association of Realtors (various Boards) ,

State of California and County of Sacramento

EXPERT WITNESS QUALIFICATIONS

Sacramento and El Dorado County Tax Appeal Boards

U. S. District Court, Eastern District of California

Superior Court, Counties of Sacramento, El Dorado, San Joaquin, Sutter, Colusa, and Amador, California

State of California, Franchise Tax Board

SAMPLE OF ASSIGNMENTS

Special Assignments:

Communications and Transportation

Corridors

Gun Club, Highest and Best Use Study

Industrial and Special Purpose

Properties

Economic Studies

Levee and Flowage Easements

Water Rights

Trophy Trout Stream Rights

Volcanic Cinder and Hard Rock Royalties

Alignment Studies

Apartments

Condominium Conversions

Farms, Orchards and Ranches

Open Space / Conservation

Easements

Forest and Recreations

Leasehold Interests

Life Estate

Marina Sites

Motels

Offices

Planned Unit Developments

Residences

Resorts

Subdivisions

Shopping Centers

CLIENTS

Appraisal services have been provided to private individuals, corporations and governmental agencies. Among telecommunications clients have been the U.S. Forest Service, California Department of Water Resources, Arizona State Land Department, Law firms representing clients in Wyoming and Mississippi, North Coast Railroad Authority and California Department of Transportation. A list of references is available upon request.

Appraisals West
Real Estate Appraisals, Economic, & Land Use Studies

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Fiber Optic Communication Corridor Right-of-Way Valuation Methodology

A Summary Resulting From Telecommunications Corridor Right-of-Way Market Observations

by Charles P. Bucaria, Sr., MAI, and Robert G. Kuhs, Esq.

abstract

The principal purpose of this article is to familiarize and educate those whose knowledge of telecommunications utility corridor right-of-way valuation is modest, while exposing experienced appraisers to a broader understanding of market-related telecommunications utility corridor right-of-way valuation techniques

Implications of how telecommunications corridor right-of-way valuation issues are treated go far beyond the question of appropriate pricing schedules for private telecommunications companies (telecos) wishing to cross public land administered by federal agencies. Artificial constraints on federal land corridor pricing can adversely affect private land corridor markets. Those of us who are involved in these valuation problems should be alarmed at the potential for misapplication of the real estate appraisal function in dealing with these important property rights issues.

This is a complex subject because telecommunications corridor right-of-way markets operate at several levels. As a result, one size doesn't fit all. Not every appraisal technique is adaptable to every utility corridor right-of-way situation. And, there are a myriad of different corridor valuation problems. Experienced appraisers need to better understand that there is a wide range of market-related right-of-way valuation tools that need to be correctly used.

Background

In August 1997 the United States Forest Service contracted for a study of market data concerning telecommunications corridor valuation practices in the California marketplace. This followed the enactment of the Telecommunica-

Note: This paper was originally presented at an Appraisal Institute corridor valuation workshop entitled, "Linear Rights Of Way: Federal Agency Rent Schedules Reforged," held in Washington, D.C. December 4, 2001. The purpose of the meeting was to discuss federal policy concerning corridor valuation. Workshop participants were real estate staff employees of governmental agencies, congressional staff members, telecommunications industry representatives, and corridor valuation practitioners. Updated material has been added.

tions Act of 1996 and by hundreds of prospective telecommunications service providers resulting in a rush to market.

The Forest Service California investigation was conducted during the years 1998, 1999, and 2000. It included contacts with major landowners, public agencies, and telecommunications companies acting as buyers or sellers of telecommunications corridor rights of way throughout the state. A number of smaller property owners were also contacted.

During late 2000, through 2001, and into 2002 the work area was expanded to include telecommunications corridor right-of-way market research in Washington, Oregon, and Arizona. The principal purpose of the investigation was to provide market data for the use of both the Forest Service and the Bureau of Land Management to update telecommunications corridor right-of-way special-use permit fee schedules.

Two MAI members of the Appraisal Institute gathered data. The studies and consultation reports were guided by the Uniform Standards of Professional Appraisal Practice (USPAP)¹ and the Code of Ethics and Standards of Professional Practice of the Appraisal Institute.² No constraints were placed on the investigation or work products. The information gained from this study provides unique insights into utility corridor right-of-way valuation—an area of growing importance to real estate appraisers, industry, and the public.

Definitions

The following definitions are useful in determining the specific rights proposed to be acquired by a corridor grantee from a grantor. They help identify the character of the project proposed. The definitions assist in focusing the appraiser toward markets to be investigated and possible categories of project-related property damages.

Corridor

A corridor is an elongated narrow passageway, as in a hall found in a building or a strip of land used for a variety of purposes, including the following:

1. Road or rail transportation.
2. Aqueducts and canals.

3. Various utility distribution corridors, including those that accommodate electrical power lines, telecommunications facilities and petroleum product pipelines.
4. Avigation or aircraft overflight and landing patterns.

Corridor Rights

Corridor rights are the rights to the fee simple ownership, or portions of the ownership interest, for corridor purposes as defined in the granting instrument. Among corridor interests may be rights to use the land's surface, sub-surface, air-rights, or combinations of these for corridor purposes. Valuation of corridor rights is a separate process from valuation of damages to property caused by construction of a corridor project.

The Telecommunications Utility Corridor Right-of-Way Market Is "Immature"

As the California and Arizona studies progressed, it was discovered that the telecommunications corridor right-of-way market is immature and characterized by divergent methodologies and valuation results. A broad spectrum of data is necessary in order to understand how the market functions and to uncover common threads.

Contributing to the divergences are the following factors:

1. Confidentiality agreements that inhibit the free flow of market information;
2. Sellers are often unknowledgeable;
3. Telecommunications companies sometimes rely upon persons untrained in appraisal techniques to "set" value rather than find it;
4. Appraisers may either be uninformed concerning telecommunications corridor right-of-way markets or rely on only one method to solve all appraisal problems;
5. Valuers may rely upon local markets that may not contain information appropriate to a particular appraisal problem; and
6. "Most favored nation" clauses may inhibit negotiations.

1. USPAP are standards for appraisal practice promulgated by The Appraisal Foundation, which is Authorized by Congress as the Source of Appraisal Standards and Appraiser Qualifications.® (See *Financial Institutions Reform, Recovery and Enforcement Act of 1989 [AFIRREA]*, Title XI, *Real Estate Appraisals*).

2. Standards of Professional Practice [Chicago: The Appraisal Institute, January 1 to December 31, 2001]; *Code of Professional Ethics* (Chicago: The Appraisal Institute, December 8, 1999).

“The definition of market value and the ideal comparable sale, lease, or license presumes a knowledgeable buyer and seller.”

The authors found that many right-of-way transactions, particularly those with knowledgeable sellers, were subject to confidentiality agreements. Confidentiality agreements have a legitimate place in allowing both the buyer and seller to conduct their financial affairs in secrecy. However, such agreements prevent the free exchange of market data. These confidential sales often are the most relevant and higher-end transactions.

The definition of market value and the ideal comparable sale, lease, or license presumes a knowledgeable buyer and seller. The authors found that many transactions in telecommunications right of way do not involve a knowledgeable seller and therefore do not meet the fair market value test. Since there is no listing service or database for telecommunications right of way transactions, gathering market data is expensive. Many landowners enter into transactions poorly informed because they either do not seek or do not find available data at a sufficiently low cost to justify the perceived benefit. Publicly disclosed transactions often do not indicate the actual price paid for telecommunications right of way. Unless a mechanism is adopted to ensure accurate and public reporting of market transactions, a large number of sellers will continue to be inadequately informed.

Some telecommunications companies, in their haste to get to market, have used untrained acquisition agents and others to price and obtain telecommunications utility corridor right of way. Market value is then set by the price the telecommunications company is willing to pay rather than by an objective market value standard.

The market for telecommunications corridor right of way is widely disbursed and may extend long distances. These two factors may require appraisers to go far in order to obtain information appropriate to a particular appraisal. The result is that solving the valuation problem for individual clients may be costly and time-consuming. Appraisers must understand that a broadly scoped investigation may be necessary in order to obtain adequate amounts of focused market information.

As well, appraisers must be aware that many appraisal tools are available to solve a wide variety of right-of-way appraisal problems. Specific utility corridor markets for right of way contain within them evidence of commonly used appraisal techniques. For instance, discounted cash flow techniques are used by knowledgeable public companies and governmental agencies. Single payment present cash values are commonly estimated by discounting future rent payments. The fact that there are established telecommunications corridor right-of-way rental markets allows some direct rental rate comparisons to be made, often in terms of dollars paid annually per lineal foot of right of way, conduit, or cable. Less frequently rental transactions involve percentages of revenues. In a following segment of this discussion several market-derived appraisal techniques are related to various valuation scenarios.

The appraiser should investigate whether a transaction contains a “most favored nations” clause. These are used to guarantee the underlying property owner will receive the highest unit rate of compensation paid to any other landowner along the right of way. Such a clause may signal that the property owner was unwilling to adequately investigate the market to determine market value, relying instead on other more knowledgeable sellers along the route to set price. Such a clause may also create an artificial price ceiling since in all subsequent negotiations within the defined corridor the teleco is forced to consider the economic consequences of paying one owner higher prices if other purchases are already subject to most favored nations clauses.

Example No. 1

Suppose a teleco buys 50,000 linear feet of right of way from A at \$1.00 per foot, subject to a most favored nations clause. Subsequently B, a property owner along the corridor, proposes to sell 2,000 feet of right of way at \$10.00 per linear foot. The incremental cost of the additional 2,000 feet under the most favored nations clause is \$470,000, of which \$20,000 is paid to B and \$450,000 to A. This example, taken from our market experience, makes the point that under a most favored nations clause consequential costs can be substantial.

Another example might be a corridor crossing a strategically located property where the avoidance cost is prohibitive (cost avoidance analysis is an appraisal method discussed in a following section). Payment of market value might trigger a compensation chain reaction throughout the corridor right-of-way align-

ment. Such agreements are “flags” to appraisers, who should recognize that all aspects of transactions subject to such agreements may not show on public records. Data from such a corridor may not reflect market conditions.

The Market Value Standard

The concept of market value is important because the use of certain market data may depend on whether or not a transaction meets tests explicit to the market value definition. Market value has a number of definitions depending on the jurisdiction in which the property value estimate is made. As an example, public agencies and private utility companies in California may be granted authority by the State Public Utilities Commission to condemn property. Telecommunications companies acquiring telecommunication utility corridors must operate according to the following market value definition:

The fair market value of the property taken is the highest price on the date of valuation that would be agreed to by a seller, being willing to sell but under no particular or urgent necessity for so doing, nor obligated to sell, and a buyer, being ready, willing, and able to buy, but under no particular necessity for so doing, each dealing with the other with full knowledge of all the uses and purposes for which the property is reasonably adaptable and available.³

If the appraisal is to address market value for condemnation purposes, the preceding definition, or one appropriate for the jurisdiction, guides the appraiser in analyzing the data and arriving at a conclusion of value.

Under this standard, questions to be answered by the practitioner include:

1. To which market is the appraisal addressed?
2. From which market strata or level has the market data been derived?

These questions are fundamental to both the property’s highest and best use determination and selection of an appropriate appraisal method.

In the condemnation arena, market value (or fair market value) is not an absolute standard, nor is it the exclusive basis for valuation. Where comparable sales are lacking resort may be had to the best available data that, even though it may be somewhat uncertain, is sufficient to produce a value on a reasonably informed basis.⁴ This may open the door

for the use of telecommunications right-of-way transactions to become entities with the power of eminent domain. Final determination of what may or may not be usable as market data rests with the courts.

Corridor Valuation

The process of estimating market value for the corridor rights defined in the appraisal assignment requires careful analysis of interests to be acquired; determination of the highest and best use of the property or property rights to be appraised; investigation and determination of the market for those interests; determination of the larger parcel; consideration of the appropriate market level to which the valuation is most logically addressed; and selection of those market-based valuation approaches most likely to produce a credible opinion of value. For purposes of this discussion the authors assume that the larger parcel is a defined corridor.

Telecommunications Rights

An example taken from the market shows the differences between property interests.

Example No. 2

A petroleum pipeline corridor traverses Southern California and Southern Arizona on its way east to Texas. Rights are sold to a teleco to use a 230 mile reach of the corridor. The rights sold are to install, operate, and maintain a fiber optic cable within an inactive petroleum pipeline. Most of the land crossed is desert in character.

The teleco then separately purchases the rights to install the fiber, operate, and maintain its telecommunications system from individual property owners whose lands were crossed by the pipeline corridor. Individual owners retain the balance of the property rights not granted.

Data from this example, and a second petroleum products pipeline extending through Arizona and New Mexico to Texas, indicate similar rights were involved in the right-of-way acquisitions along the two telecommunications corridors.

Three separate sets of property rights apply:

1. Petroleum product pipeline rights
2. Telecommunications utility corridor rights
3. Residual rights remaining to the owner of the underlying fee estate

3. California Code of Civil Procedure, Section 1263.320.

4. *Foster v. United States* (1983) 2 Cl.Ct. 426, 446.

Each of these sets of rights has value. Each may be separate and distinct from another. In the end the owner of the underlying fee estate may choose to dispose or not dispose of the remaining rights as he or she sees fit—at whatever price the market will bear.

Highest and Best Use

Highest and best use is defined as follows:

The reasonably probable and legal use of vacant land, or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest land value. The four criteria the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum profitability.⁵

Significant points of the highest and best use definition are to be considered:

Legally Permissible

In California, as in many states, authority to provide telecommunications services is controlled and granted by the State Public Utilities Commission. That, along with construction permits granted by the city or county in which the facilities are to be built and federal and/or state environmental requirements are the principal legal constraints that apply to construction of facilities within right-of-way corridors usable for telecommunications purposes.

Physically Possible

Factors such as steep or moderate site topography, deep soils, or rocky geologic conditions and the presence or absence of environmentally sensitive areas all affect property usability for telecommunications corridor right-of-way purposes. Property location and size (large enough to economically preclude use of a less costly alternative route) must also be considered.

Nearby public roads or railroad alignments (transportation corridors) may be free or less costly substitutes. (See also cost avoidance technique discussion in a following section.) Topographic, geologic, or environmental conditions on adjoining or nearby route alternatives may constrain or increase value for a right-of-way corridor on the subject property. These factors will often need investigation to determine if they affect a property's highest and best use potential as corridor right of way, and hence the value conclusion.

Financially Feasible

Financial or economic feasibility refers to the use that will generate income and/or create value equal to or greater than the amount of the project cost. All uses expected to produce a positive return are considered financially feasible.

In examining a proposed or existing telecommunications utility corridor right of way it is pertinent to determine if it will compete adversely with other uses of the subject property. If so, this may indicate that damages to the larger ownership will result from the telecommunications corridor right-of-way use. Under federal and state condemnation law, if severance damages result compensation must be paid to the landowner. The combination of corridor right-of-way compensation and severance damages (as offset by any project benefits) must then be weighed against the value of the land before telecommunications corridor right-of-way project development takes place. If, on balance, the benefits of corridor right of way use are positive, it may be found to be economically feasible.

Maximally Productive

“Maximally productive” is defined as the use which would produce the highest net return to the subject property. By making direct market comparisons we can see that telecommunications corridor right-of-way incomes can be significant single payment or annual revenue sources. Considering a property as *unimproved*, such income will often exceed that expected from uses such as timber cultivation or livestock grazing, for example. Such uses are found on much of the land base under U.S. Forest Service or Bureau of Land Management stewardship. Where urban uses exist, if a telecommunications corridor can be installed without interfering with other pre-existing or reasonably expectable future property rights uses, it too may be a maximally productive use of the property. This is also true where such property is *improved* with pre-existing utility or transportation corridor rights of way.

Highest and Best Use Conclusion

Telecommunications corridor right-of-way use can coexist with other property uses. Accordingly, where compensation exceeds that of other uses and corridor development is not detrimental or the detriment is mitigated by the prospective land user, such use

5. *The Dictionary of Real Estate Appraisal*, The Appraisal Institute (1993): 171.

6. *Boom Co. v. Patterson*, (1878) 98 U.S. 403, 25 L.ed. 206. 444 U.S. 164, 100 S.Ct. 383.

7. *Uniform Standards for Professional Appraisal Practice, 2001*, Standard 2, Real Property Appraisal, Reporting, Standards Rule 2-2 (a) (x): 23 Astate the use of the real estate existing as of the date of value and the use of the real estate reflected in the appraisal; and, when the purpose of the assignment is market value, describe the support and rationale for the appraiser's opinion of the highest and best use of the real estate; and, 2-2 (b) (x): 25.

may be concluded to represent the highest and best use of a property. Under both U.S. Supreme Court decision⁶ and USPAP standards⁷ real property must be valued based on its highest and best use.

Under Minnesota law in the late 1870s timber companies whose business included rafting and floating logs down the Mississippi River had the power to take private property for public use (exercise condemnation rights). In an 1878 case involving three islands ideally suited to create log holding areas the U.S. Supreme Court held:

In determining the value of land appropriated for public purposes, the same considerations are to be regarded as in a sale of property between private parties. The inquiry in such cases must be what the property is worth in the market, viewed not merely with reference to the uses to which it is at the time applied, but with reference to the uses to which it is plainly adapted; that is to say, what is it worth from its availability for valuable uses.⁸

The Supreme Court went on to state that merely because a condemning authority desires to acquire a property right for a certain purpose does not permit it to ignore the property's potential private market adaptability to that same use in assessing "just compensation." Just compensation is the: "In condemnation, the amount of loss for which a property owner is compensated when his or her property is taken."⁹

An extension of the preceding Supreme Court case logic suggests that a condemnor must use the valuation methodology existent in the market for telecommunications utility corridor rights of way in justly compensating the owner of property having such uses as its highest and best uses.

Market Stratification

The telecommunications right-of-way market may be stratified into several levels. Recognizing and understanding these levels are essential to identifying the valuation problem, determining the market search area, knowing where data adjustments may be needed, and using appropriate appraisal methods.

Telecommunications utility corridor right-of-way value stratification may be compared with the wholesale to retail market levels that are recognized when appraisers estimate the market value of most real estate development projects. In development real estate the foundational questions are:

1. Is this an unimproved bare land appraisal (potentially one of several "wholesale" market level valuation problems which may require solution)?
2. Is this a "retail" or "user" market level valuation problem?
3. Does the valuation problem fall somewhere in between the two extremes?

In telecommunications corridor right-of-way valuation the retail level relates to the business enterprise. That is, appraisal at the retail level may involve analysis of the entire operating telecommunications company. At the retail level entrepreneurial energies have been expended in creating a business. Unless otherwise specified in the appraisal assignment, the business value will be excluded from the valuation problem. In most instances the real estate appraiser will not be engaged to value the entire enterprise. However, the appraiser may be retained to estimate the value of various real estate rights or segments of the enterprise, and has the capabilities of doing so.

The wholesale market for telecommunications corridors applies to a whole host of possibilities that lie below the retail level. The appraiser must recognize a wide range of prospective wholesale market-level related conditions. These extend from assemblage of a new fiber optic alignment on a parcel-by-parcel basis to valuation of the rights in land that apply to a pre-existing telecommunications utility corridor right of way (a segment of a larger system).

At the wholesale market level individual parcels will typically be far more costly and time-consuming to assemble than may show at the retail end. Seymour's experience in rail corridor valuation¹⁰ and the author's telecommunications market studies suggest this is also true for telecommunications corridors.

In appraisal theory individual parcel values should be worth less than a pre-existing corridor right of way would. That is because in a pre-existing corridor assemblage has already taken place. Theoretically, less entrepreneurial energy, direct, and indirect cost will be required in assembling large parcels or acquiring rights in complete pre-existing long distance corridors than is needed when many small parcels are acquired. If both types of data are to be used the appraiser needs to understand the relationship that exists, if any, between these market levels. Separately, the appraiser recognizes that in a corridor assemblage certain properties may be worth more than the norm.

8. *Boom Co. v. Patterson*, (1878) 98 U.S. 407, 408, 25 L.ed. 206.

9. *The Dictionary of Real Estate Appraisal*, 3rd ed. (Chicago, The Appraisal Institute, 1993): 194.

10. John P. Dolman, MAI, CRE, and Charles F. Seymour, MAI, "Valuation of Transportation/Communication Corridors," *The Appraisal Journal* (October, 1978): 517.

In current depressed telecommunications market conditions it may well be that completed corridor values are worth significantly less than their assemblage costs. However, this is an arguable assumption in a time where telecommunications corridors are still being assembled. More data is needed to test this theory.

Example No. 3

The telecommunications corridor right-of-way valuation question is comparable to a shopping center valuation problem. At the “raw land” stage the proposed shopping center may be considered at one of several wholesale levels. As the shopping center goes through the process of completion and occupancy it reaches its ultimate retail level.

The first step in developing a new shopping center is to study area demographics and trends to project the need for a shopping center of a particular type in a specific location. (In the telecommunications industry the need to study the potential market before extending fiber optic services between markets is presumably also appropriate.) Based on study results a shopping center site is located and the necessary property is acquired.

If several parcels of shopping center land must be acquired the most prominent corners will probably be worth the most money. (The same may apply in the telecommunications market. “Choke points” may command premium prices when an assemblage is being made.) As well, the owner of well-exposed corner parcels and the last owner of a parcel required to complete the shopping center assemblage may hold out for premium prices. At the very least, the appraiser should consider the comparative advantages of the property segments, the property in comparison with other potential shopping center sites, and relative positions of the parties buying and selling to understand whether transactions fall within market value ranges.

After the shopping center land has been acquired the developer may sell or lease “pads” for banks, fast-food outlets, or service stations, as well as anchor tenant spaces. The anchor tenant space will generally lease or sell at substantially lower prices than will the pads or rented in-line tenant space within the shopping center. The key location rental price premiums may be compared with strategic locations found in some telecommunications corridor parcel valuation situations.

The telecommunications corridor/shopping center market stratification comparison may be made in two ways. Some telecommunications right-of-way routes may serve superior markets and may command price premiums over other routes (for example, intercontinental or intra-urban routes compared with small community rural routes). In the previously discussed example separate market stratification criterion are at work when individual small parcels are being assembled as compared with rights transfers involving either large segments of corridors or completed corridors. Understanding these stratifications can influence the appraisal methods selected.

The Three Classic Valuation Approaches Variances Apply to Telecommunications Utility Corridor Valuation

Appraisers commonly use the cost, sales comparison, and income approaches, or combinations of these approaches, to arrive at a value conclusion.¹¹ These methods, or variations of them, also apply to alternative appraisal problems involving telecommunications utility corridor right-of-way valuation.

Cost Approach

The cost approach is used by telecommunications corridor assemblers when they acquire land and install conduit, optical glass fibers, and transmission equipment needed to create an operating telecommunications corridor. All of the direct and indirect costs of assemblage overhead and entrepreneurial profit go to make up the indicated value of the telecommunications corridor from the cost approach perspective. The cost approach is not easily related to the market for telecommunications corridor right of way and may be a less reliable indicator of value.

Cost Avoidance Analysis

Cost avoidance analysis is an alternative method used by both telecommunications companies and analysts to determine whether or not it is economically feasible to follow a particular route. These costs will include both direct and indirect costs of the cost avoidance measures. If a landowner presents a pricing barrier to telecommunications corridor right-of-way development, the cost to go around the owner's property may represent the upper limit to value. Cost avoidance tests are used in evaluating right-of-way alternatives among a variety of types of corridors.

11. *The Appraisal of Real Estate*, 12th ed. (Chicago: The Appraisal Institute, 2001): 349–365, 417–426, 472–495.

Sales Comparison (or Comparison) Approach

In the comparison approach market transactions are compared and related to subject property conditions. Adjustments are then made for property characteristics that differ from those of the subject property. The final step is to reconcile sale or rental value indications to an indication of the market rental or property value concluded to apply to the property or property rights being appraised.

In telecommunications corridor right-of-way valuation this may include direct comparison rights in land for specifically identified corridor purposes in terms of the number of years provided for under the granting document. However, this may be an awkward and difficult process if prices and terms vary significantly.¹²

The appraisal assignment may be to estimate the value of telecommunications corridor right of way that crosses parcels of property constituting a new corridor assemblage. If so, the appraiser may estimate the value of many of these right-of-way segments by analyzing sales of similar land or rights in land, plus recognizing damages to the property remaining after the taking as offset by project benefits. However, if an individual ownership has a history of corridor use, connects corridor segments, and/or meets other corridor highest and best use tests, comparison with transactions involving similar corridor rights may be appropriate.

Among the previously noted studies many examples of sales and rental rates on a linear foot basis were encountered. Telecommunications companies cite prices they are willing to pay for perpetual easements in terms of dollars per linear foot of right of way. They also may lease or license telecommunications corridor right of way on terms of dollars per linear foot of right of way or per conduit per year. Some contracts contain pricing structures that relate to the number of glass fibers installed in each conduit. Pricing variations may be found reflecting the conduit diameter, hence the capacity of the conduit to accommodate varying numbers of glass fibers.

The complex task is to seek the data commonalities. It is axiomatic to appraisers that the most reliable value opinions result where the greatest amount of data is available and the largest numbers of analytic tools are at hand. Linear measure for both sales and rental comparison purposes are comparison approach methods. They are well accepted by both industry and property owner representatives. Linear measure data is relatively plentiful. Accordingly, use of this method of

“Telecommunications companies cite prices they are willing to pay for perpetual easements in terms of dollars per linear foot of right of way.”

market comparison is valid and useful in telecommunications corridor valuation situations.

Before and After Comparison

Land value-based appraisal methods are related to the sales comparison approach. They are sometimes used where new corridors are being established or for specialized rail transportation corridor valuation purposes.

In condemnation work the value of the area to be acquired is estimated both before and after acquisition of the project rights needed. The difference between these two value conditions is the value of the rights taken, plus any damages to the property as offset by any acquisition project benefits. In concept this method is useful in valuing rights to telecommunications corridor right of way.

However, for it to be a valid measure of the market leading to market value, the prospective highest and best use of the right of way for telecommunications corridor purposes must be considered. If it is found that among the property's highest and best uses telecommunications corridor right of way produces the greatest value to the ownership *then the market for telecommunications corridor right of way must be investigated*. If there is an appropriate market for such telecommunications corridor rights their rental or sales value should be substituted for approaches relying on the value of the adjoining land outside of the right of way when making the before and after computations of market value. The points to be made here are:

1. Corridor sales data may show premiums being paid for corridor properties, and that those premiums may not be related to surrounding land values.
2. “Company to company” transactions not subject to condemnation authority may constitute the best market value evidence (particularly among long distance corridors).

12. In certain instances disparate data may be reduced to single cash values for comparison purposes through use of discounted cash flow techniques.

3. Remember that *rights* to real estate are being valued. This may be a different market than that of the real estate alone.

On the other hand, if the highest and best use of the property rights proposed to be acquired is not for telecommunications corridor rights but for other land-use related purposes, then the appraisal may become based on the market for similar lands as is illustrated by land-based market data.

Across the Fence Value Method

The across the fence (ATF) value method^{13,14} is a variation of the sales comparison approach. It is commonly used in valuation of rail transportation corridors. It is not generally used by purchasers or sellers of assembled telecommunications or pipeline corridors, nor in the market for property rights to corridors requiring the right of way across strategically located properties. This is because there is evidence that separately established markets and market levels exist in those types of rights of way.

Exceptions exist as usual in telecommunications corridor valuations. Many national contracts were made over the past few years between railroads and telecommunications companies. Reportedly, a common valuation method used was ATF. As well, former railroad appraisers, not aware of the new telecommunications rights markets being established, have relied on ATF methods. Interestingly, in recent years knowledgeable railroad land managers are selling and leasing rights of way based on telecommunications corridor market factors.

ATF valuation is a multifaceted process that includes the following steps:

1. Estimation of the value of the corridor using sales of similar property;
2. Location of corridor sales having similar uses;
3. Analysis of the value of the land in the sold corridors using sales of nearby similar land;
4. Comparison of sale prices of sold corridors with their estimated ATF land value to determine the ratio of land value to sale price that the corridor transaction represents;

5. Comparing and rating the characteristics of the respective comparable corridors with those of the subject corridor; and
6. Multiplication of the appropriate market-derived assembled corridor land value ratio to land values estimated for the corridor being appraised.

The ATF valuation process includes determination of zoning and land use applicable to the various segments of the corridors to be appraised or analyzed, verification and analysis of property sales having similar uses to those which are in the vicinity of the corridor, and estimation of the value of the corridor's land based on a summation of the values in the various land type categories. A market-derived corridor premium may be applied as a final step in valuation of the corridor rights.

The preceding discussion is merely an outline of a very complex process. The extensive writings of Charles F. Seymour, MAI, CRE, are recommended for information about the rationale and methods for using ATF.

A caution to be pointed out is that the presence of "in-kind" compensation must be considered. If present among comparable sales or a subject corridor, appropriate adjustments must be made.

In their co-authored 1998 Southwestern Legal Foundation article, David R. Bolton, MAI, and Kent A. Sick, Esq., found the ATF method inappropriate for telecommunications corridor right-of-way valuation purposes.¹⁵ The position taken by most companies with the power of eminent domain is to value the property rights as simply the pro rata share of the easement value as determined by the ATF prices. It is inappropriate to use ATF prices when evaluating the rights of ownership within the corridor for a condemning authority and to ignore the data and evaluation methods used when the same rights are sold or leased to users of corridor properties.

The ATF method does not measure value in terms of some present types of telecommunications utility and petroleum pipeline corridor right-of-way markets. In most instances data from those specialized markets is preferable in arriving at market value to using land value-based methods such as what the ATF method represents.

13. John P. Dolman, MAI, CRE, and Charles F. Seymour, MAI, "Valuation of Transportation/Communication Corridors," *The Appraisal Journal* (October, 1978): 509-522.

14. Charles F. Seymour, MAI, CRE and David W. Anderson, "Lessons Learned from Two Decades of Corridor Appraising," *The Appraisal Journal* (April, 1997): 179-182.

15. David R. Bolton, MAI and Kent A. Sick, Esq., "Power Lines and Property Values: The Good, the Bad, and the Ugly," *The Southwestern Legal Foundation in the Proceedings of the Institute On Planning, Zoning and Eminent Domain, Municipal Legal Studies Center, Dallas, Texas, November 18-29, 1998; and The Urban Lawyer, The National Quarterly on State and Local Government Law* (31:2).

While definitions of ATF methodology may differ between the authorities cited above, the principal remains correct. If corridor market value-based just compensation is sought, land value-based telecommunications utility corridor right-of-way appraisal methods are not easily applied nor are they typical in markets for pre-existing telecommunications corridors, nor are they used for certain other corridor right-of-way valuation purposes.

Direct Market Comparison

Where corridor right-of-way direct market comparisons can be found, they should be used. However, practitioners in Louisiana should be aware that the State Supreme Court refused to accept 1,400 transactions as evidence of a corridor market.¹⁶

The goal of the appraiser is to seek corridor market commonalities. Analytic methods should consider factors such as geographic location and project specifications. From the authors' experience meaningful commonalities can be found by analyzing rental and sales transactions in one or more of a number of ways. Among these are dollars per linear foot of corridor right of way, per conduit, or dollars per fiber optic cable. Conduit diameter and fiber count may be useful comparison tools. The appraiser should analyze the data for differences between urban and rural markets.

There is ample evidence to support a conclusion that markets for such rights exist. Appraisers should seek to determine the presence of the market and then appraise using data from it rather than using land value-based techniques that do not mirror the telecommunications right-of-way market.

Income Approach

In the income approach the discounted cash flow (DCF) analysis technique is frequently used in the telecommunications corridor marketplace. There is ample contractual evidence between knowledgeable parties of market-based telecommunications utility corridor and corridor segment right-of-way rental rates. In those agreements corridor use rights are defined, tenancy term and conditions decided, periodic upward price adjustments accounted for, and discounted present values calculated. Both industry representatives and well-informed large public and private property owners commonly use DCF methods.

DCF analysis techniques are particularly useful where it is desirable to provide for a single payment

as compensation for a long-term corridor lease or license commitment. They have worked well for major public agencies and many private and public companies. These informed right-of-way corridor-owning parties have used DCF techniques to negotiate single payments for long-term corridor right-of-way use agreements with experienced telecommunications companies.

The advantage of discounted cash flow analysis use is that all of the contractual parameters can be built into a cash flow model consistent with telecommunications corridor right-of-way markets. While DCF analysis may not be generally appropriate for appraisal of many of the parcels being assembled for new corridors, where highest and best use telecommunications utility corridor right-of-way market rental rates are determinable it is a helpful tool.

Condemnation Authority

Generally, sales to entities with the power of condemnation are not admissible in court as comparable sales.¹⁷ An exception to the general rule exists where the sale is made voluntarily and not under threat of condemnation.¹⁸

When the buyer is a teleco, the appraiser should determine whether it has condemnation authority in the state where the property is located and whether the sale was made under threat of condemnation. In Example No. 2, where a pipeline is located in two states, Arizona does not grant condemnation authority to telecos where California does.

In Arizona two types of sellers were encountered. Some sellers were well informed as to *property values* while others were uninformed. These conditions are typical of immature markets. Rarely were sellers knowledgeable concerning telecommunications corridor markets or their market values. Where property owners had a sense of the unencumbered fee simple value of their lands the partial interest sales sampled were typically at or above the existing use values of the lands being acquired. Property owners accepting first offers of telecos were found typically to receive lowest compensation for their rights.

Market Data Use in Condemnation

There is always the potential for legal challenge regarding the use of data taken from forced sales, that is, sales made under threat of condemnation. Openly

16. *Exxon Pipeline Co. Company v. George Hill, et al Exxon v. Le Blanc* (La. 2001) 788 So.2d 1154, rehearing granted in part (La 2001) 796 so.2d 665.

17. See e.g., California Evidence Code, section 822(a)(1); *United States v. 55.22 Acres of Land*, 411 F.2d 432 (9th Cir. 1969). But see California Evidence Code, section 823, permitting determination of value by any method that is just and equitable when no relevant comparable market exists.

18. *United States and Tennessee Valley Authority v. Easement and Right of Way 200 Feet Wide and 3,435 Feet Long etc.*, 405, F2d 305, 307 (6th Cir. 1968).

“Not all properties have a highest and best use as a telecommunications corridor right of way.”

negotiated purchases of rights from competent and knowledgeable industry participants may produce market evidence more acceptable to the courts. Market Example No. 2 was a transaction involving two large companies listed on the New York Stock Exchange. Each was capable of defending their own economic interests. Arguably, this was not a forced sale. This type of company-to-company information may be useful in telecommunications utility corridor condemnation cases.

Properties That Are Telecommunications Corridor Segments May Differ From Telecommunications Corridors

In Example No. 2 two types of telecommunications corridor market data are represented. And each may have different valuation characteristics. Appraisers need to carefully consider their valuation setting in selecting and analyzing comparable market data.

In the petroleum pipeline rights instance long distance telecommunications corridor pipeline use rights were negotiated. In the second instance individual property owners sold rights to permit the teleco to cross their ownerships, install, operate, and maintain their telecommunications systems. Assemblage of land rights from individual owners is a separate market level from when a larger corridor is involved. While there may be a relationship between the two market levels, care must be taken in arriving at such a conclusion.

In telecommunications corridor valuation all market data is useful, because it is difficult to find and verify. The challenge is in determining the market level to address, locating data that applies; and using proper techniques to solve the appraisal problem.

Each ownership may have its own unique characteristics within the sub-market in which it is located. In order to properly appraise telecommunications rights the practitioner must address highest and best use tests and must understand the market to which the appraisal is addressed. This will help in

distinguishing where in the rights/value spectrum the appraiser's assignment will take the appraiser.

Federal Property Rights Disposition Issues

A corollary to the private property market acquisition of telecommunications corridor right of way is the disposition of Federal property for the same purpose. Some observers have misconstrued the use of appraisal standards found in the *Yellow Book*, The Uniform Appraisal Standards for Federal Land Acquisitions.¹⁹ These federal guidelines are what they say are *standards for land acquisition*. They do not purport to be guidance to federal agencies seeking to *dispose* of property rights, although elements of these standards have been used for that purpose.

Recently, the Ninth Circuit Court of Appeals held that the federal government is entitled to fair market value when it is disposing of land, as distinguished from just compensation, and when arriving at a determination of highest and best use, the appraiser must take into consideration the purchaser's intended use of the government's land.²¹ Just compensation is usually measured by fair market value. However, the two are not the same. Just compensation includes elements of justice that may not be found in fair market value. Although beyond the scope of this article, the practitioner should understand the difference between each measure and when it applies.

Conclusion

Telecommunications utility corridor rights are rights in real estate. They are not ownership rights in the telecommunications business enterprise. As a result, they should be valued based upon their value contribution to the land if its highest and best use is reasonably well adapted to telecommunications corridor use.

Not all properties have a highest and best use as a telecommunications corridor right of way. Where new alignments are being established, other highest and best use determinations may be appropriate. As in any situation, there are exceptions. However, where a highest and best use conclusion is based on the fact that a property has a corridor right-of-way history and/or is well adapted to corridor right-of-way use it becomes necessary to closely consider appropriate markets to measure the value contribution of that use.

There are many different telecommunications utility corridor configurations. Some relate to the

19. *United States and Tennessee Valley Authority v. Easement and Right of Way 200 Feet Wide and 3,435 Feet Long etc.*, 405, F2d 305, 307 (6th Cir. 1968).
20. *Desert Citizens v. Bisson*, 231 F.3d 1172 (9th Cir., 2000).

development status of a telecommunications corridor, others are related to the location and competitive advantages a particular property has. Appraisers have at their disposal a number of techniques for analyzing the unique corridor valuation appraisal problems that face them. Several steps are necessary in order to produce a credible value opinion. These include careful problem analysis, geographically extended telecommunications utility corridor market research, and selection of valuation techniques that are appropriate to the problem, the market strata, and available market information.

For market based rental rate projection purposes, the goal of the U.S. Forest Service and Bureau of Land Management, nominal land value based rents do not reflect telecommunications utility corridor market values. That is because the highest and best land use determination may not relate to utility corridor right-of-way markets. Telecommunications companies lease space from electric utilities to suspend fiber on long distance electric tower corridors. Pipeline companies lease space to telecommunications companies in abandoned petroleum pipelines. And both electric power and telecommunications companies lease space to each other when they share alignments. There is ample evidence of markets in which utility corridors are rented. Where rental valuations are being appraised these markets should be sought. Legal precedence supports valuation based on highest and best property use, even when that use is the same as the use proposed by a condemnor. It is, therefore, inappropriate to use utility corridor valuation methods which fail

to take into account that rental or sale for telecommunications utility corridor purposes may be among the highest and best uses of a property's ownership rights. The highest and best use proper appraisal practice is to value telecommunications corridor rights of way according to telecommunications corridor right-of-way markets.

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