

Aerial Photography History & Current Use

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Sponsored by:



Beginning of Aerial Photography

- First aerial photography involved the use of balloons, kites & pigeons (19th century).
- 1909 Wilbur Wright uses a camera on a plane.
- In World War I the use of aerial photography became routine & common place. Over 20,000 photos printed daily by the end of war.

Aerial Photography & Assessment

- In the 1920's Connecticut was the pioneer in the use of aerial photography for tax equalization.
- Municipal Service Company of New Britain in conjunction with Fairchild Aerial Survey performed these services.

CT Municipalities Using Aerial Photography 1920's

- Middletown (1st circa 1922)
- East Haven (2nd)
- Berlin
- Manchester
- New Britain

Costs & Timing – 1920's

Middletown

(42 square miles)

Cost - \$4,000

Timing – 60 Days

2016 Adjusted Cost - \$56,967

(or \$1,347/Square Mile)

Costs & Timing – 1920's (cont.)

New Britain

(13 square miles)

Cost - \$48,000

Timing – Four Years

2016 Adjusted Cost - \$683,602

(or \$52,585/Square Mile)

Reassessment Results of Middletown's 1922 Aerial Photographic Survey

Property Type	Number Pre-Aerial	Number Post-Aerial	% Change
Houses	3,028	3,251	7.4%
Barns, Sheds & Garages	1,551	2,902	87.1%
Stores & Shops	111	281	153.2%
Mills & Manufacturers	56	198	253.6%
Total Properties	4,746	6,632	39.7%

Source: "The Middletown Press" February 27, 1925

Reassessment Results of Connecticut's 1920's Aerial Photographic Surveys

Municipality	Pre-Aerial Grand List	Post-Aerial Grand List	% Change Grand List	Pre-Aerial Mill Rate	Post-Aerial Mill Rate	% Change Mill Rate
Middletown	\$20,500,000	\$31,500,000	53.7%	30.0	24.0	-20.0%
Manchester	\$35,000,000	\$52,000,000	48.6%	18.0	13.0	-27.8%
East Haven	\$6,900,000	\$13,170,000	90.9%	28.5	15.0	-47.4%
Berlin	\$3,900,000	\$7,640,000	95.9%	25.0	15.0	-40.0%

Source: Charles M. Emerson, "Aerial Surveying as Applied to Tax Equalization"
American City 36 (April 1927); 522-24

Reassessment Results of Connecticut's 1920's Aerial Photographic Surveys (cont.)

Municipality	Pre-Aerial Tax Revenue	Post-Aerial Tax Revenue	% Change Tax Revenue
Middletown	\$615,000	\$756,000	22.9%
Manchester	\$630,000	\$676,000	7.3%
East Haven	\$196,650	\$197,550	0.5%
Berlin	\$97,500	\$114,600	17.5%

Municipal Benefits due to Aerial Surveys in 1920's

- Middletown – new school & fire-house with long-term debt pre-payment.
- Manchester – new town hall.
- East Haven – new school.
- Berlin – larger road appropriations.

Municipal Benefits due to Aerial Surveys in 1920's (cont.)

“It may be readily seen for the foregoing that in each case the city or town was soundly financed, its bonding capacity increased, the grand list raised, the tax rate lowered and this accomplished in spite of an increased budget.”

*Charles M. Emerson, "Aerial Surveying as Applied to Tax Equalization"
American City 36 (April 1927); 522-24*

Conclusions from the 1920's

“We have just complete a reappraisal of all property located in our city, which covers an area of 42 square miles. Many miles of this is woodland and hilly, making it very inaccessible for land surveyors. The aerial maps were a great help in locating boundaries and classifying lands, showing cultivated, wooded, swamp, etc. A great savings was effected in time and money by using these aerial maps”

John L. Roth, Tax Commissioner of Middletown

Conclusions from the 1920's (cont.)

“It may be safely stated that any municipality which couples the aerial survey with a just tax reappraisal will be able to recoup all costs and salaries incidental to the work within two years as a maximum, in addition to finding that is more soundly and honestly finances heretofore.”

Charles M. Emerson, "Aerial Surveying as Applied to Tax Equalization"
American City 36 (April 1927); 522-24

Information Sources

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- Cunningham, Keith W., PhD, “Property Imaging: 150 Years of History” University of Alaska Fairbanks