WESTERN CONNECTICUT COUNCIL OF GOVERNMENTS

Existing Conditions & Initial Recommendations Report

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** Appendices are not included, but are available upon request.

Axiomatic, in partnership with WestCOG and its member communities, has conducted a study to determine the possibility for regional cooperation of Property Appraisal, and the viability of a regionalized Real Property Computer Assisted Mass Appraisal ("CAMA") system. A stakeholder kick-off web meeting was conducted on February 22, 2017, and an online survey was distributed via email on March 1, 2017 with an invitation to participate in the process and schedule in person interviews. A total of 11 surveys were completed online. Three (3) municipalities declined to meet with the project team: Bethel, New Fairfield, and Sherman.

Telephone interviews were conducted between March 8, 2017 and April 5 ,2017. On-site interviews were conducted from March 13, 2017 through March 17, 2017, with follow-ups continuing into early April. During the interviews data about Real and Personal Property CAMA, Billing and Collection, Building Permit, and Town Clerk systems were abstracted and compiled. Additionally, exports of CAMA data and GIS parcel maps were gathered and other areas where regional cooperation would benefit the communities were explored. A summary of municipal software configurations is provided in Table 1 with the most common configuration being: Appraisal Vision Real Property CAMA, and QDS Personal Property CAMA, QDS Billing and Collections, and COTTS Town Clerk portal.

Municipality	Real Property CAMA	Real Property Records	Personal Property CAMA	Billing & Collections Software	Town Clerk Software	Building Permit Software	Parcel Map Maintainer
Bethel	Univers	7,900	-	-	-	-	Tighe & Bond
Bridgewater	Vision 6.x	1,062	QDS	QDS	COTTS	None	Assessor &WestCOG?
Brookfield	Vision 6.5	7,492	QDS	QDS	Other	View Permit	Sharlow Tech Group & New England Geo
Danbury	Vision 6.4	27,663	QDS	QDS	COTTS	Egov	Sewall
Darien	iasWorld	7,058	Walsh	Walsh	COTTS	City View	Assessor
Greenwich	ProVal	22,332	QDS	QDS	CT Land Records	(Harris)	Assessor
New Canaan	Vision 6.5	7,401	QDS	QDS	COTTS	Cornerstone	Tighe & Bond
New Fairfield	Vision 6.x	6,500	-	-	-	None	Assessor
New Milford	Vision 6.x	13,040	QDS	QDS	COTTS	-	Assessor
Newtown	Vision 6.5	12,147	QDS	QDS	COTTS	View Permit	IT/GIS
Norwalk	Vision 7.4	29,600	Munis	Munis	Custom/legacy	View Permit	Internal
Redding	Vision 6.5	4,050	QDS	QDS	COTTS	Acella	CDM Smith
Ridgefield	E-Quality data	10,000	QDS	QDS	COTTS	View Permit	Assessor
Sherman	-	-	-	-	-	View Permit	-
Stamford	Vision 6.5	37,880	QDS	QDS	Other	-	Internal
Weston	Vision 6.5	4,013	QDS		COTTS	View Permit	New England GEO
Westport	Vision 6.5	10,584	QDS	QDS	COTTS	Munis City	Sewell
Wilton	Vision 6.5	7,010	QDS	QDS	CT Land Records	-	CAI

Table 1: Municipal Software Profile

Municipal interviews were positive with respect to the concept of regionalization, and yielded a wealth of data and potential regionalization options. Nearly all communities were interested in reviewing options for regional cooperation, and many expressed ideas themselves. It was determined that a regional Real Property CAMA implementation is not feasible for WestCOG for the following reason:

- Cities would be unlikely to benefit from a regional CAMA;

- Four (4) communities with exceptionally high property values (Darien, Greenwich, New Canaan, and Westport) would be difficult to integrate due to their unique valuation models.

- The remaining seven (7) communities, which use Vision would likely incur more costs converting and standardizing than they would save in licensing and hosting costs.

- Only three (3) communities (of the seven from above) will be conducting revaluations within a timeframe that would be conducive to a regionalization project. There is little to no desire at the municipal level to convert systems.

Although there are significant hurdles to regionalized Real Property CAMA, through the discovery process other potential regionalization efforts were identified. These activates all orbit or are related to the Real Property CAMA process/system and could create greater collaboration and information sharing amongst the WestCOG communities.

- **Regional GIS Parcel Website**: This would facilitate economic development and eliminate or reduce the need for each municipality to procure and maintain their own online GIS portal. This could be particularly beneficial for smaller communities, and would provide a common access point across all WestCOG municipalities.

- **Automated Deed Integration**: Facilitating an automated data transfer to the most common Town Clerk Portal (QDS) and CAMA (Vision) would provide significant benefits to several communities by significantly reducing duplicated manual data entry. Cost-sharing among participating communities would make this integration affordable. This idea was mentioned in several interviews.

- **Group Implementation of Personal Property E-File:** There is an opportunity for WestCOG to facilitate Personal Property E-file, reducing data entry and paperwork for both assessing staff and filers.

- **GIS Parcel Map Updates:** There is an opportunity to provide a parcel map updating service for smaller communities who have had difficulty getting their maps updated due to the small number of changes each year.

- **User Group for Permitting Implementation:** Many of the WestCOG communities are implementing ViewPermit by Viewpoint. Creating a user group would allow WestCOG communities to learn from each other's experiences and potentially centralize training and deployment. It should be noted that CRCOG already has a regional online permit center.

- **Complex Property Data Sharing & Knowledge Base:** There was some desire to create an ability to share information about complex or difficult to assess properties (Golf Courses, Complex Manufacturing/Research facilities, etc.). This would allow easy comparison with neighboring communities. This could also be expanded to include an abatement database to allow Assessors to research abatements granted or rejected in neighboring communities to improve their own practices. This concept could easily be scaled to benefit all Connecticut municipalities.

- **E-File Exemptions:** There were varied opinions about creating an e-file portal for exemptions. Several communities volunteered the idea, in surveys and in person, and were excited about the prospect. Others

however, indicated they preferred the paper process. E-file would greatly reduce data entry and could reduce administrative costs. This concept could easily be scaled to benefit all Connecticut municipalities.

PROCESS OVERVIEW

The general methods for maintaining Land Records e.g. assessment, parcel map, permit and real estate transfer data are fairly standard throughout the United States. The government agencies that maintain the data, and the software they use, vary from state to state. State and local laws impact the type of attributes, update frequencies and valuation methods that governments use for land record maintenance. The process for Connecticut municipalities generally, and WestCOG municipalities specifically, is described in described in detail in this section.

Axiomatic conducted an online survey and subsequent interviews with municipal officials in March and April of 2017. The municipal interview process provided insight into the pathways in which data flows from one system to another, and how the various data sets are updated and disseminated. Figure 1 illustrates a high-level overview of the data and systems in each municipal department and how they interact with each other. Each department or data input/output are discussed in the following sections.

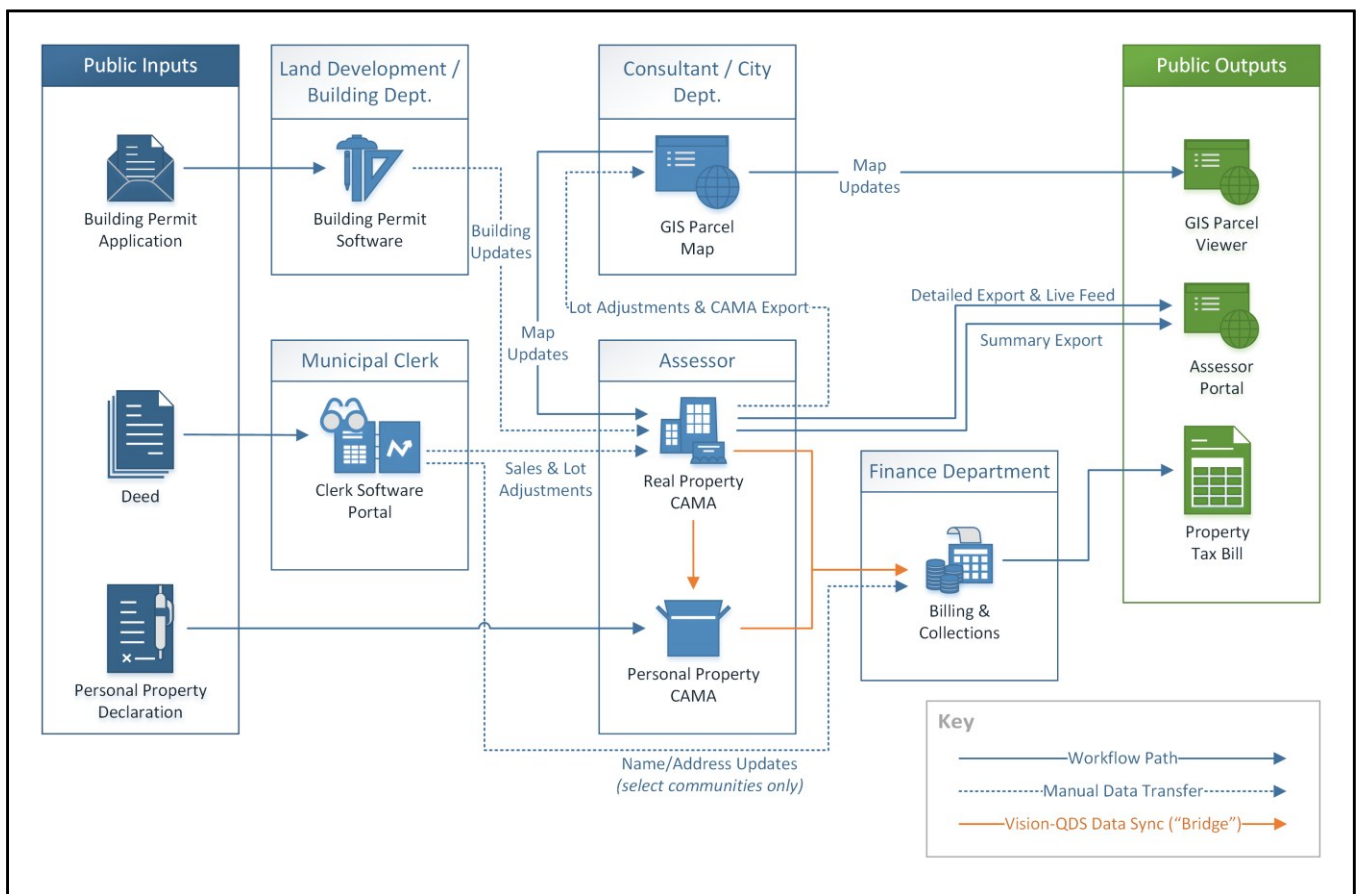Figure 1: Land Records Data Flow

MUNICIPAL CLERK

The municipal clerk records property transfers and lot-line adjustments in the form of deed records, survey/subdivision plans and other documents or instruments. These instruments can reflect changes in ownership, such as owner name and mailing address; as well as parcel boundary adjustments, such as acreage and parcel boundary lines, which are recorded in

the Town Clerk's software application. Data is then manually abstracted either from paper files or from a web interface and manually keyed into the Real Property CAMA System, Personal Property CAMA system, and in some communities, the Billing/Collections system to update ownership and mailing address.

LAND DEVELOPMENT / BUILDING DEPTARTMENT

Land Development or Building Departments process building permits which includes information indicating changes to the building, land, or extra features that may impact the assessed value. Assessors use permit information as an indicator that real property record needs to be reviewed and/or updated. Data transfer between the building permit office and Assessor's office is manual, abstracted either from paper files or from web access to then update the Real Property CAMA System.

MAPPING DEPARTMENT / CONSULTANT

Deeds and plans recorded with the Town Clerk, which contain lot line changes, are assembled by the Assessor and are sent to a Municipal Department[1] e.g. Planning, Zoning, Engineering, Land Development, etc. or a cartographer (contracted third party) who maintains the parcel maps at a minimum annually. Parcel maps are updated and shared back with the Assessor for integration into the Real Property CAMA System, and are also transferred to their online GIS portal- most often the same municipal department or consultant that maintains the map maintains the GIS portal. Note that not all WestCOG municipalities maintain a GIS portal to serve out geospatial parcel information.

ASSESSOR'S OFFICE

The Assessor's office manages Real Property and Personal Property CAMA data through independent software systems. Real Property CAMA is updated manually through permit data provided by Land Development / Building Department. Deed and or subdivision data comes from the Municipal Clerk's office and through the pickup, statistical update, and revaluation processes conducted by the Assessor's office. Real Property CAMA is used to generate assessed values for property taxation and feeds data directly into the Billing and Collections system to update taxable values and taxpayer name and mailing address.

The Real Property CAMA also provides exports to (1) a municipal department or contracted third party to update parcel maps; (2) GIS Parcel Viewer website; (3) Assessor Portal Website. The GIS Parcel Viewer allows residents to generate abutter lists, and view and print parcel maps online. The Assessor's Portal allows residents to view detailed valuation information about a subject property including generating and printing field cards with sketches and building photos.

The Personal Property CAMA System is updated manually via hard copy (paper) and personal property declarations, except for Darien, New Milford and Norwalk which have online filing. Often taxpayer data is transferred from the Real Property CAMA to the Personal Property CAMA to update taxpayer and mailing information after a property is transferred. The Personal Property CAMA depreciates the personal property assets and provides a taxable value, and taxpayer mailing address is sent to the billing and collections system via an automated data transfer.

BILLING & COLLECTION

The Billing and Collections system receives updates from Real and Personal Property CAMA systems including taxable value and taxpayer mailing address via an automated data transfer. In rare instances ownership and taxpayer mailing address are manually abstracted from the Town Clerk's system to update billing information between data transfers. The Billing and Collections systems generates tax bills which are typically sent to a third-party vendor for printing. Mailing is typically

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[1] Some assessors maintain the parcel maps within their own department

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handled by the municipality, but some do have the vendor both print and mail the bills. Most communities print their own delinquency tax statements after the initial tax bills are sent.

PUBLIC ACCESS WEBSITES

Most communities provide public access to their Real Property and GIS property data via online portals. Real Property data is made available through a searchable database interface that provides users with property attribute summaries, photos, and building sketches (16 communities have online access). GIS parcel data is made available through online geospatial applications which allows users to navigate a map to identify parcels or through a search interface that allows access to limited attributes (9 communities have online access). Many of the public access websites are provided by third party vendors, although larger municipalities may develop and maintain their own systems.

Axiomatic developed an online survey that was disseminated to WestCOG member communities on March 1, 2017. The survey was designed to capture baseline information about assessing, parcel mapping, tax billing and collections. A copy of the survey and results are listed in Appendix B. A total of 11 surveys were completed. Following the survey, on-site meetings were scheduled with communities that expressed a willingness to participate in the project. Three (3) municipalities declined to meet with the project team: Bethel, Sherman, and Westport.

Telephone interviews were conducted between March 8, 2017 and April 5, 2017. On-site interviews were conducted from March 13, 2017 through March 17, 2017, with follow-ups via phone over the following weeks. The interviews were organized based on municipal availability and the initial data from the survey responses was used to guide discussions about software, data and workflows. Interviews were scheduled for a minimum of one hour. Meetings scheduled on March 14, 2017 were rescheduled due to a weather (Winter Storm Stella) which caused all Municipal governments to close. Meetings canceled due to the storm were re-scheduled for later in the week. Ridgefield scheduled their meeting for April 5, 2017 due to Assessor availability, a contract Assessor who works with two (2) towns. In addition to the survey and interview process, Axiomatic requested exports from each communities Real Property CAMA system and a copy of their geospatial parcel map information. Table 1 indicates the status of the municipal survey, interview process and requested data exports/copies for each WestCOG member community.

Municipality	Online Survey Completed[2]		Municipal Interview	CAMA Export	Parcel Export
	Assessor	Tax Collector			
Bethel	Yes	No	Declined	Declined	Declined
Bridgewater	Yes	Yes	3/20/2017 9:00AM	Yes	Requested
Brookfield	Yes	Yes	3/15/2017 1:00PM	Yes	Yes
Danbury	Yes	No	3/15/2017 10:00AM	Yes	Yes
Darien	Yes	Yes	3/15/2017 10:00AM	Yes	Yes
Greenwich	Yes	No	3/16/2017 1:00PM	Yes	Yes
New Canaan	No	No	3/22/2017 10:00AM	Yes	Yes
New Fairfield	Yes	No	Declined	Declined	Declined
New Milford	Yes	No	3/21/2017 10:00AM	Yes	Yes
Newtown	Yes	No	3/8/2017 11:00AM	Yes	Yes
Norwalk	No	No	3/17/2017 1:00PM	Fee	Fee
Redding	No	No	3/16/2017 10:00AM	Yes	Yes
Ridgefield	No	No	4/5/2017 10:00AM	Considering	Considering
Sherman	No	No	Declined	Declined	Declined
Stamford	No	No	3/16/2017 3:00PM	Yes	Yes
Weston	No	No	3/17/2017 11:00AM	Declined	Declined
Westport	Yes	No	3/10/2017 1:00PM	Yes	Yes
Wilton	No	No	3/21/2017 10:00AM	Yes	Requested

Table 2: Survey and Interview Schedule

During the interviews, municipal officials discussed both the strengths and weaknesses of their software and associated workflows. They were asked to expand upon areas of ambiguity in the survey responses and to recommend improvements to both applications, data, and workflows. Attention was given to regional collaboration, inter-departmental workflows, manual processes, and "pain points". Additionally, the interviews revealed applications and services that were in-use but were not explicitly part of the Survey Questionnaire (COTTS System for Town Clerks, Quality Data Services (QDS) for Personal Property CAMA and administrative functions). All interactions were positive, and each municipality indicated they

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[2] Online survey completion was not required if municipal interview was completed. All information was gathered in interview sessions.

would be interested to see the results of the study and the possible regional collaboration options. The interview content has been combined with the survey responses and is summarized in the subsequent sections.

COMMUNITITY PROFILES

The WestCOG communities span a broad cross-section of populations, parcel counts, property types and base valuations across 18 municipalities in two (2) Counties- Fairfield and Litchfield. WestCOG contains 15 smaller municipalities and 3 larger municipalities (Danbury, Norwalk, and Stamford) with all municipalities being encompassed by the New York Metropolitan Statistical Area (https://www.census.gov/population/metro/). Figure 2 contains a breakdown of the municipalities and their respective populations as determined by the 2010 census.
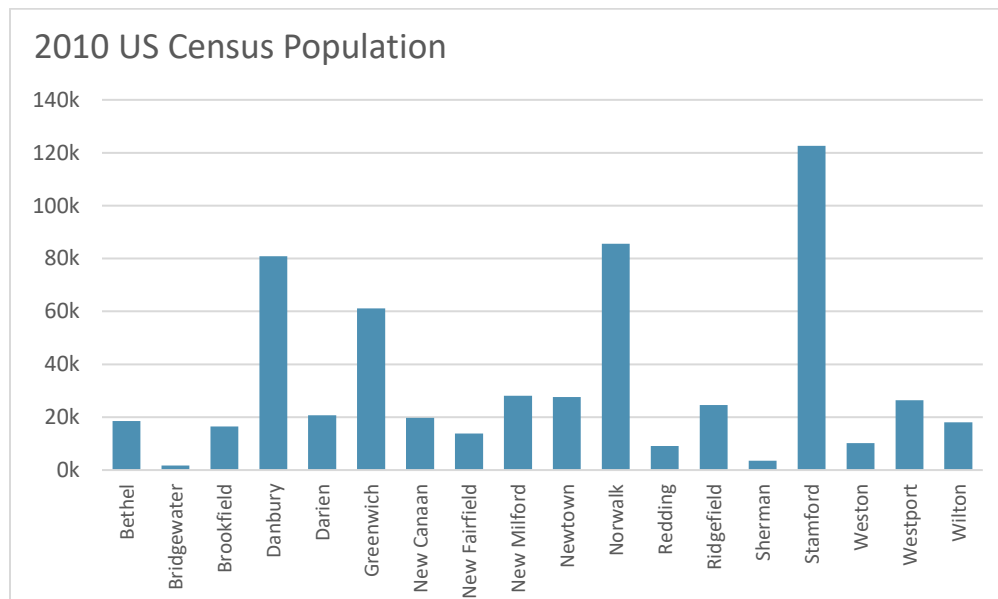

Figure 2: 2010 US Census Populations

There is a large disparity in the average assessed value per parcel among the WestCOG communities because the COG encompasses some of the most affluent communities in the Country (Greenwich, Darien, New Canaan). These communities have average assessed values in excess of one million dollars as determined through analysis of Real Property CAMA exports provided by participating communities. The disparity in property values indicates that their valuation models, unit costs, and capitalization rates must be significantly different than "average" communities to produce accurate assessed values. This would be a challenge to combine into a single regional system used by communities with different valuation profiles. The average assessed value per parcel is shown in Figure 3. It must be noted that Connecticut state law stipulates property must be valued at 70 percent of its fair market value (CGS § 12-62a (b)).
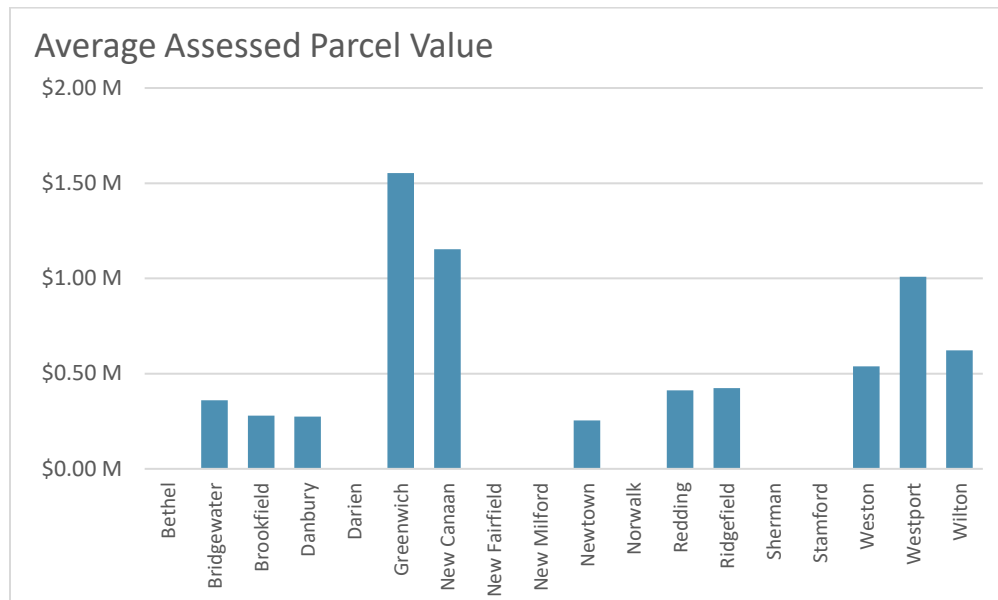
Figure 3: Average Real Estate Value Derived from CAMA Export

REVALUATION CYCLES

Each year municipalities certify their assessed values on October 1 to power the property tax billing and collections process. During the year, municipalities capture changes into the real property e.g. construction, demolition, permits, inspections, etc. which impact the assessed value. Periodically municipalities must conduct a revaluation ("reval") of all property to ensure fair and equitable taxation. Over the past twenty-five years, Connecticut state law has been changed four (4) times to establish varying intervals for revaluations as shown in Table 3.

Time Frame	Full Cycle	Statistical Update	Inspection Cycle	Statutory Reference
Pre-1995	10 years	Every 5 years	10 years	N/A
1995 – 1997	12 years	Every 4 years	12 years	PA 95-283
1997 – 2004	4 years	Every 4 years	12 years	PA 97-254
2004 – today	5 years	Every 5 years	12 years	CGS § 12-62 (b)(1), PA 04-2

Table 3: Connecticut revaluation, update, and inspection cycle history.

In 2006, the Connecticut Legislature adjusted the allowable methods by which a municipality could perform a revaluation. Prior to 2006 the only "acceptable" revaluation method was a statistical updates or inspection. Following the change in law, it was made explicitly clear that Assessors could use mass appraisal methods such as comparable sales, cost of replacement, and the income approach (CGS § 12-62(b) (2)).

Per Connecticut law, all WestCOG communities are on a five-year revaluation cycle with many conducting revaluations in 2017. The revaluation cycle schedules for WestCOG communities are shown in Figure 4. All interviewed communities utilized either E-Quality, Tyler, Vision, or JF Ryan for their previous revaluation work. It is common in Connecticut and around the country for municipalities to use specialized, certified contractors to perform revaluation and inspection work. It should be noted that Real Property CAMA software transitions, such as changing from one vendor's system to another, typically occur during revaluation cycles.
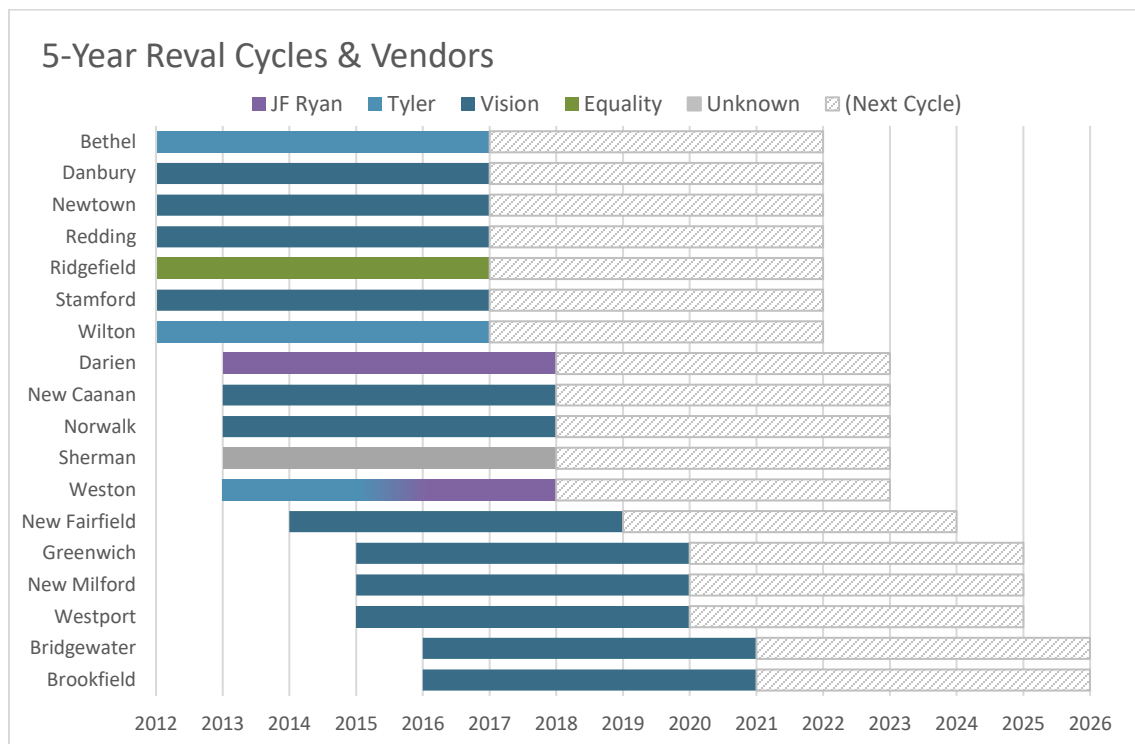
Figure 4: Revaluation Cycles & Vendors

Total assessed value is derived from Real Property CAMA exports for residential, commercial, industrial and manufactured homes and is summarized against total acreage and parcel count in Figure 5 and Table 2. Complete breakdowns of property values by land use code are provided in Appendix C. The disparity in assessed values is an obstacle to utilizing a single regional CAMA system and would necessitate many valuation models be utilized.

Figure 5: Summary of Total Value, Acreage, and Parcel Count

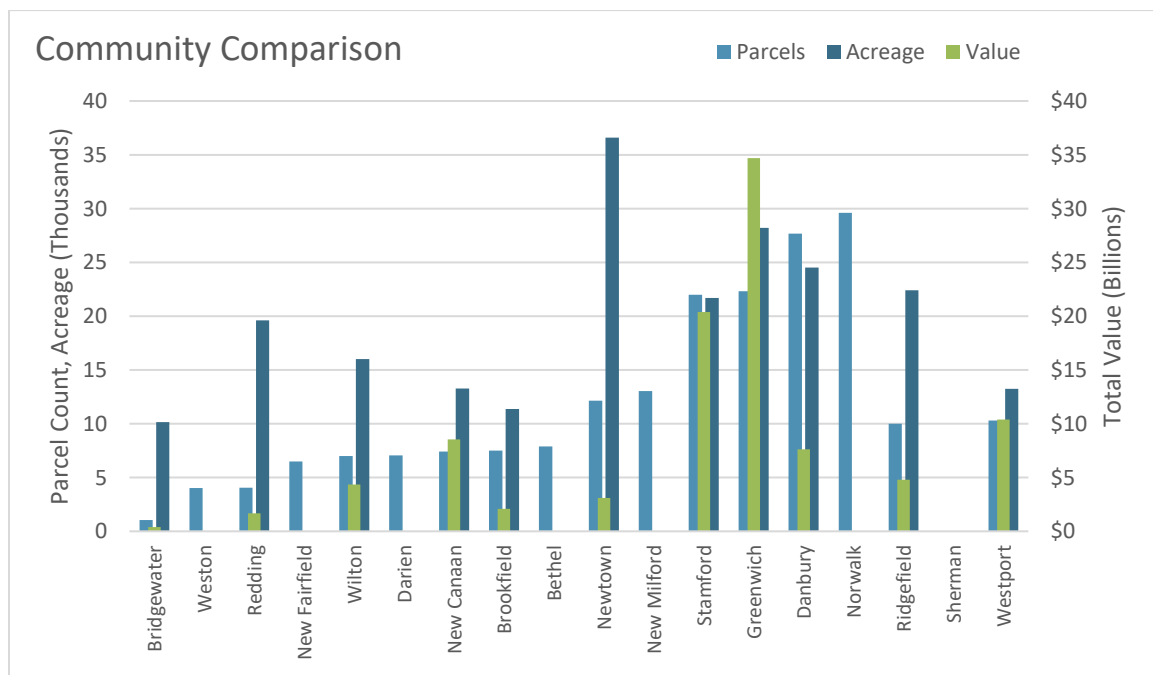| Municipality	No. Of Parcels	Total Acreage	Total Value	Average Value	Last Reval	Last Reval Vendor	Next Reval
Bethel	7,900	-	-	-	2012	Tyler	2017
Bridgewater	1,062	10,162.23	$383,386,722	$361,004	2016	Vision	2021
Brookfield	7,492	11,375.71	$2,092,968,440	$279,360	2016	Vision	2021
Danbury	27,663	24,510.87	$7,613,229,100	$275,213	2012	Vision	2017
Darien	7,058	-	-	-	2013	Tyler	2018
Greenwich	22,332	28,212.12	$34,696,076,940	$1,553,648	2015	Tyler, JF Ryan	2020
New Canaan	7,401	13,280.73	$8,533,170,598	$1,152,975	2013	JF Ryan	2018
New Fairfield	6,500	-	-	-	2014	Vision	2019
New Milford	13,040	-	-	-	2015	Vision	2020
Newtown	12,147	36,598.40	$3,088,528,593	$254,535	2012	Vision	2017
Norwalk	29,600	-	-	-	2013	-	2018
Redding	4,050	19,607.46	$1,671,058,748	$412,302	2012	-	2017
Ridgefield	10,000	22,400	$4,800,000,000	$424,668	2012	E-Quality	2017
Sherman	-	-	-	-	2013	*Unknown*	2018
Stamford	37,880	21,695.83	$20,377,626,593	$537,952	2012	Vision	2017
Weston	4,013	-	-	-	2013	Vision	2018
Westport	10,308	13,232	$10,399,853,620	$1,008,900	2015	*Vision*	2020
Wilton	7,010	16,005.55	$4,363,719,250	$622,499	2012	Vision	2017

Table 4: Tabular Community Summary

LOCAL OPTION EXEMPTIONS & CREDITS

Connecticut, like most states, has various local options for property tax exemptions and credits that can reduce the property tax burden for certain classifications of homeowners and property types. Connecticut statutes allow for property tax relief, including but not limited to low income, seniors, disability, veterans and emergency personnel, and surviving spouses of emergency personnel or veterans. A list of all available exemption and credit programs for Connecticut are listed in Appendix A. A selection of local option exemptions that have been enacted by WestCOG communities are shown in Table 5. Having different adoptions of local option exemptions and credits presents an obstacle to utilizing a single regional CAMA system as it would need to manage eligibility, adoption and local option exemption amounts for each jurisdiction.

During the municipal interview process, there were differing opinions on the exemption application process. The process of applying for an exemption typically requires supporting documentation, such as proof of low-income status, proof of advanced age, or proof of military service, and can be very cumbersome. Some communities indicated that it was "a lot of paperwork" and should be automated. Others felt that the elderly exemption would be better conducted in an in-person review of the form and required documentation, as applicants frequently do not provide the correct documentation or miss-fill the form. The application requires information like gross income, non-taxable interest, and copies of federal income tax returns, which may not be easy to acquire.

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Municipality	Disabled	Elderly	Veterans
Bethel	No	Yes	Yes
Bridgewater	Yes	Yes	No
Brookfield	Yes	Yes	No
Danbury	Yes	Yes	Yes
Darien	No	Yes	Yes
Greenwich	No	Yes	Yes
New Canaan	No	Yes	No
New Fairfield	Yes	Yes	Yes
New Milford	No	Yes	Yes
Newtown	Yes	Yes	Yes
Norwalk	No	Yes	No
Redding	No	Yes	No
Ridgefield	Yes	Yes	Yes
Sherman	Yes	Yes	Yes
Stamford	No	Yes	Yes
Weston	No	Yes	Yes
Westport	Yes	Yes	Yes
Wilton	No	Yes	No
Totals	8	18	12

Table 5: Summary of Adopted Exemptions

SOFTWARE & MAINTENANCE AGREEMENTS

Real Property CAMA is used to capture, model and value land, building and extra feature attributes, for determining assessed value. The system also includes ownership, taxpayer contact info, and sales/transfer information. Additionally, CAMA contains three (3) valuation model engines- Cost, Income, and Market. This is further discussed in the valuation methods overview section, though smaller CAMA systems may not contain all three methods. There are currently four (4) primary CAMA systems in use in the WestCOG member communities with Appraisal Vision being the predominant system. Figure 6 breaks down the CAMA systems by percentage and Table 6 details the CAMA systems, hosting infrastructure, deployment year and approximate annual maintenance fees. It should be noted that all of the communities who were interviewed clearly expressed that they were satisfied with the existing system and were not interested in switching CAMA. This is largely due to the high cost of system conversion. A discussion of each system follows.
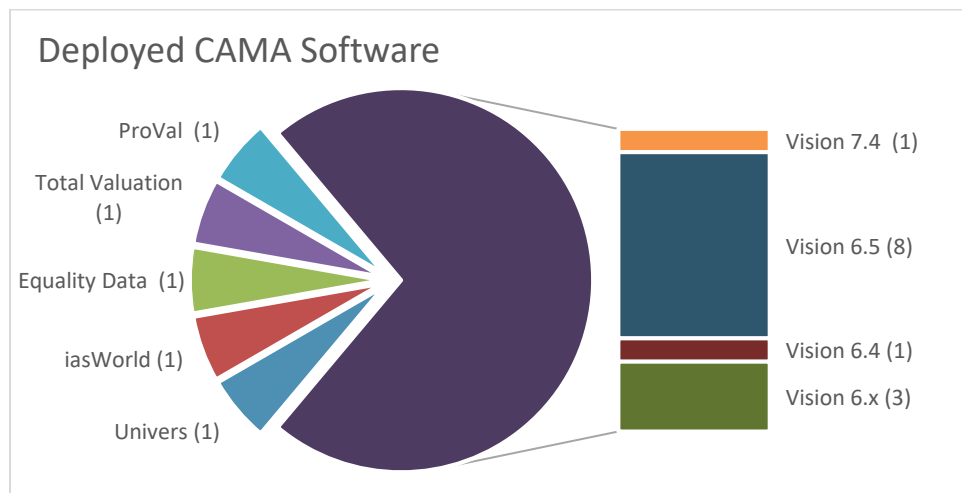

Figure 6: Deployed CAMA software solutions.

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Municipality	Software	Hosting/ Management	Year Deployed	Annual Fee
Bethel	Univers	Vendor	*Unknown*	*No Response*
Bridgewater	Vision 6.x	Vendor	1998	$1,500
Brookfield	Vision 6.5	In-House IT	*Unknown*	$8,750-$10,000
Danbury	Vision 6.4	In-House IT	1997	$10,000
Darien	iasWorld	In-House IT	1999	$9,300
Greenwich	ProVal	In-House IT	2001	$25,000
New Canaan	Vision 6.5	In-House IT	2003	Research
New Fairfield	Vision 6.x	Vendor	2012	*No Response*
New Milford	Vision 6.x	In-House IT	1990	$3,000
Newtown	Vision 6.5	In-House IT	2009	Research
Norwalk	Vision 7.4	In-House IT	*Unknown*	$7,000
Redding	Vision 6.5	In-House IT	2007	$5,000
Ridgefield	E-Quality	Vendor	2002	$5000-6000
Sherman	-	-	-	-
Stamford	Vision 6.5	In-House IT	2002	$13,000
Weston	Vision 6.5	In-House IT	1998	$10,000
Westport	Vision 6.5	In-House IT	2004	$11,300
Wilton	Vision 6.5	In-House IT	2002	$9,000

Table 6: Tabular CAMA, Vendor & Fees

APPRAISAL VISION (VISION GOVERNMENT SOLUTIONS)

Thirteen (13) of the eighteen (18) WestCOG communities are utilizing Appraisal Vision (Norwalk is on Version 7.4 the remainder are on Version 6.4 or 6.5) and hosting their Real Property CAMA internally. It should be noted that Norwalk is the only jurisdiction who has updated Appraisal Vision to Version 7.X which is the most current. As an early adopter, they encountered difficulties in the upgrade process, but they are happy with the new system. Overtime Vision 6.X clients will be upgraded to vision 7.X providing a consistent platform among the Vision customers. None of the WestCOG communities that use Appraisal Vision expressed any desire to switch systems.

PROVAL (THOMSON REUTERS)

Currently Proval is only being used by Greenwich. Proval is a legacy system that has been acquired by numerous companies during its existence. It was initially developed by Proval who was acquired by Manatron who was subsequently acquired by Thomson Reuters. There are indications that Thomson Reuters may be planning to sunset Proval and move its clients to the Aumentum platform (https://goo.gl/oj1kxh). Greenwich is currently satisfied with Proval, and did not express a desire to switch systems.

IASWORLD (TYLER TECHNOLOGIES)

Currently "iasWorld" is only being used by Darien. "iasWorld" is Tyler Technologies' flagship Real Property CAMA system and has installations across the United States. Darien indicated they are happy with "iasWorld" and are not interested in switching systems. Darien also has an affinity for "iasWorld" as Tyler also has performed their revaluations and have subject matter expertise with high-value property.

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UNIVERS (TYLER TECHNOLOGIES)

Currently Univers is only being used by Bethel. Univers is a legacy product that is still in use in numerous states but is no longer being sold or installed for new clients. Bethel completed the online survey but declined an interview and offered no comment on their satisfaction with Univers.

EQUALITY (FKA TOTAL VALUATION) (EQUALITY VALUATION SERVICES)

Currently eQuality (Total Valuation) is only being used by Ridgefield. The product was developed by and is maintained a Connecticut company located in Waterbury, CT. The system is currently only used in Connecticut. They are currently satisfied with the product.

STAFFING & CONTRACTORS

Assessor's office staffing for real and personal property assessment is summarized in Table 7 for participating communities. These staff counts do not include billing, collections, clerk, or building/zoning/land use. These totals do not include contractors used for re-valuations.

Municipality	Full-Time	Part-Time	Contractors
Bethel	-	-	-
Bridgewater		2[3]	No
Brookfield	4		Yes
Danbury	5	1	Yes
Darien	3	1 (seasonal)	Yes
Greenwich	10		Yes
New Canaan	3	1	Yes
New Fairfield			
New Milford	3		No
Newtown	3	1	No
Norwalk	12		Yes
Redding	1	1	Yes
Ridgefield	5	2	No
Sherman	-	-	-
Stamford	11	0	Yes
Weston	1	1	Yes
Westport	5	1	No
Wilton	3	0	Yes

Table 7: Summary of Assessor's office Staffing

VALUATION METHODS FOR REAL PROPERTY OVERVIEW

The International Association of Assessing Officers ("IAAO") identifies three accepted approaches for mass valuation of real property: Income, Cost, and Market. The Market approach uses comparable sales and multiple regression analysis to determine the market value for different classes of real property and is the most commonly used approach for residential mass valuation. The Income approach utilizes net operating income as a proxy for value, and utilizes a gross rent multiplier or capitalization rate to convert the net income to value. The Cost approach utilizes a replacement construction cost less depreciation for any improvements. Many governments utilize Marshall and Swift (produced by CoreLogic), a valuation guideline for the Cost approach that is updated on a

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[3] Assessor works 21 hours a week. Assistant works 15 hours a week.

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regular basis and utilizes local factoring to estimate replacement cost. When the Cost and Income approaches are used for buildings and improvements, it is common for excess land to be valued separately.

Table 8 details the valuation methods being utilized in each community and whether they utilize Marshall and Swift. The valuation methods are shown in short hand, Market (M), Cost (C), and Income (I). Most communities utilize at least two valuation methods and integrate with Marshal and Swift. Users were largely satisfied with each of the valuation method tools provided within their existing Real Property CAMA System. The valuation methods used in WestCOG communities are consistent with published IAAO, and industry standards.

Municipality	Marshall & Swift	Residential			Commercial			Industrial		
		M	C	I	M	C	I	M	C	I
Bethel	Yes	X	X	X	X	X	X	X	X	X
Bridgewater	No	X					X		X	
Brookfield	No	X	X	X	X	X	X	X	X	X
Danbury	Yes	X	X		X	X	X	X	X	X
Darien	Yes	X	X	X	X	X	X	X	X	X
Greenwich	Yes	X	X			X	X		X	X
New Canaan	No	X				X	X		X	X
New Fairfield	No	X	X		X	X	X	X	X	X
New Milford	Yes	X	X		X	X	X	X	X	X
Newtown	Yes	X					X			X
Norwalk	Yes	X			X	X	X	X	X	X
Redding	Yes		X			X	X		X	X
Ridgefield	No	X	X	X	X	X	X	X	X	X
Sherman	-									
Stamford	Yes	X			X	X	X	X	X	X
Weston	No	X					X			
Westport	No	X	X		X	X	X	X	X	X
Wilton	Yes	X					X			X

Table 8: Valuation Methods

PARCEL MAPPING

Parcel map maintenance is conducted annually at minimum by a municipality, although Bethel indicated they did not update last year, unless they have dedicated staff to that process in which case it can be as frequent as monthly or daily. Parcel map boundaries are updated based on information from deeds, site plans, and the Real Property CAMA system. All surveyed WestCOG communities maintain geospatial parcel data (GIS). Table 9 details who maintains the parcel map data, the update schedules, and last date updated for each community. Several smaller and mid-sized communities expressed interest in coordinating with WestCOG for parcel map updates.

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Municipality	Parcel Map Maintainer	Parcel Map Update Schedule	Last Parcel Map Update
Bethel	Tighe & Bond	Annually	10/01/2015[4]
Bridgewater	Assessor/WestCOG	On Demand	2016
Brookfield	Sharlow Tech Group & New England Geo	Quarterly	Q4 2016
Danbury	Sewall	Monthly	10/01/2016
Darien	Assessor	Daily	Ongoing
Greenwich	Assessor	Monthly	Ongoing
New Canaan	Tighe & Bond	Monthly	Ongoing
New Fairfield	Assessor	Semi-Annually	In Progress
New Milford	Assessor	Annually	10/01/2016
Newtown	IT/GIS	3 Years	10/01/2016
Norwalk	Internal	Monthly	Ongoing
Redding	CDM Smith	Annually	In Progress
Ridgefield	Internal	Ongoing	Ongoing
Sherman	-	-	-
Stamford	Internal	Ongoing	Ongoing
Weston	New England GEO	Annually	10/1/2016
Westport	Internal/Sewell	Quarterly	Ongoing
Wilton	CAI	Annually	10/1/2016

Table 9: Summary of Parcel Map Maintenance & Public Access Portals

PUBLIC DATA ACCESS PORTALS

Many WestCOG communities make their GIS parcel maps and Real Property CAMA database available to the public online in read-only format. Real Property data is made available through an online searchable database interface that provides users with property attribute summaries, and typically includes photos and building sketches. GIS parcel maps are made available through online geospatial applications which allows users to navigate a map to identify parcels or through a search interface that allows access to limited attributes. Many of the public access websites are provided by third-party vendors, although larger municipalities may develop and maintain their own systems. Stamford has a GIS site through ArcGIS online, however it contains only an index map, due to cost. It should also be noted that Greenwich has GIS files which may be publicly downloadable, and a public access viewer in city hall, but intentionally does not provide a public access web site. Details of public access portals are shown in Table 10.

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[4] Date from survey indicates the map was not updated last year. Verified through Tighe & Bond website.

Municipality	GIS Portal		Assessor Database Portal	
	Deployed	Maintainer	Deployed	Maintainer
Bethel	Yes	Tighe & Bond	Yes	Tyler
Bridgewater	No	N/A	Yes	Vision
Brookfield	Yes	NE GEO	Yes	Vision
Danbury	No	N/A	Yes	Vision
Darien	Yes	Yes	Yes	Unknown
Greenwich	No	N/A	No	N/A
New Canaan	No	N/A	Yes	Appraisal Online
New Fairfield	Yes	Tighe & Bond	Yes	Vision
New Milford	Yes	App Geo	Yes	Vision
Newtown	Yes	NE Geo	Yes	Vision
Norwalk	No	N/A	Yes	Vision
Redding	Yes	CDM	Yes	Vision
Ridgefield	No	N/A	Yes	PropertyRecords
Sherman	No	N/A	No	N/A
Stamford	Yes[5]	Internal	Yes	Vision
Weston	No	N/A	Yes	qpublic
Westport	Yes	Sewell	Yes	Vision
Wilton	No	N/A	Yes	Vision

Table 10: Public Portal Summary

TRANSFERS & LOT LINE CHANGES

Ownership transfers, and lot-line adjustments are recorded in the Town Clerk's office and represent one of the major sources of updates to the CAMA database. Currently nine (9) of the surveyed communities utilize the COTTS system to record these land records as shown in Table 11. Each of the transfers are manually abstracted from COTTS and the appropriate changes are made to the Real Property CAMA database. All the communities using COTTS, apart from Weston, indicated that this manual data transfer was very time consuming and they would benefit from an automated data transfer. This is discussed further in the initial recommendations section.

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[5] Does not contain parcels only map index.

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Municipality	No. of Transactions	Town Clerk Software
Bethel	-	-
Bridgewater	20	COTTS
Brookfield	No Response	COTTS
Danbury	1,600	COTTS
Darien	750	COTTS
Greenwich	800-850	CT Land Records (Xerox)
New Canaan	240	COTTS
New Fairfield	-	-
New Milford	500	COTTS
Newtown	600	COTTS
Norwalk	2,000	NewVision Systems
Redding	300-500	COTTS
Ridgefield	1,200-1,500	COTTS
Sherman	-	-
Stamford	3,300	NewVision Systems
Weston	200	COTTS
Westport	825	COTTS
Wilton	400-500	CT Land Records (Xerox)

Table 11: Transfer Counts and Town Clerk Software

PERMITTING

Building permit applications are filed with the municipal building or land development department. These are reviewed and used as an indication of changes to improvements, prompting the inspector to perform a site visit to pick-up new or changed attributes. Brookfield, New Milford, Newtown, Redding, and Ridgefield are all scheduled to install the ViewPermit software application. It may be beneficial to establish a user group to facilitate roll-out, and centralize training. This is discussed in more detail in the initial recommendations section. It should be noted that several WestCOG communities are listed on the CRCOG website (https://www.viewmypermitct.org/) and any regional effort should be coordinated to avoid duplication of services and effort. A summary of permitting software is presented in Table 12.

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Municipality	Permitting Software	Permitting Software Implemented
Bethel	-	-
Bridgewater	None	-
Brookfield	View Permit	Planned
Danbury	Egov	Yes
Darien	City View (Harris)	Yes
Greenwich	Cornerstone	Yes
New Canaan	None	-
New Fairfield	-	-
New Milford	View Permit	Planned
Newtown	View Permit	Planned
Norwalk	Acella	Planned (existing is cornerstone)
Redding	View Permit	Planned
Ridgefield	View Permit	Planned
Sherman	-	-
Stamford	View Permit	Yes
Weston	Munis City	Yes
Westport	E-Permit	Yes
Wilton	New World Software	Yes

Table 12: Permitting & Deed Recording Summary

BILLING & COLLECTIONS

Utilized by the Tax Collector, billing and collection ("BCO") software receives taxpayer and taxable valuation data from both Real and Personal Property CAMA through automated data exports. The BCO software uses this information to create and manage bill records for each tax account. It also contains bank information for escrow billing if taxes are paid by an escrow agent. Annual bills are typically generated in a batch and are either printed and mailed internally, or through a vendor. Statements and delinquent accounts are generally printed and mailed internally. Financial information recorded in the BCO software is regularly reconciled and distributed to the appropriate funds in the community's financial management system which is run by the local Treasurer or Finance Director. The Finance Department is beyond the scope of this study; however, each responding community's platform is presented to provide clarity on interdependency of BCO software.

Ten (10) of the surveyed communities utilize QDS BCO software and indicated that they were pleased with the product, as were the communities that utilized QDS for printing or mailing. Darien was also very satisfied with their solution which utilizes Walsh BCO software and Automated Mailing Service, LLC. A summary of the collected Billing & Collections overview is presented in Table 13.

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Municipality	BCO Software	Finance Software	Bills Printed By	Annual Bills Mailed By
Bethel	-	-	-	-
Bridgewater	QDS		QDS	In House
Brookfield	QDS	Munis	QDS	QDS
Danbury	QDS		QDS	QDS
Darien	Walsh	Munis	Automated Mailing Service	Automated Mailing Service
Greenwich	QDS	Munis	QDS	QDS
New Canaan	QDS	Munis		
New Fairfield	-	-	-	-
New Milford	QDS		QDS	QDS
Newtown	QDS	Phoenix	QDS	Corporate
Norwalk	Munis	Munis	Internal	Internal
Redding	QDS	Munis	QDS	In House
Ridgefield	QDS	Munis	QDS	External Service
Sherman	-	-	-	-
Stamford	QDS	Infosys	Document Technologies	Document Technologies
Weston		Munis		
Westport	QDS	Munis	QDS	QDS
Wilton	QDS	New World	In House	In House

Table 13: Billing, Collection and Finance Summary

PERSONAL PROPERTY CAMA

Personal Property as defined by CGS § 12-41 includes anything that is movable, and is not a permanent part of real estate. This includes items such as business-owned furniture, fixtures, unregistered motor vehicles and snowmobiles, machinery used in mills and factories, and utility equipment (cables, wires, poles, underground mains, conduits, pipes and other fixtures of water, gas, electric and heating companies). It does not include leasehold improvements considered furniture and fixtures of offices, hotels, restaurants, taverns, halls, factories, and manufacturers.

Personal Property declarations are filed annually by November 1st, and per CGS § 12-41(d). Declarations can be filed electronically, although most responding communities do not have e-file. Personal Property taxable value (70% of its depreciated market value) is set by the Personal Property CAMA which contains the depreciation tables for all categories of reported assets.

All registered or unregistered motor vehicles are taxable at 70% of their retail value as set by National Automobile Dealers Association (NADA) annually in the town which they normally leave from and return to (or remain) although there are exceptions per CGS § 12-71 .

Eleven (11) of the surveyed communities utilize QDS Personal Property, and only New Milford supports E-filing of Personal Property Declarations. Many of the communities expressed an interest but have not deployed the E-file module. Several communities commented that the interaction with the State regarding motor vehicle data could be improved.

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Municipality	Personal Property CAMA	Electronic Filing	No. of Personal Property Accounts	No of Motor Vehicles
Bethel	-	-	-	-
Bridgewater	QDS	No	106	2,042
Brookfield	QDS	No	1,500	18,000
Danbury	QDS	No	4,000	69,000
Darien	Walsh	Yes	1,000	18,000
Greenwich	QDS	No	4,306	54,000
New Canaan	QDS	No	881	17,156
New Fairfield	-	-	-	-
New Milford	QDS	Yes		
Newtown	QDS	No	1,800	26,000
Norwalk	Munis	Yes	3,500	85,000
Redding	QDS	No	528	8,725
Ridgefield	QDS	No	1,500	27,000
Sherman	-	-	-	-
Stamford	QDS	No	4,800	125,000
Weston	QDS	No	250	8,747
Westport	QDS	Yes	2,193	23,206
Wilton	QDS	No	1,325	16,031

Figure 7: Personal Property Summary

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REGIONALIZED CAMA

Axiomatic's initial recommendations for WestCOG were developed through survey data analysis, interviews with participating municipal officials, and industry experience. These recommendations should be adapted based on a comprehensive review with WestCOG and the partner communities. Most of the municipalities that responded to the project were open to the idea of regional collaboration if it would provide some benefit to their jurisdiction. Generally, the larger towns and cities would realize limited benefit from a regional effort as their operations are already largely automated, self-sufficient, and fully funded.

The goal of this study was to investigate possibilities for regional cooperation among WestCOG member communities to provide efficiencies and cost savings. Among the options considered was a regionalized single Real Property CAMA platform for some or all WestCOG communities. It is Axiomatic's opinion that a single centralized Real Property CAMA system is not feasible. Outside of New England, property assessment is carried out at the county level, and in some instances at the state level (e.g. Montana). A regionalized Real Property CAMA system, while technologically feasible with respect to data size and administration, would have significant costs related to data migration and standardization, and loss of local control which would likely be met with stiff resistance.

When considering a possible regional Real Property CAMA strategy Danbury, Stamford, and Norwalk would likely be excluded due their size i.e. number of records, property types i.e. high-density commercial and industrial, and administrative burden i.e. number of exemptions, transfers, and attributes updates in relation to the other WestCOG municipalities. They would most likely realize little to no benefit from a regionalized system and incur significant costs for data conversion, migration and testing of a centralized platform. Darien, Greenwich, New Canaan, and Westport would likely also be excluded due to the complexity of their valuation models, and the unique nature of their ultra-high value properties. These high-value communities could conceivably be grouped onto a single system due to similarities in their value profiles; however, currently only Westport and New Canaan use the same system. Thus, two of the four would incur significant costs to standardize and convert to a single system. There would be little cost savings for this effort as it would not change staffing requirements to conduct appraisal activities, and licensing fees savings would likely not be significant. Of the remaining communities, all but Bethel and Ridgefield utilize Appraisal Vision meaning that Real Property CAMA system would likely be the chosen regional system to minimize overall conversion costs. This would impose a significant cost barrier for conversion of Bethel and Ridgefield to participate and convert to the Appraisal Vision platform.

Barriers to regionalization for the remaining 8 communities who participated in the study (Bridgewater, Brookfield, New Fairfield, New Milford, Newtown, Redding, Weston, and Wilton) are discussed below.

1. **CAMA System Conversions Occur During Revaluations:** It is common industry practice (across the country) to sync the changing of a Real Property CAMA system with a revaluation. This is because different systems will produce different values with identical inputs because of differences in value calculation models. To eliminate questions related to system changes, Assessors typically change systems when conducting a revaluation so as to not raise questions with the public regarding the reason for valuation change beyond the answer of revaluation. Figure 3 detailed the revaluation cycle for the WestCOG member communities. Ridgefield, Redding, Wilton and Newtown are conducting revaluations currently and as such would be unable to participate for the next five (5) years. Weston is scheduled for a revaluation in 2018 and it is unrealistic to believe that a regional system would be ready for them in time. The remaining four municipalities are conducting revaluations in 2019 (New Fairfield), 2020 (New Milford), 2021 (Bridgewater and Brookfield) and would be the only possible participants within the next five (5) years.

2. **Cost of Data Conversion:** For these four (4) communities (Bridgewater, Brookfield, New Fairfield, and New Milford) the cost of data migration, conversion, and validation to exist in a single Real Property CAMA system would be significant and likely not be recovered by savings in license fees as their annual maintenance are comparatively low (see Table 6). This conversion would need to include both attribute data, as well as cost tables and valuation models (which may need to be re-built from scratch).

3. **Lack of Incentive & Desire:** The most significant hurdle to regionalizing Real Property CAMA is the overall lack of desire and incentive. None of the communities that responded to the survey and/or were interviewed expressed an interest in switching Real Property CAMA systems. Additionally, there is a substantial cost associated with the process of switching systems (data conversion, testing, validation) that most communities have undertaken at some point over the last twenty (20) years. It can be speculated that this heightens their lack of desire to undertake a conversion or system change unless necessary.

4. **Required Customizations:** Customization would likely be required to create and support multiple data connections for exports minimally to each jurisdictions billing and collections software. Additional customizations may be required to restrict access to each jurisdictions data (both prevent unauthorized updating of each community's data, and to protect personal identifiable information which may be stored in the CAMA from disclosure).

5. **Procurement & Coordination:** Likely the participating municipalities would need to enter an agreement or memorandum of understanding expressing a commitment to the project prior to procurement. This agreement would also have to include a termination clause to allow communities to opt out of participation at a future date. This clause would need to consider recalculating fee distribution, and providing appropriate notice to the remaining member communities. Determining an appropriate procurement method for the regional system would add another layer of complexity.

For the above reasons, Axiomatic does not recommend implementation of a regional Real Property CAMA system. Other regionalization opportunities were identified which may be better suited to the government structure of the WestCOG communities.

OTHER REGIONALIZATION OPPORTUNITIES

Although there are significant hurdles to regionalized Real Property CAMA, through the discovery process other potential regionalization efforts were identified. These activities all orbit or are related to the Real Property CAMA process/system and could create greater collaboration and information sharing amongst the WestCOG communities.

1. **Regional GIS Parcel Viewer**: Most communities are utilizing a third-party vendor to prepare and host both a GIS Parcel Viewer, and a Real Property CAMA database search tool. There is opportunity for WestCOG to provide a Regional Parcel Viewer to encompass the functionality of both systems. A regionalized approach to hosting/serving out public data would provide an excellent service and cost savings to smaller and medium-sized communities who could discontinue their existing services. Utilizing a relational connection between geospatial parcel data and Real Property CAMA data could provide a rich tapestry of information that would eliminate the need for two (2) separate applications (one for GIS, one for CAMA). A Regional Public Data portal can provide numerous ancillary benefits to economic development (commercial site selectors), public safety (emergency services, mutual aid) and regional planning. This type of tool could also directly benefit municipal assessment officials by allowing them to better identify unique properties in neighboring jurisdictions (e.g. Golf Courses, pharmaceutical manufacturing facilities etc.) which can support valuation and abatement case management.

2. **Automated Deed Integration:** The most common application configuration utilized in the WestCOG communities is the COTTS (Town Clerk) and Appraisal Vision 6.X (Assessor). Communities using this configuration expressed an interest in developing an integration point to facilitate the transfer of deed data semi-automatically into the Real

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Property CAMA system. Ideally, the integration point would capture and copy grantor, grantee, transfer date, instrument number, book, page, real estate transfer tax paid (if applicable) and calculated or recorded sale price (if applicable) from COTTS to Appraisal Vision. The integration point would be a lightweight application that would use a wildcard search on the deed grantor to develop a list of potential real property records based on owner/taxpayer name. The user would select the appropriate real property record and qualify the sale (determination of arm's length status), and edit any information as required. Upon completion, the transfer would be recorded in the Real Property CAMA system. This process would eliminate data entry and associated potential for errors, and provide a significant time savings to WestCOG communities. Although not a regionalized CAMA system, this type of solution could have a positive impact on Real Property CAMA system users.

3. **Group Implementation of Personal Property E-File:** There is an opportunity for WestCOG to facilitate Personal Property E-file to streamline the collection and processing of personal property declarations. Currently most municipalities utilize QDS Personal Property CAMA to determine personal property assessed values, but declarations are filed in hard copy and manually entered. Currently only New Milford has E-file functionality. WestCOG could facilitate a group implementation of the QDS E-file for personal property or work to develop a similar solution. The impact of E-file for personal property would have a large impact (positive) on the Personal Property CAMA system users. It would also impact of thousands of filers who could also realize significant time savings.

4. **GIS Parcel Map Updates**: Several of the smaller communities indicated that they have had difficulty getting their parcel maps updated due to the small number of changes needed each year. There is an opportunity for WestCOG to provide these services to the small and medium sized communities.

5. **User Group for View Permit:** Many communities are implementing ViewPermit software to manage and automate their permitting and licensing processes. There may be an opportunity for WestCOG to establish a regional View Permit user group to allow users to collaborate on successful deployments. Leveraging a centralized knowledge base would allow WestCOG communities to learn from each other's experiences and improve deployments over time. This would also allow the potential for regionalized user training and potentially licensing. Integrations could also be developed to show permits on a regional GIS system or to interface directly with Real Property CAMA to provide an indicator that the site may require a visit.

6. **Complex Property Data Sharing and Knowledgebase:** Most communities indicated that they have unique properties which are difficult to assess and would benefit from being able to view similar properties in neighboring jurisdictions. This sharing could be facilitated by WestCOG through the Regional GIS Parcel Viewer outlined in recommendation 2. There is an opportunity to expand upon that concept with additional tools that would not be available to the public. In many neighboring jurisdictions, there are common large commercial and industrial property owners that consistently apply for abatements. Many of these large land owners (typically companies like big box stores) have learned that most municipalities do not have the resources to take abatement cases to court and are more likely to settle. Providing WestCOG community Assessors with a forum to track and interact with each other regarding abatements, defenses and outcomes could provide a valuable tool. The development of an assessment and abatement knowledge base could potentially benefit WestCOG communities and other communities throughout Connecticut.

7. **Facilitate E-file Exemption Application:** As indicated in this report, opinions on the possibilities for E-file of exemption applications were varied. Several communities brought up developing an E-file for these applications without being prompted. This is a process would reduce paper shuffle, data entry and associated errors. It also should be recognized that this type of application would have potential value to WestCOG communities and other communities throughout Connecticut.

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