

Trees, Real Estate and Market Value: A Balanced View

By Scott Cullen with the [ISA Plant Appraisal and Valuation Committee \(ISA-PAVC\)](#)



This is the complete version of a brief summary published in [Arborist News](#) 17(5) October, 2008. This on-line version includes detail that could not be accommodated by the printed *Arborist News* format as well as [reference citations](#) to substantiate each point and to direct readers to a wide range of source material.

Background.

Through 2007 and 2008 *Arborist News* has published a number of articles and columns which addressed tree valuation and its relationship to real estate, real estate valuation and the market value of real estate. [Vicary and Gooding \(2007\)](#) confirmed that the Council of Tree and Landscape Appraisers (CTLA) is revising the *Guide for Plant Appraisal, 9th Edition (CTLA 2000)* and that the upcoming 10th Edition "...will discuss plant appraisal in relation to real property appraisal, highlighting where the two professions intersect and where they depart..."

A series of four articles ([2007a-d](#)) by D. Logan Nelson—who was subsequently appointed as the American Society of Consulting Arborists (ASCA) representative to CTLA—all focused on the relationship of trees and tree appraisal to real estate and real estate appraisal. It must be recognized that this emphasis sensitized *Arborist News* readers to the issue in advance of additional material that appeared in 2008. [Timothy R. Toland's \(2008a\)](#) CTLA Council Corner column explained CTLA's laudable goal of bringing plant appraisal practice into closer conformance with generally accepted appraisal standards and clarifying CTLA's guidance to plant appraisers in developing their opinions of value. Seeking to allay concerns that changes to the *Guide for Plant Appraisal, 10th Edition* might have the effect of requiring plant appraisers to become real estate appraisers, that column also stated that this is not CTLA's intention.

Such concerns, however, were not convincingly allayed for reader, Rob Lloyd. Lloyd's letter ([2008](#)) suggested that the CTLA column, while maintaining "...that the 10th Edition to the *Guide* will not seriously depart from the previous manuals," was really "a primer...to soften the blow of change that is going to be proposed." Lloyd's letter then raised a number of specific concerns about an apparent shift toward the Market Approach to value and away from the [Cost Approach](#) to value, de-emphasizing or even undermining the familiar Trunk Formula Method (TFM).

Market Approach to Value

Lloyd used the traditional term "Market Approach." [Nelson \(2007d\)](#) and [Donovan and Butry \(2008\)](#) used the more specific term "Sales Comparison Approach" which is used by the [Appraisal Foundation \(2008\)](#) and [Appraisal Institute \(2008\)](#). This approach relies on sales price data. Approaches to value will be treated in a forthcoming ISA-PAVC White Paper.

CTLA's response ([Toland 2008b](#)) downplayed the concerns of Lloyd and others as merely "ruffled feathers." CTLA maintained that concerns about "wholesale changes to the practice of plant appraisal" in the 10th Edition are misplaced, that plant appraisers simply "require further understanding ...[of] the relationship between trees and real estate," and that the direction of CTLA guidance on trees and real estate was already established in the 9th Edition. CTLA also assured readers of its dedication "...to offering the best possible guidance regarding established appraisal concepts and their relationship to the discipline of plant appraisal."

ISA-PAVC is committed to the very same goal and—consistent with its official purpose—to advising ISA's representative to CTLA as necessary to achieve it. We have followed all these recent articles as well as industry-wide discussions. CTLA's response to the Lloyd letter made the reasonable point that its Council Corner columns are part of a "work in progress" that will culminate in the 10th Edition, but downplayed Lloyd's equally reasonable point that the implications of published CTLA, "work in progress" columns may undermine the use of current methods.

ISA-PAVC's concern has been and remains the potential unintended consequences of imprecise or unbalanced language explaining the relationship of trees to real estate and its market value in any published articles, in public statements by CTLA, and ultimately in the *Guide for Plant Appraisal, 10th Edition*. In this article, ISA-PAVC hopes to clarify the relationship of trees, real estate and market value and how that relationship should be reflected in guidance to tree and plant appraisers.

The **ISA Plant Appraisal and Valuation Committee** (ISA-PAVC) was formed in 2002. According to its official purpose statement, the committee:

- addresses appraisal and valuation issues for the ISA membership, and
- acts in a technical advisory capacity to the ISA's Council of Tree and Landscape Appraisers (CTLA) representative.

The current committee members are Joe McNeil (Chair), Russ Carlson (ISA Representative to CTLA), Scott Cullen, Steven J. Day, Dr. Julian Dunster, Adam Hollis, Prof. James Kielbaso, Burt Smeltzer, and Prof. Davis Sydnor.

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Trees, Real Estate and Value: Fundamentals.

Let's start with some background fundamentals.

- **Trees** are woody, perennial plants with a mature height greater than 5 meters or 15-16 feet ([ISA 2007](#)). The *Guide for Plant Appraisal* also addresses woody shrubs and vines, herbaceous plants, and hardscape. In the context of arboriculture and urban forestry we are usually concerned with amenity, landscape, shade and ornamental (ALSO) plants.
- **Real estate** describes the land and things attached to the land, including buildings and trees. This is a generally accepted concept (see e.g. [Appraisal Institute 2002](#), [IVSC 2007](#), [Appraisal Foundation 2008](#), [Appraisal Institute of Canada 2008](#)) as described by [Nelson \(2007b\)](#). In North American practice, real property technically describes the interests, benefits, and rights inherent in the ownership of the physical real estate.

- **Valuation or appraisal** can be described by four basic characteristics ([Cullen 2007](#)).
 - 1) It is an estimate or expression of a defined type of monetary value, stated as an opinion.
 - 2) It is a systematic process ([Sinden and Worrell 1979](#), pp. 105-116; [CTLA 2000](#), p. 11; [Appraisal Institute 2001](#), Fig. 4.1; [IVSC 2007](#), Guidance Note 1, Fig. 1-1; [Nelson 2007b&c](#); [RICS 2007b](#); [Appraisal Institute 2008](#), Fig. 7.1).
 - 3) It is an aid to decision makers ([Ratcliff 1961](#), p. 134; [Kinnard 1971](#); [Sinden and Worrell 1979](#); [Boyce and Kinnard 1984](#), p. 14, [Appraisal Institute \(2008, p. 12\)](#) or an answer to a question ([Hodges 1993](#), [Mitchell 1993](#), [Appraisal Institute 2008](#), p. 129).
 - 4) It may be, and frequently is, independent and impartial (that is, performed by a third party without advocacy, bias or a real or even a perceived conflict of interest). In some contexts this is a presumed and required characteristic (e.g. [Appraisal Foundation 2008](#); [IVSC 2007](#), p. 41; [RICS 2007](#), PS1.6), while in others it is associated with particular practice roles (e.g. [Helliwell 1996](#)). Valuation may, however, be used openly and properly as an advocacy rather than impartial tool (e.g., [i-Tree.org 2006](#)).
- **Value** is described in the Uniform Standards of Professional Appraisal Practice ([Appraisal Foundation 2008](#)) as “the monetary relationship between properties and those who buy, sell, or use those properties.” Many sources describe value as “the present worth of future benefits” (see e.g. [Kinnard 1971](#), p. 11; [Gibbons 1982](#), p. 28; [Appraisal Institute 2002](#)). These are generic descriptions that embrace all, more specific value types. In practice, “value can have many meanings...the applicable definition depends on the context and the usage” ([Appraisal Institute 2008](#), p. 22).
- **Market value** is described in the Uniform Standards of Professional Appraisal Practice ([Appraisal Foundation 2008](#)) as “a type of value...that presumes the transfer of a property...as of a certain date, under specific conditions set forth in the definition of the term identified by the appraiser as applicable in an appraisal.” The [Appraisal Institute \(2002\)](#) elaborated: “The most probable price...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.” [Smith and Belloit \(1987, p. 5\)](#) explain that market value or “value in exchange requires the characteristics of scarcity, utility and transferability.”
- The **marketplace** is described simply by economists [Sinden and Worrell \(1979, p. 17\)](#): “A market is basically an arrangement by which buyers and sellers come together and exchange things. Some markets—like the New York Stock Exchange—are actual places where large numbers of buyers and sellers regularly make exchanges. But markets for many things—like dwelling houses—consist of nothing more than arrangements for bringing potential buyers and sellers together.” Similarly, the [Appraisal Institute \(2002\)](#) describes “a set of arrangements in which many buyers and sellers are brought together through the price mechanism.”
- **Non-market values** may have widely varied definitions or descriptions. In the broadest sense non-market value is contrasted to market value in that it does not presume an exchange or transfer and may be denominated in terms other than an exchange price. [Smith and Belloit \(1987, p.5\)](#) contrast value in use to market value and explain that “value in use requires only utility.”

Issues to be Clarified.

Now, let's look at some of the issues—things that have been written in *Arborist News* and how they have been read.

[Are amenity, landscape, shade and ornamental \(ALSO\) trees real estate?](#)

[Does real estate fundamentally deal with exchange in the marketplace?](#)

[So, does plant appraisal fundamentally deal with market value, that is, value in exchange simply because the plants are real estate?](#)

[What do IRS policies on TFM really mean?](#)

[Are DRC appraisals limited to small plants?](#)

[Are all plant appraisal problems typical real estate appraisal problems?](#)

Are (ALSO) trees real estate? In the August, 2007 *Arborist News*, Nelson ([2007b](#)) wrote that "...once it [a tree] is planted...it becomes real property (component of the real estate). Identifying the property type for a tree is critical to the final product (appraised value), yet is often overlooked." The initial Toland column ([2008a](#)) observed that "plants and landscaping are inextricably intertwined with real estate." In the context of arboriculture, urban forestry and the *Guide for Plant Appraisal*, ALSO trees are the subject of most plant appraisal problems. Whether planted or naturally occurring such growing or "standing" trees remain attached to the land and indeed they typically are real estate or realty. They are contrasted to timber or nursery stock which are or may be physically separated from the land. When trees or other plants are detached or separated from the land they become personal property or personality.

Does real estate fundamentally deal with exchange in the marketplace? CTLA ([Toland 2008a](#)) continued that "while plants can have intrinsic, aesthetic, historic, habitat, and other values to people and the surrounding ecology, in the context of the marketplace, when [emphasis added] dealing with the exchange of money...not all these types of value may be applicable." The column then clearly stated: "fundamentally, real estate deals with...exchange in the marketplace and the inappropriate use of appraisal approaches, methods and techniques not grounded in the marketplace can expose an appraiser to liability." Taken together, all these statements are easily read to suggest that simply because plants are attached to the land and are real estate, a) the only or the most appropriate consideration in all plant appraisal problems must be the exchange of real estate in the marketplace, and b) that other considerations are generally inappropriate. That was understandably the impression left on Rob Lloyd as expressed in his letter.

CTLA had already presented *Arborist News* readers with a backdrop to this position in an [earlier \(2004\)](#) column by David Hucker—the TCIA representative to CTLA. The column discussed the concept of "superadequacy...a feature of a property which is not fully valued by the marketplace" and declared without context, limitation or qualification that "it is standard methodology to reflect in your appraisal that the value of individual plants and the whole landscape be reasonably dependent upon the value of the land they occupy."

While the [marketplace](#) fundamentally deals with exchange—indeed it exists to facilitate exchange—real estate itself is not fundamentally about exchange in the marketplace. In the classic treatise *Urban Land Economics*, [Ratcliff \(1949\)](#) presented “the thesis...that the determination of urban land use is a market process,” but described four fundamental characteristics of the physical land:

...real estate is not fundamentally about exchange in the marketplace.

- **space:** Each piece of real estate has defined spatial boundaries. Ratcliff later ([1961](#)) elaborated, describing land as three dimensional space. Any parcel defined by length and width at the surface of the earth includes “...geometrically related space above and below the surface.”
- **immobility:** Land cannot be moved. “Each unit lies in an immutable physical relationship with every other unit.” Ratcliff later ([1961](#)) described this characteristic as “fixity.” It is interesting to note that real estate is often linguistically defined by this fundamental characteristic of immobility. For example, in French the noun for real estate is *immobilières* and in Italian it is *immobiliare*.
- **indestructibility:** Space cannot be destroyed. Parcel boundaries—human delineations as described by Graskaamp, below—may be shifted or altered through realignments, assemblages or sub-divisions but the physical space is immutable.
- **heterogeneity:** Each parcel is unique in its relationship to others.

These fundamental characteristics of land are reflected throughout the real estate literature (see e.g., [IVSC 2007, p. 21](#); [Appraisal Institute 2008, pp. 1-4](#)).

Graskaamp (cited by [Weiss 2000](#)) expanded this understanding: “Real estate is defined as an artificially delineated space of any kind, with time as a fourth dimension...This real estate space-time product is an interface of land...manufactured improvements and services, and cultural preferences expressed through public regulation and market transactions.” Over this time dimension, the ownership rights (real property interests) in each parcel of real estate are infrequently exchanged in the marketplace. Over time, irrespective of marketplace exchange transactions that may occur from time to time, the rights of occupancy, ownership and use are established, protected and constrained by public regulation. [Ratcliff \(1949, p. 406\)](#) recognized, “...the fact that the actions and reactions of the market are restricted, modified, and distorted by the presence of a dynamic and ever-changing framework of social, economic, and legal institutions. It is these institutions which are the basis of private property in land and which, when expressed in the law, are the definition of private property.”

The intended use of most real estate appraisals is indeed to guide those exchange transactions—when they occur, when as CTLA describes it there is an exchange of money in the marketplace—by estimating a market value. But in terms of value, what is fundamental about real estate over time is its use by occupants or the benefits it provides to a range of beneficiaries. Recall that [value](#) can be described as the present worth of future benefits. Usability or utility is what creates value. Current International Valuation Standards ([IVSC 2007, p. 21](#)), for example, note that “value is created by real estate’s utility, or capacity to satisfy the needs and

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wants of human societies.”

So, does plant appraisal fundamentally deal with market value, that is, value in exchange simply because the plants are real estate? In fact, the appropriate and relevant type of value sought is a function of the intended use of the appraisal, not of the fact that plants are attached to the real estate. This is a well established concept.

- [Babcock \(1932, p. 59\)](#) stated “in the development of valuation methods cognizance must be taken of the purposes for which valuations are required. The methods must serve the purposes. Valuation is never an end in itself.”

Babcock drew a key distinction in the purposes for valuations. [Miller and Markosyan \(2003\)](#) described it: “...Babcock divided the purposes of valuation into two large categories. The first included valuations that assist in making decisions about a property, such as sale, purchase or investment. The second category included valuations that establish a basis for certain actions with a property that involve others, such as property tax assessment, damage determination, or public acquisition.” Babcock recognized that not all real estate valuations involve or inform marketplace transactions.

- [Hyder \(1938\)](#) stated that “the first and basic consideration, therefore, is the nature of the problem...”
- [Atkinson and Frailey \(1946b, pp. 82-83\)](#) observed “...it is impossible rightly to begin an appraisal without first knowing the purpose for which it is wanted. True, we sometimes hear an appraiser declare that he must work without prejudice or influence; that knowing why he was making the evaluation would destroy that freedom of approach and thus lessen the worth of his estimate...but that’s all nonsense...so does the appraiser consider first his purpose and then decide what data he must unearth.”
- [Weimer \(1947\)](#) noted that “many appraisers have difficulty with the idea of ‘one true value’ for a property...Actually, of course, values will vary with the purpose for which the property is used and valuations will vary with the purpose of the appraisal...some appraisers tend to forget the question which is fundamental both from the standpoint of theory and practice: ‘Value—for what purpose?’ ”
- [Ratcliff \(1961\)](#) wrote “We must focus the training in this field primarily upon the problem and the decision, and secondarily on the transaction” (p. 10), and “Real estate appraisal is commonly viewed as the process of establishing value. The narrow view, which we do not share, is that for each piece of real estate there is but one value. The contrary view is that if the appraiser is to serve his client well he must develop whatever value figure, or figures, are appropriate and useful in connection with the decision or transaction in prospect” (p. 134).

*“We must focus the training in this field primarily upon the problem and the decision, and secondarily on the transaction.”
(Ratcliff 1961)*

Reinforcing this, [Ratcliff \(1963, pp. 11-12\)](#) similarly wrote “It follows as night the day that the professional service which is requested must be directed to the problem which gave rise to the request if the client’s needs are to be served. The problem, then, dictates the nature of the service to be provided. This is a truth which many appraisers ignore; armed with a standard definition of value they proceed to estimate the value figure without reference to its relevance to the problem which faces their client. The fact is that there are several value figures that are associated with any parcel of real estate and, depending on circumstances, one or several such value figures may have relevance

to the client's problem..." He described Relevant Value Analysis as "...the fundamental premise that the nature of the appraisal process, in each assignment, must grow naturally out of the nature of the client's problem..."

- [Kinnard \(1971, p. 10\)](#) observed that "The purpose of any appraisal is to estimate value. Early in his analysis of any appraisal problem, the appraiser must identify what value is to be estimated...it is essential that the particular type of value sought by the client or required by the nature of the appraisal problem be carefully ascertained at the outset."
- [Wendt \(1974, pp. 11 & 216\)](#) noted that "...in the field of legal valuation...[Columbia University Prof. James C.] Bonbright held [*circa* 1937] that the first and most important problem in any appraisal was to secure a definition of value acceptable for the purpose of the investigation" and concluded that "...appraisal writers generally agree that the technique of valuation and the value estimate itself will depend upon the nature of the valuation problem."
- [Burton \(1982, p. 165\)](#) cited another real estate appraisal icon: "Writing in 1965, Frederick M. Babcock suggested that the major variable in real estate appraisal is the purpose for which the appraisal is sought."
- [Boyce and Kinnard \(1984, p. 62\)](#) wrote that "The objective of any appraisal is to estimate value. Establishing the nature of the specific appraisal problem involves identifying what value is to be estimated. This information must come from the client..."
- [Mitchell \(1993\)](#) cited James E. Gibbons: "...The best definition of an appraisal is that it is the answer to a question about a real property interest. The number of possible questions is myriad. Market value cannot be the key to answering all."
- The [Appraisal Institute \(2008, p. 12\)](#), in its most current text, notes that "an appraisal provides the basis for a decision concerning real property. The intended use of an appraisal needs to be consistent with the decision the client wishes to make. Defining the appraisal problem to be solved begins with identifying—i.e., figuring out—why the client needs the service. The nature of the service provided, particularly the appraiser's scope of work, has to be adjusted accordingly." This text states clearly "the type of value...appropriate for a specific assignment depends on the nature of the appraisal problem" (p. 133).
"the type of value...appropriate for a specific assignment depends on the nature of the appraisal problem." (Appraisal Institute 2008)

Note that these are all credible and respected if not renowned real estate appraisal sources. None of them suggest that real estate appraisal problems must always estimate market value or even be transaction related.

We can also look to natural resource economics.

- [Sinden and Worrell \(1979\)](#) noted "which values are relevant depends on the purpose of the decision" (p. 5), "to specify the persons relevant to an appraisal, it is necessary to know why the valuation is being undertaken" (p. 7), and "meaningful values are only determined in the context of a decision" (p. 82).
- [Azjen and Peterson \(1988\)](#) similarly advised that "the kinds of cues that can properly be used to infer a commodity's value depend on our definition of the construct and on the objectives of the value assessment; that is on who wants to know and why."

The first step in a professional appraisal or valuation process is to define the appraisal or valuation problem, including identification of the appropriate and relevant type of value. This is reflected in current standards worldwide ([AICPA 2007](#), [IVSC 2007](#), [RICS 2007](#), [TEGoVA 2007](#), [Appraisal Foundation 2008](#), [Appraisal Institute of Canada 2008](#)). Note that this is not an option. It is not an anomaly, departure or exception. This is required practice. This is what [Hucker \(2004\)](#) described as “standard methodology.”

A number of participants in ongoing discussions have asked about the position of the Uniform Standards of Professional Appraisal Practice (USPAP, [Appraisal Foundation 2008](#)) on the identification of the appropriate and relevant type of value. USPAP clearly supports, as detailed in [Appendix 1](#), the conclusion that this is a function of the purpose and intended use of the appraisal or valuation.

Thus, it is clear that plant appraisal does not fundamentally deal with market value, that is, value in exchange simply because the plants are real estate. This is not a new and radical concept. It is not an archaic and outdated concept. We have traced a consistent theme from the foundations of real estate appraisal through the most current, generally accepted sources. This theme reflects one of the basic [characteristics of valuation](#) noted in the fundamentals introduced earlier: valuation is always an aid to decision makers or the answer to a question. Recall Gibbons, as cited [above](#): “The number of possible questions is myriad. Market value cannot be the key to answering all.”

The appropriate and relevant value type is a function of the appraisal problem. It should now be clear that the type of value to be sought varies with the question asked or the decision to be made.

There are **market value problems**. If plant appraisal problems require an opinion of the contribution or relationship of plants to the market value of the real estate—to guide transactions or otherwise—then the plant appraisal process must reflect that. And we agree with CTLA that clarifying that requirement in the 10th Edition is indisputably necessary to create better and more defensible plant appraisal opinions. Good examples of appropriate and relevant estimates of market value were provided in *Arborist News* by [Wolf \(2007\)](#) and [Donovan and Butry \(2008\)](#). Both articles described how the presence of municipally owned trees can increase the market value of nearby parcels of real estate. Quantifying these market value increases can provide a justification for maintaining urban tree populations or a basis for urban forest management decisions. Similarly, [Laverne and Winson-Geideman \(2003\)](#) described the effect of trees on market rental rates of real estate. [Toland \(2008a\)](#) describes the Internal Revenue Service (IRS) requirement for before and after comparisons of real estate market value to claim certain tree casualty loss deductions (discussed further in a [following section](#)). In the United States, state statutes may provide the applicable measure of compensation in tort (non-contract) tree damage cases. Compensation may be indicated by a reduction in real estate market value, even though an exchange transaction is not actually contemplated. These are just some examples of when the contribution or relationship of ALSO trees to the market value of the real estate is appropriate and relevant.

There are **non-market value problems**. When plant appraisal problems do not require an opinion of market value (exchange related value), however, then the marketplace and exchange are not preeminent concerns. The fact that ALSO plants are typically real estate does not alter that. For example, urban forest management decisions may be informed by Depreciated Replacement Cost (DRC) methods without reference to market value.

- [Miller and Sylvester \(1981\)](#) evaluated municipal pruning cycles.
- [Scott and Betters \(2000\)](#) describe the use of the Trunk Formula Method in tree replacement decisions.
- Nowak ([1993](#), [2002](#)) developed summary values of urban forest populations.
- [Nowak et al \(2001\)](#), [Nowak \(2003\)](#) and [Sydnor et al \(2007\)](#) assessed the potential impact of invasive insect pests.
- [Brown and Boogaardt \(2006\)](#) discussed accounting for suburban tree assets in Australian practice. They describe the practical difficulties with market value approaches and the relative advantages of replacement cost and current benefits value approaches as alternatives.
- [Hollis \(2008, 2009\)](#) discussed the use of DRC methods to inform standard and statutory arboricultural decision processes in UK practice.

In the United States, state statutes may provide that the applicable measure of compensation in tort (non-contract) tree damage cases is based on reproduction, replacement or restoration. These are just some examples of when the non-market, that is non-exchange related, value of ALSO trees is appropriate and relevant.

The appropriate and relevant value type is a function of the appraisal problem. The fact that ALSO plants are attached to the land and are typically real estate does not alter that.

Are all plant appraisal problems typical real estate appraisal problems? The answer is no. The intended use of most—what might be considered typical—real estate appraisals is indeed to guide exchange transactions or mortgage financings when they occur by estimating a market value. The [Appraisal Institute \(2008, p. 22\)](#) notes that “market value is the major focus of most real property appraisal assignments.” Real estate appraisers may have a training and experience bias that leads them a) to believe that this typical market value focus must apply to all appraisal or valuation problems involving real estate, and b) thus, to ignore or neglect identification of the appropriate and relevant value type (see, for example, the [Weimer and Ratcliff observations](#), above). The reality, however, is that market value is typically appropriate and relevant because of the transactional nature of those typical problems, not because they involve real estate. Thus, plant appraisal problems may not be typical real estate appraisal problems even though the plants are real estate. (Recall [Babcock’s distinction](#) between transactional and non-transactional problems).

Recall that defining the problem is the [first step](#) in the appraisal or valuation process. In defining a plant appraisal problem, with the understanding that the plants are attached to the real estate, we might first ask:

- Is this a typical real estate appraisal problem?
- Does this problem require an estimate of the contribution or relationship of the plants to the market value of the real estate? Is that appropriate and relevant?
- Does this problem require the plants to be treated as a marketable component of the real estate? Is that appropriate and relevant?

- Does this problem require an opinion unrelated to the contribution or relationship of the plants to the market value of the real estate? Is that appropriate and relevant?

We might also ask:

- Does development of the appropriate and relevant opinion in this problem require a qualified real estate appraiser? (In this case few plant appraisers are qualified to complete the assignment).
- Or, can the appropriate and relevant opinion in this problem be developed by a qualified plant appraiser? (In this case a qualified plant appraiser can undertake the problem alone. Neither a real estate appraisal nor a real estate appraiser is required and in this sense this is not a real estate appraisal problem).

Asking these question or making these considerations in this first step, in every problem, is not the same as and does not require including an estimate or opinion of the contribution or relationship of the plants to the market value of the real estate in every problem.

It is **important to note** that what is appropriate and relevant is determined by the nature of the problem, that is by the decision to be made or the question to be answered, not by whether the appraiser is competent or qualified to develop that opinion. The nature of the problem cannot be changed or ignored to suit an appraiser's preferences or qualifications. If market value is appropriate and relevant, this cannot be ignored because a plant appraiser is unqualified to estimate it. Conversely, market value does not become appropriate and relevant simply because a real estate appraiser is asked to consider the plant appraisal problem.

The Qualified Appraiser

“The professional plant appraiser should not offer advice that is outside his or her expertise; such advice should be obtained from one or more experts, such as an attorney or certified public accountant, real estate appraiser, and/or an appropriate specialist” ([CTLA 2000, p. 115](#)).

Is the Trunk Formula Method (TFM) unfounded? CTLA ([Toland 2008a](#)) stated that TFM has “come under fire as being unreliable and an unfounded method that has little or no relationship to the marketplace.” As Rob Lloyd observed, “...regardless of what field you are in as an expert witness, the job of the opposing attorney is to destroy the credibility of you and your approach...” Thus any method will “come under fire.” This is to be expected. The real issue is whether the expert and the approach are in fact credible. TFM indeed is a Depreciated Replacement Cost (DRC) Approach to value and thus by definition is not a Market Approach to value. Four points must be made, however:

The Credible Appraisal

“Credible: worthy of belief...Credible assignment results require support, by relevant evidence and logic, to the degree necessary for the intended use.” ([Appraisal Foundation 2008](#)).

- 1) The [marketplace](#) is the principle concern only if market value is what is sought by the appraisal problem.
- 2) If market value is sought, the generally accepted appraisal literature is clear that DRC approaches, generally, may be appropriate to estimate it. DRC is appropriate when there are limited market price data which is frequently the case for specialized assets;

heritage and conservation assets; municipal or local authority and other public sector assets; inalienable assets and infrastructure assets. ALSO trees frequently fall into these asset classes.

- 3) The 9th Edition, specifically, describes a market reasonableness test that can be made against TFM results, if a market value is appropriate and relevant.
- 4) TFM is not unfounded. The basic logic of TFM can be traced to *circa* 1916 ([Stone 1916](#)). TFM has been well explained in the context of Depreciated Replacement Cost (DRC, see [Cullen 1997, 2000](#)).

TFM is well founded and it can be used credibly and reliably to inform a range of plant appraisal problems including those related to the marketplace. Cullen ([1997, 2000](#)) noted that TFM “is, in the abstract, neither inferior nor superior to other methods. It is, simply, a tool with certain advantages and certain limitations. Its appropriateness and reliability in any particular situation can only be judged in light of the definition of the appraisal problem.”

DRC Approach to Value

In North American practice this is usually described simply as the Cost Approach (see, e.g. [CTLA 2000](#)). The literature, however, universally describes the use of current replacement or reproduction rather than historical costs reduced by depreciation to reflect a defined value. Thus, Depreciated Replacement Cost (DRC) is more descriptive of the actual approach (see, e.g. [IVSC 2007](#), pp. 158 & 259).

CTLA ([Toland 2008b](#)) did affirm, in replying to Rob Lloyd, that its expanded recognition of “...the relationship between trees and the real estate on which they stand...does not mean that the familiar Cost Approach methods are no longer valid or that they are subordinate to the other approaches.” Lloyd’s observation, however, that the implications of the initial column may undermine DRC methods pointedly illustrates the need for clear and balanced language in all future treatments.

What do IRS policies on TFM really mean? CTLA ([Toland 2008a](#)) observed that formulaic methods like TFM are not an acceptable form of valuation for IRS casualty losses. The implication was that TFM is thus generally suspect. In fact, while the Internal Revenue Service ([IRS 2008](#)) does not accept formula appraisals and requires before and after real estate appraisal values for casualty losses on owned, residential use property, the market value constraint may not apply to business use or leased property. So market value is a variable consideration even in the casualty loss deductions that are governed by IRS requirements. Thus it can hardly be considered a constant that governs or even has any bearing on other appraisal problems! Exclusion of TFM in some IRS cases certainly does not preclude its credible use in a wide range of other cases.

Are DRC appraisals limited to small plants? CTLA ([Toland 2008a](#)) stated that one example of reasonable application of the DRC approach might involve restoration of a landscape of small shrubs and hardscape or replacement of a large tree with smaller trees. The implication is that DRC methods are not reasonable for large trees. Rob Lloyd observed that “this in essence is saying that the Trunk Formula Method is not appropriate” since it is always used for appraising trees which are larger than readily available nursery stock. In fact, DRC methods can be applied to large or small plants in various ways using replacement costs for different alternatives and depreciating as appropriate for the type of value sought. It is the

application by the appraiser—in the context of the problem—that is reasonable or unreasonable, not the DRC approach, *per se*.

Conclusion.

ISA's Plant Appraisal and Valuation Committee shares CTLA's goal of "...offering the best possible guidance regarding established appraisal concepts and their relationship to the discipline of plant appraisal." We agree with CTLA that the 10th Edition should be clear on the relationship of landscape plants to real estate and on the essential requirement to properly define each appraisal problem, including the appropriate and relevant type of value to be appraised. The 10th Edition should not imply that the Market Approach, real estate market value, and the marketplace and exchange are the preeminent or even appropriate and relevant concerns in all plant appraisal problems. In fact, the marketplace and exchange may be of no concern if market value is not sought. We understand that the 10th Edition is a work in progress and that statements like those in CTLA Council Corner columns are steps along the way. We share Rob Lloyd's concern, however, that incomplete or unbalanced statements in these interim steps may be misinterpreted, not just by practitioners but by consumers, lawyers, regulators, the courts and others regardless of CTLA's intentions.

As a closing example, CTLA's response ([Toland 2008b](#)) to the Lloyd letter cited various material from the 9th Edition in order to suggest that the 10th Edition will not be a wholesale departure from current practice. One citation was:

"Because plants are rooted and affixed to the ground, they are part of the real estate or real property. The plant appraiser should consider the market value of the entire property in analyzing what contribution the landscape brings to the real estate."

This certainly reads like the contribution of plants to the market value of the whole is a constant, default, or overriding constraint on plant appraisals. When looking at the actual 9th Edition text ([CTLA 2000, p. 99](#)), however, we find that CTLA omitted the immediately preceding two sentences:

"Tests of reasonableness *may* be used to compare appraised plant values to total property value. *Sometimes*, the plant appraiser is estimating the contributory value of plants and landscaping to entire properties" (emphases added).

Thus in making its point that considerations of market value were clearly part of the 9th Edition, CTLA painted an out of context, unbalanced and easily misinterpreted picture for readers. It is significant to note that we have seen this same misleadingly incomplete citation in real world appraisal reports that favor market value opinions.

CTLA ([Toland 2008b](#)) is keenly aware that Rob Lloyd is not alone in his concerns, acknowledging that "many readers... have questioned the direction of future CTLA guidance..." Concerns in this regard are not merely "ruffled feathers." We share them as real and valid concerns.

This article is intended to clarify some key issues and to encourage balanced, clear and unambiguous contributions to the work in progress and ultimately to the *Guide for Plant Appraisal, 10th Edition*.

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Appendix 1

Do the Uniform Standards of Professional Appraisal Practice (USPAP) ([Appraisal Foundation 2008](#)) say:

- **that the appropriate and relevant type of value is a function of the purpose and intended use of the appraisal or valuation, or**
- **that the appropriate and relevant type of value for real estate is always or preferably market value?**

USPAP defines certain terms and includes ten individual standards. Each USPAP standard includes specific standard rules. The Appraisal Foundation provides additional guidance on Frequently Asked Questions (FAQs) about USPAP.

Definition. USPAP, as noted in the fundamentals above, defines [market value](#) as a type of value and makes the following comment:

“Forming an opinion of market value is the purpose of many [emphasis added] real property appraisal assignments...”

Note that this comment says “many real property assignments.” It cannot be read to make market value a constant or default.

Standard 1 is “Real Property Appraisal, Development.”

“In developing a real property appraisal, an appraiser must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete research and analyses necessary to produce a credible appraisal.”

So the overall real property standard is that there is not one fixed way to do things. It does not say “because it's real estate, the appraiser must estimate market value or use a market approach to value.” It does not say “assume or start with market value unless there is some exception or anomaly.” It does not say “because it's real estate, a non-market, that is non-exchange related value, is a departure.”

Standards Rules 1-2(a & b) require identification of the users and the intended use of the appraisal.

Standards Rule 1-2(c) is:

"identify the type and definition of value and, if [emphasis added] the value opinion to be developed is market value,.."

Note that SR1-2(c) says "if" in regard to market value. This is a conditional clause. It cannot be read to make market value a constant or default.

FAQ 99 is "Type And Definition Of Value, And Citation Of Source."

"The 'type of value' is the general class or category of value. Examples include market value or fair value."

"The 'definition of value' provides a specific description of the characteristics and conditions of the type of value."

"USPAP does not provide any specific definition of value or endorse any particular source. Sources could include, for example, a regulatory agency, a legal jurisdiction, an engagement letter, or a textbook."

Note that "identification" of the appropriate and relevant type of value must precede the recitation of the definition. Recall (see p. 7) that in describing the definition of the appraisal or valuation problem, the Appraisal Institute (2008) states "...identifying—i.e., figuring out..."

Throughout this article we have discussed the purpose and the intended use of the appraisal or valuation. Whether we consider "purpose" to mean "convey the standard dictionary meaning of the word" (which has been the USPAP meaning since 2005—see [Appraisal Foundation 2008](#), FAQ 99) or estimation of a particular type of value (which is the traditional meaning still taken by the [Appraisal Institute, 2008](#), p. 12), this is all part of problem identification. Purpose and intended use, including the type of value to be estimated, must be identified in each case.

Standards Rule 1-4 is:

"In developing a real property appraisal, an appraiser must collect, verify, and analyze all information necessary for credible assignment results."

Standards Rule 1-4 sub-parts say:

a. *"When a sales comparison approach [market] approach is necessary..."*

b. *"When a cost approach is necessary..."*

c. *"When an income approach is necessary..."* (emphases added)

Again, these are conditional rules. It is clear that only those approaches necessary to credibility must be used. There is no rule to use all three approaches or to always use a market approach in every appraisal or valuation problem involving real estate.

Appendix 1 Conclusion. Throughout this article we have said that the type of value and the approaches used to estimate that value are a function of the purpose and the intended use of the appraisal or valuation. USPAP does not explicitly say this but we cannot draw any other conclusion from USPAP. USPAP certainly does not say that market value must be estimated in every appraisal problem involving real estate.