Valuation and Assessment

MVV182K
Property-related Taxation: Issues and Trends
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AFRICAN TAX INSTITUTE

What is valuation all about?

- Valuation is the estimation of prices for properties that have not been sold
- In a market place it is assumed that buyers and sellers adopt a rational economic approach
- So valuers analyse prices/rents that buyers/tenants have paid recently

- Valuation paradox:

  - No two properties are the same (heterogeneous) yet valuation relies on the comparison of properties to give an indication of value
  - **Solution**: the valuer must identify and quantify differences in type, location, legal interest, quality and the state of the market

Valuation methods

Main methods of valuation include:

Sales Comparison method

Income method: receipts and expenditure

Cost method

CAMA – Computer Assisted Mass Appraisal

Issues with all methods!

Art or Science?

- the value of real estate can be decomposed into explanatory variables
- subjectivity or objectivity?
- Models need to replicate the dynamics and characteristics of the property market or sub-market

Valuation Options

NON-VALUE BASED — VALUE BASED

Degree of complexity

Data requirements

BASIC — TO — ADVANCED

Origins and Evolution - CAMA

- Property tax assessment
- Manual v. automated
- resources
- IT developments
- Application of new methodologies

When should Mass Appraisal be considered?

- When resources are an issue
- When timing is an issue
- When objectivity and uniformity are issues
- When scale is an issue

ITS ALL ABOUT REAL ESTATE: How it should be valued?

Scale of the problem

Hong Kong	2.4m	ANNUAL REVALUATIONS
Ontario, Canada	4.5m	Every 4 years
Kuala Lumpur, Malaysia	750,000	2014
Makati City, Philippines	135,000	1993

Some countries that actively use CAMA

Australia
Canada
Denmark
Egypt
Finland
Latvia
Lithuania
Mauritius
Netherlands
Russia
South Africa
Sweden
United Kingdom
Northern Ireland
United States
Canada
Slovenia
Moldova
Hong Kong
Thailand
Brazil
Columbia

Three revolutions in CAMA Development

The First - Computing power and the development of valuation methodologies and spatial integration

The Second - Development of high level data collection systems

The Third - Mapping and GIS

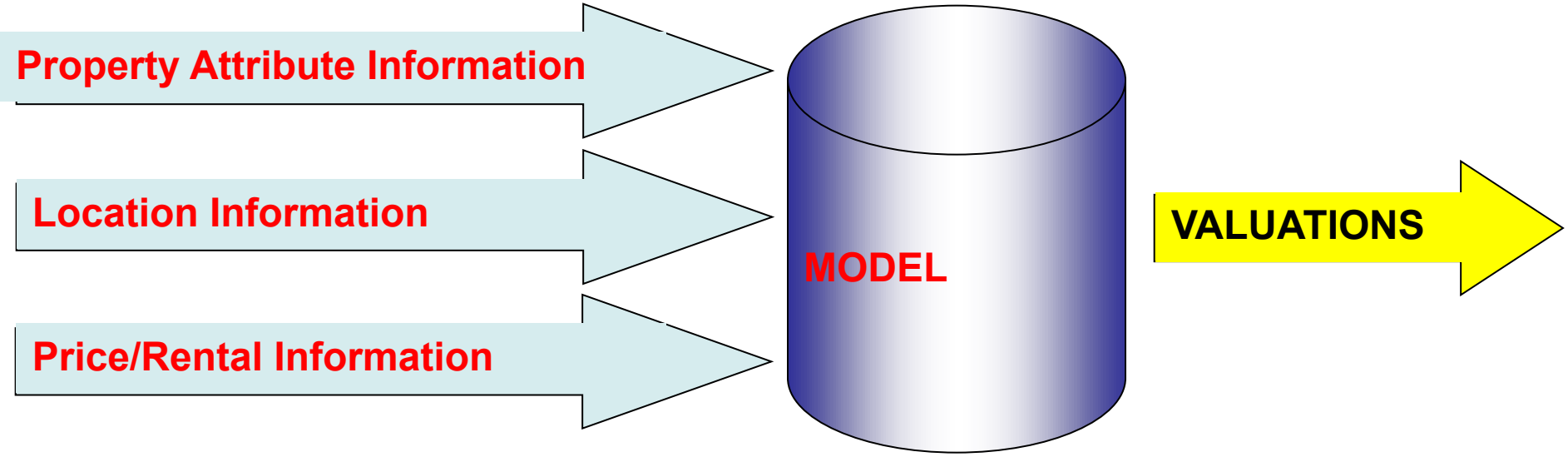
The First Revolution – Valuation Methodology

Techniques

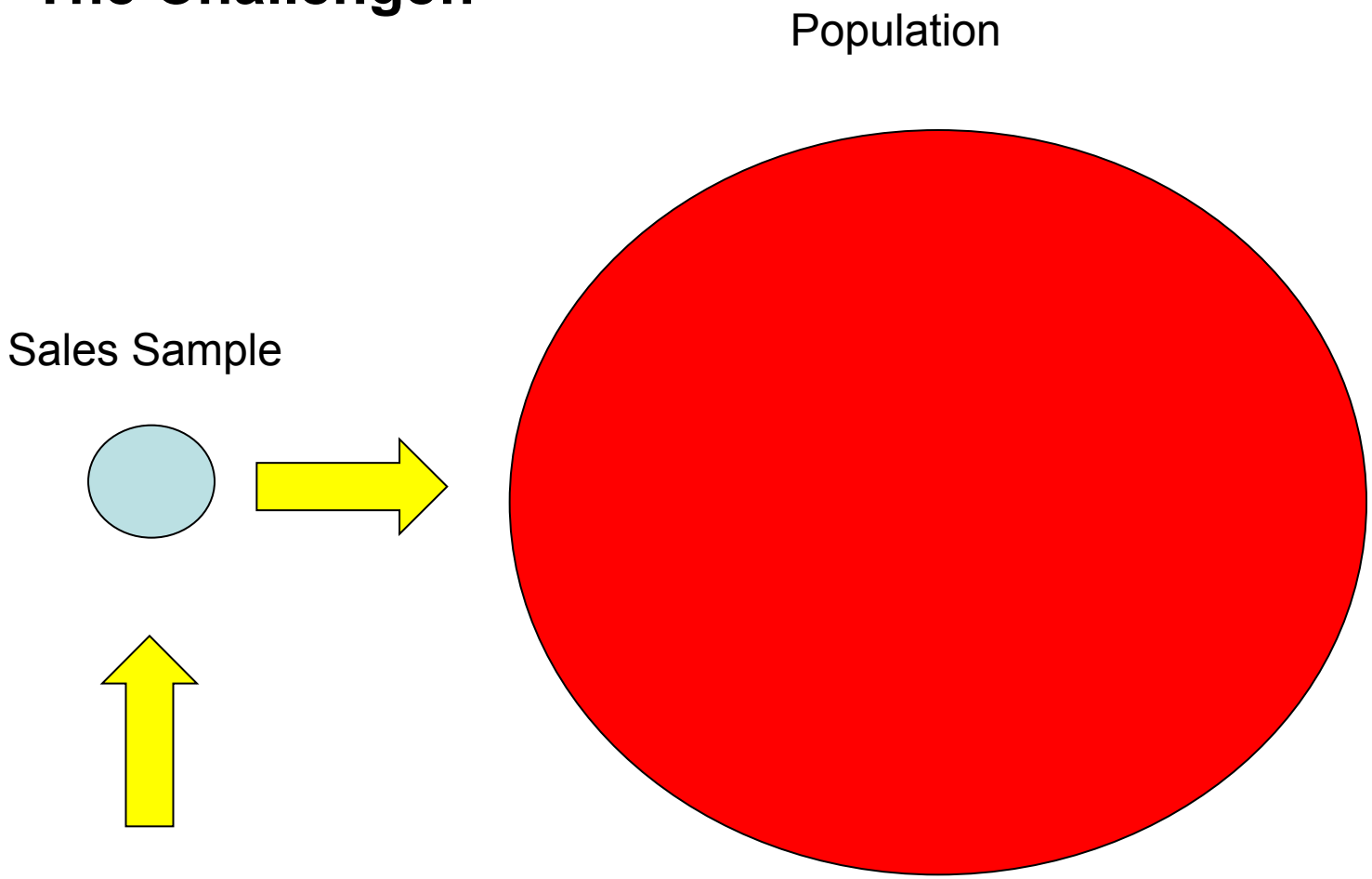
- Multiple Regression Analysis — Statistical
  Linear, non-linear and GWR
- Adaptive Estimation Procedure — Feedback
- Artificial Neural Networks — Black box
- Genetic Algorithms — Black box
- Expert Systems — Rules/what if …?
- Comparable Sales Analysis
- GIS based Response Surface
- Fuzzy Logic
- ***See Kauko and d'Amato Mass Appraisal Methods (2008) Wiley-Blackwell***

The Valuation Process

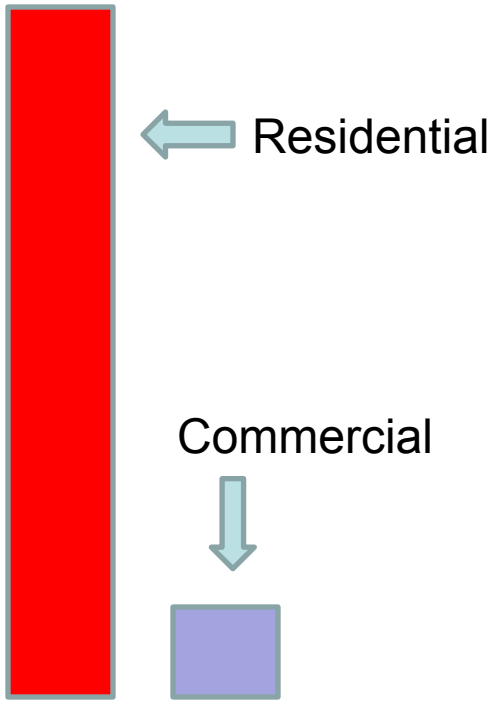
VALUATION MODEL – Automated or "Hand Crafted"



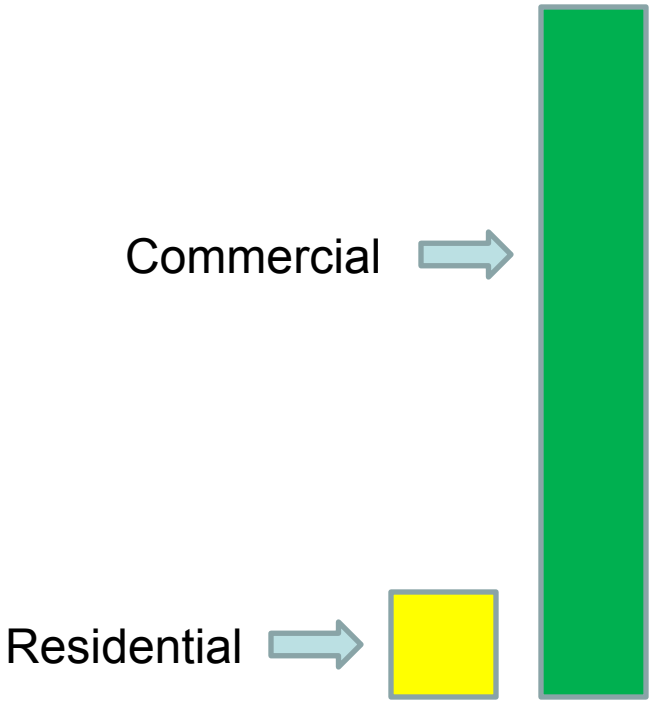
The Challenge!!



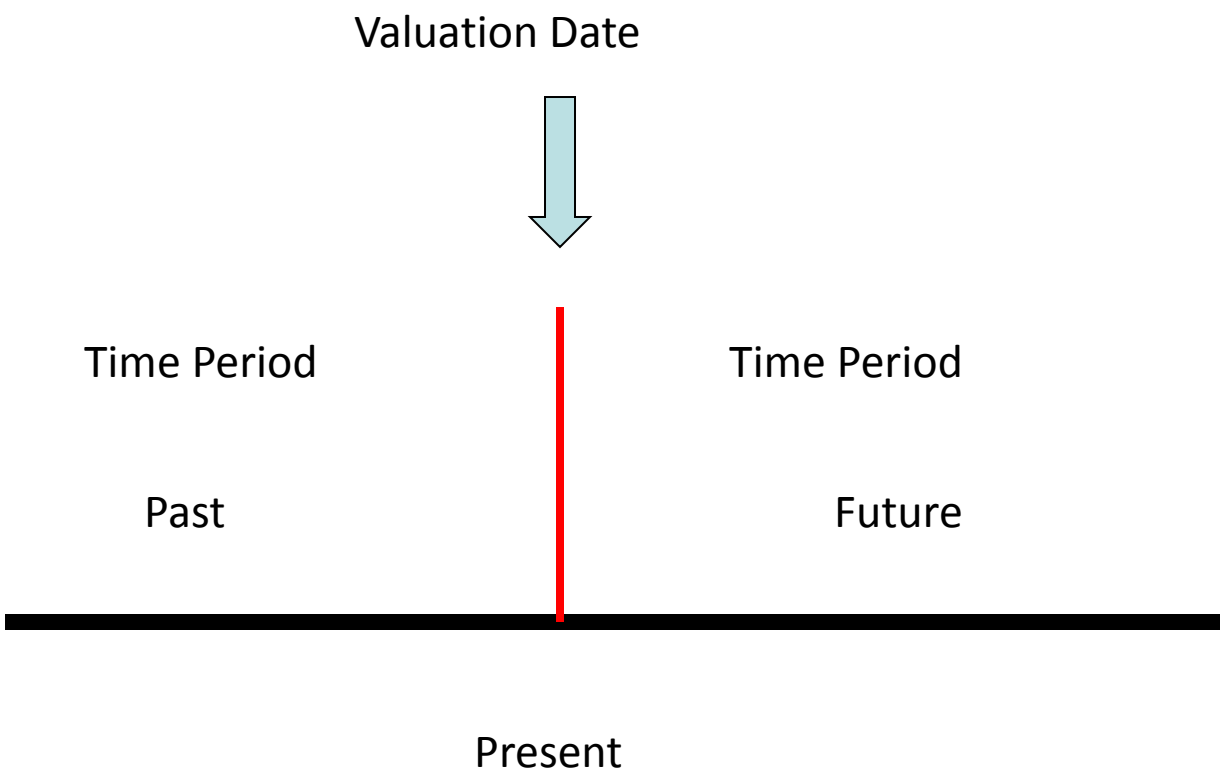
Number of parcels

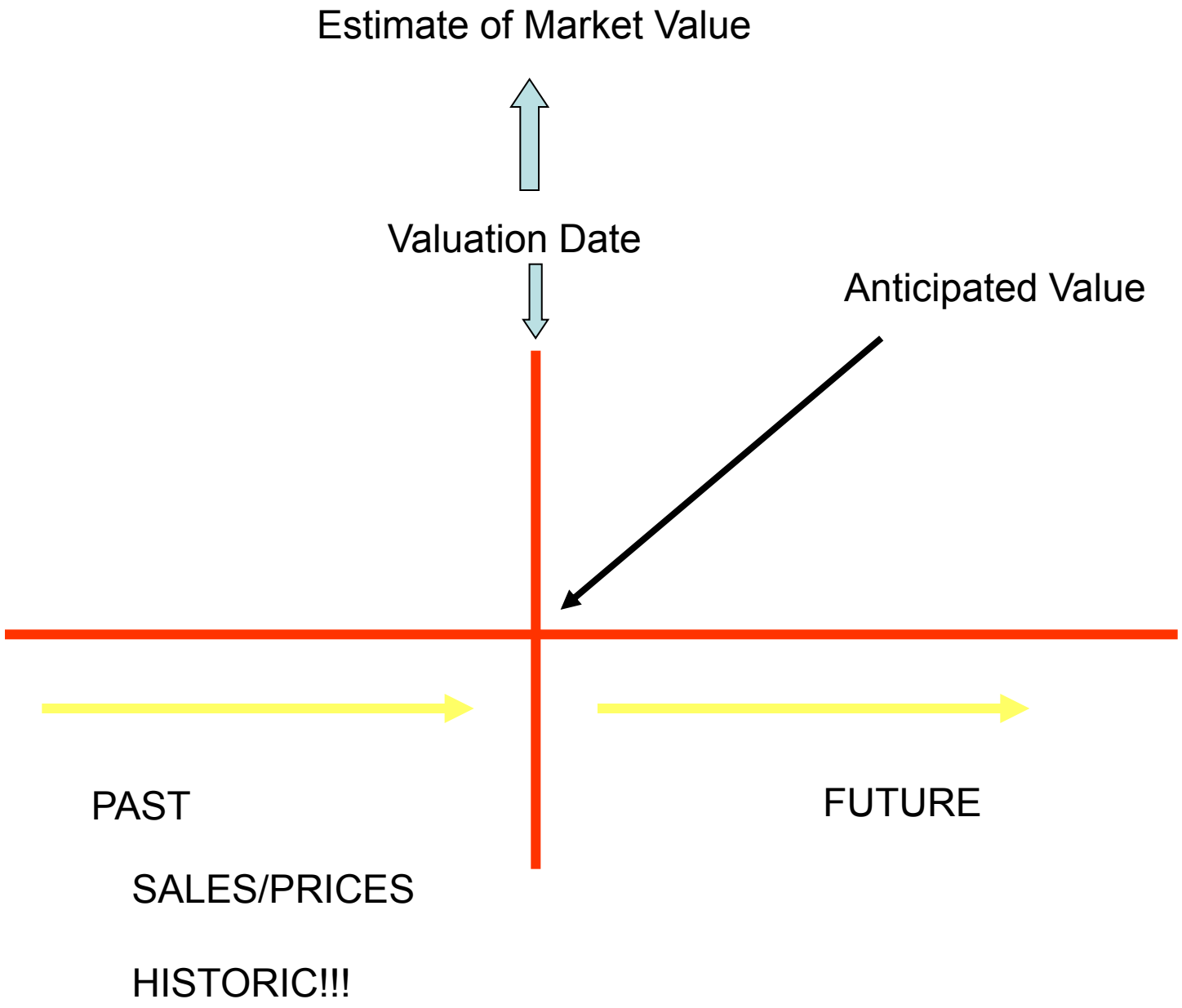


Revenue

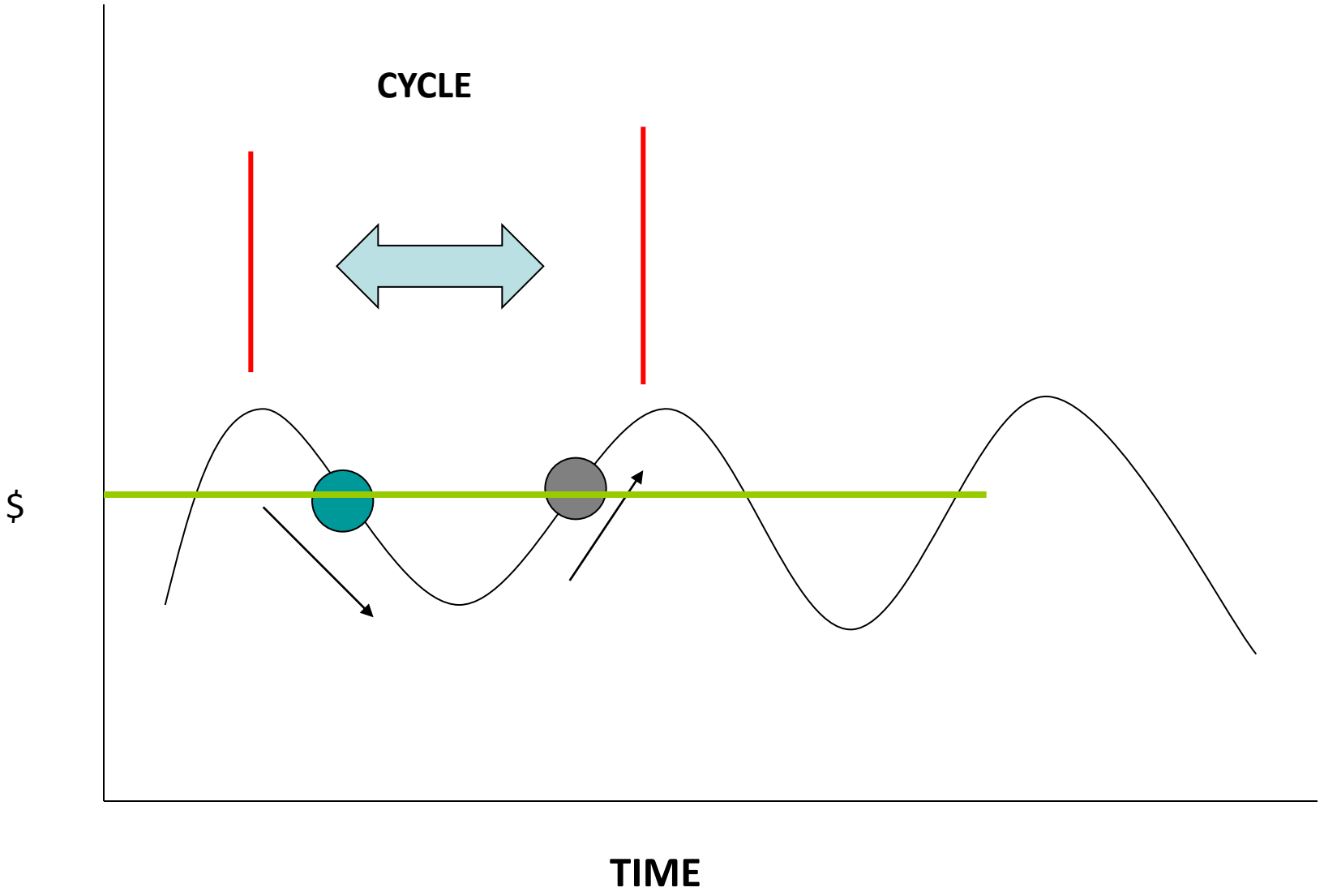


What Sales to Use?




Estimate of Market Value
Valuation Date
Anticipated Value
PAST
FUTURE
SALES/PRICES
HISTORIC!!!

Timing of Revaluation????



The Second Revolution – Data Collection

ON-SITE DATA COLLECTION

Handheld Data Collection

Desktop Data Review

Street View Image

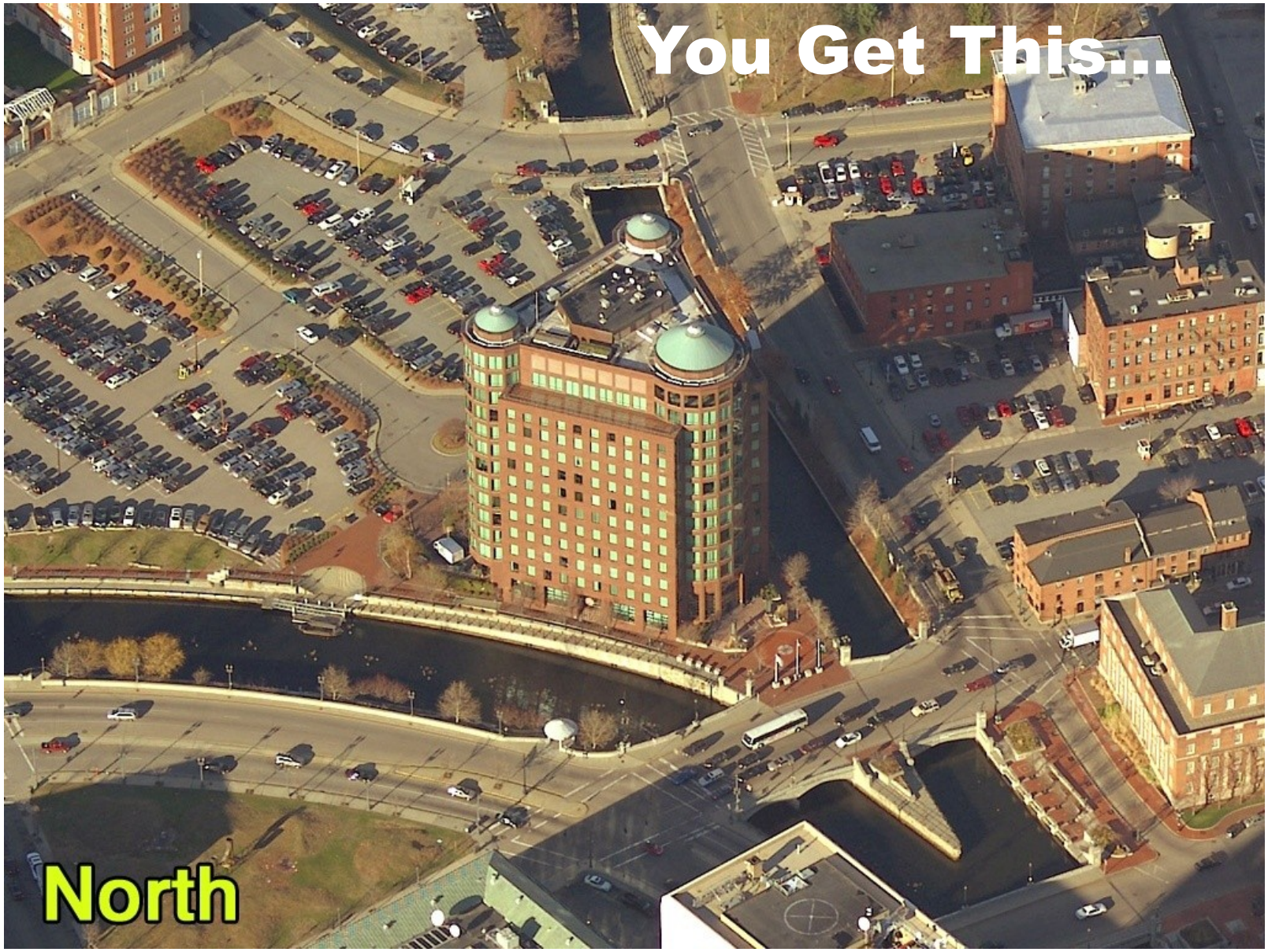
Sample 1 foot resolution

Sample 6 inch resolution

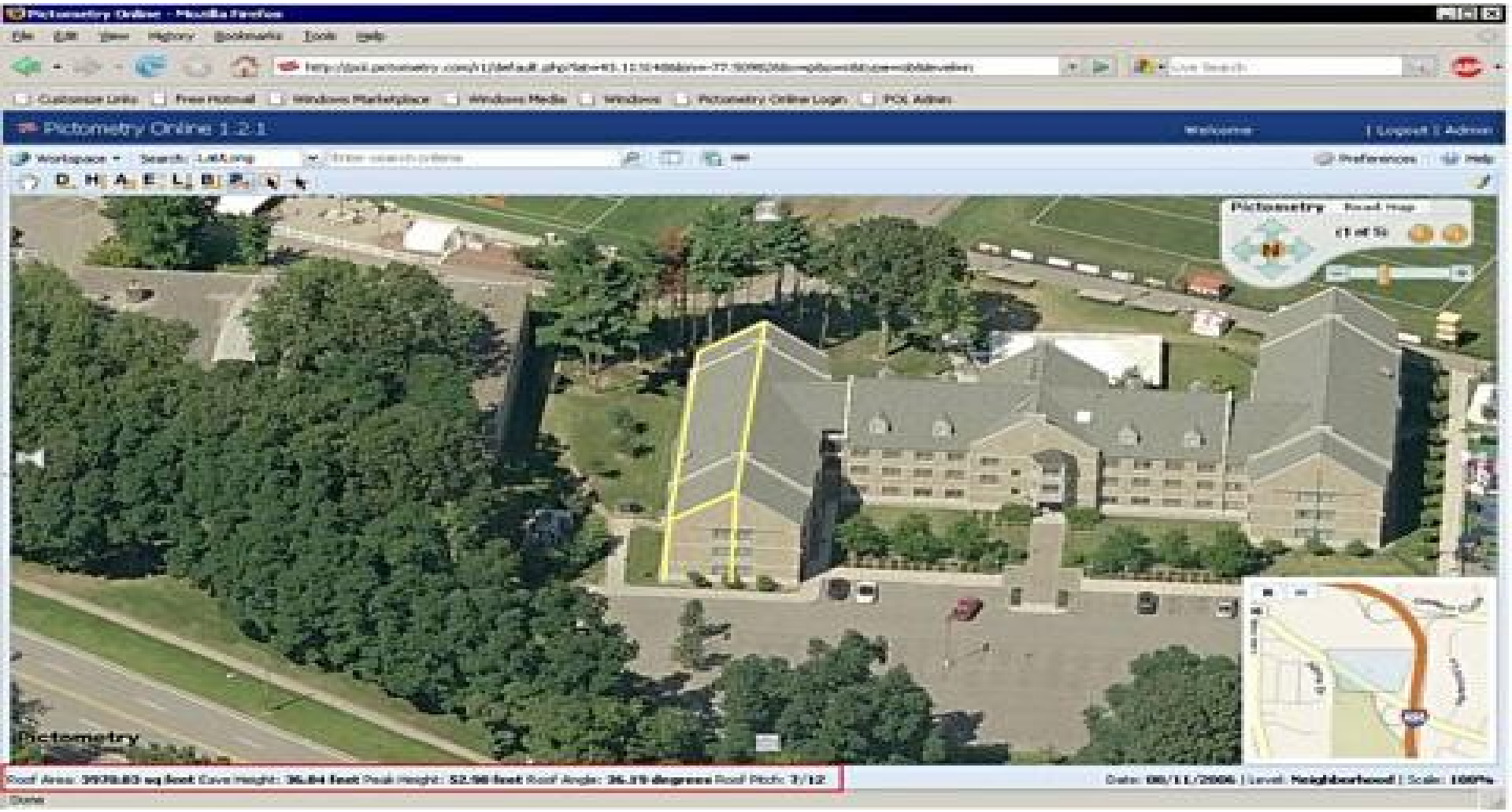
Sample 4 inch resolution

Sample neighborhood oblique

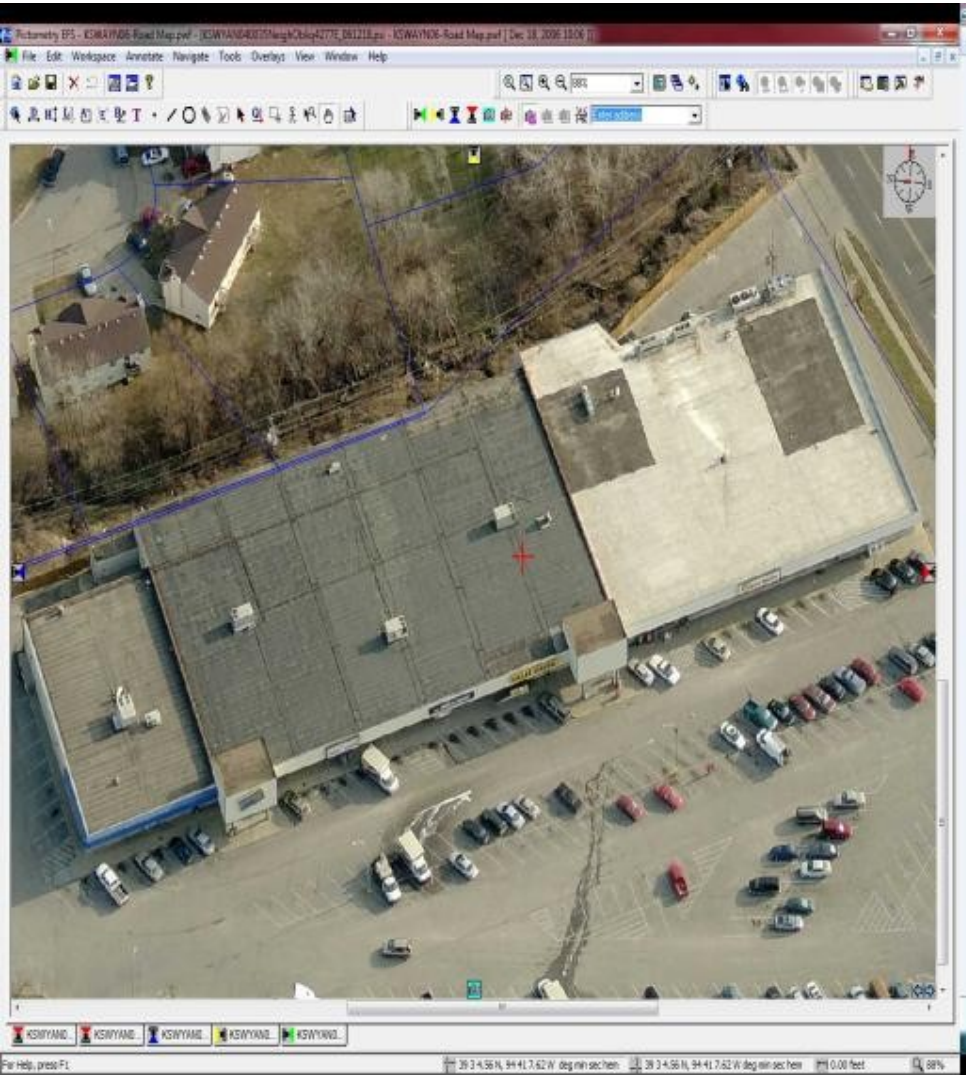
In Addition To This...
Ortho


You Get This...
North

Pictometry Measuring Tools

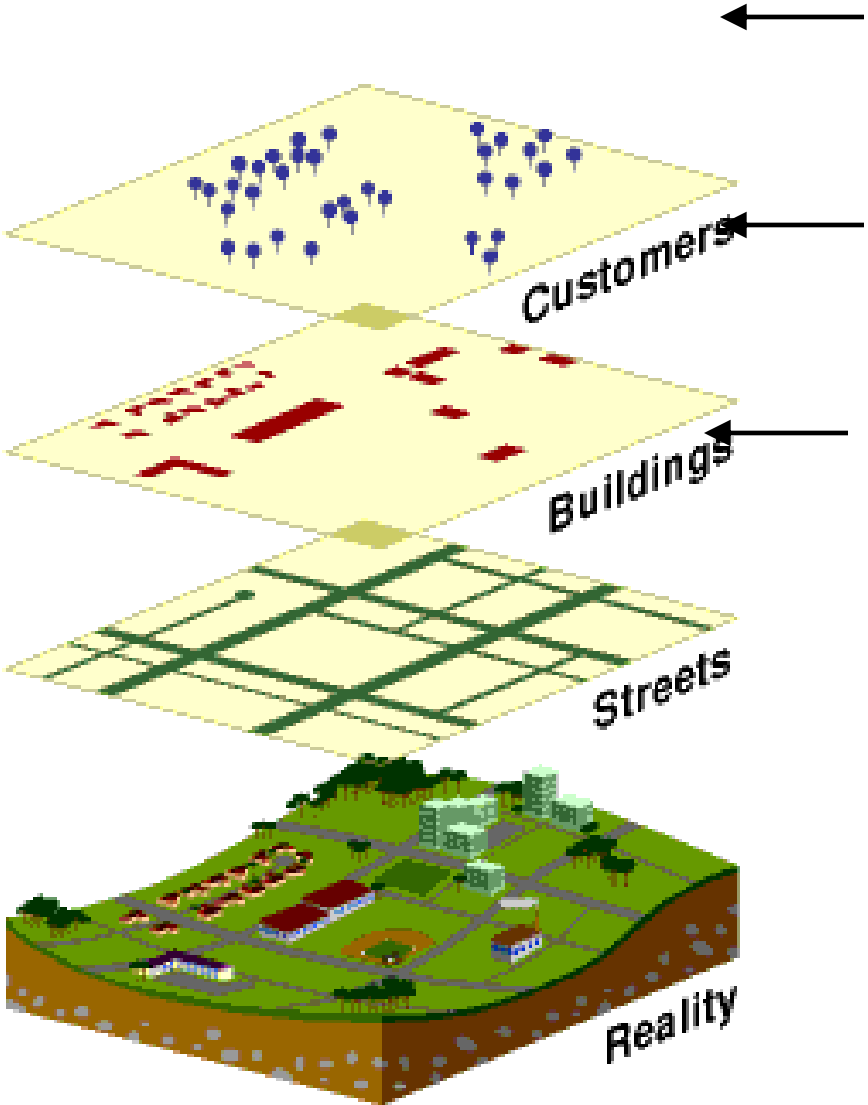


Commercial Streetview and Oblique



The Third Revolution: Enter GIS

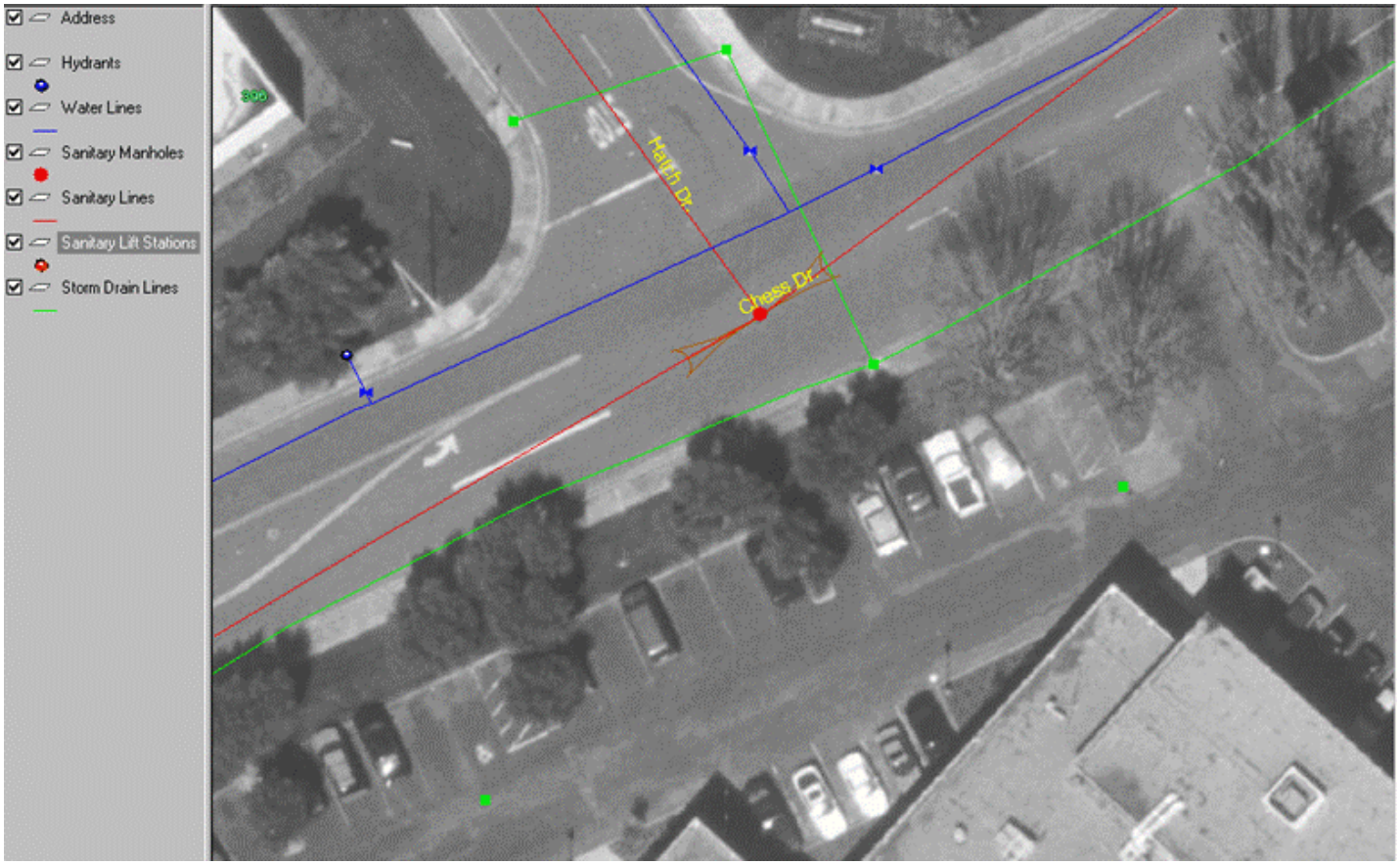
A computer-based tool for holding, displaying, and manipulating huge amounts of spatial data.



What Does GIS Do?

It locates:

- Physical infrastructure

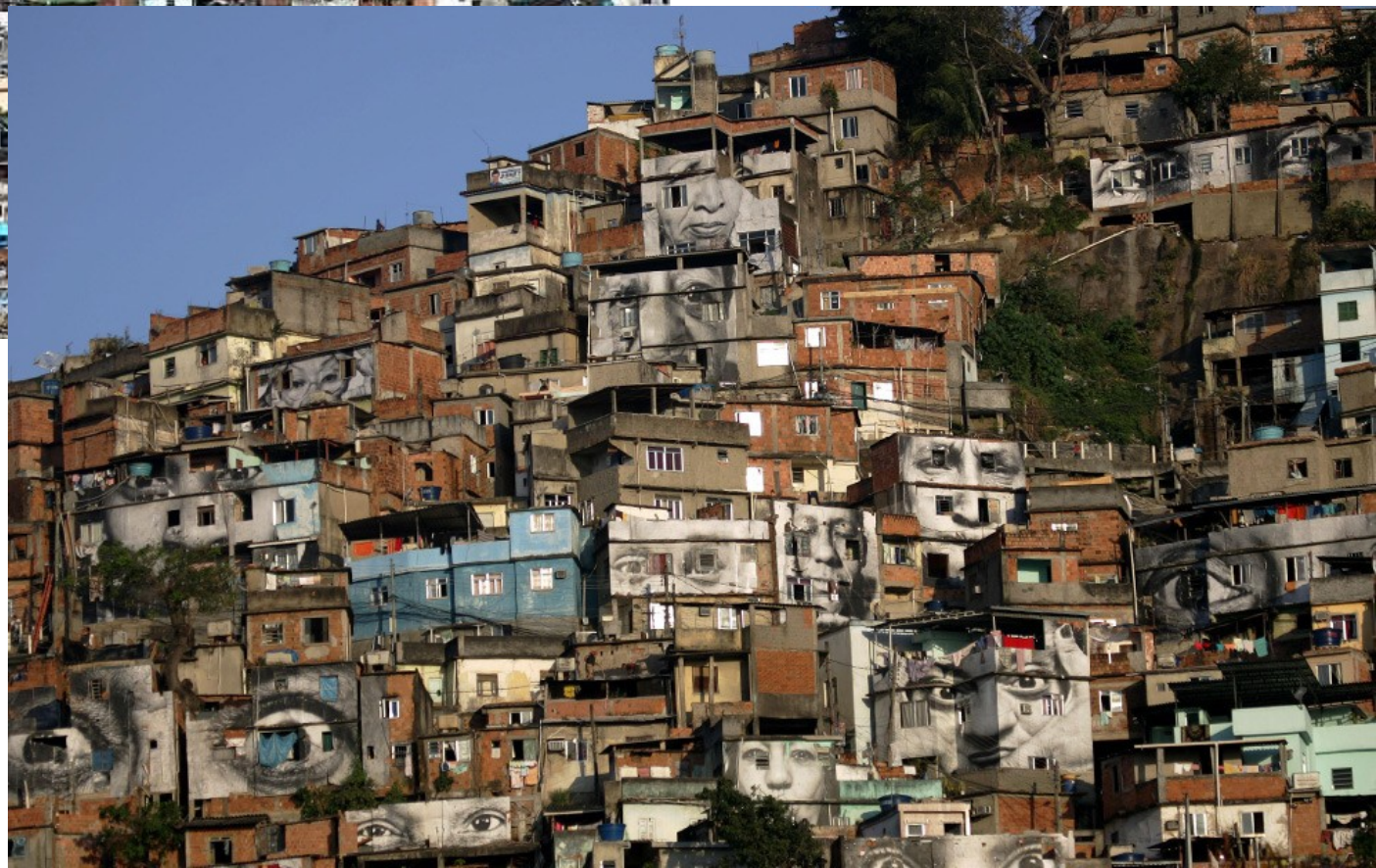


What Does GIS Do?

It identifies:

BUT THIS IS ONLY HALF THE STORY

We know the built environment exists but if there are no or few transactions: what can be done?



Khayelitsha Township, Cape Town, South Africa

DATA is the Issue

Data Collection

- One of most expensive activities
- Many diverse sources
- Government, utilities; all have constraints
- Two broad types of collection
  - Data capture (direct collection)
  - Data transfer

Advertising
Rights
£1.85M RV
SAMSUNG
Coca-Cola
THERE'S ONLY ONE GOLDEN AROMA
TDK
SANY
Roadwatch

Heathrow
£319m RV

Gherkin –
30 St Mary Axe
£16.7M RV

LONDON
EYE
£4.37m
RV

HMS Belfast
£112,500 RV

£7.62m RV
MANCHESTER UNITED
OLD TRAFFORD

Wembley
Stadium
£6.2m RV

Wimbledon
£6.22m RV

WENTWORTH GOLF CLUB - £750,000

SILVERSTONE RACE TRACK -
£2,650,000

SHANGRI LA HOTEL - £4,135,000

TOWER OF LONDON - £1.79m

HOUSES OF PARLIAMENT - £14.7m

BUCKINGHAM PALACE - £1.3m

STONEHENGE – £700,000