

City of Baltimore Telephone Improvement and Procurement Project (TIPP) Project Executive Summary

1 Introduction and Purpose of TIPP

The City of Baltimore initiated the TIPP project to accomplish several objectives. First, the City needed to modernize its telecommunications technologies serving City agencies and the public. It was using proven, but 20th century, technology that had been in place for decades with minimal upgrades. The technology did not provide many of the features, functions, and applications the City needed to address its business and citizens' requirements. Second, the City aimed to reduce the costs of its telecommunications services. It had been paying monthly recurring costs (MRC) to Verizon for years for a relatively static and dated service. Third, the City wanted to decrease its reliance on multiple service vendors that focused on their priorities, rather than the City's.

2 Work to Date

The TIPP project has been active for several years. From 2008-2010 the City and its independent consultants conducted a comprehensive assessment and analysis of City-wide telecommunications infrastructure. Concurrently, the TIPP Team conducted scores of interviews, site visits, and documentation review to identify the City's *business and mission requirements* in addition to technical, fiscal, operational, and support needs.

The general findings revealed multiple technology challenges. There were that hundreds (788) of City locations needed to be served. Multiple types of service and network connectivity existed among sites. There was a lack of consistent system upgrades or migration, and thousands of "low/no usage" lines appearing on invoices. The legacy cable infrastructure was in poor condition in many locations.

The discovery process uncovered several business impacts. Business activities and processes hampered by current technology limitations. Numerous agency-centric voice telecommunications activities and budgets existed among City agencies. Few, if any, City-wide support and maintenance contracts existed, and little or no training for user groups was on available system and capabilities.

As a result, in 2010 the City began a series of audits and cost-cutting efforts for all communication services. This audit and process improvement effort has continued through FY2019Q3. These efforts have included:

1. disconnecting unused circuits
2. examining/optimizing current services contracts
3. identifying redundancies in services, platforms, and vendors



In March 2015, the City released a request for proposal (RFP), based on its research and requirements analysis, for a new, state-of-the-art unified communications (UC) solution. The City received responsive bids from the following manufacturers (sales partners):

1. Alcatel-Lucent (CommWorks)
2. Cisco (Verizon)
3. Mitel (Arrow System Integration)
4. Unify (Motorola)

The City's Evaluation Team performed a comprehensive, "apples-to-apples" review and evaluation of all responsive proposals and selected the Mitel/Arrow (now ConvergeOne) solution. After a detailed contract negotiation and project planning effort the Mitel/Arrow team started the implementation process with the first cutovers occurring in November 2016. The three-year implementation is scheduled to be completed in 2019. As of March, approximately 5,200 stations/endpoints with a total of 6,936 lines are installed and operational out of 6,700 contracted stations.

3 Project Benefits and Results

The TIPP solution implementation has provided multiple tangible positive results, which are noted below.

3.1 Logistical Benefits

The new City UC solution:

1. Is a *true* City-wide/City owned asset, not departmental, that translates into economies of scale by serving all City departments.
2. Reduces reliance on multiple service and maintenance vendors.
3. Leverages the strong working relationship between the Baltimore City Information Technology (BCIT) and the Municipal Telephone Exchange (MTE) to embody the "**One City**" operational philosophy.
4. Allows the City to be, now more than ever, in control of its own operations of critical systems.

3.2 Technological Benefits

1. The City now has its own "private cloud" telephony operation with these advantages:
 - a. Virtualized and resilient infrastructure
 - b. Spatially redundant to reduce the likelihood of outages
 - c. Centralized management, monitoring, operations, and administration
 - d. Increased flexibility and responsiveness to new mission requirements
2. BCIT has upgraded the City's data and fiber networks to accommodate this and other applications.
 - a. Local area networks (LANs) with improved quality of service (QoS) and power over Ethernet (POE)
 - b. Applications and dial tone provided over the BCIT fiber-based data network
3. The TIPP solution has consolidated multiple technology platforms into a single City-owned asset. Critical city operations previously relied on the following disparate systems:
 - a. Small key/telephones systems: 298 systems used to distribute services

- b. Contact Centers: Seven different vendors serving 10 contact centers
- c. Interactive voice response (IVR): Three different vendors providing dial-in services to constituents

NOTE: The consolidated platform improves the City services, while allowing each organization to have separate and distinct operational identities.

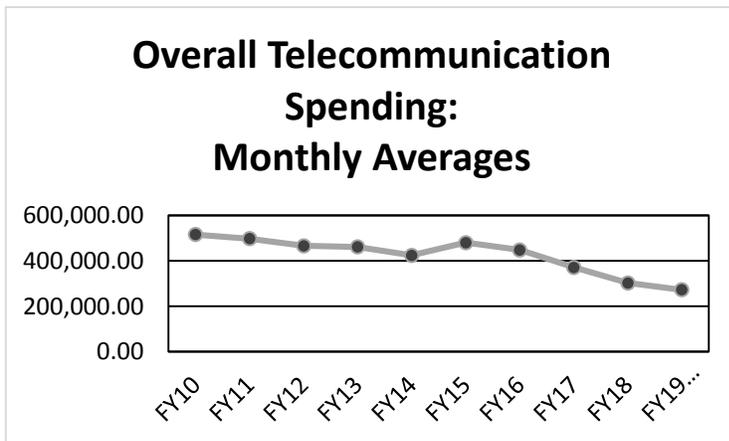
- 4. Selected City employees can take advantage of the TIPP UC solution’s enhanced mobility capabilities with the MiCollab applications. Additionally, the City has implemented a mobile device management (MDM) application to facilitate device and cost tracking and improve security.

3.3 Financial Benefits

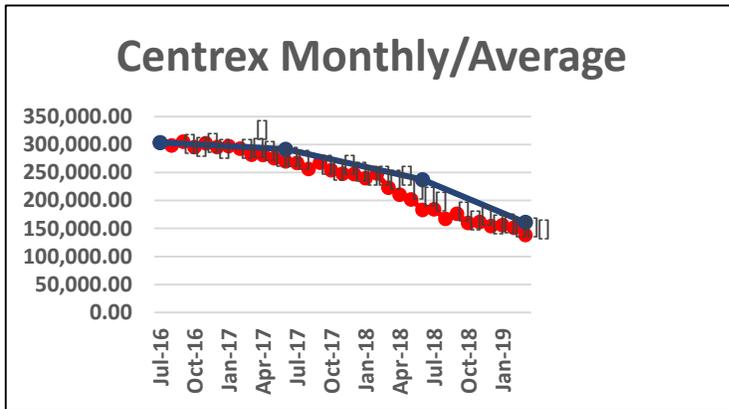
(NOTE: Cost savings/avoidances extend beyond the MTE budget as more user groups consolidate under the TIPP architecture.)

MTE’s budget has been positively impacted with the TIPP UC solution’s implementation:

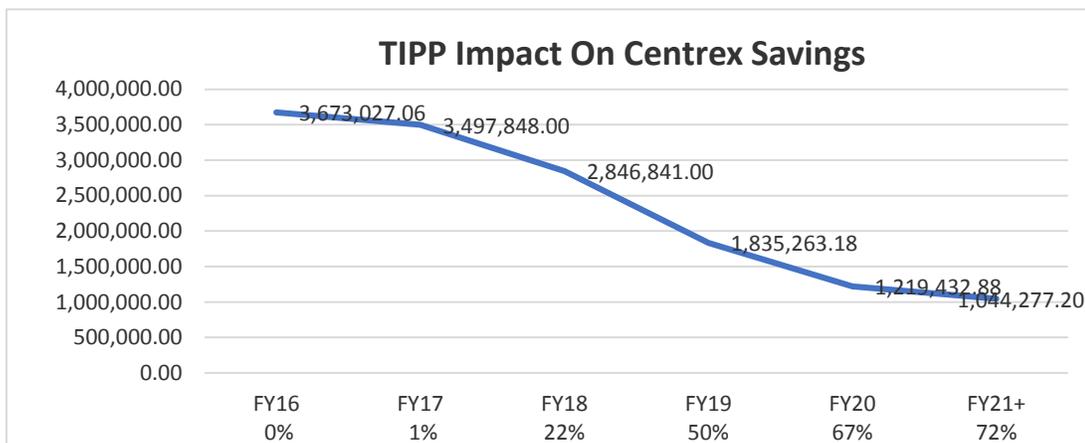
- 1. Overall Telecom Spending Reductions: Audits from FY2010 – FY2019Q3 have reduced average monthly MTE telecom spending from \$515,523/month to \$267,738/month (48% reduction in overall telecom expenses). Cost cutting audit and optimization efforts will continue as an increasing number of City agencies/departments are consolidated into the TIPP UC architecture.



- Direct Verizon Centrex Spending Reductions: The largest single element of overall telecom spending is for Verizon Centrex services. TIPP implementations during 2016-2019 have reduced monthly Verizon Centrex costs from \$303,464 (July 2016) to \$138,072.27 (Mar 2019). This represents a 54% decrease in monthly Verizon costs to the City. When the implementations are completed the TIPP UC architecture is projected to decrease monthly Centrex spending levels to an average \$87,023 per month (a 72% decrease).



- Ten-Year TIPP Verizon Centrex savings are projected at \$20,034,122.**
- TIPP capital funding loan will be **retired in three years**, rather than 10.
- Early retirement of capital debt will permit **City-wide rate reductions**.





The consolidated telephony and network facilities that the TIPP UC solution has enabled have resulted in positive City budget impacts for other City agencies. Cost avoidance for decommissioned data circuits are projected to be \$120,000 annually. Some other agency specific examples include:

1. BRC disconnected three to five PRIs,
2. PD disconnected two PRIs,
3. MOIT disconnected DS3 circuit,
4. Mayor's office in Annapolis, disconnected T1 circuits
5. Health Department, disconnected three PRI circuits
6. States Attorney's Office disconnected Vonage, annual cost avoidance/savings = **\$85,200**
7. Health disconnected Ring Central, annual cost avoidance/savings = **\$96,000**
8. 311 separated from 911 call center without buying its own system.
9. 911 back-up call center now using TIPP voice recording and ***did not have to buy its own separate system.***
10. Call recording is now available for any/all centers.

IVR platform consolidation (previously supplied and maintained by three vendors, now provided by TIPP) is showing positive results, as well.

1. DPW/BRC disconnected their ARC platform, annual cost avoidances/savings = **\$63,000**
2. DOT disconnected its Microlog IVR, annual cost avoidances/savings = **\$21,000**
3. DPW/BRC and DOT now pay \$1400/month for TIPP IVR charges.
4. The TIPP IVR platform is now available for other City-wide departments without the need for external/future vendor procurements or separate maintenance contracts.

Other areas are candidates for cost savings and avoidances:

- Installation of the new telephones phones **will save \$270,000** of replacement costs over the old desk sets in the next five years.
- The City will **save \$100,000** over five years by completing moves, adds, and changes (MACs) internally...*excluding external service provider charges!*
- Bringing two cabling technicians in house will **offset \$430,000 over five years** for cabling and jack installation/repair services.

4 Next Steps

Several immediate and longer term "next steps" are on the horizon for the City. The TIPP UC solution implementation continues at a pace for final installations in late-2019. Additional City departments are expressing interest in TIPP UC capabilities. The City will continue to add new users to TIPP UC architecture to improve services and **reduce overall City expenses**. Some of the potential City customers might include the Convention Center, quasi-governmental organizations. Longer term candidates for TIPP migration may include:

- City schools
- Enoch Pratt Free Library
- Joint city - county, state and federal organizations.