

**UNITED STATES BANKRUPTCY COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

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In re : Chapter 9
: :
CITY OF DETROIT, MICHIGAN, : Case No. 13-53846
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Debtor. : Hon. Steven W. Rhodes
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**REPORT OF BETH NIBLOCK,
CHIEF INFORMATION OFFICER FOR THE CITY OF DETROIT**

Pursuant to Fed. R. Civ. P. 26, made applicable to this proceeding by Bank. R. 7026, the City of Detroit (the “City” or “Detroit”) submits this report with respect to the expected expert testimony of Beth Niblock, the Chief Information Officer for the City, in support of the City’s Fourth Amended Plan for the Adjustment of Debts of the City of Detroit (May 5, 2014) [Docket No. 4392] (the “Plan”).

I. INTRODUCTION

1. In early 2014 Ms. Niblock was appointed by Mayor Duggan as the City’s Chief Information Officer (“CIO”). Ms. Niblock reports directly to the Mayor and leads the City’s Information Technology Services Department (“ITS”).

2. As CIO, Ms. Niblock is responsible for providing information processing, telecommunications and network services to departments and divisions within the City of Detroit. At her direction, ITS provides project management, systems planning, design and programming support for the enhancement of existing systems, as well as for the development and implementation of new systems.

3. It is the City's intention to call Ms. Niblock to testify about the current state of the information technology systems and infrastructure at the City of Detroit and the necessity, reasonableness and impact of the proposed IT-related improvements the City intends to make as part of its restructuring and reinvestment initiatives (the "IT Reinvestment Initiatives") set forth in Exhibit I to the Fourth Amended Disclosure Statement With Respect to Fourth Amended Plan for the Adjustment of Debts of the City of Detroit (May 5, 2014) [Docket No. 4391] (the "Disclosure Statement").¹

¹ The Reinvestment Initiatives contemplate approximately \$151.7 million of reinvestment in information technology. This amount includes technology improvements both within ITS and within other departments or agencies of the City, such as the Detroit Police Department and the Finance Department. Ms. Niblock's testimony is limited to the IT Reinvestment Initiatives that are the responsibility of ITS.

II. OPINIONS

4. Ms. Niblock will offer the following opinions:
 - A. The City's Information Technology is Deficient: The City's information technology systems and infrastructure are deficient.
 - B. The IT Reinvestment Initiatives Are Reasonable And, When Implemented, Will Address the IT Deficiencies Ms. Niblock Has Identified: The IT-related projects in the City's Reinvestment Initiatives will address the deficiencies the City currently has in information technology and substantially improve the services the City provides to its citizens, businesses, and visitors.
 - C. The Dollar Amounts And Timeframes Contemplated For The IT Reinvestment Initiatives Are Reasonable And ITS Can Operate Within Them: While it will be a substantial task, the IT-related projects in the City's Reinvestment Initiatives can be achieved within the amounts budgeted and the timeframes provided and ITS can operate within this framework.

III. BASIS AND REASON FOR OPINIONS: METHODOLOGY

5. In reaching each of her opinions, Ms. Niblock employed the methodologies set forth below.

A. The City's Information Technology Is Deficient.

6. Ms. Niblock believes that the City's information technology systems and infrastructure are deficient. Ms. Niblock believes that the effective use of technology is an essential foundation of a modern, efficient and effective government, and that absent a modernized IT infrastructure, a city is unable to adequately deliver government services for the public. Ms. Niblock believes that, at this time, the City of Detroit's information technology is lacking.

7. Ms. Niblock bases this belief on the following methodology, in addition to her prior professional experience and expertise in the area of information technology:

- (a) *Initial Investigation and Analysis:* Prior to her accepting her position as CIO, Ms. Niblock began her direct engagement with City employees and technology systems, in order to understand the current state of the City's information technology capabilities. In November 2013, while still employed as the Chief Information Officer for the Louisville Metro Government, Ms. Niblock was contacted by the White House Office of Science and Technology Policy to join a municipal "Tech Team" for the City of Detroit.² Over the course of two days in November 2013, the Tech Team met with key stakeholders in the City, including City officials and local private-sector, non-profit and civic innovators. Following these meetings, the Tech Team continued to work for the next several months to develop a report that would include a combination of impressions, observations and suggested areas of focus for the City as it seeks to leverage technology in support of economic

² Other members of the Tech Team included: Gail Roper, Chief Information Officer, City of Raleigh, NC; Allen Square Jr., Chief Information Officer, City of New Orleans, LA; Nigel Jacob, Co-founder of the City Hall Office of New Urban Mechanics, Boston, MA; and John Tolva, former Chief Technology Officer, City of Chicago, IL. The Tech Team was tasked with meeting with city officials and local technologists and innovators to identify ways that technology could be leveraged to support the City's revitalization efforts.

revitalization and improved services for residents and businesses. That report (the “Tech Team Report”) was delivered by the White House to Mayor Duggan on April 29, 2014. A copy of the Tech Team Report is attached hereto as Exhibit 1.

- (b) *Post-Employment Investigation and Analysis*: Ms. Niblock engaged in additional review and gained additional first-hand knowledge of the City’s information technology upon her appointment as CIO. In February and March 2014, in addition to reviewing documentation and physically inspecting the City’s hardware and software, Ms. Niblock also undertook to meet with every employee of ITS on an individual basis. Since that time Ms. Niblock has continued to meet with management-level employees on a weekly basis in order to continue to understand the information technology-related matters and to evaluate the City’s progress on ongoing information technology upgrades and initiatives.

8. Accordingly, with respect to the state of the City’s information technology, based on Ms Niblock’s experience and the knowledge she gained via her investigations, she believes that the information technology systems are deficient. Specifically:

- (a) *Hardware*: Ms. Niblock’s investigation revealed that approximately 80% of the City’s 5,500 computers are over 5 years old. Ms. Niblock believes that the antiquated nature of

the hardware results in frequent technical problems and non-functioning devices, and Ms. Niblock believes that will continue to be true absent any upgrades or other improvements. Ms. Niblock further believes that, consistent with her experience, these technical issues hamper the ability of users who depend on this hardware to complete their work for the City and facilitate the provision of key City services.

- (b) *Software*: Ms. Niblock’s investigation revealed that much of the City’s software, including the operating systems, is out of date. In particular, approximately 85% of the City’s workstations operate on Windows XP or older versions of this operating system. Ms. Niblock believes that this operating system is no longer adequately supported—and, by virtue of its age, is far from top of the line. Moreover, because this antiquated, unsupported software is in use, ITS cannot centrally manage the City’s computers, assign policies, deploy software and apply updates remotely. Ms. Niblock’s investigation has also revealed that multiple versions of Microsoft Office software are simultaneously in use, many of which are incompatible with each other. Ms. Niblock believes that this further hampers ITS’ ability to centrally manage the information technology for the City and the City’s ability to make use of such technology in order to provide services to its residents and businesses.
- (c) *Network*: Ms. Niblock’s investigation has revealed that the City has serious problems with its network: specifically, the resilience and reliability of its network. Ms. Niblock believes

that this results in network outages and the inability of users to access email and other functions, and Ms. Niblock believes that this will continue to be true absent any upgrades or other improvements. Given that a stable network infrastructure is a necessary foundation for the use of emerging technologies and for technological advancements, as well as for ongoing operations, Ms. Niblock believes that this creates a substantial stumbling block for the City in its efforts to operate and to provide services to its residents and businesses.

B. The IT Reinvestment Initiatives Are Reasonable And, When Implemented, Will Address The IT-Related Deficiencies Ms. Niblock Has Identified.

9. Ms. Niblock believes that the IT Reinvestment Initiatives, when implemented, will address the deficiencies the City currently has in information technology and substantially improve the services the City provides to its citizens, businesses, and visitors. In Ms. Niblock's judgment, the IT Reinvestment Initiatives are an important step in the creation of the development and implementation of adequate infrastructure to support the City's operations, both in ITS and in other departments and agencies.

10. Ms. Niblock bases this belief on the following methodology, in addition to her prior professional experience and expertise in the area of information technology:

- (a) *Review of Projections*: Ms. Niblock reviewed and relied upon the revenue projections prepared by Ernst and Young, which are attached as Exhibit J to the Disclosure Statement (the “Projections”), as such projections were updated as of July 2, 2014.
- (b) *Review of the Reinvestment Initiatives*: Ms. Niblock reviewed and relied upon Conway MacKenzie’s Reinvestment Initiatives as detailed in Exhibit I to the Disclosure Statement. In particular, Ms. Niblock reviewed and relied upon the “Technology Infrastructure” section, which sets forth the IT Reinvestment Initiatives. See Ten-Year Plan of Adjustment; Restructuring and Reinvestment Initiatives, pg. 8 of 70. Moreover, it is Ms. Niblock’s understanding that the IT Reinvestment Initiatives, including the costs contemplated therein and the specific projects, were developed by Conway MacKenzie as a result of discussions with ITS personnel and based on their review of relevant documents, including quotes from vendors. Thus, Ms. Niblock also relied on these sources, incorporated therein.
- (c) *Review of IT Projects Summary*: Ms. Niblock reviewed and relied on a specific breakdown of the IT-related Reinvestment

Initiatives prepared by Conway MacKenzie (the “IT Projects Summary”), which provided additional, detailed information on each IT-related project for ITS and other departments. A copy of the IT Projects Summary is attached hereto as Exhibit 2.³ Ms. Niblock’s review of the IT Projects Summary focused on projects specifically based in ITS (not other City departments or agencies). The ITS-specific projects are:

	For the Fiscal Year End										10-Year
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
ITS:											
ERP System	-	\$ (7.4)	\$ (10.3)	\$ (8.6)	-	-	-	-	-	-	\$ (26.2)
Microsoft Application Update	-	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(13.5)
Data Center Back-Up	-	-	(4.9)	(2.4)	(0.2)	(0.2)	(2.7)	(0.2)	(0.2)	(0.2)	(10.9)
Citywide hardware upgrade	-	(1.5)	(2.0)	(2.0)	(1.2)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(11.7)
Citywide imaging and document management	-	(3.0)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(5.4)
Security access system to building	-	(0.6)	(0.6)	(0.6)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(3.8)
Workbrain Upgrade	(1.1)	-	-	-	(1.2)	-	-	-	(1.3)	-	(3.6)
Citywide network infrastructure	-	(2.0)	-	-	(1.1)	-	-	(1.1)	-	-	(4.2)
Active directory service migration	-	(1.3)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(2.0)
ERP System - Ongoing Maintenance	-	-	-	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(2.8)
Helpdesk software	-	(1.6)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(2.0)
Operating System Upgrade	-	(1.0)	-	-	-	-	-	-	-	-	(1.0)
SQL server support	-	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.7)
Groupwise saving	-	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	3.1
Sub-total ITS Department	\$ (1.1)	\$ (19.9)	\$ (19.4)	\$ (15.5)	\$ (6.1)	\$ (3.5)	\$ (6.1)	\$ (4.7)	\$ (4.9)	\$ (3.6)	\$ (84.8)

(d) *Report for the Mayor:* In May of 2014 Ms. Niblock undertook a separate review of the Projections and the IT Reinvestment Initiatives at the direction of Mayor Duggan. The Mayor requested a report setting forth Ms. Niblock’s conclusions with respect to the reasonableness of the amounts budgeted and the timeline for implementation of particular projects (the “ITS Report”). For purposes of this review, Ms. Niblock considered only those IT Reinvestment Initiatives that are based in her

³ Ms. Niblock originally reviewed an older version of the IT Projects Summary; the version attached hereto as Exhibit 2 reflects the updated projections as of July 2, 2014.

department, ITS. The ITS Report was delivered to Mayor Duggan on May 19, 2014. A copy of the ITS Report is attached hereto as Exhibit 3.

11. Accordingly, with respect to her opinion as to the reasonableness of the IT Reinvestment Initiatives, based on Ms Niblock's experience and the knowledge she gained via the methodology set forth in paragraph 10, *supra*, she believes that the IT Reinvestment Initiatives will address the deficiencies she has identified with respect to the City's information technology. For example:

- (a) *Application Update*: Ms. Niblock believes that this Initiative will address the City's current use of out-of-date, incompatible Microsoft programs. Ms. Niblock believes that with the update, the City will be able to deploy newer technologies and stronger security standards. In her opinion, this will fundamentally improve the City's ability to review and process information necessary to serve its citizens.
- (b) *City-Wide Hardware Upgrade*: Ms. Niblock believes that this Initiative will directly address the City's antiquated hardware. Ms. Niblock believes that updated hardware that is scalable for new software packages will result in increased computing speed, which in turn will allow City employees to provide faster and better services to citizens and businesses.
- (c) *Workbrain Upgrade*: Ms. Niblock believes that this Initiative will address a major software deficiency, relating to the City's

flawed “Workbrain” software system that controls time entry and payroll processing. Ms. Niblock believes that the Initiative will allow the City to take advantage of software updates, which in turn may permit faster, more accurate processing and support the City’s ability to operate.

- (d) *Citywide Network Infrastructure:* Ms. Niblock believes that this Initiative will directly address and resolve the unreliable nature of the City’s network. Ms. Niblock believes that the Initiative will result in a more reliable network, which in turn will ensure the network access that will allow each of the City’s departments to perform their necessary functions for the City’s citizens and businesses.
- (e) *Operating System Upgrade:* Ms. Niblock believes that this Initiative addresses the current out of date systems upon which ITS (and other City departments) depends. Ms. Niblock believes that, together with the Microsoft application updates, the upgrade of the City’s operating system will ensure improved functionality and compatibility and that this will better allow the City’s departments to perform their necessary functions.
- (f) *Helpdesk Software:* Ms. Niblock believes that this Initiative will bolster the hardware, software, and network infrastructure improvements. In particular, Ms. Niblock believes that this Initiative will improve the City’s ability to identify, prioritize

and monitor ITS-related issues going forward and ensure adequate support for the City's operations.

C. The Dollar Amounts And Timeframes Contemplated For The IT Reinvestment Initiatives Are Reasonable and ITS Can Operate Within Them.

12. Ms. Niblock believes that, while it will be a substantial task, the IT Reinvestment Initiatives can be achieved within the amounts budgeted and the timeframes provided. Ms. Niblock believes that these parameters are sufficient to permit her and ITS to accomplish the work necessary to correct deficiencies and advance the City's information technology capabilities to an appropriate level.

13. Ms. Niblock bases this belief on the following methodology, in addition to her prior professional experience and expertise in the area of information technology: (i) review of the Projections, (ii) review of the Reinvestment Initiatives, (iii) review of the ITS Projects Summary and (iv) her Report for the Mayor. As part of her evaluation, Ms. Niblock specifically relied upon her experience with respect to the implementation of information technology solutions for municipalities and other organizations.

IV. BASIS AND REASON FOR OPINIONS: ASSUMPTIONS

14. Ms. Niblock has made certain assumptions with respect to one or more of the opinions rendered herein. Unless otherwise indicated, Ms. Niblock's opinions are rendered as of the date hereof, and she has assumed that the City's condition (including its general economic condition and the condition of its information technology) will not materially change prior to confirmation of the Plan. Ms. Niblock also assumes that the Projections, and all material assumptions underlying such projections, are materially correct in relevant respects.

A. The City's Information Technology Is Deficient.

15. With respect to her opinion that the City's information technology systems and infrastructure are deficient, Ms. Niblock's material assumptions are only the general assumptions set forth above.

B. The IT Reinvestment Initiatives Are Reasonable And, When Implemented, Will Address The IT-Related Deficiencies Ms. Niblock Has Identified.

16. With respect to her opinion that the City's information technology systems and infrastructure are deficient, Ms. Niblock's material assumptions include the general assumptions set forth above. In addition, Ms. Niblock has made certain assumptions with respect to the funding and timeframes contemplated

for the IT Reinvestment Initiatives, which may affect this opinion and which are set forth below.

C. The Dollar Amounts And Timeframes Contemplated For The IT Reinvestment Initiatives Are Reasonable.

17. With respect to her opinion that the IT Reinvestment Initiatives can be achieved within (i) the amounts budgeted and (ii) the timeframes provided, in addition to the general assumptions set forth above, Ms. Niblock has made the following assumptions:

- (a) *Front-Loading*: The City proposes to accomplish the IT Reinvestment Initiatives over a ten year period, with a substantial “front-loading” in Fiscal Years 2015 and 2016. In reaching her opinion that the IT Reinvestment Initiatives as set forth are achievable, Ms. Niblock assumes that there will be sufficient headcount and supporting resources to simultaneously commence multiple IT Reinvestment Initiatives (as well as other types of Reinvestment Initiatives in other City departments that require the same headcount and/or resources).
- (b) *Interfacing*: Any IT-related developments must account for “interfacing.” Information technology is by its nature a cross-functional area, and hardware and/or software typically must interact with multiple users. For example, software relating to tax collections may need to be accessible both to the Assessing Division and the Income Tax Division of the Finance

Department. Ms. Niblock believes that, to date, the full extent of the need for interfaces, including which systems will require interfaces, and the cost of any required interfaces, is unknown. If any required interfaces are not addressed and adequately funded, this would affect the City's ability to implement the IT Reinvestment Initiatives and impact Ms. Niblock's opinion.

- (c) *Employment:* Ms. Niblock assumes that the City will be able to employ and retain individuals or hire contractors with the necessary technical knowledge to implement the ITS Reinvestment Initiatives. Attracting and maintaining a highly skilled workforce is a challenging task, particularly given the current and proposed compensation rates set forth in the Projections.
- (d) *Groupwise Savings:* As set forth in Ms. Niblock's report to Mayor Duggan, the ITS Report, Ms. Niblock believes that there is one exception with respect to the achievability of certain savings contemplated in the IT Reinvestment Initiatives. The "Groupwise Savings" that have been identified as achievable in light of the ITS Reinvestment Initiatives, in Ms. Niblock's opinion, will not be realized until Fiscal Year 2019. These savings result from the City's email system moving into the "cloud," which in turn results in fewer costs associated with technology maintenance and upgrades. Although the technology upgrades contemplated in the IT Reinvestment Initiatives will commence in advance of that (in particular, the Microsoft Application upgrades and updates), the movement

into the cloud will not take place until Fiscal Year 2019 and thus the savings will not be realized until that time. Ms. Niblock assumes that this will not alter the City's ability to successfully implement the IT Reinvestment Initiatives.

V. DOCUMENTS AND OTHER MATERIALS CONSIDERED IN FORMING THE OPINIONS IN THIS EXPERT REPORT

18. Attached as Exhibit 4 is a detail of the materials Ms. Niblock considered in reaching her opinions. Ms. Niblock also relied upon discussions with City employees, as well as the City's third-party consultants and contractors.

VI. QUALIFICATIONS

19. Ms. Niblock has extensive experience in the Information Services arena, with significant management expertise with respect to the planning, implementation and support of technology solutions. Significantly, prior to her appointment as CIO, Ms. Niblock served as the Chief Information Officer for the Louisville Metro Government, where she was responsible for the merging of the former city and county IT infrastructure and for substantial improvements and innovations in information technology.

20. Attached as Exhibit 5 is the most recent copy of Ms. Niblock's curriculum vitae.

VII. PRIOR EXPERT TESTIMONY

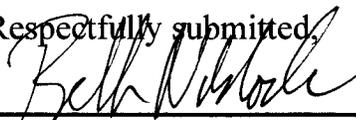
21. Ms. Niblock has not previously testified as an expert.

VIII. BASIS OF COMPENSATION

22. Ms. Niblock is not being separately compensated by the City for this Expert Report or her opinions expressed herein. The only compensation she receives from the City is for her work as the CIO.

Dated: July 8, 2014

Respectfully submitted,



Beth Niblock
Chief Information Officer
City of Detroit, Michigan

Exhibit 1

[Tech Team Report]

THE WHITE HOUSE

WASHINGTON

April 29, 2014

The Honorable Mayor Mike Duggan
The Mayor of Detroit
2 Woodward Avenue, Suite 1126
Detroit, MI 48226

Dear Mayor Duggan:

The Obama Administration is committed to partnering with the City of Detroit—its citizens, local leaders, and community stakeholders—to support Detroit’s vision for economic revitalization. As part of this effort, in November, the White House Office of Science and Technology Policy and the National Economic Council convened in Detroit a “Tech Team” of top municipal-government technology officials from across the Nation to participate in two days of meetings with city officials and local private-sector, non-profit, and civic innovators. The goal was to help identify ways technology could be leveraged to complement efforts by local government and the Detroit community to build a strong, vibrant 21st century Detroit.

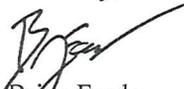
Based on these discussions, the Tech Team developed the attached document, which includes initial impressions and observations and seven suggested areas of focus, including a number of actionable recommendations for leveraging technology to improve citizen services and create new efficiencies.

The seven focus areas are: establishing a Chief Information Officer; evaluating IT infrastructure; promoting civic engagement; opening government-held data; creating a 311 system; improving enterprise geographic information systems (GIS); and enabling online permitting. We’re thrilled you have addressed the first focus area, appointing the City’s first-ever cabinet-level Chief Information Officer, Beth Niblock. The creation of this new position further solidifies the critical role of technology and innovation in the city’s policies and economic revitalization efforts.

As previously announced and in conjunction with the Administration’s efforts to support Detroit revitalization, Kresge Foundation funded the Tech Team’s trip to Detroit. In addition, the John S. and James L. Knight Foundation and Rock Ventures committed to provide \$500,000 to help implement key elements of this report, which could include hiring innovation fellows, making necessary technology upgrades, and supporting local tech-training and mentoring.

We transmit this report on behalf of the Tech Team, which developed this report recognizing that Detroit city officials and leadership are in the best position to determine how to interpret and potentially implement the observations and recommendations, but are confident that collaborative efforts such as this one can support and amplify the important work already underway by the City, its leadership, and local stakeholders.

Sincerely,



Brian Forde
Senior Advisor to the U.S. Chief Technology Officer
The White House Office of Science and Technology Policy



Don Graves
Director, President’s Council on Jobs and Competitiveness
The White House

Detroit Tech Team Report

4/29/2013

Allen Square Jr., Chief Information Officer, the City of New Orleans, LA

Beth Niblock, former Chief Information Officer, the City of Louisville, KY

Gail Roper, Chief Information and Community Relations Officer, the City of Raleigh, NC

John Tolva, former Chief Technology Officer, the City of Chicago, IL

Nigel Jacob, Co-founder of the Office of New Urban Mechanics, the City of Boston, MA

Detroit Tech Team Report

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I. Introduction

In November, in coordination with the White House Office of Science & Technology Policy (OSTP) and the National Economic Council (NEC), the City of Detroit hosted a team of top municipal-government technology officials from across the nation to meet with city officials and other local leaders and stakeholders. The goal was to brainstorm ways in which technology could be leveraged in support of economic revitalization and improved services for city residents.

The five individuals on this “Tech Team” had led innovative efforts in other cities—Boston, Chicago, Louisville, New Orleans, and Raleigh—that ultimately created significant costs-savings for their respective local governments and facilitated the development of customer-facing tools that made government services easier to access. The officials were:

- **Allen Square Jr.**, Chief Information Officer, the City of New Orleans, LA
- **Beth Niblock**, Chief Information Officer, the City of Louisville, KY
- **Gail Roper**, Chief Information and Community Relations Officer, the City of Raleigh, NC
- **John Tolva**, former Chief Technology Officer, the City of Chicago, IL
- **Nigel Jacob**, Co-founder of the Office of New Urban Mechanics, the City of Boston, MA

In this report, the Tech Team offers its impressions and observations and seven suggested areas of focus, including a number of actionable recommendations for leveraging technology in support of Detroit. The focus areas are:

- **Establishing a Chief Information Officer:** Establish a cabinet-level position within city government charged with leveraging technology and innovation to improve the delivery of government services;
- **Evaluating IT Infrastructure:** Identify opportunities for streamlining government processes and realizing cost-savings in city spending, including areas such as standardizing software applications and consolidating data centers and servers;
- **Promoting Civic Innovation in Detroit:** Leverage the knowledge and expertise of Detroit’s lively, diverse civic innovation ecosystem of social and civic entrepreneurs, foundations, and business owners to develop tools and technologies to benefit the City and local residents.
- **Opening Government Data:** Make freely available government data more open and accessible to fuel entrepreneurship, innovation, and economic growth while ensuring privacy and security;
- **Creating a 311 System:** Create a 311 system to improve citizen-relationship management and decrease non-emergency related service requests to emergency lines such as 911;
- **Improving Enterprise Geographic Information System (GIS):** Facilitate the build-out of citywide enterprise Geographic Information System.
- **Enabling Online Permitting:** Develop and provide the capability for local residents to apply and pay for business, safety, building, and other permits online.

These recommendations and suggested areas of focus can complement and build on work already underway by the City and local stakeholders. The Tech Team is prepared to engage further with the City in support of revitalization efforts and to help build a robust, 21st century Detroit.

II. Establishing a Chief Information Officer

Overview

Over the last five years many federal, state, and local governments have evolved the role of a Chief Information Officer position to promote the effective use of technology and innovation in order to build more modern, efficient, and effective governments. This individual or office is charged with leveraging technology and innovation to improve the delivery of government services for the public.

Led by municipal Chief Technology, Chief Information and Chief Innovation Officers, these innovation offices have also worked closely with universities, hospitals, corporations, grassroots, non-profits, citizen advocacy groups and civic innovators to leverage the skills and commitment of local communities to solve local issues using technology and innovation. This type of collaboration can range from working with a grassroots organization to capture data-driven insights about blight or crime to developing a partnership with universities to create an “innovation fellows” program to work on local challenges.

Since the Tech Team’s visit to the City of Detroit, Mayor Duggan has created and filled the position of Chief Information Officer, a new cabinet-level position in the city. Mayor Duggan recently appointed Beth Niblock, a member of the Tech Team that visited the City of Detroit, to this job. By creating this position the Mayor has solidified the critical role of technology and innovation in a city’s policies and policy implementation.

The Tech Team observed that there is a lively civic innovation ecosystem at work within Detroit where social and civic entrepreneurs, foundations, and business owners are working together to build tools and technologies that address significant issues for the city and local residents. The current Detroit IT leadership is positioned to effectively modernize the city’s IT infrastructure. Leveraging the knowledge and expertise of the Detroit community and the experience of other cities that have succeeded in this area can be a key to furthering this effort in Detroit.

Building a 21st century city requires collaboration among private, public, and civil sectors. In addition, collaboration among cities and sharing lessons learned has played an important role in many cities’ ability to successfully leverage technology, including the efforts of Boston, Chicago, Louisville, New Orleans, and Raleigh, which overhauled their municipal government’s use of technology in recent years. This type of cross-city collaboration can take many forms, such as the sharing of Request for Proposals (RFP) across cities to see how others have been able to improve procurement services, sharing and using open data policies, and learning from other cities’ successful use of civic innovation.

Recommendations

Chief Information Officer (CIO): A cabinet-level role, reporting directly to the Mayor, to manage the City’s IT and civic innovation strategy and implementation. Two key suggested areas of focus for this position include: centralizing IT spending and procurement to improve operations and efficiencies across government and identifying which tools and services should be developed by civic and social entrepreneurs (e.g., public transportation tools). In order to provide support to the CIO, the City could position business analysts to work with each department to deeply understand the citizen services they provide, with the goal of applying technology to improve the efficiency and impact of those services.

Deputy Director for Technological Community Engagement: Reporting to the CIO and serving the Mayor and the cabinet as an expert on civic innovation, this role is to serve as the principal point of contact between local government and the civic and social entrepreneur community.

Innovation Fund: Under the supervision of the Mayor and CIO, the Deputy Director for Technological Community Engagement could manage a fund providing capital for small civic innovation projects (\$5k – \$10k each) being undertaken by members of the community to dramatically improve the delivery of city services.

Citizen Technology Council: Establish a council to provide residents an opportunity to connect with the CIO, Deputy Director for Technological Community Engagement, and other city officials to share suggestions and ideas for improving the delivery of services through technology.

Examples of Technology and Innovation Positions in Cities

Over the last several years several approaches have been taken by mayors to leverage innovation and technology in their cities. These roles generally work with and/or complement the IT group, which is led in most cases by a Chief Information Officer. Below are examples of successful efforts in cities across the United States – all reporting to the city mayor.

The City of Philadelphia: Co-directors of the Mayor’s Office of New Urban Mechanics

This position focuses on enabling social entrepreneurs to solve problems facing local government.

Example Projects: [FastFWD](#)

The City of San Francisco: Chief Innovation Officer in the Office of Civic Innovation

This position focuses on enabling innovative use of city resources and bringing innovation into government.

Example Projects: [ImproveSF](#), [Entrepreneurs in Residence](#)

The City of Chicago: Chief Technology Officer

This position focuses on developing the next generation of IT infrastructure for the City.

Example Projects: [Digital Roadmap](#)

The City of Chicago: Chief Data Officer

This position focuses on data mining approaches applied to detecting patterns of activity in the City.

Example Projects: Windy Grid

The City of New York: Chief Analytics Officer

This position focuses on data analysis targeted at finding opportunities to improve operations, find inefficiencies and solve problems in service delivery.

Example Projects: [Identify Properties Most at Risk for Fire](#)

The City of Boston: Co-chairs of the Mayor’s Office of New Urban Mechanics

This position focuses on building experimental tools and experiences for engaging Boston residents.

Example Projects: [StreetBump](#), [Technology for Autism Now](#)

III. Evaluating Citywide IT Infrastructure

Overview

The “consumerization” of IT by the private sector has empowered local residents and city employees with sophisticated tools, and residents have come to expect similar, powerful tools when working with the municipal government. The need for dynamic civic engagement will only accelerate this shift. The City of Detroit would benefit from an evaluation of its current IT infrastructure and development of an IT strategic plan that would identify key goals the City would like to accomplish and describe how technology can be leveraged to achieve those goals.

When developing its strategic plan, Gail Roper, Chief Information and Community Relations Officer of the City of Raleigh, used the following key questions to make and implement the recommendations below. The City of Detroit could consider using these questions where it applies to their existing and future infrastructure.

Key Questions for Developing a Strategic IT Plan:

- What will the IT organizational structure look like after migrating from one that primarily does programming to one that has significantly moved towards consulting and project management? Examples of possible new or revised areas of need include: Project management office, business relationship managers, and service desk.
- In order to implement emerging technologies, what building blocks, such as a stable network infrastructure, is needed?
- What industry standards will need to be followed and measured? What industry trends need to be taken into account? Cloud, Software as a Service, Platform as a Service?
- In order to successfully implement innovative solutions that drive economic growth and enhance delivery of city services, what structure needs to be in place organizationally and technologically?

Recommendations

- 1) Implement the Information Technology Infrastructure Library (ITIL) - a set of core practices for IT service management widely used by public and private IT organizations.
- 2) Create an Enterprise Architecture Group - responsible for creating infrastructure standards, standardization of applications, development platforms, and tools, and to ensure that new tools align with business objectives.
- 3) Create the Technology and Communications Subcommittee - chaired by a councilperson, the committee is responsible for overseeing and reviewing highly visible technology initiatives prior to the introduction to the full city council.
- 4) Create the Information Resource Management Committee (IRMC) responsible for reviewing new enterprise technology projects - chaired by the Detroit CIO, and consisting of all city department heads including fire and police chiefs, to provide governance related to enterprise technology projects.
- 5) Create an “Enterprise Project Management Office” (EPMO) - responsible for supporting the City’s Chief Information Officer and the IRMC in overseeing the City’s portfolio of technology projects and managing the City’s technology investment process. The EPMO is responsible for identifying, evaluating, and prioritizing potential IT investments with the goal of allocating resources to the activities prioritized by the departmental stakeholders that will generate the highest business value.

IV. Promoting Civic Innovation

Overview

In cities large and small across the United States, “civic innovators” are on the rise. These innovators come from a variety of disciplines and are all united in their efforts to bring new methods and approaches (often, but not limited to, technology and design) to bear on the civic problems they see in their communities. These civic innovators work closely with local governments to address relevant, local issues by building tools and solutions for use by local citizens.

Applying technology and design innovations to policy goals can significantly improve the likelihood of initiatives succeeding. There is an active group of grassroots activists, designers, technologists, social entrepreneurs, startups, and civic and anchor institutions (universities, hospitals, churches, etc.) who want to work closely with the City of Detroit.

There are many paths by which the City of Detroit can leverage its dynamic community of civic innovators to build a 21st century city. In other cities, for example, civic innovators have built high-quality web apps, developed sophisticated visualization tools to help citizens understand complex issues in the community, and redesigned the paper forms government uses to gather information from residents.

Recommendations

One of the most effective paths will be to give civic innovators a seat at the table as the City looks to achieve audacious policy goals. To help accomplish this, and to leverage the skills of the Detroit civic innovation community, we recommend creating a new Deputy Director for Technological Community Engagement position, which would be responsible for bringing civic innovators to the policy table. Below are a few examples of how this has been done in other cities:

- Civic User Testing Group: The City of Chicago’s [Smart Chicago Collaborative](#) initiative, a civic organization devoted to improving lives in Chicago through technology, enables a group of Chicagoans to come together and get paid to test out, review and suggest improvements to civic apps that have been developed by civic hackers and entrepreneurs.
- Code for America Brigade: This movement, anchored by Code for America, an organization that connects developers and designers to local government through fellowships, is one in which local residents come together (on their own time) with local government to solve problems in the community using tech and open data from public sector sources. The Brigade is active in many cities across the United States. A key aspect of the Brigade is that it enables collaboration across cities. For example, in 2013, the Chicago Brigade created a flu shot tracker app that was then used in Boston.
- Hackathons: This model brings members of the community—policymakers, developers, designers and potential users—to address significant policy challenges and is an effective method for building awareness about these challenges and how they can be addressed through technology and design innovation.

V. Making Freely-Available Government Data More Accessible and Usable

Overview

Cities across America have found that making government-held information more open and accessible to innovators and the public fuels entrepreneurship and economic growth while increasing government transparency and efficiency. Popular examples of open data that have given rise to vibrant innovation and economic growth include transit time data, crime data, and restaurant health inspection data.

In May of 2013, President Obama released an Executive Order declaring that information is a valuable national asset whose value is multiplied when it is made easily accessible to the public. The Executive Order requires that, going forward, data generated by the Federal government be made available in open, machine-readable formats, while appropriately safeguarding privacy, confidentiality, and security. Opening up government data also streamlines intra-governmental and inter-governmental communication and operations, permits the public to assist in identifying efficient solutions for government, and promotes the development and adoption of innovative strategies for social progress.

Key principles relating to open data include:

- **Completeness:** All raw information from a dataset should be released to the public, except when restricted by law. Metadata defining the raw data and methodology should also be included whenever possible.
- **Primacy:** Data released should be primary-source data.
- **Timeliness:** Information should be timely or updated in real time whenever possible.
- **Easily Accessible:** Information should be easily obtained and used through tools such as an API. Barriers to access include making data available through in-person access or submitting forms, or systems that require browser-restricted technologies.
- **Machine readability:** Information should be made available in machine-readable formats, including XLS, CSV, or JSON that make it easy for programmers to build tools. PDFs or word documents are difficult formats to extract data from.
- **Non-discrimination:** Barriers that may discriminate include registration or membership requirements or specifying which applications can access data.
- **Use of Commonly Owned Standards:** Proprietary software should not be required to access data.
- **Licensing:** Terms of service, attribution requirements, and restrictions on dissemination are barriers to use of data.
- **Permanence:** Information should be online in archives in perpetuity with appropriate version-tracking over time.
- **Usage costs:** There should be no user fees for accessing government data.

Recommendations

Cities across the country including Boston, Chicago, Louisville, Philadelphia and San Francisco have issued open data policies to tap into the power of open data, and we recommend Detroit consider developing an open data policy to help ensure department data is accessible and easy to find and understand. The policy would serve as a guide for departments on how to manage and publish data in accordance with certain defined standards and should be posted online in an open format by the originating department by the end of a term to be defined. The Director of IT

should be charged with creating technical standards guidance for departments. In order to ensure that the policy is effective, compliance plans and progress reports should be scheduled at intervals to be determined.

To prioritize the release of open data, departments should consider whether information embodied in the public data set:

- 1) Can be used to increase department accountability and responsiveness
- 2) Improves public knowledge of the department and its operations
- 3) Furthers the mission of the department
- 4) Creates economic opportunity
- 5) Responds to a need or demand identified by public consultation

Suggested Resources

- [Open Data Guidebook, City of Philadelphia](#)
- [City of Chicago Technology Plan: Initiative #14: Increase and Improve City Data](#)
- [Beyond Transparency: Open Data and the Future of Civic Innovation by Brett Goldstein with Lauren Dyson](#)

VI. Developing a 311 System

Overview

Detroit launched its “One Call to City Hall” 311 system in 2005. Due to cost-cutting measures, the 311 call center ceased operations in June 2012. However, we believe Detroit would benefit from a citizen-relationship management system to reduce the amount of non-emergency-related calls to 911; improve the way residents access government services; increase accountability for service fulfillment by publicly sharing outstanding service requests; foster collaboration between city departments, and enhance the transparency of city operations.

Specifically, the Tech Team envisions a system that would be integrated into Detroit’s Enterprise Resource Planning system, a suite of integrated software modules used to help manage city services, and a work-order management system to manage citizen service requests, reducing the amount of non-emergency calls to 911 and lowering emergency-related response costs.

Recommendations

For residents of Detroit, an integrated 311-system/work-order management system would provide a transparent approach to providing resident-centric services. It is imperative that the system provides residents with access to real-time status of their reported issues and concerns. The system should accommodate the multitude of ways residents choose to communicate and engage with the City including through mobile, phone, text, tweet, or Web self-service/email. Further, at an appropriate future time, Detroit should consider implementing an Open311 platform. Open311 will encourage community participation and innovation by opening up 311 reports to the public, allowing anyone to collaborate on the reported issue.

For city management an integrated 311/work order management system would enable data-driven decision-making across the city and break down traditional information silos. The system would provide data for continuous improvement of service delivery and responsiveness to residents by monitoring and measuring performance. The system should feed data into a CityStat program, which can further foster an environment of accountability and transparency.

As an example, Louisville metro government has an integrated 311 call center, work-order management, code-enforcement, planning/review and online permitting system that is provided to the city by the sewer district. The city pays half of the capital and operating costs of the system. The city and the sewer district recently did a major upgrade to the system coupled with an extensive business process re-engineering effort. The city’s portion of the project cost \$2 million and took 3 years (there was a mayoral change in the middle of the project) to complete.

Resources

- [Governing Magazine “Beyond Customer Service: Cities and the Breathtaking Promise of 311”](#)
- [Best practice example City of Chicago 311 RFP](#)
- [See Click Fix](#)
- [See Click Fix - Detroit](#)
- [ICMA 311 resource list](#)

VII. Improving Enterprise Geographic Information Systems (GIS)

Overview

Municipal Geographic Information Systems (GIS) are used by many city departments including fire, police, the assessor, public works, planning, and public utilities. Establishing a position for a strong GIS manager can help facilitate the build-out of a citywide GIS system where various data creators can contribute and retrieve invaluable information to help manage the city. GIS managers need to work closely with the IT department to setup an enterprise geodatabase in the city's database environment.

The Tech Team's assessment of Detroit's capabilities in this domain found that:

- Several departments across the City of Detroit's government, including IT, finance, and the assessor, have GIS capabilities and resources.
- While most departments are on an ESRI platform, the platform versions being used are inconsistent and in some cases incompatible. There are also some departments using other tools such as MapInfo, Intergraph, and AutoCAD.
- There is an opportunity to improve GIS governance and fill gaps in deployed technologies.

Recommendations

The following set of recommendations could help improve GIS governance and utilization by city officials, civic innovators and local citizens.

- 1) Identify a lead GIS department and ensure that a strong GIS manager is in place. This GIS manager must have the leadership capabilities to guide the development of a tool to be used across many departments.
- 2) Standardize tools and licensing throughout departments. Consider:
 - a) using ESRI's Local Government Information Model (LGIM), which contains the framework and standards used by local governments and facilitates easy adoption of many out of the box maps and applications;
 - b) consolidating address data of the municipal (point based) and street type (range based), primarily from permitting, planning, tax assessor, public works, lots and parcels and the 911 CAD system;
 - c) adopting the LGIM for addressing, to help set a standard for bringing in addresses from these various sources;
 - d) collaborating with state governments and regional transportation agencies, which can be great allies for local government GIS efforts and often can contribute aerial imagery.
- 3) Look at Open Source GIS to understand benefits and limitations but do not over-rely on crowd sourcing and open-sourced data for the building blocks of local government GIS.
 - a) Source data must come from the City's departments and the true data stewards;
 - b) GIS road network and asset infrastructure must come from public works/engineering;
 - c) Lots and parcels and redevelopment plans will come from the assessor and planning departments;
 - d) Use aggregate data from departments to establish an authoritative master address list for the city;
 - e) Augment city data as appropriate with GIS data gathered by the private sector and non-profits.
- 4) Consider the development of an official Unified Development Organization (UDO) for revitalization efforts. Other cities with UDO's include:

- a) <http://bloomington.in.gov/udo>
- b) <http://www.raleighnc.gov/business/content/PlanDev/Articles/DevServ/NewRaleighCode.html>
- c) <http://durhamnc.gov/ich/cb/ccpd/Pages/Durham-Unified-Development-Ordinance.aspx>
- d) <http://decaturish.com/2013/10/30/city-of-decatur-holding-public-meetings-on-udo/>
- e) <http://cityofls.net/Development/Zoning/Unified-Development-Ordinance.aspx>

Case Study: The City of New Orleans

- Initial Setup or Upgrade to Common ESRI Version \$200-300k
 - Cost could be lower if City has an internal resource that can champion and complete work
- Annual Cost of Enterprise System \$695k
 - Salary and benefits of City team \$350k
 - ESRI Enterprise License Agreement (ELA) \$160k (covers licenses for partner agencies as well)
 - Contractor Budget \$100k (technology support)
 - Pictometry \$85k per year

VIII. Enabling Online Permitting

Overview

Municipal governments across the country are leveraging online and mobile platforms to make it easier for residents to access government services, improving customer service and government efficiency. In our experience, one area where municipalities have found success in significantly improving customer service is by enabling residents and business owners to apply online for residential, commercial, zoning, and business permits. To deliver an online permitting service in an effective way requires an enterprise permitting technology solution with well-documented and optimized business processes.

Key elements to successful deployment of online permitting include:

- A GIS-based enterprise permitting tool (e.g., Tyler, Accela, LAMA, etc.) that incorporates master addresses and LAMA databases
- Optimized and documented business processes configured into the tool
- Service Level Agreements (SLAs) documented and published (e.g., “mechanical permit to be reviewed and issued within two days.”)

Recommendations

- 1) Review current technology implementation and business processes for each department to ensure they are capable of supporting a citywide online application portal
 - Data must be consistently accurate
 - Ensure that new system exports-permitting performance data for city management and residents
- 2) Host an interactive process mapping and improvement workshop with each permitting agency to ensure compatibility with enterprise permitting software. (The software solution is a vehicle for improved customer service, but process and organizational changes must be owned by staff to be effective.)
 - Identify and involve key stakeholders to define most important changes and high-priority outcomes.
 - If the majority of permits issued require participation of multiple departments, consider implementing a physical and or virtual one-stop-shop to provide a seamless and efficient experience for local residents and business owners.
 - Define what is perceived as a permit by residents and business owners and staff, and develop a scope of work that can be broken into an agile development framework.
- 3) Emphasize a culture of continuous improvement and monitor the performance metrics that matter most.
 - CityStat can foster an environment of continuous improvement and transparency

Case Study: The City of New Orleans

- In 2012, the City of New Orleans initiated a project to replace its legacy permitting and code enforcement tool with a new enterprise technology solution. The project included the implementation of a physical and virtual (online) [one-stop-shop](#).
- The project cost between \$1-1.5M and required 15 months to implement
 - Technology and new business processes were implemented within 6 months
 - One-stop and online platform required an additional 9 months

APPENDIX: THE CITY OF RALEIGH CITYWIDE IT INFRASTRUCTURE BEST PRACTICES AND PROCESSES

Strategic Planning

There is no magic involved in an IT strategic plan. A good one, like other types of plans, is primarily a road map. It is not a technical document about bits and bytes or a compendium of short-term tactical plans. Rather, a good strategic plan defines where you are trying to go and tells you what steps you need to take to get there. It tells how you can use IT effectively as a business tool and how you can use technology to help the organization transform itself.

The term *competitive* IT strategic plan is used in recognition of the fact that municipal government IT organizations are very much in competition with private-sector services to provide technology solutions for city employees. The diverse internal and external communities that a local government IT department serves are no longer compliant “users” for whom the internal IT organization is the only option. The users are our customers—savvy, demanding people who see private companies and other local governments harnessing technology to work more efficiently and effectively and they want the same access to the latest, internet-based, technology to best serve the public. The “consumerization” of IT has enabled users to look beyond a City’s IT department for simple and effective tech solutions. In other words, if users do not get the services they need from IT, they will get it elsewhere. The push towards civic engagement will only accelerate this shift.

An IT Strategic Plan Should Answer the Following Questions:

- What will the IT organizational structure look like when migrating from one that primarily does programming to one that has significantly moved towards consulting and project management? Examples include: Project management office, business relationship managers, service desk, etc.
- In order to implement emerging technologies, what building blocks, such as a stable network infrastructure, do we need?
- What industry standards will we need to follow and measure? What industry trends do we need to take into account? Cloud, Software as a Service, Platform as a Service?
- Before we can successfully implement innovative solutions that drive economic growth and enhance delivery of city services, what structure do we need to have in place organizationally and technologically?

IT Strategic Plan is also a Business Plan

In addition to providing a vision and road map, the IT strategic plan clearly describes how the city will benefit as the plan is implemented. These benefits include a return on investment and the total cost of ownership of computer hardware, software, and other assets in addition to the value created through the investment in IT. Lastly, the plan describes the “added value” created when technological innovation is combined with business value.

For example, improved culture, increased productivity, and an effective organizational restructuring can be achieved through successful implementation of an Enterprise Resource Planning (ERP) system that integrates accounting, purchasing, bidding, human resources, and asset management processes.

A good strategic plan can help IT become competitive and customer centric by building trust. We begin to share information with the organization. We become partners with our customers. We develop goals and timetables together. As we put more and more open data on our portals, we begin to see that our external customers and our citizens begin to see the doors of city hall swing open. You cannot put a dollar figure on that kind of value.

Many elected officials, managers, and even IT professionals do not realize that local government IT infrastructure can become a powerful economic development tool affecting the entire community. Community broadband efforts, fiber and conduit strategies, and building infrastructure connectivity have all become mechanisms to drive down the cost of operations and serve the community at-large. In cities like Kansas City it has become a bargaining tool for companies like Google to capitalize on municipal-owned assets to deploy high-speed fiber to the home networks.

The City's reputation and technological amenities are as important to businesses as they are to individuals. Companies want to do business in the most efficient way possible, and when they conduct business with local government and they need those transactions to go well.

How We Began the Strategic Planning Process

We enlisted the help of the departments. The process is well defined in the City of Raleigh Strategic Plan. We have used the same strategy in multiple cities. The process has to focus on the departments and how they see the success of their organization. We ask questions about the barriers to their success and have them to come together to explain how they want to conduct business. Their responses are recorded and we look for common technological needs like dispatching, work process flow, asset management, etc. After gathering the information, there is a weighted criterion given to priorities and we begin to define the strategic projects that will become the focus for the enterprise project management office. Here's the link: [IT Strategic Plan](#)

Change Management

Many cities across the country have implemented the Information Technology Infrastructure Library (ITIL). ITIL is a set of core practices for IT service management widely used by public and private IT organizations. We adopted ITIL because it has a certification track that was affordable for the organization and it was prescriptive in terms of checklists and governance. The change management process is significant as the IT organization begins to implement multiple systems into the infrastructure. The process that we have used for the last several years is the ITIL Change Management process. We implemented ITIL Change Management at a basic level and have added more sophisticated processes after becoming familiar with the Change Advisory Board (CAB) and its value. Here is an excellent step process for implementing the Change Management Process: <http://itsmtransition.com/2013/02/how-to-implement-basic-til-change-management/>. The value that we have derived comes from core practices that are standardized over time and that integrate processes that are repeatable. We have measured the decline of outages due to the implementation of under tested technologies, the success rate of projects delivered on time and under budget, etc.

Enterprise Architecture (EA)

Having an enterprise architecture group for creating infrastructure standards and implementation patterns can assist in introducing new products into the market and provide integration strategies

for security. The overall responsibility for the EA is to keep documentation of the current state of the architecture, and to give credence to the desired state. The roadmaps developed by the EA should align with business objectives. The technical architecture focuses on creating infrastructure standards and the implementation integration. Solution architecture involves standardization of applications development platforms and tools; web development benefits tremendously from solutions architecture. Due to constraints of resources we have combined the EA role to include both the infrastructure and solutions focus.

Some of the measurable financial benefits of the Enterprise Architecture function:

- Annual savings from standardized purchasing agreements
- Percentage spending on strategic enterprise projects
- Annual savings from digitization and enhanced process efficiency
- Percentage of revenue and transactions processed through enterprise standard platforms

IT Governance Process

The Technology and Communications Subcommittee (T&C)

The Technology and Communications Subcommittee (T&C) is a subcommittee of the Raleigh City Council. It is chaired by a councilperson and has two other councilors that sit on the committee. The committee is responsible for overseeing and reviewing highly visible technology initiatives prior to the introduction to the full city council. The benefits to the IT organization are significantly related to the buy in process prior to full council exposure. The committee poses relevant questions and becomes acquainted with the barriers and benefits of technology solutions. This pre-review of technology efforts assists in council buy-in and education. It is a public meeting that can promote the adoption and approval of multiple council persons based on a clear understanding of the technological benefits and investment. The Chief Information Officer (CIO) works with the committee chair to organize the agenda and all presentations given by staff. The committee forum has also been utilized by various councilors to make recommendations on technology efficiencies.

The Information Resource Management Committee (IRMC)

The Information Resource Management Committee (IRMC) was established in 2002 to provide governance related to enterprise technology projects. The CIO is responsible for the committee agenda and the scheduling of the committee meeting. The attendees consist of all department heads, including fire and police chiefs, the departmental key financial staff, and other designees as defined by the department head. The key objectives of the IRMC are to:

- Identify opportunities for the application of information technology resources and services
- Maximize cost effectiveness and promote inter-departmental sharing of information technology resources and services
- Establish and enforce quality review and expenditure review procedures for major information projects
- Define the key strategic projects for adoption and funding

The IT governance process determines how the department manages demand, delivers value, and aligns with the priorities of the organization. The demand for IT services has increased

significantly in the past few years. At the same time, technology and business needs have become more complex. Continuing to mature processes within the organization will provide the IRMC appropriate information to drive decisions about the use of technology to ensure organizational success.

In recent years, the IRMC has been a vehicle for reporting and updating the status of multiple projects. While there is a significant value in this, an organization will benefit by extending IT governance maturity. The evolution of IT governance will improve the ability to make solid investment decisions in major areas such as technology architecture, infrastructure, and business applications, as well as to prioritize investment. Extending the governance maturity to improve IT decisions will help determine success in the following areas:

- Ensure IT aligns with the business. IT will focus on aligning with the business and collaborative solutions to minimize redundancy.
- Ensure IT manages vital resources. IT will realize the optimal investment in and proper management of critical resources.
- Ensure IT delivers value to the business according to the business. IT will concentrate on optimizing expenses and proving value, based on the business needs.
- Ensure IT manages and mitigates risk. IT will safeguard technology assets, address disaster recovery, and ensure continuity of operations.
- Ensure IT manages performance. IT will track and monitor strategy implementation, project success, resource usage, process performance, and service delivery.

Enterprise Project Management Office

The Enterprise Project Management Office (EPMO) was established in 2004 and supports the Chief Information Officer and the IRMC in overseeing the City's portfolio of technology projects and managing the City's technology investment process. The EPMO is responsible for identifying, evaluating, and prioritizing potential IT investments with the goal of allocating resources to the activities prioritized by the departmental stakeholders that will generate the highest business value. To ensure success across the entire technology project portfolio, the EPMO will adopt a tiered governance structure. This governance structure includes steering committees that vary the level of executive involvement based on the phase of the portfolio lifecycle.

It also provides visibility to those executives that are stakeholders in the success and investment of the respective projects. The executive steering committee weighs in on risks and gives input of potential mitigation when appropriate.

Broadband and Fiber Efforts in Municipal Government

Many cities across the country are beginning to look at the deployment of fiber assets as a benefit to economic development and to drive down the cost of telecommunications infrastructure. High-speed, accessible and affordable broadband is becoming an essential infrastructure for education, health care, the enhancement of safe and connected communities, civic engagement, government transparency, and responsiveness.

The Federal Communications Commission (FCC) has completed a national plan "for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy

independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.” (National Broadband Plan, FCC 2010) and local and state governments are involved in efforts to achieve the recommendations of the “National Broadband Plan”.

There are critical strategic fiscal, policy, and planning benefits related to the deployment of fiber for internal use. The approximate cost savings for the connection of city facilities for the City of Raleigh is \$500,000 with a 4.5-year return on investment. The installation of fiber was completed in partnership with the public works department’s traffic signal project. Many organizations capitalize on the building of new facilities or street and traffic projects to drive down construction costs. Cities like Kansas City and Kansas have used existing city assets as part of larger high-speed fiber to the home implementations. The City of Raleigh and other cities have deployed both large Internet connections at their convention centers to attract high tech conventions and revenues. <http://www.govtech.com/e-government/Raleigh-Connected.html>

Fiber assets are attractive to private sector partners like Google and AT&T. Several announcements regarding high-speed fiber have been made this year and promise benefits of economic development <http://www.kvue.com/news/ATT-announces-which-neighborhoods-will-recvie--230594361.html>

In February of 2013, several municipalities and universities collaborated to develop a Request For Proposal (RFP) for a high-speed network for the region: <http://ncngn.net>. The model for broadband is different for the various cities that recognize the value but nonetheless, the trend to investigate the potential of high-speed Internet access as a cost benefit to cities and an economic development asset is being investigated by many cities.

The City of Raleigh is developing a resolution that will define a broadband strategic plan to define the benefits and strategy for future fiber deployment. The strategic plan will identify the value and the barriers to cities embarking on fiber broadband efforts.

APPENDIX: THE CITY OF LOUISVILLE EMA/METROSAFE (COMBINED DISPATCH) PROJECT SUMMARY

Business Challenge

On January 6, 2003, Louisville became the largest city in nearly three decades to merge its city and county governments. The merger created immediate operational and technical challenges for the City, including interoperability and communications between local public safety agencies and first responders.

Goals & Objectives

- Create a modern communications and information exchange infrastructure to improve the safety of the citizens and first responders of Louisville Metro
- Promote interagency cooperation in public safety and public service joint projects and initiatives
- Promote partnering between public safety and service agencies
- Consolidate communications for former suburban and urban fire, police, local government radio, and emergency medical services in a single facility using common voice and data infrastructure
- Create a co-located and consolidated communications and emergency management facility
- Ensure a continuous availability of critical services
 - Primary facility will be ‘site hardened’ with redundant infrastructure
 - Additional redundancy will be provided by a true fail over site
- Design, acquire and implement a new Louisville metro-wide wireless and mobile radio infrastructure to support public safety and emergency communications
- Place consolidated communications in a single civilian organization, reporting to an executive director with service level responsibilities to its constituent organizations.
- Implement an alternate communications and emergency management facility should the primary facility become incapacitated.

As an organization, MetroSafe is a joint operation that consolidates communications for 911, the Louisville Metro Police Department, Louisville Fire and Rescue, Local Government Radio, and Louisville Metro Emergency Medical Services. In addition, MetroSafe provides interoperability for all remaining 911 PSAPS, Jefferson County Sheriff’s Office, suburban city agencies within Louisville Metro as well as the 13 surrounding counties in Kentucky and Indiana.

Metrosafe Project Overview

The MetroSafe project was responsible for acquiring a facility; developing and implementing adequate infrastructure to support voice, wireless and data communications; implementing proper security; and acquiring and implementing public safety applications to support consolidated communications and public safety interoperability.

Several teams supported the MetroSafe project. Each team was delineated by their specific public safety or operational function; however, most teams contained common members. This ensured that Subject Matter Experts (SME’s) were properly allocated across the entire

MetroSafe project organization and communication paths were established within the various teams.

Project Team	Focus
Radio Architecture Team	Acquire and implement a radio architecture that will support MetroSafe's goals and position for future growth
Operations Team	Develop operational procedures that will support MetroSafe's goals and objectives. Ensure NCIC compliance.
CAD Team	Create and maintain a computer aided dispatch (CAD) system that will support MetroSafe's goals and objectives
Voice Architecture Team	Establish a voice/telephony architecture that will support MetroSafe's goals and objectives and position for future growth
Facilities Team	Acquire a facility that will support MetroSafe's goals and position for future growth
Interoperability Team	Address local and regional interoperability issues
911 Team	Monitor / review 911 system for stability and accountability
IT Operations Team	Ensures network/supporting systems are secure and stable. Plans for future growth and needs

Project Phases and Major Milestones

Due to the size and complexity of the project, the steering committee recommended a phased approach to implementing the MetroSafe Project. The project had five distinct phases:

- Phase I – Consolidate and combine public safety communications into one facility (Completed Fall 2005)
- Phase II – Implement new Computer Aided Dispatch (CAD) System (Completed Summer 2006)
- Phase III – Remediate permanent MetroSafe facility and migrate operations; Implement Mobile Voice Radio System (MVRS) (Completed Fall 2009).
- Phase IV – Acquire and deploy Radio Subscriber units for public safety/public service and community partners (Completed Spring 2010)
- Phase V – Mutual Aid, Fire Station Alerting and Additional Tower Site (Completed Fall 2012)

Phase I: Consolidate and combine public safety communications into one facility

In order to create a solid foundation for MetroSafe, it was deemed critical to combine all public safety communications into one facility.

Major Milestones

- Build out initial 3 site P25 to replace aged infrastructure; completed winter 2004
- Build out Barret facility to consolidate public safety communications; completed fall 2005
- Create interoperability at the console level by use of Motorola Motobridge and new radio consoles completed; fall 2005

- Co-locate existing technologies (CAD and 911 telephony systems); completed fall 2005

Phase II: Implement new Computer Aided Dispatch (CAD) system

A new computer aided dispatch system will allow MetroSafe personnel to operate from one common system across all public safety and public service disciplines.

Major Milestones

- RFP release; completed fall 2004
- Vendor demonstrations; completed winter 2004
- Vendor selection process; completed spring 2005
- Contract Negotiations; completed summer 2005
- Contract approval and project initiation; completed summer 2005
- Hardware and software installation; completed in fall 2005
- Training and implementation; completed in spring 2006

Phase III: Remediation of permanent MetroSafe facility and migration of operations; Begin Implementation of Mobile Voice Radio System (MVRS)

Major Milestones

- Radio RFP release completed summer 2006; Facility remediation RFP completed summer 2007
- Facility remediation; completed spring 2009
- Radio Infrastructure implementation – Civil Phase; completed fall 2009
- Implementation of new 911 voice infrastructure; completed spring 2009
- Migration of existing technology, including CAD and supporting systems; completed spring 2009
- Migration of existing operations to permanent facility; completed spring 2009
- Testing and maintenance of fail over facility (Ongoing)

Phase IV: Complete Radio Infrastructure Build out; Acquire and deploy Radio Subscriber units for public safety/public service and community partners; Mutual Aid, Fire Station Alerting and Additional Tower Site

Major Milestones

- Radio Infrastructure implementation – Engineering phase; completed fall 2009
- Existing subscriber unit inventory and requirement interviews with public safety/service; completed fall 2008
- Initial subscriber order; completed winter 2008 (subsequent subscriber orders placed winter 2009 and summer 2010)
- Migration of existing conventional radio technology [to be used] for mutual aid; completed fall 2011
- Build out and integration of 13th Tower; completed fall 2012
- Subscriber unit deployment/installation; completed fall 2009

Phase V: Mutual Aid, Fire Station Alerting and Additional Tower Site

Major Milestones

- Redundant environmentals (geneset and switchgear) at primary facility

Project Close

The MetroSafe Project was formally closed in winter 2012 with a total cost of approx. 90MM. In addition to the major milestones listed, the project also delivered several other solutions/capabilities, including:

- 911 Telephony system
- Expanded and enhanced VHF mutual aid systems and redundant Fire Alerting systems
- Police Records Management System (RMS)
- EMS records management and patient care system
- N+1 Redundancy on most major systems and environmentalals
- Interfaces from CAD to all major records management systems for public safety

Project Costs (Approximates)

PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V
10MM	7 MM	26 MM	46 MM	350K

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Exhibit 2

[IT Projects Summary]

City of Detroit

10-Year Plan of Adjustment

7/3/2014

Restructuring Initiatives

IT Projects Summary

(\$ in millions)

	For the Fiscal Year End										10-Year Total	
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
EXECUTIVE AGENCIES												
Administrative Hearings	\$ -	\$ (0.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.5)
Finance	(1.7)	(24.5)	(20.0)	(16.1)	(6.7)	(4.1)	(6.7)	(5.3)	(5.5)	(4.2)	(4.2)	(94.8)
Fire	-	(1.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)	(0.4)	(0.2)	(0.2)	(0.2)	(3.5)
Human Resources	-	(0.5)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(1.3)
Human Rights	-	(0.1)	-	-	-	-	-	-	-	-	-	(0.1)
Law	(0.5)	-	-	-	-	-	-	-	-	-	-	(0.5)
Planning & Development	-	(0.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.8)
Police	(0.9)	(12.2)	(10.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	(38.4)
TOTAL EXECUTIVE AGENCIES	\$ (3.1)	\$ (39.6)	\$ (30.6)	\$ (18.6)	\$ (9.1)	\$ (6.6)	\$ (9.8)	\$ (8.0)	\$ (8.0)	\$ (6.6)	\$ (6.6)	\$ (139.8)
LEGISLATIVE AGENCIES												
Auditor General / Inspector General	-	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.4)
City Council	-	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.2)
Election Commission	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Ombudsperson	-	-	(3.0)	(0.5)	(0.5)	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(7.0)
TOTAL LEGISLATIVE AGENCIES	\$ (0.0)	\$ (0.2)	\$ (3.0)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.7)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (7.6)
OTHER AGENCIES												
Non-Departmental (36th District Court Initiatives)	\$ -	\$ (1.6)	\$ (0.8)	\$ (0.4)	\$ (0.4)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	(4.2)
TOTAL OTHER AGENCIES (36D Initiatives)	\$ -	\$ (1.6)	\$ (0.8)	\$ (0.4)	\$ (0.4)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (4.2)
ENTERPRISE AGENCIES												
Airport	\$ -	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.0)
TOTAL ENTERPRISE AGENCIES	\$ -	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
TOTAL GENERAL FUND	\$ (3.1)	\$ (41.3)	\$ (34.4)	\$ (19.6)	\$ (10.1)	\$ (7.4)	\$ (10.7)	\$ (8.8)	\$ (8.8)	\$ (7.5)	\$ (7.5)	\$ (151.7)

City of Detroit

10-Year Plan of Adjustment

7/3/2014

Restructuring Initiatives

IT Projects Summary by Department

(\$ in millions)

	For the Fiscal Year End										10-Year Total	
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
EXECUTIVE AGENCIES												
Administrative Hearings:												
Case tracking system	\$ -	\$ (0.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.5)
Total Administrative Hearings	\$ -	\$ (0.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.5)
Finance:												
Treasury:												
E-Commerce/Website Strategy	\$ -	(0.4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.4)
Call Center Technology	-	(0.4)	-	-	-	-	-	-	-	-	-	(0.4)
DRMS & BS&A Integration	-	(0.1)	(0.0)	-	-	-	-	-	-	-	-	(0.2)
Service Call - Work Order Tracking System	-	(1.4)	-	-	-	-	-	-	-	-	-	(1.4)
Cashiering Controls (Recyclers)	(0.2)	-	-	-	-	-	-	-	-	-	-	(0.2)
Assessor's Office:												
Document Management System	-	(0.2)	-	-	-	-	-	-	-	-	-	(0.2)
Document Workflow	-	(0.0)	-	-	-	-	-	-	-	-	-	(0.0)
Treasury Process Improvement	(0.1)	-	-	-	-	-	-	-	-	-	-	(0.1)
Accounting:												
Copiers	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.4)
GL Wand	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.3)
ITS:												
ERP System	-	(7.4)	(10.3)	(8.6)	-	-	-	-	-	-	-	(26.2)
Microsoft Application Update	-	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(13.5)
Data Center Back-Up	-	-	(4.9)	(2.4)	(0.2)	(0.2)	(2.7)	(0.2)	(0.2)	(0.2)	(0.2)	(10.9)
Citywide hardware upgrade	-	(1.5)	(2.0)	(2.0)	(1.2)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(11.7)
Citywide imaging and document management	-	(3.0)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(5.4)
Security access system to building	-	(0.6)	(0.6)	(0.6)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(3.8)
Workbrain Upgrade	(1.1)	-	-	-	(1.2)	-	-	-	-	(1.3)	-	(3.6)
Citywide network infrastructure	-	(2.0)	-	-	(1.1)	-	-	(1.1)	-	-	-	(4.2)
Active directory service migration	-	(1.3)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(2.0)
ERP System - Ongoing Maintenance	-	-	-	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(2.8)
Helpdesk software	-	(1.6)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(2.0)
Operating System Upgrade	-	(1.0)	-	-	-	-	-	-	-	-	-	(1.0)
SQL server support	-	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.7)
Groupwise saving	-	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	3.1
Purchasing:												
eProcurement Software "Bid Sync"	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(1.0)
Grants:												
Hyperion Implementation	(0.2)	(0.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.5)
Income Tax:												
City Tax Implementation	(0.1)	(1.7)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(5.2)
Total Finance/Budget	\$ (1.7)	\$ (24.5)	\$ (20.0)	\$ (16.1)	\$ (6.7)	\$ (4.1)	\$ (6.7)	\$ (5.3)	\$ (5.5)	\$ (4.2)	\$ (4.2)	(94.8)

City of Detroit

10-Year Plan of Adjustment

7/3/2014

Restructuring Initiatives

IT Projects Summary by Department

(\$ in millions)

	For the Fiscal Year End											10-Year Total
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Fire:												
Dispatch Technology	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Firehouse Records Management System	-	-	-	-	-	-	-	-	-	-	-	-
Other fire specific technology (Fireview, etc.)	-	(0.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.3)	(0.0)	(0.0)	(0.0)	(0.6)
Vehicle technology (GPS, tablet, etc.)	-	(0.7)	(0.1)	(0.1)	(0.1)	(0.1)	(0.7)	(0.1)	(0.1)	(0.1)	(0.1)	(2.2)
Hardware upgrade at each firehouse (replace every other year)	-	(0.3)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.7)
Total Fire	\$ -	\$ (1.3)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.8)	\$ (0.4)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (3.5)
Human Resources:												
Learning center 1-time IT costs and related maintenance	-	(0.5)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(1.3)
Total Human Resources	\$ -	\$ (0.5)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (1.3)
Human Rights:												
Hardware and Software Upgrade	\$ -	(0.1)	-	-	-	-	-	-	-	-	-	(0.1)
Total Human Rights	\$ -	\$ (0.1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.1)
Law:												
City Law Application Licenses	\$ (0.2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	(0.2)
Implementation Assistance - Project Manager	(0.1)	-	-	-	-	-	-	-	-	-	-	(0.1)
New PCs - attorneys and support	(0.1)	-	-	-	-	-	-	-	-	-	-	(0.1)
Microsoft Office Software for Desktops	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Server Space Increase	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Monitors	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Server Hardware	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Microsoft SQL Software	(0.0)	-	-	-	-	-	-	-	-	-	-	(0.0)
Other	(0.1)	-	-	-	-	-	-	-	-	-	-	(0.1)
Total Law	\$ (0.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.5)
Planning & Development:												
IT Investment	-	(0.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.8)
Total Planning & Development	\$ -	\$ (0.6)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.8)
Police:												
Interrogation Video and Audio Equipment Installation	\$ (0.1)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	(0.3)
Fully Integrated Public Safety IT System	-	(4.0)	(2.5)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(12.8)
Computerized Asset Management System	-	(0.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.4)
Evidence Tracking System	-	(0.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.6)
E-Ticketing	-	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.2)
Public Vehicle Licenses/Permits (Technology costs)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.2)
Replace Computer Infrastructure (switches & routers)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.6)
Replace Hardware (desktop computers)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.8)
Mobile In-Car Video (MDVR)	(0.2)	-	-	-	-	-	-	-	-	-	-	(0.2)
Management Awareness System	(0.2)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.5)
Replace Handheld Radios	-	(7.5)	(7.5)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(22.0)
Total Police	\$ (0.9)	\$ (12.2)	\$ (10.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (2.2)	\$ (38.4)
TOTAL EXECUTIVE AGENCIES	\$ (3.1)	\$ (39.6)	\$ (30.6)	\$ (18.6)	\$ (9.1)	\$ (6.6)	\$ (9.8)	\$ (8.0)	\$ (8.0)	\$ (8.0)	\$ (6.6)	\$ (139.9)

City of Detroit

10-Year Plan of Adjustment
 Restructuring Initiatives
 IT Projects Summary by Department
 (\$ in millions)

7/3/2014

	For the Fiscal Year End											10-Year Total
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
LEGISLATIVE AGENCIES												
Auditor General / Inspector General:												
Computers/Laptops	\$ -	\$ (0.1)	\$ -	\$ -	\$ -	\$ -	\$ (0.1)	\$ -	\$ -	\$ -	\$ -	\$ (0.1)
Software License Fees	-	(0.0)	-	-	-	-	(0.0)	-	-	-	-	(0.0)
Misc. - Printers and Server Equipment	-	(0.0)	-	-	-	-	(0.0)	-	-	-	-	(0.0)
Google for Government	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)
Case Management System	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)
Lexis Nexis	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)
Total Auditor General	\$ -	\$ (0.1)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.1)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.4)
City Council:												
Incremental IT Spend	\$ -	\$ -	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.1)
Hardware Improvements	-	(0.1)	-	-	-	-	-	-	-	-	-	(0.1)
Total City Council	-	\$ (0.1)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.2)
Election Commission:												
M-650 Ballot Counting Machines	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
Total Elections Commission	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
Ombudsperson:												
311 System	\$ -	\$ -	\$ (3.0)	\$ (0.5)	\$ (0.5)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (7.0)
Total Ombudsperson	\$ -	\$ -	\$ (3.0)	\$ (0.5)	\$ (0.5)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (7.0)
TOTAL LEGISLATIVE AGENCIES	\$ (0.0)	\$ (0.2)	\$ (3.0)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.7)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (0.6)	\$ (7.6)
OTHER AGENCIES												
36th District Court:												
JIS Upgrade / Scanning Technology / Paperless Court	\$ -	\$ (0.5)	\$ (0.5)	\$ (0.3)	\$ (0.3)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (0.1)	\$ (2.1)
Miscellaneous IT spend (i.e. hardware upgrades, etc.)	-	(0.3)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(1.3)
Upgraded video arraignment equipment	-	(0.3)	-	-	-	-	-	-	-	-	-	(0.3)
Upgraded telephone system	-	(0.5)	-	-	-	-	-	-	-	-	-	(0.5)
Total Non-Departmental (36D Initiatives)	\$ -	\$ (1.6)	\$ (0.8)	\$ (0.4)	\$ (0.4)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (4.2)
TOTAL OTHER AGENCIES (36D Initiatives)	\$ -	\$ (1.6)	\$ (0.8)	\$ (0.4)	\$ (0.4)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (0.2)	\$ (4.2)
ENTERPRISE AGENCIES												
Airport:												
Technology need	\$ -	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
Total Airport	\$ -	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
TOTAL ENTERPRISE AGENCIES - GENERAL FUND	\$ -	\$ (0.0)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0.0)
TOTAL GENERAL FUND	\$ (3.1)	\$ (41.3)	\$ (34.4)	\$ (19.6)	\$ (10.1)	\$ (7.4)	\$ (10.7)	\$ (8.8)	\$ (8.8)	\$ (7.5)	\$ (151.7)	

Exhibit 3

[ITS Report]



May 19, 2014

To: Mike Duggan, Mayor

From: Beth Niblock, CIO 

Re: ITS's Ten Year Revenue and Expense Projects

In the 10 year financial projections for ITS, there are no revenue predictions. However, in the fiscal year 2015 budget, we have a revenue projection of \$10,000, from the sale of maps from our GIS (Geographical Information System). We will hit the revenue projection for the fiscal year.

Please note this analysis is only for the projects designated for the ITS department. This does not include an analysis for the 75 IT projects in other departments. Of the 75 projects four areas are significant; DPD at approximately \$38 million, Finance at approximately \$26 million, Fire at approximately \$3.6 million and HR at approximately \$1.3 million.

Financial Projections & Time Line – Restructuring Initiatives:

Project	Plan of Adjustment Dollars	Timeline	Comments
MMSA			Will be part of the Finance Department memo
MMSA Maintenance			Will be part of the Finance Department memo
Workbrain Upgrade	financials are ok	Project will start during the second half of FY2015, completing in the first half of FY2016, for a duration of one year	
Helpdesk Software	financials are ok	duration, start and end dates are ok	
Citywide Imaging and Document Management	financials are ok	project duration is 3 years, with a cadence of incremental departmental rollout	
SQL Server Support	financials are ok	duration, start and end dates are ok	
Citywide Hardware Upgrade	financials are ok	duration, start and end dates are ok	
Citywide Network Infrastructure	financials are ok	duration, start and end dates are ok	
Active Directory Service Migration Logon Credentials	financials are ok	duration, start and end dates are ok	

Project	Plan of Adjustment Dollars	Timeline	Comments
Security Access Systems to the Building			Should be part of the GSD department.
Microsoft Application 365 Cloud Based Solution Update	financials are ok	The cloud move would follow in 2018. The licenses will be converted to cloud support at this time	Currently, there is no infrastructure in place for 2015. Initial funds will be used to standardize MS office across the city.
Data Center Backup	financials are ok	This is a Disaster Recovery / Business Continuity project which starts FY2016 and ends in FY2018, for duration of 2 years	
GroupWise Savings	GroupWise savings won't be realized until 2019.		The hardware that runs GroupWise, DRMS and many other City systems are financed under a 4 year deal commencing in 2013 and ending 12/1/2016. We have 2 years left on the finance deals. We will wait to move into the cloud until after the assets are depreciated.

Included in the cost projections are all the cost for consulting services, hardware, software and any other technical resources that are needed to implement these projects successfully.

Constraints / Concerns:

Resourcing - The current analysis does not take into consideration all the IT projects that will be happening for the other departments, all City-Wide IT projects will have to be prioritized. All of these projects will be using the same constrained resources. We are concerned that the head count goes up only by 3 people (according to the "Ten-year Financial Projections") starting in 2016 and then holds constant. There is an inconsistency with that document and the "Ten-Year Plan of Adjustment Restructuring and Reinvestment Initiatives" document which shows a total of 15 additional ITS personnel being added, 11 of which are supposed to be on board by December of 2014.

Another concern is the average salary reflected in the 10 year financial projection is \$60,000 and goes up only by \$10,000 over 10 years with an average increase of \$1,000. Attracting and maintaining highly skilled technical resources at the current and proposed compensation rates will be a challenge. Compensation for IT professional should be analyzed and updated to reflect current industry standards for the Detroit area.

Interfaces - All the enterprise system projects do not account for any interface requirements, which would increase the total project costs. The costs of the interfaces are difficult to estimate without knowing what systems the City of Detroit will be using.

Exhibit 4

[Materials Considered]

Materials Considered

1. City of Detroit, Fourth Amended Disclosure Statement, Exhibits J and I [Docket No. 4391]
2. City of Detroit, Updated 10 Year Projections, available at POA00706519-POA00706600
3. City of Detroit, Updated 40 Year Projections, available at POA00706603-POA00706611
4. City of Detroit, Updated Restructuring and Reinvestment Initiatives, available at POA00706449-POA00706518
5. QOL Presentation, available at POA00678380- POA00678383
6. Information Technology Services Overview, available at POA00556223-POA00556238
7. ITS Budget Packet, available at POA00707924
8. 10 Year POA – IT Project Summary, available at POA00706916
9. Allocations & Mismatch, available at POA00706921
10. Allocations & Mismatch.xlsx, available at POA00676472
11. IT Project Summary – 030414, available at POA00557092
12. ITS 10 Year Plan – 03032014, available at POA00557097
13. Information Technology Assessment, available at POA00678256.
14. Tech Team Report, Exhibit 1 hereto.
15. IT Project Summary, Exhibit 2 hereto.
16. ITS Report, Exhibit 3 hereto, available at POA00261411 – POA00261412

Exhibit 5

[CV]

ELIZABETH A. NIBLOCK

2507 Top Hill Road
Louisville, KY 40206

502.315.9550 cell
bniblock@gmail.com e-mail

Professional Summary

An experienced professional in the Information Services arena; responsible for the planning, implementation and support of technology solutions; superb leadership, communication and interpersonal skills; high integrity and intelligence; excellent judgment; “conceptual thinker“ as well as pragmatic; managed technical staffs; ability to prioritize multiple projects and generate trust while working with a broad range of constituencies.

Work Experience

LOUISVILLE METRO GOVERNMENT (CITY OF LOUISVILLE): Louisville, Kentucky

Chief Information Officer (February 2003 – Present)

- Successfully merged the former city and county IT infrastructures and the staffs.
- Brought up key business systems in the newly merged government on time and on budget including:
 - Oracle Financials, PeopleSoft Human Resources, Hansen Customer Service Management system, building permits, public works and 311 MetroCall, new computer systems for public protection.
- Reduced costs and gain efficiencies for metro government:
 - Saving 3 million in telephone services since merger
 - Consolidating and standardizing IT reducing system duplication and saving money
 - Rebidding and negotiating contracts leveraging the collective buying power saving metro government significant reoccurring expenses.
 - Pushed transaction online to increase government’s accessibility to citizens while reducing processing cost and time for metro government.
- Created Project Management Office to ensure large-scale projects are successful.
- Implemented the ITIL (Information Technology Infrastructure Library)—an international best practices framework for technology management.
- Aligned IT and the business ensuring that the best solution for the enterprise coupled together with the strongest technology was put into place.
- Started implementing “green technology” to help achieve the mayor’s green strategic initiative.
- Merged and modernized the former City and County Archives department into one department in a consolidated location.

LOUISVILLE MEDICAL CENTER DEVELOPMENT CORPORATION: Louisville, Kentucky

Project Consultant (September 2002 – March 2003)

- Developed an overall methodology for project management of steps to achieve closure on construction, outfitting and occupancy of 201 Jefferson Street Building—a biomedical research/business incubator building.
- Responsible for the planning, implementation and support of technology solutions in the following areas; Network Infrastructure (voice, video and data); Client/Server technology and Operating Systems
- Worked with project’s IT consultant and the University of Louisville as needed to document and integrate timetables and procedures for procurement, installation etc. of phone, computer and internet services to the facility.
- Worked with project architects, contractors and interior design consultant to document and integrate timetables for final phases of construction, interior design, procurement of interior finishes and/or furnishings, and delivery and installation of latter.
- Collaborated with staff of LMCDC, MetaCyte Business Lab and U of L iTRC to ensure coordination of equipment specifications, procurement, installation and processes and procedures related to their operations.

- Analyzed and document elements of building management / operations and recommend processes and procedures to the principals.
- Developed a Scope of Services for Building Management Services and issue RFP to qualified vendors in Louisville area. Established criteria for evaluating proposals and recommend most competitive vendors to LMCLDC management.

DIRECTEC CORPORATION: Louisville, Kentucky

Chief Operating Officer (October 2000 – July 2002)

Vice President, Administration (May 2000 – October 2000)

- Managed all operational areas of the business—including finance, human resources, information technology, marketing and sales—which led to the second most profitable year in the company's ten-year history
- Conceptualized, launched and delivered multiple IT projects on time while managing costs and risks
- Determined outsourcing vs. in-house provisioning of IT services and skills
- Identified and evaluated new technological developments and gauged their business appropriateness
- Provided enabling technologies for customers and suppliers to do business with our enterprise as well as increase revenue and profitability
- Aligned IT and business strategies
- Implemented timely cost cutting measures including reduction in force which led to the continued viability/sustainability of the company
- Created new Team Member handbooks including policies and processes
- Created and implemented new employee benefits programs

GREATER LOUISVILLE INC. (The Metro Chamber of Commerce): Louisville, Kentucky

Vice President, Finance & Administration (1998 – May 2000)

Director, Information Technology (1995 – 1998)

- Led the finance and shared services areas (human resources, information technology, communications and research) of Greater Louisville Inc. and its affiliated companies
- Determined outsourcing vs. in-house provisioning of IT services and skills
- Developed and implemented management's IT vision and led team efforts to train end-users
- Designed and installed multiple LANs
- Created new online budgeting process
- Designed and implemented numerous customer-driven products
- Established strategic relationships with key IT suppliers and consultants
- Provided training for all IT users to ensure productive use of existing and new systems.
- Conceptualized, launched and delivered multiple IT projects on time while managing costs and risks
- Developed and managed overall member communications plan
- Created new Human Resources handbooks including policies and processes
- Created and implemented new employee benefits programs
- Identified and evaluated new technological developments and gauged their business appropriateness
- Communicated with and understood the needs of non-technical internal clients

KENTUCKIANA EDUCATION & WORKFORCE INSTITUTE: Louisville, Kentucky

Director, Information Systems, Research & Publications (1991 – 1995)

- Developed and implemented LAN and research databases
- Conceptualized, launched and delivered multiple research projects on time while managing costs and risks
- Identified and evaluated new technological developments and gauged their business appropriateness
- Researched and wrote: *Kentuckiana Education & Workforce Institute Special Reports on Employee Education and Training, The Workplace Transformed, Architecture of Change: Kentuckiana Education & Workforce Institute 1991 Annual Report*

ELIZABETH A. NIBLOCK

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UNIVERSITY OF LOUISVILLE, SCHOOL OF BUSINESS: Louisville, Kentucky

Associate Director, Bureau of Economic Research (1989 – 1991)

Program Director, Bureau of Economic Research (1987 – 1989)

- Created marketing program for the Bureau of Economic Research and its products
- Louisville Science Park Feasibility Study
- Economic Impact of the Arts on Kentucky, Kentucky Center for the Arts & Standiford Field Airport
- Survey of the Programs and Services of the Louisville Chamber of Commerce
- *Louisville Magazine* Perception Study
- *Economic Outlook* (quarterly publication)
- Managed the 100 person Advisory Committee for the feasibility study process of the Louisville Science Park

LOUISVILLE CHAMBER OF COMMERCE: Louisville, Kentucky

Assistant Manager, Economic Development Group (1984 – 1987)

Program Assistant, Government Affairs Group (1983 – 1984)

- Designed and implemented economic development programs at the Louisville Chamber of Commerce.
- Established “Legislative Action System” for Chamber membership

ALL SAINTS EPISCOPAL CONFERENCE CENTER: Leitchfield, Kentucky

Director (1983)

- Directed 113-acre conference center; managed all operations including: marketing, accounting, human resources, and maintenance
- Negotiated contracts with both the public and private sectors
- Developed organizational long-range planning and policy making

Education

B.A. Furman University, (1982) Political Science major with supporting courses in economics, business administration, and psychology

University of London, London, England (1981) International economics studies in London and Brussels, Belgium

Community Activities

- Porter Foundation: Officer and Board of Directors (2001 – Present)
- Spalding University Board of Trustees