

WESTERN CONNECTICUT COUNCIL OF GOVERNMENTS

Regional Recommendations Prioritization Report

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Axiomatic, in partnership with WestCOG and its member communities, has conducted a study to determine the possibility for regional cooperation in property tax administration, and the viability of a regionalized Real Property Computer Assisted Mass Appraisal (CAMA) system. The workflows for information associated with property taxation for municipal assessing officials and other departments is shown in Figure 1.

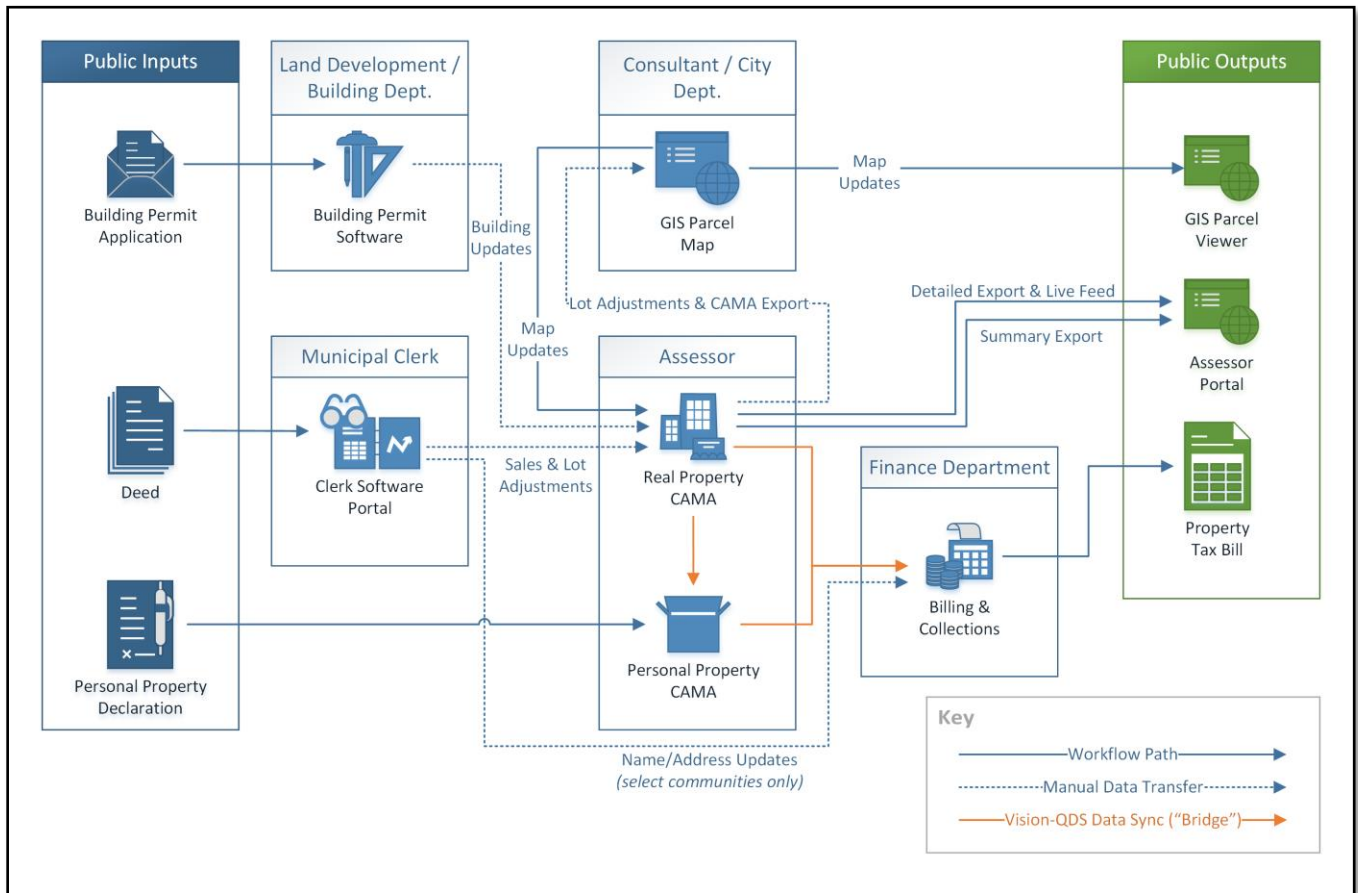


Figure 1: Land Records Data Flow

A review of municipal property tax administration revealed several regional cooperation opportunities for WestCOG to facilitate business process improvements in three key area (1) property tax exemption e-file, (2) automated deed integration, (3) regional implementation of personal property e-file. Each of the proposed workflow automations would significantly reduce the amount of paper, manual data entry (sometimes repeated), and potential clerical errors. WestCOG is in a unique position to provide a mechanism for member communities to work together and improve operational excellence, as well as share the cost of development and implementation of new process automations. Each option is reviewed below in priority order.

Personal Property Tax E-file: Axiomatic has recommended that WestCOG establish and facilitate a workgroup for a regional implementation of Quality Data Services (QDS) personal property tax e-file module in the eleven communities which utilize QDS Personal Property CAMA (and have not implemented e-file). Personal property tax e-file would significantly reduce data entry times as the individual personal property declarations are currently manually keyed into the CAMA system. The work group would be used to coordinate outreach to municipal leadership, and to communicate with the filing community to promote the use of the e-file platform. The workgroup would also coordinate regional training opportunities for municipal staff and filers in advance of the

filing season. QDS has already deployed the solution in several communities (New Milford and Westport) so it is anticipated that the implementation should be straightforward. Initial conversations with QDS staff indicate per municipal cost is approximately \$500 per municipality annually.

Automated Deed Integration: Axiomatic has recommended that an automated data transfer tool for deed records be developed between the most commonly used town clerk software (COTTS), and the most common CAMA platform (Vision) (this combination is utilized by ten WestCOG communities). An automated data transfer would eliminate duplicate data entry for municipal real estate transactions currently keyed into COTTS, and Vision. Specifications for the proposed tool have been provided to facilitate the procurement process. COTTS or Vision would be likely candidates to perform the development due to their familiarity with the applications. Initial conversations with Vision indicate the development effort would be modest, and could potentially be completed as a scheduled system enhancement. Axiomatic estimates the approximate development cost to be \$13,000, which could be shared among the participating communities.

E-file for Exemptions: Currently all property tax exemption applications are prepared and submitted in hard copy to municipal assessing offices. The exemptions are manually reviewed and then entered into the property tax billing system. A market analysis revealed no evident e-file solutions for property tax exemptions in Connecticut. The development of an e-file solutions for state and local option property tax exemptions is significant (Axiomatic has estimated development cost of approximately \$260,172), and as such should likely include a larger partnership with other COGS, assessing organizations and state agencies. There may also be a possibility for one of the vendors in the space to develop a solution to market to all Connecticut municipalities. The cost of automating this workflow is the most substantial, as such it is the lowest priority.

The following documentation provides a framework for implementation the above solutions. The individual content and format has been tailored to each recommendation.

IMPLEMENTATION OF PERSONAL PROPERTY E-FILE

OVERVIEW

Thirteen of the eighteen WestCOG communities utilize Quality Data Service's Personal Property 2000 for CAMA personal property, managing between 100 and 5,000 records. All WestCOG communities except New Milford and Westport process hard-copy, personal property declarations and manually enter them into Personal Property 2000 on an annual basis. The municipalities devote significant resources and staff work effort to the processing of these declarations.

During the discovery process, New Milford and Westport indicated to Axiomatic they had procured and successfully implemented personal property declaration e-file from QDS. These implementations could serve as a template for a group procurement and coordinated implementation of the product for the remaining eleven communities who do not currently have electronic filing capabilities. Implementation of such a system would greatly reduce the manual processing and data entry of the personal property declarations.

EXISTING CONDITIONS

Personal property is defined as anything that is movable and not a permanent part of a structure. This includes business-owned furniture, fixtures, machinery or equipment as well as unregistered motor vehicles and recreational vehicles (*Chapter 203 Sec. 12-71*). A summarized listing of classes of property taxable under Connecticut personal property tax is presented in Table 1.

Code	Description	Examples
9	Motor Vehicles	Unregistered motor vehicles – including those garaged in CT but registered in another state.
10	Manufacturing Machinery & Equipment	Used for equipment not included under code #13
11	Horses & Ponies	\$1,000 exemption per animal. For farmers exemption can be 100%.
12	Commercial Fishing Apparatus	Equipment used in commercial fishing (poles, nets, fish finders etc.) \$500 value exemption applies.
13	Manufacturing Machinery/Equipment – with Exemption	Exemptions per 12-81 (76), generally manufacturing equipment as claimed on federal income tax return as five or seven-year property.
14	Manufactured Homes	Not currently assessed as real estate.
16	Furniture, Fixtures, and Equipment	Desks, Chairs, Tables, Refrigerators, movable air conditions etc.
17	Farm Machinery	Tractors, Harrows, Bush hogs, Milking Machines etc.
18	Farm Tools	Rakes, Pitch forks, etc.
19	Mechanics Tools	Wrenches, Air Hammers Jacks etc.
20	Electronic Data Processing Equipment	Computers, Printers, Puerperal equipment, including bundled software.
21	Telecommunication Equipment	Not including regulated companies. Cables, Conduits, Antennae
22	Cables, Conduits, Poles, Towers, Underground Mains, Wires, Turbines etc.	All excluding those assessed as real estate.
23	Expensed Supplies	Average monthly quantities of supplies consumed in the course of doing business
24	All other goods, Chattels & Effects	All taxable personal property not included above, signs, billboards, water coolers, pin ball machines etc.

Table 1: Selected CT Personal Property Codes

Connecticut statute requires that each resident and non-resident file a personal property declaration to the assessor in the municipality in which the personal property resides annually by November 1st. An extension of up to 45 days may be granted if the appropriate request is filed. Connecticut personal property tax is also levied on leased equipment (*Chapter 203 – Sec 12-41,42,43*).

The personal property tax is levied against 70% of the depreciated value determined by the year of acquisition and total cost including freight and installation as exemplified in Table 2.

Machinery & Equipment			
Year Ending	Original Cost +	% Good	Net Value
10/1/16		95%	0
10/1/15		90%	0
10/1/14		80%	0
10/1/13		70%	0
10/1/12		60%	0
10/1/11		50%	0
10/1/10		40%	0
All Prior Years		30%	0

Table 2: Example depreciation table for determination of depreciated net value.

The long form personal property tax declaration is ten pages long (a sample of which can be viewed [here](#) for the City of Danbury) and the current process requires that filers manually update their depreciation information each year. These declarations are manually reviewed by the municipalities and data-entered into their personal property CAMA systems. This review process places significant burdens on the municipalities, varying with the annual volume of returns, and is summarized in Table 3.

Municipality	Vendor	Electronic Filing?	Personal Property Accounts	Annual Hours (Est) ¹
Bridgewater	QDS	No	106	18
Brookfield	QDS	No	1,500	250
Danbury	QDS	No	4,000	667
Greenwich	QDS	No	4,306	718
New Canaan	QDS	No	881	147
New Milford	QDS	Yes	No Response	N/A
Newtown	QDS	No	1,800	300
Redding	QDS	No	528	88
Ridgefield	QDS	No	1,500	250
Stamford	QDS	No	4,800	800
Weston	QDS	No	250	42
Westport	QDS	Yes	2,193	366 ²
Wilton	QDS	No	1,325	221
Total				3,501

Table 3: WestCOG communities using QDS Personal Property 2000

PROPOSED SOLUTION

It is recommended that that personal property declaration electronic filing (“e-file”) be implemented for the eleven communities with QDS, and no e-file solution. Their existing vendor, QDS provides a cost-effective commercial off-the-shelf (COTS) e-file solution. With regional cooperation, it is estimated that a 70% adoption of e-file is achievable, with an estimated 2,450³ of the 3,501 data entry hours eliminated. At an estimated hour rate of \$40/hr. this represents \$98,000 data entry cost savings which can be re-allocated to other municipal activities.

It is recommended that a workgroup for the regional implementation of e-file be established. The workgroup should be comprised of WestCOG staff, and representatives from the municipalities which are participating in e-file implementation. It may also be beneficial to include representatives or consult with staff from the two communities which have already implemented e-file (New Milford and Westport). It is anticipated that the workgroup would focus on the following major items:

Leadership Outreach: If necessary the workgroup should develop a brief presentation to share with first selectman at a regularly scheduled group meeting. The presentation should highlight the function of the proposed workgroup, as well as the benefits of the e-file solution on for both taxpayers and municipal officials.

Implementation Timeline: The workgroup would establish the implementation timeline for the e-file solution. The schedule should factor in time for budgetary approvals (if required), municipal training, and filer outreach and notification. It should also take into consideration a go live date in advance of the typical filing season, with a go-live of late summer, early fall to coincide with the November 1st filing.

Municipal Training: The workgroup should schedule training for municipal officials on the operation of the e-file solution, including reviewing and returning submitted returns, as well as basic technical support for filers. The municipal training should ideally be held live, and via webinar with sufficient occurrences to accommodate all participating communities. Training materials may be retained by the workgroup, or WestCOG and used for annual refresher training for municipal staff as needed.

¹ The estimate of annual time devoted to this process is based on a conservative estimate of ten minutes per submitted declaration.

² Not included in total as E-file is already implemented

³ A typical full-time position equates to 2,080 hours annually

Taxpayer Outreach: The workgroup should devise an outreach plan to inform and train local filers. The plan should include: announcements on municipal and WestCOG websites, outreach to local chambers of commerce, as well as direct mail & email correspondence with known filers. The goal of the outreach is to increase awareness and adoption of the e-file solution which will result in the maximum labor reduction for municipal officials. Name, mailing address, and email if available can be exported from the personal property CAMA system and be used for mail merge of announcements. It may also be beneficial to offer annual regional webinars to review Personal Property submission requirements.

ESTIMATED BUDGET AND PARTICIPATION

Municipalities participation provided in Table 4, is included based on discussions during initial meetings, and follow up phone calls. Most communities indicated they were interested in getting more information, but were unable to commit. The answers provided should be considered non-binding and only reflect an interest in the process, not necessarily a commitment from the municipality to participate which would require detailed cost figures and agreements.

Budgetary figures are provided based on an informal quote provided by QDS for annual maintenance fees of between \$200 and \$400 (presented as a conservative figure of \$400 for each town). Level of effort for town staff are inclusive of participating in workgroup meetings, attending training, and conducting taxpayer outreach. Contract preparation and any time necessary ancillary tasks (e.g. presentations to involved parties) has been omitted as QDS has existing agreements with all communities. Estimated level of effort and cost per community is presented in Table 4.

Municipality	Agreeable to Participation	Estimated Software Cost	Estimated Municipal Staff Hours for Implementation & Training
Bridgewater	Info	\$400	8
Brookfield	Info	\$400	8
Danbury	Info	\$400	8
Greenwich	Info	\$400	8
New Canaan		\$400	8
Newtown	No Response	\$400	8
Redding	Info	\$400	8
Ridgefield	Info	\$400	8
Stamford	Info	\$400	8
Weston	Not Interested	\$400	8
Wilton	Info	\$400	8
Total		\$4,400	88

Table 4: Municipal Level of Effort and Estimated Costs

Estimated level of effort for WestCOG to establish and manage the workgroup are provided in Table 5. It is anticipated that some level of effort may recur annually for municipal and taxpayer refresher training however it should be less than 1 hour per community.

Workgroup Task	WestCOG Staff Hours
Formation	1
Leadership Outreach	3
Implementation Timeline	3
Municipal Training	8
Taxpayer Outreach	55
Total	70

Table 5: WestCOG Estimated Level of Effort

Personal Property E-File Benefits

- ❖ Improved communication with town leadership regarding benefits of e-file via workgroup.
- ❖ Reduced municipal effort for implementation through workgroup cooperation.
- ❖ Improved adoption with regional taxpayer outreach effort through workgroup.
- ❖ Significant reduction of hours for data entry annually (2,450 hrs. estimated annually for 11 communities). At an assumed hourly rate of \$40/hr. this represents approximately \$98,000 of data entry cost which can be re-allocated to other municipal activities.
- ❖ Improved ability to provide annual refresher training for taxpayers and municipal staff through regional training.

AUTOMATED DEED INTEGRATION

OVERVIEW

EXISTING CONDITIONS

Currently twelve WestCOG communities utilize COTTS town clerk software to register property transfers, and Vision CAMA & Assessment Administration as shown in Table 6.

Municipality	Real Property CAMA	Real Property Records	Town Clerk Software	Estimated Number of Transactions Annually	Estimated Hours spent annually
Bridgewater	Vision 6.x ⁴	1,062	COTTS	20	1.66
Brookfield	Vision 6.5 ⁴	7,492	COTTS	<i>No Response</i>	<i>N/A</i>
Danbury	Vision 6.4 ⁴	27,663	COTTS	750	62.5
New Canaan	Vision 6.5 ⁴	7,401	COTTS	240	20
New Fairfield	Vision 6.x ⁴	6,500	-	-	<i>N/A</i>
New Milford	Vision 6.x ⁴	13,040	COTTS	500	41.66
Newtown	Vision 6.5 ⁴	12,147	COTTS	600	50
Redding	Vision 6.5 ⁴	4,050	COTTS	500	41.66
Weston	Vision 6.5 ⁴	4,013	COTTS	500	41.66
Westport	Vision 6.5 ⁴	10,584	COTTS	200	16.66
Total					275.83

Table 6: WestCOG Communities Utilizing Vision CAMA and COTTS Town Clerk Software

Real Property transfers are recorded and manually data entered by the town clerk into the COTTS town clerk software. The transfers are then data entered (second manual data entry) into Vision CAMA. For communities utilizing Vision and COTTS this represents approximately 3,310 property transfers which are data entered twice within a single municipality. With an estimated five minutes per transaction, over 275 hours are devoted per year to perform sales data entry for the WestCOG communities. The time spent on manual data entry and related tasks would be virtually eliminated through the adoption of an electronic filing system.

⁴ Vision is currently requiring that all of the legacy 6.x clients transition to their new 8.x platform by 2020 due to licensing issues with 6.x's Oracle database. The proposed solution should be compatible with the 8.x platform to ensure the longevity of the system.

PROPOSED SOLUTION

The proposed solution would provide an automated data pathway to allow sales to be reviewed and recorded in the Vision CAMA system without being data entered.

While standard procurement via RFP is an option, either COTTS or Vision may be willing to develop the solution to benefit their Connecticut clients. The tasks listed in Table 7 should be completed by the vendor. Initial conversations with Vision have indicated they would be interested in discussing this option further.

Task	Description
1	Finalize business requirements and system design
2	Conduct a kick-off meeting with participating communities to review proposed functionality and finalize system design. The vendor may use the sample mockups provided or develop their own.
3	Develop & test the proposed system in accordance with the business rules provided in the following section. Provide updates on a bi-weekly basis to the WestCOG project coordinator including but not limited to % complete for each application element and product demonstrations as appropriate.
4	Conduct user acceptance testing with selected WestCOG participants prior to deployment.
5	Deploy the system to participating WestCOG communities.
6	Provide live or virtual group and/or individual system training to participating communities.

Table 7: Vendor tasks for the proposed solution.

BUSINESS RULES

The following business rules govern the integration between COTTS and the Vision CAMA platform through the import of COTTS real estate transaction records.

Automated Deed Integration Business Requirements			
Functions & Features			
No.	Description	Comments	Vendor Response
1.1	Ability to extract data from COTTS town clerk software using COTTS tabular reports, ODBC/API, or other means		
1.2	Data extract should at a minimum include: <ul style="list-style-type: none"> • Deed Book • Deed Page • Municipality (if multiple) • Transfer Date • Recording Date • Instrument number (if used) • Grantee List • Grantor List • Conveyance tax paid (if recorded) • Sale Price (if recorded – may be calculated from Conveyance tax) • Parcel ID Number (Map/Block/Lot – if recorded) • Parcel Address 	Format should support multiple distinct name records for both grantor and grantee.	
1.3	Ability to filter incoming data by document type (e.g. warranty deeds, quitclaim deeds, commissioner's deeds) per assessor's specifications	This ensures that only instruments which impact CAMA are selected for import.	
1.4	Ability to track which transactions have been successfully imported into CAMA to avoid duplicate records		
1.5	Ability for extracted transaction records to be auto-matched to valid CAMA records by grantor and grantee	It is anticipated that character pattern matches will be supported.	

1.6	Ability to associate a sale record with one or more real property record(s)		
1.7	Ability to override auto-match and search for real property records by specific attributes (e.g. address, map-lot, PID, owner name)		
1.8	Ability for assessing officials to review sales data prior to import.		
1.9	Ability for assessing officials to modify sales data prior to import, including data which may not be present in the COTTS export (e.g. consideration)		
1.10	Ability to add notes to sale records		
1.11	Ability to qualify sale record using standard qualification and exclusion codes typical to Vision CT state implementations	Desired – not required.	
1.12	Ability to selectively import sales into the CAMA system	See business rule 2.2.	
1.13	Ability to properly record the sale in Vision CAMA, including transferring ownership and creating the appropriate sale record in the Vision CAMA database	See business rule 2.3.	
Data Capture, Storage Conversion and Exchange			
No.	Description	Comments	Vendor Response
2.1	System shall be capable of extracting data from reports or directly importing data from the COTTS town clerk portal		
2.2	System shall maintain a list of imported transactions (if this functionality is not available in Vision or COTTS) to avoid duplication of records	System does not need to store all extracted information.	
2.3	System shall support appropriate data mapping functionality to handle the creation of appropriate sale and ownership records and the recording of the consideration		
Hardware and Software Platform			
No.	Description	Comments	Vendor Response
3.1	Application must be Windows 7+, and Windows Server 2012 R2+ compatible		
3.2	If the developed solution is a client-server web application, it must be compatible with recent versions of the most commonly-used browsers (e.g. current version and two previous versions of Microsoft Internet Explorer/Edge, Google Chrome, Mozilla Firefox, and Safari)		
3.3	Application must use a modern relational database with a well-documented and widely-supported RDBMS (e.g. Microsoft SQL Server, MySQL, PostgreSQL)		
Output/Reports			
No.	Description	Comments	Vendor Response
4.1	System shall log all CAMA import activities and include appropriate capabilities to produce human-readable reports from those logs	Desired but not mandatory. Includes logs of both imported and rejected records.	
Testing & Training			
No.	Description	Comments	Vendor Response
5.1	Vendor shall conduct internal unit testing prior to releasing a build for User Acceptance Testing (UAT)		
5.2	Vendor shall maintain a non-production environment for the purposes of UAT	The municipal test environment can be used for UAT	
5.3	Vendor shall provide UAT test scripts to municipal testers to validate system functionality		
5.4	Vendor shall resolve any issues identified during UAT and confirm the resolution through regression testing		
5.5	Vendor shall provide training resources (e.g. webinars, in-person sessions) for all parties implementing the solution and shall provide recordings of training sessions in a format appropriate for electronic distribution (e.g. YouTube, SlideShare, etc.)		

Implementation			
No.	Description	Comments	Vendor Response
6.1	Vendor shall provide a production release once UAT has been completed, necessary regression testing has been conducted, and all UAT participants have signed off on the UAT test scripts		
6.2	Vendor shall coordinate the installation of production releases with the stakeholder(s) and shall provide logistical support or technical assistance to complete the installation if requested by the stakeholder(s)		

ESTIMATED BUDGET AND PARTICIPATION

Municipalities participation provided in Table 8, is included based on discussions during initial meetings, and follow up phone calls. Most communities indicated they were interested in getting more information, but were unable to commit. The answers provided should be considered non-binding and only reflect an interest in the process, not necessarily a commitment from the municipality to participate which would require detailed cost figures and agreements. It should be noted that while Bridgewater does have the appropriate software combination with only a few dozen transactions a year they do not have sufficient business need to justify process automation.

Informal conversations with Vision have indicated that the solution could potentially be developed as part of regular updates to their system. With this eventuality, it is anticipated that unit and user acceptance will need to be completed by several towns on test platforms to ensure the application is functioning as expected. If the system is developed separately the estimated cost has been developed in Table 9. The cost has been divided amongst the nine communities who could participate (Bridgewater has been excluded due to the small number of transactions) and two hours have been allocated to each municipality for this process as shown in Table 8.

Municipality	Agreeable to Participation	Community Cost	Municipal Staff Hours
Bridgewater	N/A	\$0.00	2.0
Brookfield	Info	\$1,442.22	2.0
Danbury	Interested	\$1,442.22	2.0
New Canaan		\$1,442.22	2.0
New Fairfield		\$1,442.22	2.0
New Milford	Info	\$1,442.22	2.0
Newtown	No Response	\$1,442.22	2.0
Redding	Interested	\$1,442.22	2.0
Weston	Not Interested	\$1,442.22	2.0
Westport	Info	\$1,442.22	2.0
Total		\$12,980	20.0

Table 8: Municipal Level of Effort and Estimated Costs

An independent development effort estimate has been prepared and is shown in Table 9, which assumes that the application will be funded independently. This estimate is assuming a vendor whom is familiar with Vision's table structure is performing the work. A contingency of 10% is included for unforeseen project element or integrations.

Task	Hours	Rate	Line Item Subtotal
Programing	90	\$120/hr.	\$10,800
Project Management	10	\$100/hr.	\$1,000
Contingency		10% of above	\$1,180
Total			\$12,980

Table 9: Development effort estimation

Automated Deed Integration Benefits	
❖	Elimination of duplicate data entry
❖	Reduction of clerical errors
❖	Reduction of hours for data entry annually (276 hrs. estimated annually for 10 communities). With an assumed hourly rate of \$40/hr. this could save \$11,040 of data entry cost which could be allocated to other municipal activities.

E-FILE FOR EXEMPTIONS

OVERVIEW

There are currently no e-file solutions for property tax relief programs in WestCOG Communities, which is reflective of a larger gap in the marketplace. Paper applications are annually filed with the assessor's office by potential recipients. Property tax exemptions that are granted are managed in the property tax billing system. Automation of the information workflow could provide time savings for both municipal assessing officials and applicants. Due to the scope of this type of e-file application, and its statewide applicability, it is recommended that a larger group of COGS, in partnership with the Connecticut Association of Assessing Officers ([CAAO](#)), and the CT Office of Policy and Management (collectively referred to as the "Project Team") be assembled to approach this project.

There are two options to structure a project such as this one which are largely dependent on funding and preference. Both options are presented in brief below.

Option 1 – Government/Non-Profit Owned Code Base: The Project Team may elect to develop a custom web application for electronic filing of property tax relief applications with municipal assessor's offices. In this scenario all intellectual property, and the source-code would be the property of one or all the entities in the Project Team. In this scenario, a development firm would be contracted to perform the initial development, and likely be retained to provide implementation and technical support services on an annual basis. It may also be advantageous to explore cloud hosting via the same vendor agreement if possible.

In this scenario, the Project Team can control any fees collected from local jurisdictions to cover development and maintenance, as well as functions, features, and lifecycle of the application. This also provides continuity of operations is the project team, rather than a vendor is in control of the application. This type of project structure would involve significant time commitment from the Project Team to ensure sustained operation, and continuous support, and appropriate maintenance and updates to the code base.

Option 2 – Public Private Partnership: The Project Team may elect to partner with private industry to develop an electronic filing web application, which can be licensed to interested assessor's offices. In this scenario, the primary function of the Project Team would be to provide pilot communities who would be interested in participating in testing and early adoption of the e-file system. The project team would rely on private industry to meet this perceived need and all intellectual property and code ownership would remain with the private vendor(s).

In this scenario, the Project Team does not have direct control over fees charged to local jurisdictions throughout the lifecycle of the application. The project team also would not have direct control over system maintenance or upgrades overtime. This type of project structure would require much less involvement from the Project Team both during development and system maintenance, and could potentially be funded exclusively through user licensing and maintenance fees.

The scope of this project, particularly when structured with government or non-profit code ownership as described in option 1, would be significant, both in terms of development cost, and invested time. For this reason, it may be prudent to pursue the public-private partnership and utilize the private sector to develop a web application to meet this need.

EXISTING CONDITIONS

There are State mandated and local options for property tax exemptions, exclusions, deferrals, freezes, and circuit breakers in Connecticut law. A summary of the programs is provided in Table 10.

Program	Type	Local Option
Exemption with Local Option for the Disabled	Disabled Exemption	Yes
Tax Freeze for the Disabled or Elderly	Disabled, Other	No
Standard and Additional Exemptions for Veterans with Local Option	Veterans Exemption	Yes
Exemption and Additional Exemption with Local Option for Disabled Veterans	Veterans Exemption	Yes
Exemption and Additional Exemption for Severely Disabled Veterans	Veterans Exemption	No
Income Tax Credit for Property Taxes Paid	Low Income Circuit Breaker	No
Circuit Breaker for Elderly or Disabled Homeowners	Senior, Disabled Circuit Breaker	No
Exemption for the Blind with Local Option	Blind Exemption	Yes
Local Option Deferral	Homestead Deferral	Yes
Local Option Senior Tax Freeze	Senior Other	Yes
Local Option Tax Relief for Seniors and Disabled	Senior, Disabled Other	Yes
Local Option for Relief for Firefighters and Emergency Personnel	EMS, Deferral, Exemption	Yes
Local Option Relief for Surviving Spouses of Police Officers or Firefighters	EMS Other	Yes
Farmland Preservation (PA 490)	Agricultural/Farmland, Other Land Uses	No
Local Option Farm Abatement	Agricultural/Farmland, Other Land Uses	Yes

Table 10: CT Property Tax Relief Programs

Each property tax relief program requires an application be submitted to the municipality, typically with supporting documentation to qualify eligibility (e.g. tax returns, income statements). Depending on eligibility requirements these applications, and supporting information (e.g. proof of disability, annual income, age, veteran's status) can become lengthy. These applications are typically received in hard-copy and are manually reviewed by staff in the Assessing office. If the tax relief is granted it is data-entered into the tax billing software for benefit administration. Typically, maintenance of the benefit requires annual submission of the application and updated supporting documentation if applicable.

Municipalities annually can request reimbursement of revenue loss for certain tax relief programs from the State of Connecticut Office of Policy & Management (OPM) (using claim forms found [here](#)). It should be noted that some WestCOG communities expressed concern about adoption rates and technical proficiency of some of the filers, particularly the elderly applicants, which frequently complete the application in-person in the office to get assistance from municipal staff.

PROPOSED SOLUTION

The proposed web application would provide Connecticut property owners a secure web portal to file for property tax relief with their local municipal assessor's office. The web application needs to include secure login for both property owners, and local assessing officials, and should be capable of tracking information for multiple filing cycles. The application should also include business logic to define required or suggested attachments (e.g. prior year's tax return to justify compliance with income limits) per exemption type, as well as required benefit application data in fillable web forms. Whether through multi-tenancy or individual implementations the system should allow for taxing jurisdictions to define adopted local option tax relief programs as well as suggested and required attachments for each program.

If a hosted solution is proposed, it should be within a production environment with both network security measures (e.g. firewalls) as well as 256-bit TLS 1.2 connection encryption.

The successful vendor will be required to complete the following tasks:

Task	Description
1	Finalize business requirements and system design
2	Conduct a kick-off meeting with participating communities to review proposed functionality and finalize system design. The vendor may use the sample mockups provided or develop their own.
3	Develop and test the proposed system in accordance with the business rules provided in the following section. Provide monthly updates to the WestCOG project coordinator including but not limited to % complete for each application element and product demonstrations as appropriate.
4	Conduct user acceptance testing with selected WestCOG participants prior to deployment.
5	Deploy the system to participating WestCOG communities.
6	Provide live or virtual group and/or individual system training to participating communities.

Table 11: Vendor Tasks

Because the e-file application will most likely contain personally identifiable information (PII) or data that can be used to derive PII, an enhanced application security section has been provided to address information security best practices for systems of this nature.

BUSINESS RULES

E-File for Exemptions Functions & Features			
General Requirements			
No.	Description	Comments	Vendor Response
1.1	System shall be accessible by applicants (public) and municipal officials		
1.2	System shall require complex passwords and challenge questions to request password resets		
1.3	System shall allow all users to reset their passwords by answering a series of challenge questions.		

1.4	System shall allow municipal and municipal administer accounts. Municipal administrators shall be able to reset passwords and manually create accounts for new users, as well as create, disable, and delete municipal user accounts.		
1.5	System shall have the ability for users to update their contact info and password via a user profile.		
1.6	System shall allow the secure submission of data with appropriate E-File language per CT Statute.		
1.7	System shall include standard end user agreement for submission of true and accurate information to participating municipalities.		
1.8	System shall have the ability to create and display reports, both for submitted applications, as well as system-wide and administrative reports.		
1.9	Reports should be exportable to excel and pdf minimally.		
Property Owner (Public) Filing Requirements			
1.10	System shall allow property owners (public) to create user accounts in order to file their property tax relief applications.		
1.11	Creation of property owner accounts (public) shall include email verification, and creation of challenge questions for password reset.		
1.12	System shall allow viewing of statewide and locally adopted property tax relief programs.		
1.13	System shall allow for filing of all statewide and municipally adopted property tax relief programs per CT state statute.		
1.14	Through the system design an effort shall be made to standardize property tax relief application forms to the extent possible (e.g. applicant first and last name can be common to all applications, etc.).		
1.15	System shall allow customization to reflect which local option property tax relief programs that have been adopted.		
1.16	System shall allow only local option tax relief program applications which have been adopted for each municipality.		
1.17	For each property tax relief program required and suggested attachments should be configurable by municipality and tax relief program. Configuration should include whether the documentation needs to be updated annually	Example: Proof of DOB is perpetual. Proof of Income is annual.	
1.18	Property owners shall have the ability to save their progress on any application and return to complete it later		
1.19	System shall clearly designate filing deadlines for each property tax relief program		
1.20	System should allow property owners to copy last year's application to create a current year application. Attachments which need to be updated should be flagged.		
1.21	System shall allow property owners to view the approval status of submitted applications.		
1.22	Upon submission of completed application the application should be uneditable. If a user wishes to update their application the system shall include functionality to submit an amended application.		
1.23	Submission of an amended application should optionally begin with a copy of the previously submitted application and allow the user to make revisions.		
1.24	An amended application will supersede the original, but both shall be visible to municipal users.		

Municipal Assessor User Requirements			
1.25	System shall allow municipal users to review submitted applications (reviewing submitted form data)		
1.26	System shall allow municipal users to download and review submitted attachments.		
1.27	System shall allow municipal users to mark attachments as acceptable and/or approved.		
1.28	System shall allow municipal users to add numerous types of notes including: private and public notes on the application in general and specific attachments. System shall also allow municipal users to enter permanent notes regarding the applicant which can be viewed with any submitted applications from the applicant in question. These notes should not be visible to municipal users		
1.29	System shall allow municipal users to reject the application. Upon rejection, municipal users should be prompted to provide rejections notes which are stored in the system and sent via email to the applicant.		
1.30	System shall allow municipal users to request the applicant re-submit the application. Upon request for re-submission the municipal users should be presented with a dropdown list of re-submission reasons (to be determined after project launch). Reasons for resubmission request should be sent to applicant, and a copy of their application be made available for editing and re-submission.		
1.31	Municipal users shall be able to view number of re-submissions as well as the previously submitted form data and attachments.		
1.32	Municipal users shall have the ability to export approved applications in a TBD format for potential import into property tax billing, or assessment administration system	Possible file formats: csv, xml, json.	
1.33	Applications which have been exported should be designated in the system so that if the export is run again they do not create duplicate data.		
Data Capture, Storage Conversion and Exchange			
No.	Description	Comments	Vendor Response
2.1	System should be capable of exporting data in a format which can be consumed by the appropriate Assessment Administration or Property Tax Billing System. Format TBD.	Vendor is not responsible for import into other proprietary systems.	
Hardware and Software Platform			
No.	Description	Comments	Vendor Response
3.1	Vendor may choose appropriate development stack. Recommended configuration includes: Microsoft .NET, C#, Bootstrap, Angular JS, Microsoft SQL Server, Microsoft SQL Server Reporting Services.		
Output/Reports			
No.	Description	Comments	Vendor Response
4.1	System shall include printable reports for all application types. System shall also include at a minimum 5 system reports for use by municipal users.		
4.2	System shall include a COTS reporting solution capable of generate additional reports without re-coding (example: SQL Server Reporting Services)		

Testing & Training			
No.	Description	Comments	Vendor Response
5.1	Vendor shall conduct internal unit testing prior to deployment to User Acceptance Testing (UAT) environment.		
5.2	Vendor shall develop UAT test scripts to be used by municipal testers to validate system functionality, in a vendor provided test environment.		
5.3	Any errors identified during UAT will be resolved and regression testing should be performed to confirm resolution.		
5.4	The vendor will provide in person or web training to the group of communities implementing the solution. Training sessions should be recorded and made available to WestCOG members via web-video share.		
Implementation			
No.	Description	Comments	Vendor Response
6.1	An implementation plan outline shall be prepared by the vendor for deployment onto the designated test and production environments.		
6.2	The vendor shall provide detailed installation instructions include required server configuration.		

E-File for Exemptions Application & Security Testing Requirements			
Application Security			
No.	Description	Comments	Vendor Response
S1.1	Verify the identity or authenticate all system client applications before allowing use of the system to prevent access to inappropriate or confidential data or services.		
S1.2	Verify the identity and authenticate all the system's human users before allowing them to use its capabilities to prevent access to inappropriate or confidential data or services.		
S1.3	Enforce unique user names.		
S1.4	Enforce complex passwords for all Accounts in accordance with industry standard (Minimum eight characters, one upper-case and one lower-case letter, and a symbol).		
S1.5	Encrypt passwords, and security question answers in transmission and at rest within the database.		
S1.6	Establish ability to expire passwords after a definite period of time in accordance with industry standards (period to be determined).	Because of annual filing this should be discussed with users.	
S1.7	Provide the ability to limit the number of people that can grant or change authorizations.		
S1.8	Establish ability to enforce session timeouts during periods of inactivity (30 minutes of inactivity).		
S1.9	The application shall not store authentication credentials or sensitive data in its code.		
S1.10	Log all attempted accesses that fail identification, authentication and authorization requirements.		
S1.11	The application shall log all activities to a central server to prevent parties to application transactions from denying that they have taken place.		
S1.12	All logs must be kept for fourteen (14) months		
S1.13	The application must allow a human user to explicitly terminate a session. No remnants of the prior session should then remain.		
S1.14	Do not use Software and System Services for anything other than they are designed for.		
S1.15	The application Data shall be protected from unauthorized use when at rest.		

S1.16	The application shall keep any sensitive Data or communications private from unauthorized individuals and programs.		
S1.17	Subsequent application enhancements or upgrades shall not remove or degrade security requirements.		
S1.18	Utilize change management documentation and procedures.		
Application Security Testing			
No.	Description	Comments	Vendor Response
S2.1	All components of the Software shall be reviewed and tested to ensure they protect the municipal, taxpayer information, and related Data assets including file attachments.		
S2.2	The Vendor shall be responsible for providing documentation of security testing, as appropriate. Tests shall focus on the technical, administrative and physical security controls that have been designed into the System architecture to provide the necessary confidentiality, integrity and availability.		
S2.3	The vendor shall provide evidence that supports the fact that Identification and Authentication testing has been recently accomplished; supports obtaining information about those parties attempting to log onto a system or application for security purposes and the validation of users		
S2.4	The vendor shall test for Access Control; supports the management of permissions for logging onto a computer or network		
S2.5	The vendor shall Test for encryption; supports the encoding of data for security purposes, and for the ability to access the data in a decrypted format from required tools.		
S2.6	The vendor shall test the Intrusion Detection; supports the detection of illegal entrance into a computer system.		
S2.7	The vendor shall test the Verification feature; supports the confirmation of authority to enter a computer system, application or network.		
S2.8	The vendor shall test the User Management feature; supports the administration of computer, application and network accounts within an organization.		
S2.8	The vendor shall test Role/Privilege Management; supports the granting of abilities to users or groups of users of a computer, application or network		
S2.9	The vendor shall test Audit Trail Capture and Analysis; supports the identification and monitoring of activities within an application or system.		
S2.10	The vendor shall test Input Validation; ensures the application is protected from buffer overflow, cross-site scripting, SQL injection, and unauthorized access of files and/or directories on the server.		
S2.11	The vendor shall ensure the application has been tested and hardened to prevent critical application security flaws. (At a minimum, the application shall be tested against all flaws outlined in the Open Web Application Security Project (OWASP) Top Ten (http://www.owasp.org/index.php/OWASP_Top_Ten_Project))		
S2.12	The vendor shall provide the project team with validation of 3rd party security reviews performed on the application and system environment. The review may include a combination of vulnerability scanning, penetration testing, static analysis of the source code, and expert code review (please specify proposed methodology in the comments field).	Note for WestCOG: This can be a significant cost item.	
S2.13	Prior to the System being moved into production, the Vendor shall provide results of all security testing to the project team for review and acceptance.		
S2.14	Vendor shall provide documented procedure for migrating application modifications from the User Acceptance Test Environment to the Production Environment.		

If a hosted solution is desired the following Hosting requirements are provided. This is intended to be used if the Project Team Owns the Code and intellectual property, and the application is hosted through a third-party vendor. The list below should be customized to fit the intended purpose of the application and required availability requirements. It should be noted that there are distinct filing periods for each Tax Relief program, it may be possible to optimize up-time, and support requirements to better fit with the filing periods.

E-File for Exemptions Application Hosting Requirements			
Operational Security			
No.	Description	Comments	Vendor Response
H1.1	Vendor shall provide an ANSI/TIA-942 Tier 3 Data Center or equivalent. A tier 3 data center requires: <ol style="list-style-type: none"> 1. Multiple independent distribution paths serving the IT equipment. 2. All IT equipment must be dual-powered and fully compatible with the topology of a site's architecture and 3. Concurrently maintainable site infrastructure with expected availability of 99.982% 		
H1.2	Vendor shall maintain a secure hosting environment providing all necessary hardware, software, and Internet bandwidth to manage the application and support users with permission based logins.		
H1.3	The Data Center must be physically secured – restricted access to the site to personnel with controls such as biometric, badge, and others security solutions. Policies for granting access must be in place and followed. Access shall only be granted to those with a need to perform tasks in the Data Center.		
H1.4	Vendor shall install and update all server patches, updates, and other utilities within 60 days of release from the manufacturer.		
H1.5	Vendor shall monitor System, security, and application logs.		
H1.6	Vendor shall manage the sharing of data resources.		
H1.7	Vendor shall manage daily backups, off-site data storage, and restore operations.		
H1.8	The Vendor shall monitor physical hardware.		
H1.9	Remote access shall be customized to the Project Group's business application. In instances where the Project Team requires access to the application or server resources not in the DMZ, the Vendor shall provide remote desktop connection to the server through secure protocols such as a Virtual Private Network (VPN).		
H1.10	The Vendor shall report any breach in security to the Project Team.		

Disaster Recovery			
No.	Description	Comments	Vendor Response
H2.1	Vendor shall have documented disaster recovery plans that address the recovery of lost data. Systems shall be architected to meet the defined recovery needs.		
H2.2	The disaster recovery plan shall identify appropriate methods for procuring additional hardware in the event of a component failure. In most instances, systems shall offer a level of redundancy so the loss of a drive or power supply will not be sufficient to terminate services however, these failed components will have to be replaced.		
H2.3	Vendor shall adhere to a defined and documented back-up schedule and procedure.		
H2.4	Back-up copies of data are made for the purpose of facilitating a restore of the data in the event of data loss or System failure.		
H2.5	Scheduled backups of all servers must be completed regularly. The minimum acceptable frequency is differential backup daily, and complete backup weekly.		
H2.6	back-up media or files must be securely transferred from the site to another secure location to avoid complete data loss with the loss of a facility.		
Hosting Security			
No.	Description	Comments	Vendor Response
H3.1	The Vendor shall employ security measures ensure that the application and data is protected.		
H3.2	The application and data is hosted on multiple servers, data exchanges between and among servers must be encrypted.		
H3.3	All servers and devices must have currently-supported and hardened operating systems, the latest anti-viral, anti-hacker, anti-spam, anti-spyware, and anti-malware utilities. The environment shall have aggressive intrusion-detection and firewall protection.		
H3.4	All servers and devices must have event logging enabled. Logs must be protected with access limited to only authorized administrators. Logs shall include System, Application, Web and Database logs.		
H3.5	Operating Systems (OS) and Databases (DB) shall be built and hardened in accordance with guidelines set forth by CIS, NIST or NSA		
Service Level Agreement			
No.	Description	Comments	Vendor Response
H4.1	The Vendor's System support and maintenance shall commence upon the Effective Date and extend through the end of the Contract term, and any extensions thereof.		
H4.2	The vendor shall maintain the hardware and software in accordance with the specifications, terms, and requirements of the Contract, including providing, upgrades and fixes as required.		
H4.3	The vendor shall repair or replace the hardware or software, or any portion thereof, so that the System operates in accordance with the Specifications, terms, and requirements of the Contract.		
H4.4	All hardware and software components of the Vendor hosting infrastructure shall be fully supported by their respective manufacturers at all times. All critical patches for operating systems, databases, web services, etc., shall be applied within sixty (60) days of release by their respective manufacturers.		
H4.5	The hosting server for the application shall be available twenty-four (24) hours a day, seven (7) days a week except for during scheduled maintenance.		
H4.6	A regularly scheduled maintenance window shall be identified (such as weekly, monthly, or quarterly) at which time all relevant server patches and application upgrades shall be applied.		

ESTIMATED BUDGET AND PARTICIPATION

Municipalities participation provided in Table 12, is included based on discussions during initial meetings, and follow up phone calls. Most communities indicated they were interested in getting more information, but were unable to commit. The answers provided should be considered non-binding and only reflect an interest in the process, not necessarily a commitment from the municipality to participate which would require detailed cost figures and agreements. Cost breakdowns have not been provided on a per municipality basis for this initiative as it is likely not feasible to be funded through WestCOG communities alone. Bridgewater, Ridgefield, Sherman, and Weston had indicated they did not have sufficient volume of exemptions to justify the expense and time of implementation.

Municipality	Agreeable to Participation
Bethel	New Assessor will call back
Bridgewater	N/A
Brookfield	Info
Danbury	Info
Darien	Info
Greenwich	Info
New Canaan	
New Fairfield	Info
New Milford	Info
Newtown	Yes
Norwalk	Info
Redding	Info
Ridgefield	N/A
Sherman	N/A
Stamford	Info
Weston	N/A
Westport	Info
Wilton	Info

Table 12: Estimated participation in E-File for Exemption.

Specification - Technical Design & Project Setup			
Description	Hours	Rate	Cost
Form Standardization	40	\$120.00	\$4,800.00
Business Rules Elaboration	80	\$120.00	\$9,600.00
Mockups & System Layout	80	\$120.00	\$9,600.00
Database & Technical Design	200	\$120.00	\$24,000.00
Development Project Setup	10	\$120.00	\$1,200.00
Subtotal			\$49,200.00

Table 13: Specification Development Costing

Development			
Description	Hours	Rate	Cost
Login/Passwords/Permissions	120	\$120.00	\$14,400.00
Home Page & Public User Dashboard	35	\$120.00	\$4,200.00
Application and Attachment Development	400	\$120.00	\$48,000.00
Municipal Dashboard	40	\$120.00	\$4,800.00
Municipal Review & Resubmission	80	\$120.00	\$9,600.00
Reports & data Exports	60	\$120.00	\$7,200.00
Integrated Unit Testing (in code base)	80	\$120.00	\$9,600.00
Subtotal			\$97,800.00

Table 14: Development Costing

Testing & Deployment			
Description	Hours	Rate	Cost
Developing User Acceptance Test Scripts	30	\$80.00	\$2,400.00
Performing Internal Testing	40	\$80.00	\$3,200.00
User Acceptance Testing	30	\$80.00	\$2,400.00
Code Review & Penetration Testing	-	-	\$20,000.00
Deployment & Implementation	16	\$80.00	\$1,280.00
Final Build and Testing	16	\$120.00	\$1,920.00
Subtotal			\$31,200.00

Table 15: Testing & Deployment Costing

It should be noted that the above costing figures are intended to be a budgetary estimate, and are intended to be conservative. The conservative nature of the estimates, coupled with the 5% contingency is intended to account for any unanticipated change-orders that may arise through requirements elaboration and development. It should also be noted that the total project cost presented in Table 16 includes \$35,640.00 each for vendor and WestCOG project management. It should be noted that some development groups may not include a project management fee, and the project team's project management fee may not be directly billable.

Cost Summary	
Description	Cost
Specification - Technical Design & Project Setup	\$49,200.00
Development	\$97,800.00
Testing & Deployment	\$31,200.00
Project Management - Vendor (20%)	\$35,640.00
Project Management - Project Team (20%)	\$35,640.00
Contingency (5%)	\$10,692.00
Total Project Cost	\$260,172.00

Table 16: Cost Summary

Property Tax Relief E-File Benefits	
❖	Reduction of paper through electronic filing of applications and supporting documentation.
❖	Ability for applicants to annually re-submit without repeated data entry.
❖	Ability to electronically review submitted applications.
❖	Reduced review time with improved electronic documentation.