FEATURES

Is Across the Fence Methodology Consistent With Professional Standards?

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ABSTRACT

In 1989, the Appraisal Standards Board adopted the original Uniform Standards of Professional Appraisal Practice (USPAP), and over the years, USPAP has evolved in response to changes in appraisal practice. This article argues that the across the fence (ATF) methodology used in corridor valuation has failed to evolve and adapt to the professional standards. The article explores the underlying foundations of ATF methodology and concludes that it is actually an assumed minimum valuation. It is argued that deficiencies in highest and best use analysis of corridors allow the appraiser to avoid identifying economic profiles for primary and secondary uses or users would lead to delineation of excess land within the corridor. The result is valuation conclusions that are not consistent with professional standards.

It has long been recognized that corridors, or long narrow strips of land, are unique properties that are difficult for even the most experienced appraisers to value. Early attempts to quantify corridor value were presented to the valuation community in 1978 by Dolman and Seymour[1] and in 1989 by Karvel.[2] More recently, *The Appraisal Journal* published an article by Hunsperger, McGuire, and Throupe that summarizes the development of corridor valuation methods from the 1800s to the present.[3] History is set, albeit subject to interpretation and dispute. However, corridor use and valuation techniques continue to evolve. As evidenced by the number of published articles on the subject (primarily in *The Appraisal Journal* and *Right of Way* magazine), there is no consensus on the best way to value corridors. While there are many methodologies and techniques from which to choose, underlying most is some variant of what is known as across the fence (ATF) methodology.

Typically appraisers begin corridor assignments with the ATF-based assumption that land in the corridor is at least as valuable as land adjacent to the corridor and form an opinion of value based on that assumption. While this method is widely accepted, in the absence of further analysis, ATF value alone does not produce a credible appraisal conclusion. According to Uniform Standards of Professional Appraisal Practice (USPAP), the appraiser must demonstrate an in-depth understanding of the subject property, which includes an economic analysis and detailed study of the relationship implied by sales data.[4]

Much of the literature and corridor methodology emanate from valuation of railroad corridors. As a result, this article relies on railroad corridor examples to illustrate its issues. However, the concepts and appraisal principles contained herein are applicable to non-rail corridors as well.

1. John P. Dolman and Charles F. Seymour, "Valuation of Transportation/Communication Corridors," *The Appraisal Journal* (October 1978): 509–522.
2. George R. Karvel, "Public Utility Easements in Railroad Right-of-Ways," *The Appraisal Journal* (January 1989): 99–108.
3. Wayne L. Hunsperger, Amy McGuire, and Ron Throupe, "Transit Corridor Valuation: Issues and Methods," *The Appraisal Journal* (Summer 2012): 235–247.
4. Appraisal Standards Board, Competency Rule in *Uniform Standards of Professional Appraisal Practice*, 2014–2015 ed. (Washington, DC: The Appraisal Foundation, 2014), U-11–U-12, Lines 343–386. "USPAP represents the generally accepted and recognized appraisal standards in the United States." Foreword to *Uniform Standards of Professional Appraisal Practice*, 2014–2015 ed., U-i.

Where's the Problem?

The idea that corridor land is equal in value to that of adjacent, non-corridor land (across the fence) is too simplistic. Appraising real property and estimating market value involves the study of relationships, and, in the absence of the required highest and best use economic analysis, values concluded using the ATF method do not reflect market value. Of equal concern is the fact that ATF-concluded values are based on hypothetical conditions and/or extraordinary assumptions, and USPAP requires the appraiser to disclose this in the appraisal report.

For non-corridor land, under normal market conditions as functional use of a parcel of land increases, there is a corresponding increase in value (Figure 1). In contrast, when valuing corridor land, current ATF methodology ignores basic market value relationships and elements of comparison by simply assuming the corridor land has functional use equal to that of ATF land parcels (Figure 2). As a result, a full range of value conclusions is eliminated as possible outcomes from the value analysis.

Textbook definitions of across the fence method and across the fence value refer to the relationship

Figure 1 Typical Relationship between Functional Use and Value

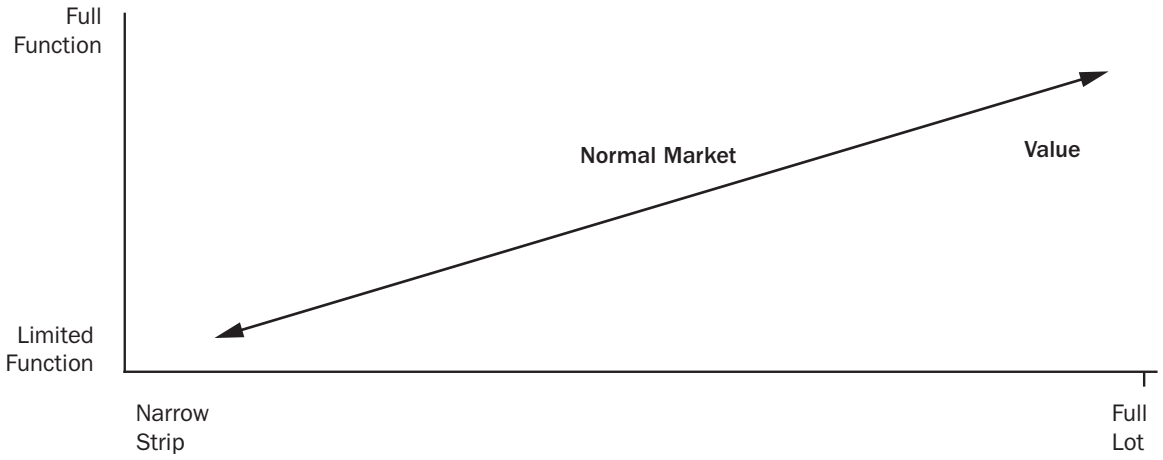
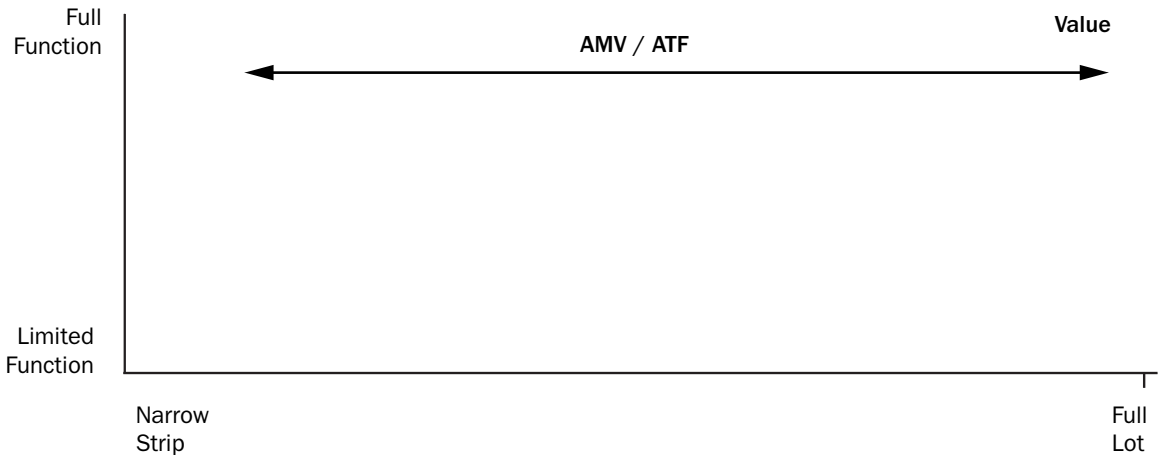


Figure 2 Relationship between Functional Use and Value in Assumed Minimum Valuation Model in ATF Method



between a corridor and the land values in the area of the corridor. *The Dictionary of Real Estate Appraisal*, fifth edition, states the *ATF method* "is used to develop a value opinion based on a comparison to abutting land."[5] *ATF value* is described as "a value opinion based on comparison with adjacent lands including consideration of adjustment factors…."[6]

Based on these definitions, it is reasonable to analyze the ATF relationship as part of a corridor valuation. However, while definitions stress comparison and consideration of adjustment factors, some who use the ATF method leap from the initial assumptions and hypothetical conditions directly to a value conclusion. Thus, ATF practices bear little resemblance to the textbook definitions.

What Is Required?

The ATF method can be a useful tool if the assumptions and hypothetical conditions are replaced with basic analyses that reflect real market conditions. To offer an opinion of market value, the appraiser must identify the appraisal question (scope of work); study the relevant income capitalization, comparable sales, and depreciated replacement cost relationships that are derived from the market; and report on the relationship between the corridor land and ATF land within the context of USPAP requirements. This is basic appraisal practice. The starting point is to identify current demand and occupancy for the primary use and all secondary uses. An analysis of economic characteristics, including analysis of supply and demand factors, for the primary use and secondary uses reveals market conditions. Sales data is selected and adjustments are made.

Excess Land

Excess land is essentially a by-product of the present use; it is not something that can be subject to conceptual exclusion by statute or regulation. Consequently, what was intended for railroad corridors at their inception in the nineteenth century[7] is irrelevant when it comes to determining whether there is excess land within the boundaries of the corridor today. In reference to corridors owned by railroads, it can easily be argued that the land outside the actual rails is, or can be considered, excess land.[8]

Excess land, by definition, may or may not have the same highest and best use as the parent tract; it may have the potential to be sold separately and is valued separately.[9] In order to have excess land, there first must be a present (primary) use of part of the land that does not utilize the entire property. With a railroad corridor, those parts to either side of the rails not necessary to maintain the present rail operations could indeed be considered excess and capable of adding incremental, or ancillary, value to the corridor as a whole. Whether excess land is less than, greater than, or equal to the unit of value attributed to the part dedicated to present active railroad is based on supply and demand factors. Some may argue land outside the actual rails is not excess, it is surplus land. The distinction being it does not have an independent highest and best use, and it cannot be separated from the property and sold off.[10] However, unless there is a deed restriction indicating a portion cannot be sold off, it is not accurate to say it is surplus land, demonstrated by the presence of non-rail secondary uses within the property boundaries.

Highest and Best Use

USPAP states,

> When necessary for credible assignment results in developing a market value opinion, an appraiser must:
>
> (a) identify and analyze the effect on use and value of existing land use regulations, …, economic supply and demand, the physical adaptability of the real estate…; and
>
> (b) develop an opinion of the highest and best use of the real estate.[11]

Credible assignment results should be the goal of every professional appraiser, and USPAP establishes highest and best use analysis as a necessary step to achieve that goal. A highest and best use analysis reviews potential uses based on what is legally permissible, physically possible, financially feasible, and maximally productive.

5. Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 5th ed. (Chicago: Appraisal Institute, 2010), s.v. "across the fence method."
6. Ibid., s.v. "across the fence value."
7. The Pacific Railway Act, Ch. 120, 12 Stat. 489, Sec. 3.
8. Hunsperger, McGuire and Throupe, "Transit Corridor Valuation: Issues and Methods."
9. *The Dictionary of Real Estate Appraisal*, 5th ed., s.v. "excess land."
10. Ibid., s.v. "surplus land."
11. Standards Rule 1-3 in *Uniform Standards of Professional Appraisal Practice*, 2014–2015, U-18–U19, Lines 571–580.

Legally Permissible

In highest and best use analysis, legally permissible use refers to those uses that comply with all rules and laws governing the property. In the case of railroad property—local, state, regional, and national—rail and utility use are commonly recognized permitted uses. In contrast, local zoning rules and laws affecting railroad corridor use are often difficult to track down and understand. The Surface Transportation Board (STB) has statutory authority over railroads operating in the United States. However, the STB distinguishes between rail and non-rail use in rail corridors; STB rules guide rail use while local zoning codes guide non-rail use. Thus, as part of the process of determining legally permissible uses, the appraiser must clearly define the rail and non-rail portions of the railroad property. Once rail or non-rail use has been established, the appraiser can look at what is legally permitted by STB and local zoning codes. In practice, most appraisers skip this step when they use the ATF method to appraise corridor properties.

Physically Possible

Physically possible use refers to the physical characteristics of the corridor that affect its possible uses. Typically, corridors are long narrow strips of land. While the center portion of the rail corridor is graded and level to support rail use, the non-rail portions of a corridor often have a variety of topographies: flat, hilly, over water, obstructed by embankments, etc. Each situation is different. In some cases, the non-rail land may have severe physical restrictions that render it unusable. In other cases, the non-rail land may be fully available for other uses (crops, parking, storage, etc.). When analyzing physically possible uses, the appraiser must recognize what portions of a railroad corridor have physical limitations that affect functional use, including the presence of operating tracks and other uses or users. In practice, most appraisers skip this step when they use the ATF method to appraise corridor properties.

Financially Feasible

Financially feasible use refers to the ability of a given use to provide sufficient economic incentive to justify or support that use. The appraiser considers supply and demand factors and analyzes the potential economic benefit derived from a potential use. This analysis must include the actual occupancy/vacancy level as well as a market-based estimate of occupancy/vacancy level. It is easy to look at active railroad tracks and see 100% occupancy for the rail portion of the corridor, but it is much more difficult to recognize the economic potential of the non-rail portions. In reality, there may be substantial vacancy and/or limited market demand for the non-rail portions. This is a clear signal to the appraiser that there are different economic profiles for rail and non-rail portions of a corridor. This distinction indicates the excess land should be analyzed separately from the operating railroad economics. Failure to provide an economic analysis undermines the ATF assumption that corridor land is worth at least the value of the land through which it passes. However, there is little evidence to suggest ATF practitioners determine economic benefit to an existing corridor.

Corridor Analysis

As noted previously, the article by Hunsperger, McGuire, and Throupe provides a useful summary of the ATF method and the underlying issues that plague its current usage.[12] Most interesting is the article's introduction of comments by the Surface Transportation Board in response to questions posed by the US District Court of Colorado in the case of *City of Creede v. Denver & Rio Grande Railway Historical Foundation* (*Creede* case). At issue in that case was local zoning codes and their applicability to the outside edge of the railroad's right of way (ROW).[13] The court sought guidance on the preemption of local laws by federal law and it posed a number of specific questions to the STB:

12. Hunsperger, McGuire, and Throupe, "Transit Corridor Valuation: Issues and Methods," provides some historical background, touches on larger parcel issues and highest and best use, and discusses the mechanics of the ATF method.

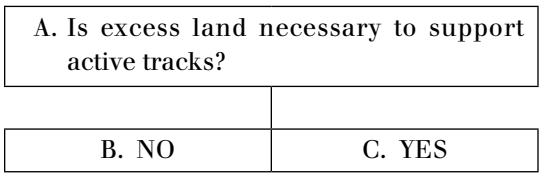
13. *City of Creede, CO v. Denver & Rio Grande Railway Historical Foundation*, STB No. 35239 EB, May 3, 2005. The basic facts of this case are as follows: In 1999 the STB approved an abandonment exemption and offer of financial assistant in the sale of 21.6 miles of Union Pacific railway to D&RGHF. In 2000, the City of Creede sued D&RGHF in state court seeking a declaration that city zoning codes applied to the outside edges of the right of way. The case was moved to US District Court, which requested guidance from the STB on the preemption of local laws by federal laws. At the same time, the Association of American Railroads (AAR) sought leave to file an amicus curiae brief. The specific questions and the STB's responses to the US District Court are presented in this article. The STB granted leave for the AAR to file its amicus curiae brief. The full text of the decision is available at http://www.stb.dot.gov/decisions/readingroom.nsf/WebDecisionID/35239.

A. Is the land on the outer portions of railroad's ROW "necessary for the safe and convenient use of the central portion of the ROW, which is 25 feet wide and which accommodates the tracks and side clearance on both sides of the tracks?"

B. If the answer to Question A is negative, are the City of Creede's zoning ordinances applicable to the outer portions of the ROW or are these zoning ordinances preempted by federal law or invalidated because they conflict with the Commerce Clause of the US Constitution?

C. If the answer to Question A is positive, are the City of Creede's zoning ordinances applicable to the outer portions of the ROW or are these ordinances preempted by federal law or invalidated because they conflict with the Commerce Clause of the US Constitution?

The questions raised by the district court can be restated as follows:



The STB's response to Question A focused on use; it did not address value. Specifically the STB stated:

> Many railroad lines have a wider ROW than might appear to be used, but that does not mean that all of the property is not needed for rail operations. As noted by [the railroad], extra width on the sides of the tracks allows room to maintain or upgrade track, to provide access to the line, to serve as a safety buffer, and to ensure that sufficient space is left available to more tracks and other rail facilities to be added, as needed, as rail traffic changes and grows, among other uses. Thus, it cannot be said that property at the edge of a railroad's ROW is "not needed for railroad transportation" just because tracks or facilities are not physically located there now.

Although the STB response to Question A in the *Creede* case is useful from an operational viewpoint, it provides little guidance from a valuation viewpoint. However, the STB's responses to Questions B and C provide insight into rail corridors that is useful for appraisers. The STB stated as follows:

> To come within the Board's jurisdiction and the federal preemption provision, an activity must be both "transportation" and offered by a "rail carrier."
>
> ...
>
> Conversely, state and local laws are not preempted where the activity is not "transportation" or is not offered by a "rail carrier." For example, if the property were being used for a restaurant or hotel or some other non-transportation purpose, then there would be no preemption under section 10501(b) and the City's zoning ordinance would apply. Similarly, even if the property is being used for transportation purposes, the activity must be performed by a duly authorized rail carrier. [Citation omitted.] The center of the dispute—whether an activity is "transportation" offered by a "rail carrier"—is often a fact-specific determination.

In the *Creede* decision, the STB cited the Interstate Commerce Act definitions of *transportation* and *rail carrier*:

- Transportation—A locomotive, car, vehicle, warehouse, wharf, pier, dock, yard, property, facility, instrumentality, or equipment of any kind related to the movement of passengers or property, or both, by rail, regardless of ownership or an agreement concerning use.[14]
- Rail carrier—A person providing common railroad transportation for compensation, but does not include street, suburban, or interurban electric railways not operated as part of the general system of rail transportation.[15]

What is clear from the *Creede* case is that railroad operation is the primary use of a rail corridor and all other uses are secondary. No secondary use may interfere or infringe on the space necessary to meet the needs of an operating rail line. Based on these definitions, it is unlikely that an outdoor advertising sign, towers for a high-voltage power line, or a pipeline located within a railroad ROW would fall within the STB's meaning of transportation by a rail carrier. Thus, the presence of these and other secondary uses is a physical manifestation that there is excess land currently not needed for railroad operations. This is consistent with STB's response in Question A when it states "…to ensure that sufficient space is left available to more tracks and other rail facilities to be added, *as needed*…. (emphasis add)."

In some respects, the STB response to the questions in *Creede* implies that the extra width of the ROW not currently occupied by tracks (including signals and other related equipment) can be considered a form of buffer land or land banked for future rail use. This would be consistent with

14. 49 USC 10102(9).
15. 49 USC 10102(6).

many types of lease or easement agreements that railroads offer to secondary (non-rail) users. These are often nonexclusive agreements requiring the tenant's facilities be movable at the request of the railroad. This type of agreement permits the railroad to earn extra income while holding the excess land for future expansion.

It should be noted that STB rulings and decisions are made in a legal environment, while appraisers work in a market environment. The two are not mutually exclusive, however. It is common for appraisers to look to the legal environment for guidance in certain valuation assignments. It is also common for decision makers in the legal environment to look to appraisers and markets for guidance when rendering legal decisions. Consequently, the two can be considered as partners in seeking accuracy and fairness in serving the public.

The STB-based concept of primary use (rail) and secondary use (non-rail) is reflected in Karvel's highest and best use decision tree,[16] which identifies four outcomes on a macro-level analysis. These four outcomes include the following:

- Exclusive use for rail operations; no excess land to physically accommodate a secondary user.
- Continued use for rail operations with demand from secondary longitudinal users for excess land.
- Continued use for rail operations with no identifiable demand for secondary longitudinal users; however, there is demand for excess land from adjacent land owners or independent development.
- Liquidation; no demand for rail use.

Interestingly, the STB-based concept of uses, Karvel's decision-tree, Dolman and Seymour's original article, and Seymour's later work[17] have two common arguments: (1) width of the corridor is a significant element in the analysis of a corridor, and (2) economic analysis is part of understanding the highest and best use.

The basis of all value is the economic principle of supply and demand, which incorporates the four factors of value (utility, scarcity, desire, and effective purchasing power). Dolman and Seymour postulate that use creates value when they say a long, narrow strip of land has value because of its ability to connect two points, and a strip of land becomes a corridor if there is an economic advantage to connecting these points. To determine if an economic advantage exists, one has to study the supply and demand factors (from rail and non-rail users) as part of the highest and best use analysis. This is consistent with the STB's concept of rail and non-rail users. Karvel's decision-tree analysis recognizes rail and non-rail users as well. However, current application of ATF methodology rarely includes the required economic analysis.

Railroad Economics

To understand the importance of economic analysis in corridor valuation and current application of the ATF method for both the primary use and secondary uses, one only has to look at the annual reports from public railroads. Table 1 shows a blend of financial data from four Class 1 railroads operating in the United States in 2011 and/or 2012.

Table 1 provides basic data on miles of road (presumed to be corridors), operating income (excludes income from other sources such as financing and investments), and annual carloads. With financial data available to the general public,

Table 1 Example Railroad Financial Data Report

Railroad	Miles of Road	Carloads (mil.)	Operating Income (mil.)	Operating Income per Carload	Average Carloads per Mile	Operating Income per Mile
Burlington Northern	32,500	9,661	$ 5,963	$ 617	297	$ 183,477
Union Pacific	31,898	9,072	$ 5,724	$ 631	284	$ 179,447
Norfolk Southern	20,141	7,115	$ 3,213	$ 452	353	$ 159,525
CSX	26,546	6,476	$ 3,418	$ 528	244	$ 128,758

16. Karvel, "Public Utility Easements in Railroad Right-of-Ways," *The Appraisal Journal* (January 1989); see corrected Figure 1 in Erratum, *The Appraisal Journal* (April 1989): 206.

17. Charles F. Seymour, "The Continuing Evolution of Corridor Appraising," *Right of Way* (May/June 2002): 12–20.

the appraiser has a simple tool to estimate the economic viability of any rail section (primary use) of rail corridor by factoring the annual volume of rail cars using that section of track. As a result, gross demand for the primary use as a rail can be quantified.

Operating income per mile of road (Table 1) includes the income relationship for all assets of the individual railroad company. A simple residual technique can be used to allocate operating income to land and non-land assets. Typically the non-land assets of a railroad company are categorized in annual reports as rail and track material, ties, ballast, locomotives, freight cars, work equipment, technology, construction in progress, and other miscellaneous assets. Assigning a rate of return to the railroad's depreciated non-land assets produces an allocation adjustment factor. As illustrated in Table 2, deducting a return on non-land assets from operating income will identify remaining operating income attributed to the railroad's land assets as defined by the miles of road. (Table 2 assumes an 8.0% rate of return on non-land assets; this rate is selected for illustrative purposes only and has no relationship to any railroad or overall market source.)

Dolman and Seymour postulate, "If [the corridor] is wide enough to perform its function, additional width, although increasing the area, adds little or nothing to value."[18] Seymour reaffirmed that concept in a later article.[19] Karvel's decision tree and the STB concept of rail and non-rail uses imply that different functions can reside side by side within a railroad-owned corridor. Consequently, width and multiple functions within that corridor become an issue in the analysis of rail corridors. To illustrate this concept, in Table 3 the operating income per mile attributed to land only (Table 2) is capitalized and then related to the indicated value in various width scenarios. Again, an 8.0% capitalization rate is used for illustrative purposes only.

Table 2 Allocation of Operating Income per Mile, Land and Non-Land Assets

Railroad	Assets Excluding Land (mil)	Return on Assets @ 8.0% (mil.)	Operating Income to Land (mil.)	Operating Income Per Carload – Land	Average Carloads Per Mile	Operating Income Per Mile – Land*
Burlington Northern	$ 44,408	$ 3,553	$ 2,410	$ 249	297	$ 74,165
Union Pacific	$ 34,836	$ 2,787	$ 2,937	$ 324	284	$ 92,079
Norfolk Southern	$ 22,260	$ 1,781	$ 1,432	$ 201	353	$ 71,109
CSX	$ 23,038	$ 1,843	$ 1,575	$ 243	244	$ 59,329

* Operating income to land/miles of road

Table 3 Land Value per Mile by Corridor Width

		Value Per Mile			
Railroad	Value Per Mile	Per Acre (100 ft. wide)	Per Sq. Ft. (100 ft. wide)	Per Sq. Ft. (25 ft. wide)	Per Sq. Ft. (200 ft. wide)
Burlington Northern	$ 927,062	$ 76,483	$ 1.76	$ 7.02	$ 0.88
Union Pacific	$ 1,150,981	$ 94,956	$ 2.18	$ 8.72	$ 1.09
Norfolk Southern	$ 888,859	$ 73,331	$ 1.68	$ 6.73	$ 0.84
CSX	$ 741,618	$ 61,184	$ 1.40	$ 5.62	$ 0.70
Average	**$ 927,130**	**$ 76,489**	**$ 1.76**	**$ 7.02**	**$ 0.88**

18. Dolman and Seymour, "Valuation of Transportation/Communication Corridors," 516.

19. Seymour, "The Continuing Evolution of Corridor Appraising," 19.

Primary Use

Converting the economic analysis of the primary use (an operating rail line) to common units of comparison illustrates the impact of defining the width of a function. As Table 3 illustrates, if you define function as the entire width of the corridor, the indicated average value generated by the primary use—defined as 100 feet wide in this example—averages $1.76 per square foot. If you define function as the space needed for the primary use—25 feet wide in this example—the indicated average value for the primary use is $7.02 per square foot with additional ancillary value to be identified for the excess land based in its highest and best use and economic characteristics. Finally, if width is defined as 200 feet, the average indicated value is $0.88 per square foot. Clearly, if the operating income generated by the primary use attributed to the corridor land is spread over an expanding corridor width, there is a dilutive effect on unit price. Keep in mind this is only operating income and value generated by the primary use of rail operations.

Secondary Uses

In a railroad company's annual report, data related to income from secondary uses within the corridor is usually not identified as a separate line item. It is often included in Other Rent or Other Income categories. Excluding extraordinary items, these categories generally contribute an insignificant amount of income, defined as not more than 5% of operating income, to overall income. This is an early indication that rail use (primary use) and non-rail uses (secondary uses) have distinctly different economic profiles or characteristics. Despite this difference in economic profile, excess corridor land areas are frequently larger in size than the active rail section of the corridor. This magnifies the significant implied value disparity between the primary use and the secondary uses within the corridor.

Currently, there is no consensus on the appropriate width to incorporate in a corridor valuation assignment for the primary use of rail operations, nor could there be. Those who do not recognize the existence of excess land generally use the entire width of the corridor; if function defines width, then they define the function as multiuse. Those who do recognize the existence of excess land generally separate the center rail use from the width of the excess land on either side of the track section; function is defined as primary use (rail) and secondary uses (non-rail) consistent with the STB definitions, the guidelines issued in the *Creede* case, and Karvel's decision tree.

State laws on railroad safety margins, often defined as 8.5 feet either side of the center line of the track (single track) or 17 feet, are sometimes used in the absence of any operational standard width for rail operations. Quite simply, the issue of land area attributed to rail use has been overshadowed by the larger dispute on corridor valuation and has not been addressed in literature. It currently falls to the appraiser to define the individual valuation assignment parameters and methodology.

The significance of an economic analysis of primary and secondary uses is apparent when the current use of ATF methodology is considered. The value relationship between an active rail corridor and ATF values can be measured, or quantified, by direct comparison of unit value (income) generated by the primary use to ATF values. Indirectly, this is a way to quantify a corridor factor or corridor adjustment, for the primary rail use, depending on how the rail function is defined. A highest and best use analysis for the excess land will identify its economic characteristics and allow the appraiser to follow basic appraisal methodology to identify additional ancillary value.

Current Valuation Practices

The Appraisal Journal article by Hunsperger, McGuire and Throupe is a fair representation of ATF methodology as commonly used by today's appraisal community. Current application of this methodology does not include an economic analysis of the corridor, a discussion of supply and demand factors, or an attempt to identify as is market value. Analysis has been replaced by assumptions:

> As initially promulgated by the ICC, and now endorsed by the STB, the across the fence methodology has come into common use. It presumes the corridor is worth at least as much as the lands through which it passes.[20]

For all intents and purposes, the industry has adopted what might be called an assumed minimum valuation (AMV) model of the ATF methodology. Using the AMV model produces an "assumed" value

20. Hunsperger, McGuire, and Throupe, "Transit Corridor Valuation: Issues and Methods," 240.

opinion. Stated another way, it is a market value only if you assume ATF values are the lower limits of value. Based on the economic analysis presented above, this assumption is incorrect. In areas with high railcar volume and low ATF values, the AMV model will undervalue the corridor. Conversely, in areas with low railcar volume and high ATF values, the AMV model will overvalue the corridor. In areas with no rail activity (abandoned or unused) and little to no identifiable longitudinal economic demand, the AMV model is simply misleading.

The STB has historically employed the ATF methodology as an acceptable method to value corridors.[21] Furthermore, the STB has recognized that ATF methodology expresses a relationship of corridor value to the value of land through which it passes. However, much of the STB's use of ATF methodology is within the context of abandonment or forced sales in which the STB is required to base decisions on the constitutional minimum value. *Constitutional minimum value* is defined as the greater of net liquidation value or going concern value.[22] In that context, the ATF value must be based on a highest and best use for non-rail use. It looks for appropriate adjustments for size, shape, topography, adjacent land use, zoning, and access.[23] It will also adjust value where there is evidence that an existing revenue stream is separated from the corridor and sold to another party.[24] This recognizes that an economic component of the corridor had been lost, thereby diminishing its value. Consequently, the current use of the AMV model is inconsistent with STB's liquidation requirements in abandonment cases. The STB's use of the ATF method implies value as is, not an AMV.

A common highest and best use conclusion for corridors is that they are multiuse transportation/communication corridors. This is a generic, one-size-fits-all conclusion that views multiple uses within the corridor as integrated by category of use (transportation or communication) even if the uses are not integrated by actual use (rail versus non-rail or primary versus secondary uses). In some appraisal assignments, a generic view of corridor highest and best use is adequate. In the majority of appraisal assignments, however, a more detailed analysis of corridor highest and best use is required.

In a corridor with active rail lines, there are two absolute facts: there is 100% demand for some portion of the corridor for continuous longitudinal rail use; and, except in rare occasions, demand for the non-rail use land does not generate 100% demand for continuous longitudinal use. For example, in a major West Coast city, there is a rail corridor location in which it is inconceivable that another use could be physically added to the corridor. Parking is pushed to the edge of the railroad ballast with cables, pipelines, and utility lines placed under the parking. Overhead, the space is filled with high-voltage electric lines and towers and local electric distribution lines. As a result, there is 100% demand and occupancy for the rail portion and 100% demand and occupancy for the excess land. One mile away, in that same corridor, there is no parking, and four miles away there is no underground use; only the high-voltage electric towers remain. When the corridor reaches the edge of the city, even the power line towers are gone. Occupancy (demand) fluctuates by location. A generic highest and best use conclusion of multiuse transportation/communication corridor views all four conditions as if there were an equal level of demand for excess land. In contrast, Karvel's decision tree provides the opportunity to define the corridor highest and best use based on its economic profile or characteristics reflecting supply and demand factors. Consequently, the decision tree approach is flexible enough to recognize corridor choke points where there is high demand for the excess land as well as those areas where there is low demand for excess land. Ultimately, Karvel's decision tree analysis provides a more accurate description of the property's highest and best use.

Economic demand for excess corridor land is a function of existing occupancy and reasonably anticipated or measurable new requests for occupancy. Existing occupancy is easily quantifiable. A routine inspection of the corridor will identify both aboveground uses and markers for individual

21. *Oregon International Port of Coos Bay—Feeder Line Application*, STB No. 39410, October 31, 2008; text of decision available at http://www.stb.dot.gov/decisions/readingroom.nsf/WebDecisionID/39410.

22. 49 CFR §1152.27(6).

23. *Railroad Ventures, Inc.—Abandonment Exemption*, STB No. 30686, January 6, 2000; text of decision available at http://www.stb.dot.gov/decisions/readingroom.nsf/WebDecisionID/30686.

24. Ibid.

underground uses. Measuring anticipated new demand requires investigating existing and potential longitudinal users about their near-term (generally within five years) expansion plans. Additional inquiry is made to local real estate participants about near-term land use demand. Most appraisers who use the AMV model of ATF methodology omit this process and assume some unknown demand for the corridor exists. For example, consider a 400-foot wide rail corridor with 175 feet of excess land on either side (dual track scenario). It passes through an agriculture area with crop land and grass (grazing) land on either side. There is one fiber optic cable on one side and only 20% of the excess land is leased to adjacent owners for agriculture use. This condition has existed for twenty years. Appraisers using the AMV/ATF model end up pricing this multiuse transportation and/or communication corridor land at full ATF value without recognizing that actual market demand for the excess corridor land is less than market demand for the adjacent land. In this scenario, value for the excess corridor land cannot be equal to ATF prices and the AMV will overvalue the excess land within the corridor. Conversely, in scenarios with high demand for the excess corridor land, the AMV model may undervalue the land.

One conceptual foundation of ATF methodology relates to adjustments to ATF sales data. As Seymour states, "The usual adjustments for differences in the ATF comparables are applied by comparing *typical* properties, not the corridor itself."[25] Rahn divides adjustments into two groups: those always permitted (location, time, and condition), and those that are never made (size shape, access, and natural topography). In explaining his position on adjustments that are never made, he states, "The rational for this is that, absent the corridor, the land beneath the corridor would be part of the adjacent parcels and share their access, shape, and topography."[26] Dolman and Seymour offer another perspective, stating, "Each segment of the corridor is considered to be either part of, or made up of, one or more such typical parcels, thereby disregarding the size, shape, and access characteristics of the segment."[27] Both Rahn, and Dolman and Seymour describe a hypothetical condition (known to be untrue) or at least an extraordinary assumption (not known if it is true). Both imply that value should be based on the concept that if the corridor did not exist, the land would be something different and, therefore, common adjustments do not apply to the corridor.

The conceptual framework for Rahn as well as Dolman and Seymour lies in the assemblage of a corridor. The hypothesis is that if you start with a typical lot, add another lot, and another lot, etc., you eventually create a long, narrow piece of ground called a corridor. But along the way, the physical, legal, and economic characteristics change (i.e., a change in highest and best use), and the corridor is no longer directly comparable to sales of typical lots in the area. To avoid making adjustments to reflect the actual characteristics of the corridor (its as is condition), Rahn, and Dolman and Seymour continue to compare ATF land sales in the area to a hypothetical typical lot. As a result, the conceptual foundation of the AMV model and ATF methodology is a hypothetical condition or extraordinary assumption. Common usage, and users, of ATF methodology rarely disclose this information. In reality, value opinions based on common usage of ATF methodology should be considered hypothetical value or assumed value. Current professional standards require disclosure of client-requested hypothetical condition, but there is currently no requirement to disclose that the appraisal methodology itself is based on a hypothetical condition. The end result is the same: a value conclusion based on a hypothetical condition.

Does Common Usage Equal Correct Usage?

Each year in this country there are sales of small pieces of rail corridors; new leases and easements; and renewal of existing leases and easements of corridor land. Millions of dollars change hands, mostly based on the AMV model of the ATF methodology. Each new transaction perpetuates the problem of valuing corridors without the benefit of an economic analysis or demand profiles of the as is condition. What has developed over time is an entire data set of transactions based on extraordinary assumptions and hypothetical conditions.

25. Seymour, "Continuing Evolution of Corridor Appraising," 16; referenced in Hunsperger, McGuire, and Throupe, "Transit Corridor Valuation: Issues and Methods," 243.
26. Arthur G. Rahn, *Corridor Valuation—An Appraiser's Overview* (Fairfield, CA: Arthur G. Rahn, October 2005), 18.
27. Dolman and Seymour, "Valuation of Transportation/Communication Corridors," 518.

To the extent the discussion presented herein identifies the AMV model of the ATF methodology as a flawed approach, we must also consider that after years of using this method to value corridors, the corridor-related transaction data set itself is contaminated and unreliable. This includes leases, sales, and corridor factors all resulting from reliance on a flawed AMV/ATF methodology. Corridor factors in particular, where the same source is determining both the ATF value and the sale price of the corridor, are unreliable. Using AMV-based transactions to value a corridor will always produce an AMV for the subject, not an as is value free of extraordinary assumption and hypothetical conditions.

Current usage of the ATF methodology based on AMV in practice equates the economic and demand profiles for three separate and identifiable components found in corridor valuation: operating rail use (primary), excess land (secondary uses), and ATF property. This parity is accomplished through assumption rather than analysis. Appraisal literature and appraisal education offer no support for assuming equal economic characteristics and/or demand profiles for separate components in the analysis. It is clear that one pipeline easement in twenty years, 10-feet wide and within 80 feet of excess land, is not inherently equal to average rail car traffic on the adjacent track. Nor is it inherently equal to subdivided land, fully developed, located across the fence. If the appraisal question in an assignment is to determine market value as is, then common usage of AMV/ATF rarely, if ever, produces a supportable conclusion. Where is actual market value when the appraisal product is based on an assumption built on a hypothetical condition?

Omitting Adjustments to Sales Data

ATF value, in its simplest form, is a sales comparison approach to value without adjustments. Local sales data is compared to a hypothetical "typical" lot; adjustments for size, shape, and topography are omitted. As a result, the objective of determining the as is market value for excess land is replaced by the AMV objective, which is an assumed value. This leads from relying on basic appraisal principles, which suggest the broad use of adjustments, to hypothetical value, which relies on limited use of adjustments, resulting in non-supportable value conclusions. Thus, common usage has restricted the type of adjustments when, in fact, corridor valuation may require a wide variety of adjustments. For example, in the literature, width is related to function, and size and shape are related to width. The appraiser might use an adjustment that discusses all three elements. Topography is relevant to demand. Hilly or swampy topography may reduce demand for excess land; if hilly topography causes a fiber optic cable alignment to zigzag within the excess land, it may restrict the number of other secondary uses that can be accommodated in the same area. Clearly, topography and supply and demand are related and may support the use of an adjustment factor. Ultimately, the number of adjustments and the types of adjustments the appraiser uses are reflections of relationships in the data. Ignoring the size, shape, and topography characteristics of excess corridor land, when comparing excess corridor land to non-corridor land sales data, is not consistent with professional standards.

Conclusion

Valuing a corridor involves two critical parts: identifying and understanding the subject property and analyzing the relationship implied by sales data. Understanding the subject includes a complete highest and best use analysis with economic analysis and development of supply and demand profiles to identify primary and secondary users and uses. A thorough analysis includes comparison of sales data to the subject's physical and economic characteristics and application of relevant adjustments consistent with core appraisal principles.

Although appraisers currently rely almost exclusively on the assumed minimum value with the across the fence methodology, this technique builds a value conclusion that is based on hypothetical conditions and assumptions. Such a value is not credible. To restore credibility, the across the fence methodology must change to meet current professional standards. When appraisers use comparisons and adjustments consistent with USPAP standards, the appraisal conclusion is a well-supported objective opinion of value as is. Valuation opinions based on market analyses not only meet the highest standards of appraisal practice, they increase satisfaction among market participants and enhance the public's trust.

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Web Connections

Internet resources suggested by the Y. T. and Louise Lee Lum Library

Federal Highway Administration
http://www.fhwa.dot.gov/

International Right of Way Association
http://www.irwaonline.org/eweb/startpage.aspx?site=IRWA2010

Rails to Trails Conservancy—Corridor Valuation
http://www.railstotrails.org/ourwork/trailbuilding/toolbox/informationsummaries/corridor_valuation.html

Surface Transportation Board
http://www.stb.dot.gov/stb/index.html