

# Oakland County Department of Information Technology Project Scope and Approach

**Project Name: CLEMIS Location-Based Enterprise Program**

**Project ID: DF1183LM**

<b>Leadership Group:</b> CLEMIS			
<b>Department:</b> Information Technology		<b>Division:</b> CLEMIS	
<b>Project Sponsor:</b> Jeff Nesmith	<b>Date Requested:</b> 6/12/20	<b>PM Customer No.</b> 183	
<b>Request Type:</b>	<u><i>New Development</i></u>	<i>Enhancement</i>	<i>Customer Support</i>
<i>Planned System Maintenance or Upgrade</i>			
<b>IT Team Name:</b> Public Safety Applications		<b>IT Team No:</b> F	
<b>Project Manager/Leader:</b> Brian Smith / Deb Nolen			
<b>Account Number:</b> 63500	<b>Account Description:</b> CLEMIS Fund	<b>Customer Name:</b>	CLEMIS
<b>Grant Funded?</b> Yes <u>No</u>	<b>Mandate?</b> Yes <u>No</u>	<b>Mandate Source:</b>	

## **Project Goal**

To provide a progressive location-based solution so that CLEMIS public safety partners have best of breed data data-driven solutions and tools to mitigate threats and/or hazards in their communities.

## **Business Objective**

To replace the current CLEMIS mapping applications so that CLEMIS can utilize industry standard products, as well as, to leverage CLEMIS location-based data to support and enhance decision making by CLEMIS public safety partners.

### **Major Deliverables**

- Location GPS Mapping in CAD
- Crime Analytics Application
- Crime Analytics Reports
- Detailed Project Plan with WBS
- Business Requirements Documents
- Functional testing
- Implementation Plan
- Training/User Manual
- Service Level Agreement
- Disaster Recovery Toolkit
- Service Center Knowledge Documents
- Rewrite Application

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**Approach**

- Develop Detailed Project Plans, as Needed
- Review Current Business Processes
- Document Business Requirements
- Document Data Policy Changes
- Assess Hardware and Software Requirements
- Develop Implementation Plans
- Develop New Systems/Data
- Develop User Acceptance Test Plans
- Test New System/Data
- Develop User Training
- Develop User Documentation, SLA, Disaster Recovery Toolkit, Service Center Knowledge Documents
- Train/Notify Users of New System/Data
- Conduct Change Control
- Release New System/Data into Production

**Research & Analysis**

**Gartner Research Recommendation**

Nothing found

**Benefits**

***See Return on Investment (ROI) Analysis Document***

**Impact**

<b>Number of Users</b>	Approximately 3000 MDC / CAD users and 275 workstations
<b>Divisions</b>	CLEMIS
<b>Leadership Groups</b>	CLEMIS

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**Risk**

**Business Environment**      Medium - Project will require some changes to existing business processes.

**Technical Environment**      Medium – Previously implemented technologies with new aspects and/or new requirements.

**Assumptions**

**Staffing**      IT Staffing: resources will be available for the hours indicated per the attached project plan.

Other Staffing: additional staffing will be available as follows:

<b><u>Role:</u></b>	<b><u>Name</u></b>	<b><u>Hours per Day</u></b>
Project Sponsor:	Jeff Nesmith	As Needed

**Facilities**

- None

**Technical**

- Additional hardware purchases will be required.

**Funding**

- CLEMIS Fund

**Other**

- None

**Priority**      TBD

**Constraints**

- None

**Exclusions**

- None

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## PROJECT PHASE AUTHORIZATION

<b>Phase(s):</b>	
<b>Total Estimated Application Services</b>	<b>Hours:</b>
<b>Total Estimated Technical Systems</b>	<b>Hours: 148</b>
<b>Total Estimated CLEMIS</b>	<b>Hours: 4,074</b>
<b>Total Estimated Internal Services</b>	<b>Hours:</b>
<b>IT Application Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Technical Systems Division Manager Approval:</b>	<b>Date:</b>
<b>IT CLEMIS Division Manager Approval:</b>	<b>Date:</b>
<b>IT Internal Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Management Approval:</b>	
Approved:                      Yes                      No	<b>Date:</b>
Reason:	
<b>Project Sponsor Approval:</b>	
Title:	<b>Date:</b>

## PROJECT SUMMARY

<b>Authorized Development (see above)</b>	<b>Hours:</b>
<b>Preliminary Estimated Development for Future Phases</b>	<b>Hours:</b>
<b>Grand Total Estimated Development</b>	<b>Hours: 4,222                      Cost: \$696,630</b>

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## PROJECT COMPLETION AUTHORIZATION

<b>Customer Acceptance of Product:</b>	
Title:	Date:
<b>Project Office Review:</b>	Date:

### CLEMIS Location-based Enterprise Program - Size Estimate (+/- 10% to 50%)

1	2	3	4	5
Type	ID	Task Name	Estimated	Estimate Notes
			Hours	
3	000000	PROJECT MANAGEMENT	1,105	
4	Phase 200000	DEFINE BUSINESS REQUIREMENTS	718	
5	Phase 300000	DESIGN SYSTEM ARCHITECTURE	441	
6	Phase 500000	DEVELOP APPLICATION	1,680	
7	Phase 600000	IMPLEMENTATION PHASE	218	
8	Phase 800000	POST IMPLEMENTATION SUPPORT	60	
9			4,222	

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Benefits/Savings:</b>							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	0	142,309	130,868	134,530	138,297	142,174	688,178
<b>Costs:</b>							
Development Services Subtotal:	754,630	244,945	241,801	256,330	252,994	268,408	2,019,109
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	610,656	390,776	392,749	394,782	396,875	399,031	2,584,869
Infrastructure Subtotal:	0	0	0	0	0	0	0
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	0	0	0	0	0	0	0
<b>Annual Statistics:</b>							
Annual Total Savings	0	142,309	130,868	134,530	138,297	142,174	688,178
Annual Total Costs	1,365,286	635,721	634,550	651,111	649,869	667,439	4,603,977
Annual Return on Investment	(1,365,286)	(493,412)	(503,682)	(516,582)	(511,572)	(525,265)	(3,915,799)
Annual Costs/Savings Ratio	0.00%	446.72%	484.88%	483.99%	469.91%	469.45%	
<b>Project Cumulative Statistics:</b>							
Cumulative Total Savings	0	142,309	273,177	407,707	546,004	688,178	688,178
Cumulative Total Costs	1,365,286	2,001,007	2,635,557	3,286,668	3,936,538	4,603,977	4,603,977
Cumulative Return on Investment	(1,365,286)	(1,858,698)	(2,362,380)	(2,878,962)	(3,390,534)	(3,915,799)	(3,915,799)
Cumulative Cost/Savings Ratio	0.00%	1406.10%	964.78%	806.14%	720.97%	669.01%	669.01%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
<b>Signatures:</b>							
Benefits Reviewed By Project Sponsor	_____			Date:	_____		
Costs (including IT Resources) Reviewed By Information Technology Project Manager	_____			Date:	_____		

## Oakland County -- CLEMIS Location-Based Enterprise Program

## Return on Investment Analysis

## Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Increased public safety and awareness by analyzing data to uncover hidden vulnerabilities.	Intangible Benefit					0	
Increase officer safety by identifying location of vehicle and their person.	Intangible Benefit					0	
Analytics Software Licensing	Cost Avoidance			1	53,000	53,000	1.030
Improve Community Oriented Policing (COP) by publishing local crime data to the public.	Intangible Benefit					0	
Increase protection to communities by identifying threats, hazards, and patterns by mapping data.	Intangible Benefit					0	
Increase prevention of threats and hazards in communities by mapping data to increase understanding of where to focus efforts.	Intangible Benefit					0	
Increase mitigation of complex threats and hazards found in communities.	Intangible Benefit					0	
Improve response to threats that pose the greatest risk to keeping CLEMIS member communities safe.	Intangible Benefit					0	
Increase public safety and security by identifying patterns that help prioritize CLEMIS agencies' efforts.	Intangible Benefit					0	
Mapping Software Licensing	Cost Avoidance			3	5,000	15,000	
Mapping Application Licensing	Cost Avoidance			1	45,000	45,000	1.030
Support & Maintenance for Software	Cost Avoidance			50	175	8,750	1.030
Public Crime Analytics Service	Cost Avoidance			57	300	17,100	1.015
Quick turn around by leveraging off-the-shelf tools and applications for unforeseen threats and hazards.	Intangible Benefit					0	
Securely access the tools despite the device.	Intangible Benefit					0	
Reduce Tech Debt by using off-the-shelf application and minimizing customizations.	Intangible Benefit					0	

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Expanded access to tools and data in-office and in-the-A8field, as well as, to public users.	Intangible Benefit					0	
Improved identity based security.	Intangible Benefit					0	
Provide quicker access to current data assisting in more informed decisions	Intangible Benefit					0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Affects Project ROI?						Potential Savings Extensions						
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6	
Increased public safety and awareness by analyzing data to uncover hidden vulnerabilities.	Intangible Benefit													
Increase officer safety by identifying location of vehicle and their person.	Intangible Benefit													
Analytics Software Licensing	Cost Avoidance	x	x	x	x	x		54,590.00	56,227.70	57,914.53	59,651.97	61,442		
Improve Community Oriented Policing (COP) by publishing local crime data to the public.	Intangible Benefit													
Increase protection to communities by identifying threats, hazards, and patterns by mapping data.	Intangible Benefit													
Increase prevention of threats and hazards in communities by mapping data to increase understanding of where to focus efforts.	Intangible Benefit													
Increase mitigation of complex threats and hazards found in communities.	Intangible Benefit													
Improve response to threats that pose the greatest risk to keeping CLEMIS member communities safe.	Intangible Benefit													
Increase public safety and security by identifying patterns that help prioritize CLEMIS agencies' efforts.	Intangible Benefit													
Mapping Software Licensing	Cost Avoidance	x						15,000.00						
Mapping Application Licensing	Cost Avoidance	x	x	x	x	x		46,350.00	47,740.50	49,172.72	50,647.90	52,167		
Support & Maintenance for Software	Cost Avoidance	x	x	x	x	x		9,012.50	9,282.88	9,561.36	9,848.20	10,144		
Public Crime Analytics Service	Cost Avoidance	x	x	x	x	x		17,356.50	17,616.85	17,881.10	18,149.32	18,422		
Quick turn around by leveraging off-the-shelf tools and applications for unforeseen threats and hazzards.	Intangible Benefit													
Securely access the tools despite the device.	Intangible Benefit													
Reduce Tech Debt by using off-the-shelf application and minimizing customizations.	Intangible Benefit													

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Affects Project ROI?						Potential Savings Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6
Expanded access to tools and data in-office and in-the-A8field, as well as, to public users.	Intangible Benefit												
Improved identity based security.	Intangible Benefit												
Provide quicker access to current data assisting in more informed decisions	Intangible Benefit												

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Tangible Benefit:</b>							
<i>Tangible Benefits Subtotal:</i>							
<b>Cost Avoidance:</b>							
Mapping Application Licensing		46,350	47,741	49,173	50,648	52,167	246,078
Mapping Software Licensing		15,000					15,000
Analytics Software Licensing		54,590	56,228	57,915	59,652	61,442	289,826
Support & Maintenance for Software		9,013	9,283	9,561	9,848	10,144	47,849
Public Crime Analytics Service		17,357	17,617	17,881	18,149	18,422	89,425
<i>Cost Avoidance Subtotal:</i>		<b>142,309</b>	<b>130,868</b>	<b>134,530</b>	<b>138,297</b>	<b>142,174</b>	<b>688,178</b>
<b>Intangible Benefit:</b>							
Increased public safety and awareness by analyzing data to uncover hidden vulnerabilities.							
Increase officer safety by identifying location of vehicle and their person.							
Improve Community Oriented Policing (COP) by publishing local crime data to the public.							
Increase protection to communities by identifying threats, hazards, and patterns by mapping data.							

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Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Increase prevention of threats and hazards in communities by mapping data to increase understanding of where to focus efforts.							
Increase mitigation of complex threats and hazards found in communities.							
Improve response to threats that pose the greatest risk to keeping CLEMIS member communities safe.							
Increase public safety and security by identifying patterns that help prioritize CLEMIS agencies' efforts.							
Quick turn around by leveraging off-the-shelf tools and applications for unforeseen threats and hazards.							
Securely access the tools despite the device.							
Reduce Tech Debt by using off-the-shelf application and minimizing customizations.							
Expanded access to tools and data in-office and in-the-A8field, as well as, to public users.							
Improved identity based security.							
Provide quicker access to current data assisting in more informed decisions							
<b>Savings Total:</b>		<b>142,309</b>	<b>130,868</b>	<b>134,530</b>	<b>138,297</b>	<b>142,174</b>	<b>688,178</b>

**Oakland County -- CLEMIS Location-Based Enterprise Program**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?						
								Y1	Y2	Y3	Y4	Y5	Y6	
IT Hours - New Development	Development Svcs			4,222	165	696,630	1.030	x						
IT Hours - System Maintenance	Development Svcs			50	165	8,250	1.030		x	x	x	x	x	x
IT Hours - Customer Support	Development Svcs			1,000	165	165,000	1.030		x	x	x	x	x	x
IT Hours - Planned Maintenance	Development Svcs			50	165	8,250	1.030		x		x			x
CLEMIS - New Development														
Professional Services	Development Svcs					0								
User Hours - PTNE/OT	Development Svcs					0								
Contractor Professional Services - Credits	Development Svcs			100	580	58,000		x	x	x	x	x	x	x
PC System - Acquisition	Hardware				687	0								
PC System - Maintenance	Hardware				2,936	0								
Notebook - Acquisition	Hardware				1,115	0								
Notebook - Maintenance	Hardware				3,024	0								
Tablet Notebook - Acquisition	Hardware				1,421	0								
Tablet Notebook - Maintenance	Hardware				2,800	0								
Laserprinter - Acquisition	Hardware				1,432	0								
Laserprinter - Maintenance	Hardware				1,408	0								
PC Maintenance User Owned	Hardware				2,720	0								
Printer Maintenance User Owned	Hardware				1,264	0								
File Space (100GB)	Hardware		ANN		23	0								
Package Software - Acquisition	Software			1	325,000	325,000		x	x	x	x	x	x	x
Package Software - Training and Services - Credits	Software					0								
Business Objects Access	Software					0								
Term Emulation SFTW-Acquisition	Software					0								
Term Emulation SFTW-Maintenance	Software					0								
Server - Acquisition/Upgrade	Infrastructure				8,000	0								
Server - Maintenance	Infrastructure			31	360	11,160	1.030	x	x	x	x	x	x	x
Server Sftwre - Acquisition/Upgrade	Infrastructure			31	335	10,385	1.030	x	x	x	x	x	x	x
Server Sftwre - Maintenance	Infrastructure					0								
Server Rack Mount	Infrastructure				400	0								
Oracle Enterprise Software Purchase - Per Processor (4 Cores) - Requires Annual Support Below	Infrastructure				42,280	0								

**Oakland County -- CLEMIS Location-Based Enterprise Program**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?						
								Y1	Y2	Y3	Y4	Y5	Y6	
Oracle Enterprise Software Support - Per Processor (4 Cores)	Infrastructure				9,293	0	1.030							
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure				16,985	0								
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure				12,724	0								
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure			5	8,463	42,315	1.030	x	x	x	x	x	x	
SQL Server Enterprise - Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure				4,261	0								
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure				4,429	0								
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure				3,317	0								
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure				2,205	0								
SQL Server - Standard Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure				1,112	0								
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				3,506	0								

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Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				701	0									
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				13,180	0									
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				2,635	0									
SSL Certificate	Infrastructure			2	845	1,690	1.030	x							
Internet Access	Infrastructure				180	0									
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure		ANN		500	0									
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0									
Dedicated Virtual Server	Infrastructure		ANN		4,150	0									
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure		ANN			0									
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure		ANN	9	9,288	83,592		x							
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure		ANN	14	9,751	136,514		x							
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure		ANN	8	10,446	83,568		x							

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure		ANN			0									

## Oakland County -- CLEMIS Location-Based Enterprise Program

## Return on Investment Analysis

## Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	696,630.00					
IT Hours - System Maintenance	Development Svcs		8,497.50	8,752.43	9,015.00	9,285.45	9,564.01
IT Hours - Customer Support	Development Svcs		169,950.00	175,048.50	180,299.96	185,708.95	191,280.22
IT Hours - Planned Maintenance	Development Svcs		8,497.50		9,015.00		9,564.01
CLEMIS - New Development							
Professional Services	Development Svcs						
User Hours - PTNE/OT	Development Svcs						
Contractor Professional Services - Credits	Development Svcs	58,000.00	58,000.00	58,000.00	58,000.00	58,000.00	58,000.00
PC System - Acquisition	Hardware						
PC System - Maintenance	Hardware						
Notebook - Acquisition	Hardware						
Notebook - Maintenance	Hardware						
Tablet Notebook - Acquisition	Hardware						
Tablet Notebook - Maintenance	Hardware						
Laserprinter - Acquisition	Hardware						
Laserprinter - Maintenance	Hardware						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	Hardware						
Package Software - Acquisition	Software	325,000.00	325,000.00	325,000.00	325,000.00	325,000.00	325,000.00
Package Software - Training and Services - Credits	Software						
Business Objects Access	Software						
Term Emulation SFTW-Acquisition	Software						
Term Emulation SFTW-Maintenance	Software						
Server - Acquisition/Upgrade	Infrastructure						
Server - Maintenance	Infrastructure	11,160.00	11,494.80	11,839.64	12,194.83	12,560.68	12,937.50
Server Sftwre - Acquisition/Upgrade	Infrastructure	10,385.00	10,696.55	11,017.45	11,347.97	11,688.41	12,039.06
Server Sftwre - Maintenance	Infrastructure						
Server Rack Mount	Infrastructure						
Oracle Enterprise Software Purchase - Per Processor (4 Cores) - Requires Annual Support Below	Infrastructure						

**Oakland County -- CLEMIS Location-Based Enterprise Program**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Oracle Enterprise Software Support - Per Processor (4 Cores)	Infrastructure						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure	42,315.00	43,584.45	44,891.98	46,238.74	47,625.91	49,054.68
SQL Server Enterprise - Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure						
SQL Server - Standard Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure						
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						

**Oakland County -- CLEMIS Location-Based Enterprise Program**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
SSL Certificate	Infrastructure	1,690.00					
Internet Access	Infrastructure						
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure						
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure						
Dedicated Virtual Server	Infrastructure						
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure						
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure	83,592.00					
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure	136,514.00					
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure	83,568.00					

**Oakland County -- CLEMIS Location-Based Enterprise Program**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure						

## Oakland County -- CLEMIS Location-Based Enterprise Program

## Return on Investment Analysis

## Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Development Services:</b>							
IT Hours - New Development	696,630						696,630
IT Hours - System Maintenance		8,498	8,752	9,015	9,285	9,564	45,114
IT Hours - Customer Support		169,950	175,049	180,300	185,709	191,280	902,288
IT Hours - Planned Maintenance		8,498		9,015		9,564	27,077
CLEMIS - New Development Professional Services							
User Hours - PTNE/OT							
Contractor Professional Services - Credits	58,000	58,000	58,000	58,000	58,000	58,000	348,000
<i>Development Services Subtotal:</i>	<b>754,630</b>	<b>244,945</b>	<b>241,801</b>	<b>256,330</b>	<b>252,994</b>	<b>268,408</b>	<b>2,019,109</b>
<b>Hardware:</b>							
<i>Hardware Subtotal:</i>							
<b>Software:</b>							
Package Software - Acquisition	325,000	325,000	325,000	325,000	325,000	325,000	1,950,000
Server - Maintenance	11,160	11,495	11,840	12,195	12,561	12,937	72,187
Server Sftwre - Acquisition/Upgrade	10,385	10,697	11,017	11,348	11,688	12,039	67,174
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	42,315	43,584	44,892	46,239	47,626	49,055	273,711
SSL Certificate	1,690						1,690
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	83,592						83,592
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	136,514						136,514
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446							

**Oakland County -- CLEMIS Location-Based Enterprise Program**

Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<i>Software Subtotal:</i>	<b>610,656</b>	<b>390,776</b>	<b>392,749</b>	<b>394,782</b>	<b>396,875</b>	<b>399,031</b>	<b>2,584,869</b>
<b>Infrastructure:</b>							
<i>Infrastructure Subtotal</i>							
<b>Training:</b>							
<i>Training Subtotal:</i>							
<b>Other:</b>							
<i>Other Subtotal:</i>							
<b>Costs Total:</b>	<b>1,365,286</b>	<b>635,721</b>	<b>634,550</b>	<b>651,111</b>	<b>649,869</b>	<b>667,439</b>	<b>4,603,977</b>

