

Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

Leadership Group: CLEMIS			
Department: Information Technology		Division: CLEMIS	
Project Sponsor: Jamie Hess	Date Requested: April 21, 2005	PM Customer No. 231	
Request Type:	<i><u>New Development</u></i>	<i>Enhancement</i>	
	<i>Maintenance</i>	<i>Customer Support</i>	
IT Team Name: CLEMIS		IT Team No: 4	
Project Manager/Leader: Jerry Cadreau			
Account Number: 17080	Account Description: CLEMIS TEAM NON-BILLABLE	Customer Name: CLEMIS	
Grant Funded? <u>Yes</u> No	Mandate? Yes <u>No</u>	Mandate Source:	

Project Goal

To improve spatial crime analysis undertaken by various groups of users so that public safety personnel can use appropriate spatio-temporal crime analysis capabilities to effectively respond to crimes by July 2006.

Business Objective

To design and migrate crime data to the spatial database architecture to allow all appropriate systems to access it in a consistent and efficient way.

Major Deliverables

Crime data with appropriate metadata for the CLEMIS footprint migrated into a SQL server SDE database.

Approach

- Finalize SDE architecture for storing and maintaining crime data
- SQL design of crime data
- Data design for crime data including parolees data and CSC data
- Migrate data from shapefiles to SDE feature classes along with relationship classes
- Populate metadata on all feature classes.

Business Objective

Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

To improve crime mapping and spatial analysis capabilities for advanced users within the CLEMIS community, resulting in a reduction of crime.

Major Deliverables

Implementation of CrimeView 2002 (client-server crime analysis system based on ArcGIS 8.3 technology).

Approach

- Finalize the technical architecture
- Customize CrimeView 2002 for Oakland County data
- Integrate existing Oakland County productivity tools
- Deploy application
- Test
- Create documentation
- Train

Business Objective

To provide crime mapping and spatial analysis capabilities to intermediate users thus improving crime analysis to reduce crime in the CLEMIS community.

Major Deliverables

Internet-based crime mapping application with appropriate data and tools.

Approach

- Finalize specifications with details on data and appropriate tools
- Map rendering
- Develop prototype
- Final Coding
- Test
- Create documentation
- Train

Business Objective

To provide community-oriented policing tools and data related to mapping and spatio-temporal analysis to local citizen groups so that awareness and education increases and better communication occurs between police department personnel and local citizen groups in order to reduce crime in the CLEMIS

Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

community.

Major Deliverables

Internet-based crime mapping application with appropriate data and tools for a larger audience.

Approach

- Finalize specifications with details on data and appropriate tools
- Map rendering
- Develop prototype
- Final Coding
- Test
- Create documentation
- Train

Benefits

It is anticipated that the benefits of this project will be primarily realized in its intangible benefits. The CLEMIS Team asserts that the following benefits will be achieved by the completion of this project:

- Reduction in crime
- Better quality of life for CLEMIS communities
- Appropriate deployment of resources by public safety agencies
- Scalable products will allow appropriate use of technology, thereby maximizing use while minimizing support and cost
- Better data structure will allow consistent access to data for all products and will ease the transition from one product to another if required
- Near real-time data access to all levels of users efficiently
- Better communication between public safety officials and citizen groups
- Better crime reporting with maps, charts, and reports

Impact

Number of Users 20 advanced users, 130 intermediate users, 250+ citizens group members

Divisions All CLEMIS police departments

Leadership Groups LAND, CLEMIS

**Oakland County
Department of Information Technology
Project Scope and Approach**

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

Risk

Business Environment Low – Customers currently have functional system that is being upgraded, but the project requires some changes to existing business processes and previously implemented technologies.

Technical Environment Medium – Project will require the development of new applications and modules in existing environments. This will also be a coordinated application development effort between Oakland County and a professional services provider.

Assumptions

Staffing IT Resources will be available for the hours indicated per the attached project plan. The following non-IT staff (roles/resources') availability will be as follows:

<u>Role:</u>	<u>Name</u>	<u>Hours per Day</u>
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Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

Facilities

- The project staff will have access to the computer rooms for installation and testing.

Technical

- All crime data will be available for loading into SDE at a specified time interval. This includes crime data from CLEMIS communities as well as parolees and CSC data, available from the State of Michigan.

Funding

- The Board of Commissioners has appropriated \$250,000 for the entire crime stat/web site project. Resolution #04014. \$90,000 has been identified for ArcIMS and Spatial Data Engine and \$60,000 for Comstat/CrimeView and state data cleanup. Additionally, \$99,796 has been allocated for Web Site Development addressed in Project ID: DE4188PC.

Other

- All training and system support for the end user (i.e. public safety officials) shall be provided by CLEMIS after the system has been developed.
- Oakland County will be seeking professional services to assist with the application development. Those services will be in addition to the hours cited in this document.
- Vendor (ESRI) will perform the following tasks for the project:
 - Data Processing Scripting (Remote)
 - ArcGIS Toolkit Geocoding (Remote)
 - Dataprocessing GCD (On Site)
 - Query Performance Scripting (Remote)
 - Query Performance Scripting (On Site)
 - Query Import / Export Support (Remote)
 - Query Creation Support (Remote)
 - Map Printing Support (Remote)
 - Reports Support (Remote)
 - Map Rendering Support (Remote)
 - Implementation Support (On Site)

Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

(Detailed description can be found in Project Folder under Outsource Selection List)

Priority

8

Constraints

- All tools and data (non-CLEMIS data) may not be available for non-Oakland County communities.
- Some public safety agencies may decide not to share data with local citizen groups.
- The interface (data and tools) will not be customizable for individual public safety agencies.

Exclusions

- This project will not include the designing of websites to hold non-spatial data for different public safety agencies.

Oakland County Department of Information Technology Project Scope and Approach

Project Name: Crime Mapping and Analysis

Project ID: D95010CM

PROJECT PHASE AUTHORIZATION

Phase(s): All	
Total Estimated Systems Development	Hours: 514 Cost: \$45,209
Total Estimated Technical Systems	Hours: 8 Cost: \$ 980
Total Estimated DISC	Hours: Cost:
Total Estimated CLEMIS	Hours: 92 Cost: \$ 0
IT Systems Development Division Manager Approval:	Date:
IT Technical Systems Division Manager Approval:	Date:
IT DISC Division Manager Approval:	Date:
IT CLEMIS Division Manager Approval:	Date:
IT Resource Manager Approval:	Date:
IT Resource Manager Approval:	Date:
IT Resource Manager Approval:	Date:
IT Resource Manager Approval:	Date:
IT Resource Manager Approval:	Date:
IT Management Approval:	
Approved: Yes No	Date:
Reason:	
Project Sponsor Approval:	
Title:	Date:

PROJECT SUMMARY

Authorized Development (see above)	Hours: 614 Cost: \$46,189
Preliminary Estimated Development for Future Phases	Hours: Cost:
Grand Total Estimated Development	Hours: 614 Cost: \$46,189

**Oakland County
Department of Information Technology
Project Scope and Approach**

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PROJECT COMPLETION AUTHORIZATION

Customer Acceptance of Product:	
Title:	Date:
Project Office Review:	Date:

Oakland County -- Crime Mapping and Analysis
Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	80,000	0	0	0	0	0	80,000
Costs:							
Development Services Subtotal:	258,894	0	0	0	0	0	258,894
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	0	0	0	0	0	0	0
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
Annual Statistics:							
Annual Total Savings	80,000	0	0	0	0	0	80,000
Annual Total Costs	258,894	0	0	0	0	0	258,894
Annual Return on Investment	(178,894)						(178,894)
Annual Costs/Savings Ratio	323.62%	0.00%	0.00%	0.00%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Cumulative Total Costs	258,894	258,894	258,894	258,894	258,894	258,894	258,894
Cumulative Return on Investment	(178,894)	(178,894)	(178,894)	(178,894)	(178,894)	(178,894)	(178,894)
Cumulative Cost/Savings Ratio	323.62%	323.62%	323.62%	323.62%	323.62%	323.62%	323.62%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
Signatures:							
Benefits Reviewed By Project Sponsor	Date: _____						
Costs (including IT Resources) Reviewed By Information Technology Project Manager	Date: _____						
Costs (including IT Resources) Reviewed By Technical Services Manager	Date: _____						

Oakland County -- Crime Mapping and Analysis
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
						0	
						0	
						0	
						0	
						0	
						0	
						0	

Oakland County -- Crime Mapping and Analysis
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
Reduction in crime	Cost Avoidance												
Better quality of life for CLEMIS communities	Cost Avoidance												
Appropriate deployment of resources by public safety agencies	Cost Avoidance												
Scaleable products will allow appropriate use of technology, thereby maximizing use while minimizing support and cost	Cost Avoidance												
Better data structure will allow consistent access to data for all products and will ease the transition from one product to another if required	Cost Avoidance												
Near real-time data access to all levels of users efficiently	Cost Avoidance												
Better communication between public safety officials and citizen groups	Cost Avoidance												
Better crime reporting with maps, charts, and reports	Cost Avoidance												

Oakland County -- Crime Mapping and Analysis
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	

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
IT Hours - New Development	Development Svcs		HR	935	122	114,009	
IT Hours - New Development - Tech	Development Svcs		HR	8	78	624	
User Hours - New Development	Development Svcs			117	75	8,775	
User Hours - PTNE/OT	Development Svcs					0	
Vendor Development Costs	Development Svcs		HR	579	234	135,486	
PC System - Acquisition	Hardware					0	
PC System - Maintenance	Hardware				2,304	0	
Notebook - Acquisition	Hardware					0	
Notebook - Maintenance	Hardware				2,372	0	
Mini Notebook - Acquisition	Hardware					0	
Mini Notebook - Maintenance	Hardware				2,196	0	
Laserprinter 1 - Acquisition	Hardware					0	
Laserprinter 1 - Maintenance	Hardware				1,104	0	
Laserprinter 2 - Acquisition	Hardware					0	
Laserprinter 2 - Maintenance	Hardware				1,208	0	
Laserprinter 3 - Acquisition	Hardware					0	
Laserprinter 3 - Maintenance	Hardware				1,860	0	
Image Workstations - Acquisition	Hardware					0	
Image Workstations - Maintenance	Hardware				3,496	0	
Terminals - Acquisition	Hardware					0	
Terminals - Maintenance	Hardware				644	0	
PRTR w/TERM ID - Acquisition	Hardware					0	
PRTR w/TERM ID - Maintenance	Hardware				1,072	0	
PRTR w/o TERM ID - Acquisition	Hardware					0	
PRTR w/o TERM ID - Maintenance	Hardware				1,072	0	
PC Maintenance User Owned	Hardware				2,304	0	
Printer Maintenance User Owned	Hardware				1,072	0	
Package Software - Acquisition	Software					0	
Package Software - Maintenance	Software					0	
Business Objects Access	Software					0	
Term Emulation SFTW-Acquisition	Software					0	
Term Emulation SFTW-Maintenance	Software					0	
Server - Acquisition/Upgrade	Infrastructure					0	

Oakland County -- Crime Mapping and Analysis
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
Server - Maintenance	Infrastructure					0	
Server Sftwre - Acquisition/Upgrade	Infrastructure					0	
Server Sftwre - Maintenance	Infrastructure					0	
TBD	Infrastructure					0	
TBD	Infrastructure					0	
TBD	Infrastructure					0	
TBD	Infrastructure					0	
Internet Access	Infrastructure				180	0	
Project Staff Training	Training					0	
User Training	Training					0	
						0	
						0	
						0	
						0	
						0	

Oakland County -- Crime Mapping and Analysis
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Affects Project ROI?						Potential Cost Extensions						
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6	
IT Hours - New Development	Development Svcs	X						114,009						
IT Hours - New Development - Tech	Development Svcs	x						624						
User Hours - New Development	Development Svcs	x						8,775						
User Hours - PTNE/OT	Development Svcs													
Vendor Development Costs	Development Svcs	X						135,486						
PC System - Acquisition	Hardware													
PC System - Maintenance	Hardware													
Notebook - Acquisition	Hardware													
Notebook - Maintenance	Hardware													
Mini Notebook - Acquisition	Hardware													
Mini Notebook - Maintenance	Hardware													
Laserprinter 1 - Acquisition	Hardware													
Laserprinter 1 - Maintenance	Hardware													
Laserprinter 2 - Acquisition	Hardware													
Laserprinter 2 - Maintenance	Hardware													
Laserprinter 3 - Acquisition	Hardware													
Laserprinter 3 - Maintenance	Hardware													
Image Workstations - Acquisition	Hardware													
Image Workstations - Maintenance	Hardware													
Terminals - Acquisition	Hardware													
Terminals - Maintenance	Hardware													
PRTR w/TERM ID - Acquisition	Hardware													
PRTR w/TERM ID - Maintenance	Hardware													
PRTR w/o TERM ID - Acquisition	Hardware													
PRTR w/o TERM ID - Maintenance	Hardware													
PC Maintenance User Owned	Hardware													
Printer Maintenance User Owned	Hardware													
Package Software - Acquisition	Software													
Package Software - Maintenance	Software													
Business Objects Access	Software													
Term Emulation SFTW-Acquisition	Software													
Term Emulation SFTW-Maintenance	Software													
Server - Acquisition/Upgrade	Infrastructure													

Cost Detail

Cost Description	Project Cost Category	Affects Project ROI?						Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6
Server - Maintenance	Infrastructure												
Server Sftwre - Acquisition/Upgrade	Infrastructure												
Server Sftwre - Maintenance	Infrastructure												
TBD	Infrastructure												
TBD	Infrastructure												
TBD	Infrastructure												
TBD	Infrastructure												
Internet Access	Infrastructure												
Project Staff Training	Training												
User Training	Training												

Oakland County -- Crime Mapping and Analysis
Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Development Services:							
IT Hours - New Development	114,009						114,009
IT Hours - New Development - Tech	624						624
User Hours - New Development	8,775						8,775
User Hours - PTNE/OT							
Vendor Development Costs	135,486						135,486
<i>Development Services Subtotal:</i>	258,894						258,894
Hardware:							
<i>Hardware Subtotal:</i>							
Software:							
<i>Software Subtotal:</i>							
Infrastructure:							
<i>Infrastructure Subtotal</i>							
Training:							
<i>Training Subtotal:</i>							
Other:							
<i>Other Subtotal:</i>							
Costs Total:	258,894						258,894

