Overhead Utility Crossings:

Is the impact based on perception or reality?

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Historically, determining utility crossing fees in railroad rights of way has been more or less a guessing game. Most utility companies have little understanding of how the fees are determined or what impact, if any, their facilities have on right of way values.

After some negotiation, the utility company pays whatever fee is established by the railroad company, often without question, and then passes the costs on to its customers in the form of rate increases. In the past, the consequences of operating in this fashion were negligible. Nevertheless, the utility company has a fiduciary responsibility to manage its businesses efficiently and refrain from incurring costs that unnecessarily inflate customer rates.

In recent years, railroads have been testing higher levels of rent to develop new profit centers. Although most secondary users are willing to pay for the convenience of using the corridor, it is essential that compensation be based on reality. Whether it is in the form of an annual rent or a one-time payment, the fee should be related to the actual impact or value captured by the user. Current practices fail to answer the following questions: What impact, if any, does an overhead utility crossing have on a railroad right of way? How should that impact be quantified or measured? Simply stated, what has the seller lost?

For purposes of this article, several assumptions and definitions are required as follows:

- Assume the railroad right of way is owned in fee simple interest by the railroad, which has the right to grant leases, licenses or easements to third parties for their facilities.
- Assume utility crossings are limited to overhead occupancies for electric lines (wires).
- Assume a crossing is any occupancy that passes from one side of the right of way to the other side at some angle that results in the utility passing directly over the railroad tracks and is not part of a larger longitudinal or parallel facility.
- Assume a legal environment based on the federal rule in eminent domain: the before and after taking rule.

LARGER PARCEL

To understand what impact a utility crossing has on the railroad right of way, we must first identify the larger parcel. To do this, the appraiser considers unity of use, unity of ownership and contiguity of the land. For simplicity, we will assume contiguity and ownership requirements are satisfied. However, unity of use, including unity of highest and best use, is often in dispute.

For land in active rail corridors, there is an established hierarchy of use. Operational track requirements take priority over all other uses. Land not necessary for rail operations is considered excess land available for secondary users, and the presence of secondary uses is a clear indication that not all the land in the corridor is necessary for active track operations. Thus, we identify three larger parcels: the tracks and the excess land on either side of the tracks.

The length of each larger parcel is defined by numerous physical interruptions found along the corridor, such as streets, bridges, waterways, ravines, etc. A corridor is generally described as a long, narrow strip of land. In reality, it is a series of short, narrow strips of land laid end-to-end and separated by physical interruptions. For purposes of measuring the impact of a utility crossing, the larger parcel is basically that segment that stretches from one street or other physical interruption to the next.

HIGHEST AND BEST USE

The determination of the highest and best use for a rail corridor is based on the results of a two-tiered decision-making process. On a macro level, the appraiser first determines whether the tracks are active. Rail corridors typically fit into one of these categories:

- Active tracks with no excess land
- Active tracks with excess land and demand for longitudinal uses
- Active tracks with excess land and no demand for longitudinal uses
- Inactive tracks (liquidation of the corridor is anticipated)

For this analysis, assume the tracks in question are active with excess land. In a typical 100-foot wide rail corridor with two sets of tracks, consider an allocation of 34 feet for the active tracks (includes basic safety margins), with the tracks centered in the corridor. This leaves 33 feet of excess land on either side of the tracks for other uses. Although the railroad may elect to allocate additional width for active track operation, doing so does not maximize total property value. Instead, it may result in a dilutive effect on the value of the excess land.

On a micro level, the appraiser reviews each larger parcel to determine its maximum potential economic use. Normally, active tracks are valued on a continued use basis, unless rail service is anticipated to cease in the near future. The excess land on either side is evaluated based on the current occupancy, applicable zoning of the railroad land and the adjacent property use. Existing longitudinal uses or local zoning codes may preclude any form of independent development of excess land. The potential for assemblage with an adjacent user is often limited because the adjacent land may already be developed, or the adjacent landowner has no need to acquire a long, thin piece of land to move forward with development on the existing site. In many cases, excess land may have little to no identifiable market demand because of its limited size, shape and access. In areas where the excess land is several hundred feet wide, however, there may be some measurable demand.

VALUATION PROCESS

Value is defined as the anticipation of future benefits. In the appraisal of real property, supply and demand factors establish the parameters of market value. In market equilibrium, the number of sellers equals the number of buyers at any given time. With railroad lines, the situation is somewhat unique. Market equilibrium for operating tracks is implied: a demand for active rail service exists and railroad companies will continue to supply services to meet the demand. However, the economic profile for excess land, often characterized by high supply and low demand, suggests an imbalance in the market. For any given right of way, there will be some areas in which every foot of railroad right of way is occupied by secondary users (high demand) and other locations where there have been no secondary users in decades (low demand). In order to adequately value excess land in a corridor, the appraiser must have an understanding of the supply and demand factors for each larger parcel at every utility crossing.

Railroad property is commonly described in terms of segments or larger parcels. Land sales in the area with similar zoning are identified and used to form an opinion of unit value to be applied to the railroad property. This is referred to as the across the fence (ATF) value. One method of determining operational track value is to establish the relationship between ATF value and the operating income (income approach to value). In order to apply this method, the appraiser must rely on the railroad's financial statements for the individual branch line. Unfortunately, this information is not available in most cases.

More often than not, the appraiser relies on the sales comparison approach to value to estimate unit land value. Land sales in the area are selected, reviewed for comparability, and used as the basis for the appraisal analysis. Ultimately, the unit price is determined and applied to the larger parcel to establish a value for each segment in the before condition.

However, ATF value is based on the assumption of equal functional utility between the land sales and the railroad property. For example, consider whether a two-acre rectangular, buildable, industrial lot on one side of the fence has the same functional utility as a long, thin, non-buildable, excess railroad land parcel on the other side of the fence. It is not likely that the highest and best use for these two sites will be the same. In order to maintain the assumption of equal functional utility, appraisers frequently omit relevant adjustments for shape, size and access normally considered in a land appraisal. Additionally, many appraisers fail to consider the impact of rail line drainage requirements on the excess railroad land. If proper adjustments for size, shape, access and topographical irregularities are considered, a realistic market-based understanding of the excess railroad land emerges. Frequently, market evidence does not support the assumption of equal functional utility between the ATF land and excess right of way land.

An example of overlapping overhead utility crossings where there is a single license and adjacent public uses.

APPRAISAL QUESTION

When valuing an overhead utility crossing, the analysis should focus on the incremental change caused by the new facility. In other words, what could you do with the property in the before condition, where no crossing existed, that you cannot do with the property in the after condition, where a crossing now exists? The challenge is to determine what changed and if that change is measureable.

Ultimately, payments for utility crossings should reflect compensation to the seller (in this case, the railroad company) for an identified impact or loss in value. In states that follow the state rule of value of the part taken, it is critical that the appraiser measure the change in value which results from the taking. When applying the state rule, a common mistake is to rely on unrelated easement transaction data to value the impact of the new easement. This implies there is a market for the impact caused by the new overhead crossing easement. In one such case, the appraiser cited the purchase of excess highway right of way easement by the underlying fee owner to clear title and restore full fee value and functional use to the easement area as evidence of the impact of a new overhead crossing easement. Concluding hypothetical values based on non-relevant data is not acceptable appraisal methodology.

In order to determine fair compensation, the appraiser must identify incremental changes in the property and quantify the portion of value captured by the new use. The data used to arrive at the value conclusion must be relevant to the assignment. Consistent with the condemnation powers of utility companies, this process results in a realistic market-based value that reflects what sticks were lost from the original bundle of rights. A payment based on what the buyer gains, such as avoiding the cost of finding an alternative route, is not the same as compensation for a loss in market value in the before and after condition. Rather, it represents hostage pricing, which is not permitted in the application of the market value standards. Additionally, hostage pricing is rarely consistent with the value determined by a standard analysis of the before and after conditions.

COMMON VALUATION METHODS

Two commonly used methods of determining the value of a crossing are the rate sheet method and the percent of fee method, also known as an occupancy factor.

We start with several assumptions:

- The utility crossing may not interfere with operating rail traffic. This is a basic requirement for all secondary users on a railroad line.
- The new overhead utility crossing cannot interfere with a pre-existing secondary user.
- All wires must be in compliance with the vertical safety margins for trains: approximately 23 feet above the tracks.
- No wire or other occupancy can fall below the 23-foot level. Depending on type and size, power lines range from 28 - 65 feet in the air at the lowest point.

Rate Sheet Method

In the rate sheet approach, the railroad company creates a price list with specific dollar amounts for various types of overhead utility crossings. Typically, the rate is based on the size of the wire. Recently, a railroad company posted the following annual rates:

$420 for an aerial crossing of 25kv or less
$600 for an aerial crossing of 25kv to 50kv
$780 for an aerial crossing for 50kv to 100kv

In this case, there is a specific fee for aerial crossings based on wire type and size. It is interesting to note that fees are not related to land value in any identifiable manner. The utility company pays the same rate for an aerial crossing in a rural residential area as it does for an identical aerial crossing in a high density, high value commercial area. A pricing schedule of this nature contradicts the ATF corridor valuation method favored by railroad companies; it may result in a positive value relative to ATF values in the rural area and a negative value relative to ATF values in the commercial area.

In the final analysis, the rate sheet method suggests that there is no difference in the impact of a similar sized utility crossing in any part of the railroad's active rail lines.

Percent of Fee Method

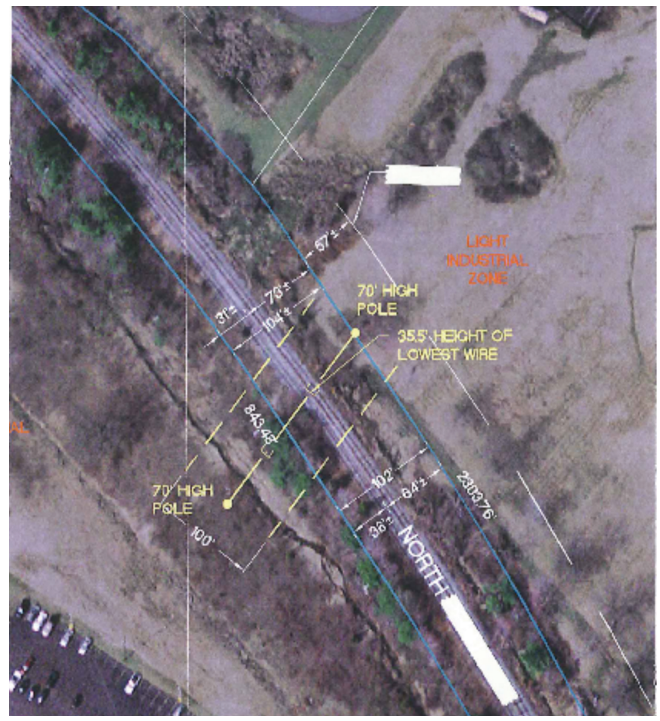
The percent of fee approach is an attempt to relate a utility crossing's impact to the fee simple value of the rail line. Starting with an estimate of the fee simple value of the rail line, a percentage of the unit price is stated as representing the impact of the aerial utility crossing. However, there are no uniform guidelines for determining the percent of fee. Furthermore, the percent of fee method does not address differences between railroad properties already accommodating secondary users and those as yet unburdened.

Consider the situation where a railroad right of way was burdened with two street easements, two pipeline easements/licenses and one fiber optic line. If the railroad claims a loss of 30% of fee value for a new power line crossing, what percent of value was identified as damage caused by the pre-existing streets, pipelines and active tracks? What is actually left to be damaged by the new crossing?

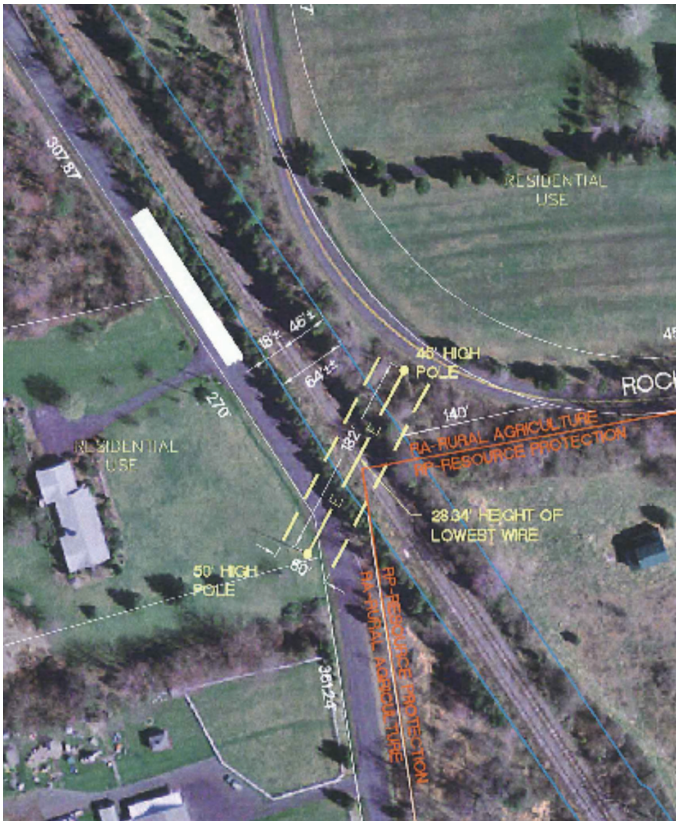
The railroad company applied a standard percentage rate to the fee simple unit value without recognizing the impact of pre-existing occupancies. Regardless of how the fees are structured, the standard rate method assumes that the pre-existing occupancies caused no loss in value. It also implies that the new facility causes a loss in value and suggests that 100% of fee simple value is subject to the impact of the new utility crossing.

When applying the percent of fee technique, the appraiser subtracts the percent of impact (damages) from the starting fee value to find the after impact value. Subsequently, the after impact value is subtracted from the before impact value to find the amount of impact (damages).

In reality, the percent of fee method is an example of circular logic: one must know the damages in order to find the damages.



Multiple overhead crossings in an industrial area. Crossings are above specified minimums.



Aerial view of rural residential area. The tracks are below grade and the lowest wire is higher than recognized safety margins.

MEASURING THE IMPACT

A before and after analysis of value based on market transactions produces a reliable, supportable indication of damages due to a crossing. To assess the impact on value of a new wire utility crossing, we start by analyzing the highest and best use and larger parcel in the after crossing condition focusing on changes due to the crossing. Two key areas of change relate to zoning codes and pole placement.

Zoning Codes

Most zoning code classifications include a maximum height restriction for building improvements. Height limitations define the maximum usable height available to the underlying excess railroad land. For example, in many industrial areas, it is common to see a maximum height of 35 feet (or three stories).

If a high-voltage power line is proposed for the utility crossing with a low wire point of 55 feet, the crossing will take place in a space unusable by the railroad under the zoning code. How can the wire have an impact on value if it passes through space not available for use by the railroad company? The underlying fee simple value represents value for useable space. Therefore, occupying unusable space should have no measurable impact.

In cases where there are no height restrictions, or they are quite high, the appraiser must determine if there is any measurable demand for the space to be occupied by the electric line. A review of buildings in the area will provide an indication of typical height demands. The appraiser can also identify average size for neighborhood buildings to determine if a similar size structure could reasonably fit on the excess land of the railroad property. Generally, taller buildings require a sizable footprint. Once setback and parking requirements are added, it becomes clear whether there is any reasonable demand for overhead space similar to the utility crossing.

A lack of supportable market demand for overhead space similar to the railroad property indicates there is little to no measurable market value for that overhead space. Since this is the same conclusion that existed in the before impact condition, the incremental change in potential use and value would be minimal. However, if there is a reasonable potential for a building site on the excess right of way, and the overhead power line eliminates that potential, then the incremental change would be the loss of a building site and compensation or damages must reflect that loss.

Although the highest and best use of a railroad right of way is sometimes presented as a transportation/communication corridor, the only consistent use over the entire length of the corridor is the active tracks. Secondary users of excess corridor land come and go depending on the need for available connection points or the desire to be in a particular location. To define the entire width of the corridor as one larger parcel may lead to inconsistent valuations. Nevertheless, the valuation question still revolves around measuring the incremental change in use and/or value.

Supply and demand factors must be identified to form an opinion of value before the new utility crossing. In this scenario, the railroad right of way's available capacity for new occupancies represents the supply side of the subject. However, there may also be competing (alternative) routes available that represent potential supply. The demand side of the equation can be estimated by the number, size and frequency of secondary users on the subject over a period of time. Since new occupancies are added infrequently, the appropriate study period may be anywhere from five to thirty years.

Assume a larger parcel 2,000 feet long and a new overhead utility crossing 50 feet wide. In this example, the total supply of similar crossings on the subject is 40 potential crossings for secondary users of the right of way. If no other overhead crossings have occurred in the past twenty years, the economic profile for an overhead crossing on this larger parcel is that of high supply and low demand. Total remaining capacity would be measured in hundreds of years. Ultimately, the incremental impact, in this case, is one of minimal impact and, therefore, minimal damage or loss of value.

Pole Placement

The second element of change to consider is placement of power line poles. Regardless of size, diameter or height, if a pole is located on the railroad right of way, it will occupy space effectively equal to fee value for that space since it will occupy the subsurface (foundation), surface and overhead space.

Size of the pole can vary from small wooden poles measuring one foot in diameter to larger steel poles that are five feet in diameter or larger. It is reasonable to assume a clear work space around each pole, as well. Average work space areas may range from approximately ten feet for small poles to approximately twenty feet for larger poles.

An overhead crossing where the railroad is 20 feet below street grade and poles are not on site.

Deducting the area of each pole and its related work space from the larger parcel results in a measure of the incremental change to the railroad property in the after impact condition. The value of the larger parcel after impact is calculated and subtracted from the before impact value to produce a reasonable, supportable measurement of value lost as a result of the new utility crossing.

SUMMARY

A review of the fees for overhead utility crossings on active railroad lines and the methodologies used to determine them suggests that there is a lack of knowledge on how these crossings actually impact the railroad property. In the past, compensation had little to do with the actual impact of physical, legal and economic changes within the crossing. Typical fees resembled hostage value rather than market value. Existing practices for estimating the impact on value caused by utility wire crossing are frequently inappropriate and/or improperly applied.

The before and after valuation method is a logical process that allows the appraiser to identify the impact of an overhead utility crossing. This step-by-step approach leads the appraiser through the larger parcel issues to a determination of highest and best use to arrive at value in the before condition. In order to determine the impact of the utility crossing, the exercise is repeated to identify the incremental change, if any, to the railroad property. Even in states that follow the state rule valuation process, performing a before and after analysis will help identify the value of the part taken or impact of the taking.

A thorough analysis, such as the type as described in this article, often indicates that there is little to no measurable impact on value when a new overhead utility crossing with no poles on the right of way is taken. Even with poles on the right of way, there is often minimal impact. The electric utility industry is encouraged to study the true impact of overhead wire crossings on railroad property. Armed with this information, they can determine whether to reevaluate the procedures and policies that relate to payments for overhead utility crossings on railroad property.

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