

## OVERVIEW OF LAND APPRAISAL METHODOLOGY

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## I. INTRODUCTION

The City of Pittsburgh has requested that Sabre Systems and Service ("Sabre") provide an explanation of the methodology used to value land in the Allegheny County Revaluation Project ("Revaluation"). Sabre is pleased to do so.

This overview is not intended to be an all-inclusive discussion of land valuation theory, but rather an attempt to lead the reader through the intricate and sometimes complex land appraisal process. Initially, there are several industry-recognized methods for developing land values. These include, but are not limited to: (a) Comparable Sales; (b) Allocation; (c) Land Residual; (d) Capitalization of Ground Rent; and (e) Development Costs - Discounted Cash Flow.

Sabre uses the Comparable Sales method to value land. This entails analysis of vacant land sales within the neighborhood to establish base land rates. Where there are sufficient quantities of vacant land sales, the Sales Comparison method is a simple correlation of unit comparison, such as square foot divided by sale price.

However, the absence of adequate vacant land sales in a given neighborhood requires the appraiser to consider other methods, primarily the Land Residual option. This is particularly a common practice in the City of Pittsburgh where vacant land sales are scarce in a number of neighborhoods.

The Allocation technique, which attributes some percentage of sale prices to the land portion, can also be used, but is generally considered to be less reliable unless it is used in proper circumstances, such as a developing subdivision.

During the Allegheny County Revaluation Project ("Revaluation"), Sabre Systems ("Sabre") utilized cutting edge technology. The Manatron Sabre Market Data Analysis

(SMDA) 2000 Computer Assisted Mass Appraisal (CAMA) system to generate both building and land values. SMDA uses property and neighborhood characteristics, time-adjusted comparable sales, and an integration of computer analytical techniques to generate equitable and defensible property valuations. SMDA's user defined cost and depreciation tables consider a multitude of variables for the most accurate property values.

Sabre spent extensive time and energy delineating approximately 1,800 different neighborhoods within Allegheny County. Sabre used SMDA to assist in valuing the land component of the total property value by developing neighborhood Computer Assisted Land Pricing (CALP) tables that include: land lot type, base land rate, incremental and decremental land rates, to produce a base lot value.

Sabre developed the CALP tables by appraisal analysis and neighborhood boundary delineation. The individual land rates for each neighborhood are established using comparable sales, abstraction, allocation, and subdivision development techniques. The individual base lot value may be adjusted by appraisers, in the review process, for numerous possible influences to produce the final land value estimate.

Final land values can be and are often further adjusted throughout the informal discussions and formal appeals to correct any individual errors.

## **II. NEIGHBORHOOD DELINEATION**

Neighborhood delineation is a critical step in the mass appraisal process. In Allegheny County, the Neighborhood Delineation process resulted in approximately 1,800 residential neighborhoods. The process requires that areas be defined that

exhibit a high degree of homogeneity, in governmental, social, economic, and physical characteristics. Neighborhood boundaries are shown on land valuation or neighborhood maps (example attached as Attachment "A"<sup>1</sup>) during a physical inspection in the field. Sabre appraisal personnel drove virtually every street and roadway in Allegheny County during this stage of the project.

Appraisers identify and record specific data about each neighborhood such as: common amenities, characteristics, restrictions and boundary lines. These factors are recorded on Neighborhood Profile sheets (See Attachment "B") and define characteristics like type, trends, desirability, location, and common amenities.

It is important to remember that virtually all tables in the SMDA 2000 system are neighborhood driven. That is, the neighborhood code is referenced by the system for valuation instructions. Therefore, the development of neighborhood boundaries and profiles are paramount to the success of the system's ability to reflect current market values. Appraiser judgment and experience are key ingredients in the delineation of neighborhoods on any revaluation project. A limiting factor is that a sufficient number of validated sale properties must be in each neighborhood to allow for proper statistical and valuation analysis.

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<sup>1</sup> Attached hereto are several documents generated during the Revaluation relating to the 8<sup>th</sup> Ward of the City of Pittsburgh. The attachments are all from the same Ward so that the reader may understand the documents generated for a particular area of the City.



















































































