9-1-1 Dispatch Consolidation - Updated Business Case Report

April 22, 2013

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Introduction

The municipalities of Addison, Carrollton, Coppell and Farmers Branch each currently operate their own 9-1-1 emergency communications centers to serve their individual jurisdictions. Addison, Coppell and Farmers Branch do this as 'home rule' jurisdictions responsible for their own 9-1-1 fee collections, 9-1-1 technology and carrier service agreements, while Carrollton is a part of the Denco Area 9-1-1 District and receives their 9-1-1 services through Denco. Over the years these municipalities have participated in a number of collaborative public safety initiatives including routine Fire/EMS mutual and automatic aid among the jurisdictions and the sharing of public safety communications infrastructure (Addison, Carrolton and Farmers Branch operate on a shared radio system).

Recognizing the potential service level improvements and cost efficiencies that may result through consolidation of their emergency communications functions, these jurisdictions began examining consolidation alternatives in more detail in the latter portion of 2011. After conducting a Public Safety Communications Consolidation Analysis process, a threshold judgment was made that further exploration of consolidation was likely to be of mutual benefit, and this Business Case analysis process was initiated with iXP Corporation in early 2012. The purpose of this analysis process and Business Case Report was to establish a common understanding of the current operational configurations and costs for each of the individual jurisdictions and to identify the likely costs for the governance, operations, technology and facility elements of a consolidated emergency communications center organization. From this foundation, the jurisdictions will be able to make informed decisions about the individual and collective benefits that could be achieved through consolidation.

Subsequent to the completion of the Business Case Report in July 2012, the City of Carrollton retained continued services from iXP Corporation to determine if alternative service relationships could be established between a consolidated communications center and the Denco 9-1-1 organization. This work resulted in the confirmation that the relationships and costs outlined in the Business Case Report were the only strategy acceptable to Denco. Since this strategy was not acceptable to the three home rule jurisdictions, iXP was also tasked with assembling information on alternative 9-1-1 service strategies utilizing the North Central Texas Council of Governments (NCTCOG). While cost estimating work by the NCTCOG is still ongoing at the time of printing of this Updated Business Case Report, it is believed that the total costs of operations outlined in this report for a stand-alone facility define a maximum cost exposure for a consolidated communications center serving the four cities.

iXP Corporation was also tasked to work with CyrusOne to assist them in better understanding the needs and requirements for locating a consolidated communications center in their facility, with the goal of establishing a lower overall cost profile to make the hosted-facility model more

economically acceptable. This work has resulted in CyrusOne significantly lowering their estimates for monthly recurring costs and these updated costs are reflected in this Updated Business Case Report.

This Updated Business Case Report continues to directly carry forward information that has not changed since the Business Case Report issued in July 1012 so that the document is useful as a reference without having to also refer to the previous report. Any sections that have been updated are noted as such in the text.

Governance

Organizational Structure and Management

Successful multi-jurisdictional/multi-disciplinary public safety communications centers are most commonly founded on governance models that reflect the individual needs and interests of the participating jurisdictions while also establishing an identity for the communications center operation that is separate and unique from those participating jurisdictions. This allows all participating jurisdictions and agencies to have a voice in the policy and operational decision making processes so that none of them feel as though their service levels or operational processes are being dictated by the others.

Governance models of this type also often engage participating jurisdictions in one of two different levels of long-term relationships to the consolidated organization. Those with the long-term commitment to the consolidated organization are often referred to as ‘principal’ or ‘owner’ organizations. These jurisdictions take on a shared responsibility for the long-term success of the consolidated organization and share in the capital and operational funding requirements over the course of its existence. In contrast, jurisdictions that simply acquire emergency communications and dispatching services from the consolidated organization on a fee-for-service basis for some pre-committed period of time are often referred to as ‘subscriber’ organizations.

Consolidation of emergency communications functions are frequently accomplished through establishing a three-tiered organizational model. Simple structures such as these are often best suited to providing timely and well-reasoned policy and operational guidance to emergency communications operations. This model has proven to be highly effective in consolidated communications center operations and balances the policy, operational and technical requirements of the participating jurisdictions with the operational capabilities, practices and financial constraints of the communications center.

The organizational model that iXP believes would be best suited for the consolidation of emergency communications functions in the Town of Addison and Cities of Carrollton, Coppell

and Farmers Branch is a three-tiered organizational model that reflects the following roles and responsibilities:

- Governing Board – This policy level body would be made up of one appointed representative from each of the jurisdictions that take on a 'principal' status in the new organization. Typically the Governing Board representatives would be the City/Town Manager for the participating jurisdictions.

  The governing board would be responsible for forming and sustaining the consolidated organization through an intergovernmental or joint-powers agreement, adopting the capital and operational financing strategies for the organization, establishing labor and organizational policy for the organization, and hiring or retaining employees and/or contracted service providers to conduct the business of operating the 9-1-1 and emergency communications functions pursuant to the policies adopted by the Governing Board.

  Given the level of organizational and fiscal commitment each of these jurisdictions would be making to establish the consolidated organization and serve as a principal member of that organization, it is recommended that decision-making for the Governing Board be based on an equal voting model with each principal jurisdiction. It is also recommended that unanimous vote approval be required for the most substantive of decisions the Board would face, including such things as incurring capital debt, adding an additional principal participant, or dissolution of the organization. Dispute resolution processes such as mediation and arbitration could be integrated into the founding intergovernmental agreement to deal with situations where unanimity could not be reached.

- Operations Board – This operational level body would be made up of senior representatives (typically the Chiefs) from the public safety jurisdictions served by the consolidated communications center. This would include law enforcement and fire/EMS agencies within the participating 'principal' jurisdictions and any 'subscriber' agencies that may join in the future. This operational board would be responsible for working as a liaison between the Governing Board and the operational leadership of the communications center in defining operational policies and practices and providing routine guidance as these policies and practices require modification to meet changing conditions or community circumstances. Typically this work is often conducted by committees within the Operations Board with one focused on law enforcement issues and the other focused on fire/EMS issues.

  Ideally, consensus decision-making is well suited for an Operations Board and its discipline-focused Committees. If issues surface where consensus can't be reached, majority voting most often provides the best workable outcome. Issues and decisions that only affect a single discipline (such as law enforcement or fire/EMS) can often be

deliberated within that discipline's Committee structure, but it is best that final decisions still be conducted by the full Operations Board so that potential impacts across the disciplines can be vetted by all agencies being dispatched from the consolidated center.

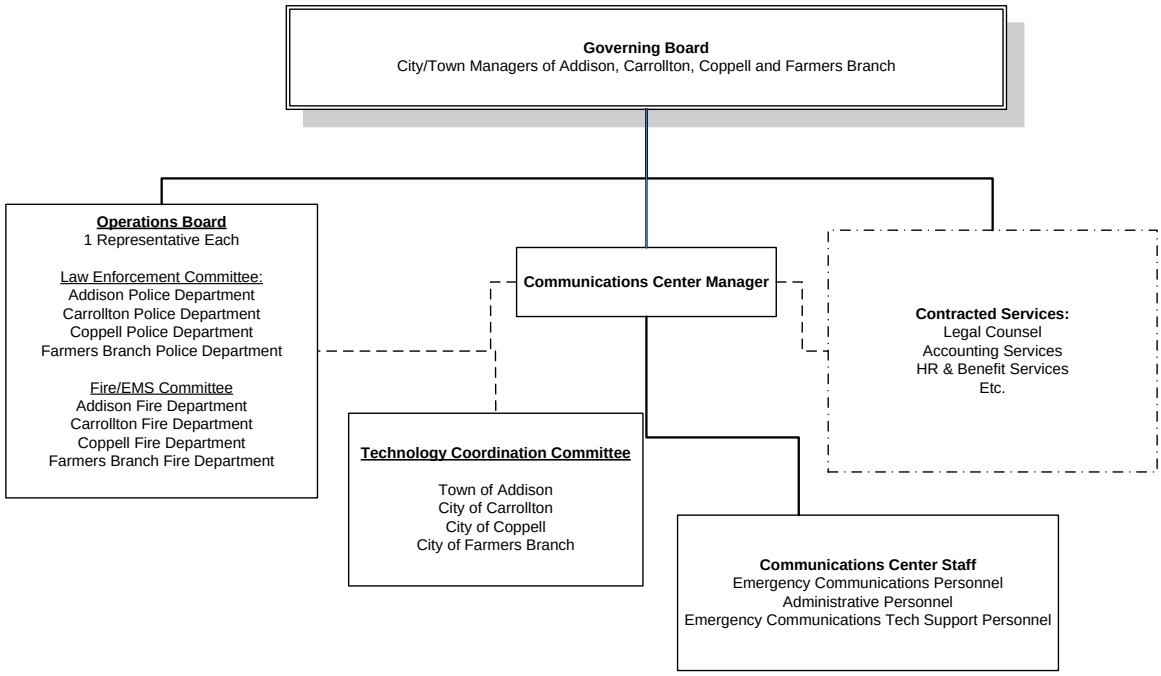
As a complimentary advisory body to the Operations Board, a Technology Coordinating Committee should also be formed to provide coordination between the technology systems deployed and managed within the participating jurisdictions and the technology systems deployed by the consolidated emergency communications center. At a minimum this committee would have participation from the principal jurisdictions and may be expanded to include representatives from subscriber jurisdictions if the need arises.

- Communications Center Staff – The consolidated communications center would be operated under the guidance of a Communications Center Manager who would report directly to the Governing Board and maintain a close coordination relationship to the Operations Board. The Director would then lead and manage the operational staff of the organization and any outside contracted service providers utilized in lieu of internal staff.

The most common method for establishing a governance model such as this is through an intergovernmental agreement among the principle jurisdictions. Such an agreement establishes the communications center organization as a free-standing governmental body that is "owned" by all the principle jurisdictions and provides services to those jurisdictions within the administrative and operational polices established by the governance bodies. In this model the communications center organization takes on all of the routine functions of operating a governmental agency including operational management, fiscal services, human resources functions and technology support duties. All communications personnel become employees of the communications center itself and an economic model is established that clearly delineates the combined costs of operating the organization and how those costs are apportioned back to the agencies being served so that a fair and transparent distribution of costs is achieved.

While this fully free-standing model often works well when the combined communications center operation needs to be fairly large to meet the service level requirements of the communities being served, it often needs to be modified when applied to smaller operations. For example, the combined fiscal and human resource system demands of the organization may not rise to the level of being economically feasible to establish and deliver with internal staff. In these situations it may be more reasonable for one (or more) of the participating jurisdictions to provide these services to the communications center and have their costs for providing these services recovered through the communications center economic model. The key to success when utilizing this approach is to carefully track the costs of providing these services and recovering those costs through the communications center's economic model so that inter-jurisdictional subsidies are avoided.

The following diagram summarizes the organizational structure described above:



Multi-jurisdictional/multi-disciplinary public safety communications centers are increasingly becoming a fiscal and technological necessity for jurisdictions large and small. By taking the time and energy to establish a sound governance model that meets local needs and conditions a newly created communications organization can provide high quality services in a policy and decision making framework that is mutually beneficial and agreeable to all the participating jurisdictions.

Capital and Operating Cost Allocation Models

For any new consolidation effort, the establishment of the cost allocation mechanisms for initial capital investments and the ongoing operations and maintenance of the organization can be a challenging and sometimes contentious undertaking. While there is often a tendency to try to establish elaborate formulaic methods to reach models that can be empirically defended, it is not uncommon for simpler and easier to explain mechanisms to reach mutually acceptability far easier. Based on iXP's experiences with other consolidation and shared services initiatives, we believe that simple and straight-forward models that are easily understood and easily explained to constituents often work the best.

- Initial Capital Investments – Establishing a new consolidated emergency communications center is a capital-intensive undertaking. Even if some of the existing systems are reused

intact or reconfigured and then reused, the capital investments will be significant. The combined costs of facility and technology investments will require identification of one or more capital financing processes to fund this phase of establishing the new center. These processes could include such things as direct borrowing from the commercial banking sector by the newly created consolidated organization, borrowing from the jurisdictions that combine to form the consolidated organization, direct allocations of capital funds from these organizations, or combinations of these mechanisms. Regardless of the mechanisms chosen, the proportionality of how these costs are allocated across the participating jurisdictions is the key to a successful long-term relationship.

All four of the study participants have demonstrated their individual ability to fund and operate emergency communications centers for their own purposes. Further, the extent of their capital investments over time are somewhat comparable in that each of them operate the standard array of emergency communications technologies required of a contemporary emergency communications center. In fact, the realization that they have each made these significant investments individually and would face their eventual replacement costs individually is one of the key drivers for considering a consolidation. Therefore, it may make some sense to equally apportion the capital costs for establishing the new consolidated organization. As an alternative to equal apportionment, iXP has seen jurisdictions of similar size and circumstance adopt the same cost apportion strategy for both capital expenses (CAPEX) and operational expenses (OPEX) so that all of the cost allocations used within the organization reference the same inter-agency proportionality. Through discussions with the project's leadership this approach seemed the most reasonable and has therefore been used for the draft models in this report.

- Operating Revenue Model – Establishing the annual operating budget (including periodic technology refreshment costs) will become a relatively mechanical process once the initial operation is up and running. Barring any changes in the number of agencies served or levels of service offered (including workload changes due to population growth or demographic shifts), year-to-year changes will be predominately driven by changes in the costs of labor/benefits or the costs of services and utilities required to maintain the operation of the facility and technology systems. These combined annual costs will then need to be allocated across the participating jurisdictions through a formula that is mutually understandable and agreeable.

  Public safety emergency communications organizations often find that 85% or more of their total cost of operations are attributable to personnel costs (direct labor costs, benefit costs and employment taxes). Further, as reviewed later in the Operations section of this report, staffing levels are highly correlated to the combined workloads of the communications center. Finally, unless different service levels are provided for individual entities, the workload for principal agencies and subscriber agencies are typically comparable. Therefore, the most common mechanisms for cost allocation/rate setting in

operating budget calculations is to use direct proportionality to workload metrics that are consistently measurable over time. The most common metric of this type is the number of events processed by the communications center for each jurisdiction served. These typically include combinations of both citizen-initiated calls for service that follow the typical telephone call reporting and dispatching process flow and field initiated events such as traffic stops and on-viewed events. Counts of these events can be easily tallied and tracked historically through CAD system reports, which allows these statistics to provide accurate and transparent cost allocation metrics.

Under some circumstances, allocating costs purely on an event-count basis does not provide an adequate reflection of the diversity of agencies and disciplines being served, and the workloads those diverse organizations bring to the consolidated communications environment. For example, the way events are counted across agencies and across disciplines may result in disproportional cost allocations when evaluated against the actual workload impacts coming from that agency or discipline. This is often the case if a high percentage of law-enforcement activity is tracked within CAD (including officer-initiated activities that don't require the same overall communications center workload as receiving an emergency/9-1-1 call and dispatching it) resulting in a high proportion of costs allocated to law enforcement and a low proportion being allocated to fire/EMS. To address this, consolidated communications centers that are striving to develop cost allocation models down to the agency level sometimes establish multi-layered cost allocation models to more accurately match communications center cost drivers with the actual costs allocated to the individual agencies being served.

Since the jurisdictions participating in this consolidation analysis are of very similar nature (municipal organizations operating law enforcement, fire and EMS services) there is less need to work towards cost allocation models that derive agency-level cost apportionments since individual law enforcement and fire/EMS agencies are not being directly charged for their dispatching services. This will allow concentration on developing cost allocation alternatives that are jurisdictionally focused while still being driven by the proportionality of workload metrics to achieve inter-jurisdictional fairness.

It is important to note though that the individual jurisdictions will need a degree of predictability in the costs that will be apportioned to them to allow them to establish their near-term and long-term budget strategies and plans. It will not be sufficient to just charge them on a monthly, quarterly or annual basis for whatever their actual event-count workload experience turns out to be for that particular period of time. A variety of local conditions or unique emergencies can cause these workload volumes to rise and fall over the course of a single year or even over several years. Therefore, it is common for operational rate models that utilize workload metrics to use some sort of multi-year averaging to "smooth" the overall proportionality among the agencies being served. For example, a 3-year moving average may allow more accurate reflection of true long-term

trends in event volumes that may result from new development, population changes, service level modifications and other systemic call-volume-affecting influences, and avoid perturbations to the stable cost allocation relationships caused by single-circumstance drivers such as major emergencies or localized disasters.

Existing Costs and Operational Models for Comparison to Future Consolidation Models

Each of the participating jurisdictions provided information on their current costs of operations to use as a reference point for the overall business case analysis of a consolidation alternative. These costs are shown in the following table:

Current Costs of Operations	Addison	Carrollton	Coppell	Farmers Branch	Combined Totals
Salaries & Benefits	$ 858,350	$ 1,905,865	$ 1,060,069	$ 1,084,359	$ 4,908,643
Non-Labor O&M	$ 300,995	$ 215,334	$ 197,650	$ 337,900	$ 1,051,879
Total Current Costs of Operations	**$ 1,159,345**	**$ 2,121,199**	**$ 1,257,719**	**$ 1,422,259**	**$ 5,960,522**

Estimates for the future costs of operating these individual dispatch organizations have been developed to allow direct comparison to the overall projected costs of establishing and operating a consolidated communications organization. These future costs have been calibrated to account for annual costs increases that result from increasing salaries, benefits and other direct costs of operation. They have also taken into account the need for each of the individual organizations to make periodic refreshments in their technology systems, such as server and workstation replacements and other technology system refreshments to existing systems.

They do not however try to predict when each individual agency may engage in major system replacements or facility improvements in future years. Similarly, to maintain comparability, the cost estimates for the consolidated model have included technology refreshment costs but not full-scale system replacement estimates. Obviously one of the key benefits of a consolidated model is that the costs of these future full-scale system replacements would be faced in the shared cost model of the consolidated organization rather than being replicated four times by each of the individual participating jurisdictions. The result is that the long term capital savings of consolidation are even more significant than those evidenced in this business case analysis.

The estimated costs for operating the individual communications organizations over a 20 year period of time are shown in the following tables. It is important to note that these estimated costs do not take into consideration any growth in staffing that may need to take place due to increasing workloads over time. Similarly, the cost models established for the consolidated organization will also be based on current workload statistics so that both current and consolidated costs are directly comparable.

Current Costs of Operation	Year 1	Year 2	Year 3	Year 4	Year 5
Total Addison Costs	$ 1,159,345	$ 1,694,125	$ 1,229,949	$ 1,266,848	$ 1,304,853
Total Carrollton Costs	$ 2,121,199	$ 2,184,835	$ 2,310,380	$ 2,317,891	$ 2,387,428
Total Coppell Costs	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,434,344	$ 1,415,574
Total Farmers Branch Costs	$ 1,422,259	$ 1,464,927	$ 1,758,875	$ 1,554,141	$ 1,600,765
Current Combined Costs of	$ 5,960,522	$ 6,639,338	$ 6,633,518	$ 6,573,223	$ 6,708,620

Current Costs of Operation	Year 6	Year 7	Year 8	Year 9	Year 10
Total Addison Costs	$ 1,343,999	$ 1,434,319	$ 1,425,848	$ 1,468,624	$ 1,512,682
Total Carrollton Costs	$ 2,459,051	$ 2,532,823	$ 2,668,807	$ 2,687,071	$ 2,767,684
Total Coppell Costs	$ 1,458,041	$ 1,501,782	$ 1,546,836	$ 1,653,241	$ 1,641,038
Total Farmers Branch Costs	$ 1,688,788	$ 1,698,252	$ 1,749,199	$ 1,801,675	$ 1,855,725
Current Combined Costs of	$ 6,949,879	$ 7,167,175	$ 7,390,690	$ 7,610,611	$ 7,777,129

Current Costs of Operation	Year 11	Year 12	Year 13	Year 14	Year 15
Total Addison Costs	$ 1,558,063	$ 1,654,805	$ 1,652,949	$ 1,702,537	$ 1,753,613
Total Carrollton Costs	$ 2,850,714	$ 2,936,236	$ 3,084,323	$ 3,115,052	$ 3,208,504
Total Coppell Costs	$ 1,690,269	$ 1,740,977	$ 1,793,207	$ 1,907,003	$ 1,902,413
Total Farmers Branch Costs	$ 1,951,397	$ 1,968,739	$ 2,027,801	$ 2,088,635	$ 2,151,294
Current Combined Costs of	$ 8,050,443	$ 8,300,756	$ 8,558,279	$ 8,813,227	$ 9,015,824

Current Costs of Operation	Year 16	Year 17	Year 18	Year 19	Year 20
Total Addison Costs	$ 1,806,222	$ 1,910,408	$ 1,916,221	$ 1,973,707	$ 2,032,918
Total Carrollton Costs	$ 3,304,759	$ 3,403,902	$ 3,566,019	$ 3,611,199	$ 3,719,535
Total Coppell Costs	$ 1,959,485	$ 2,018,270	$ 2,078,818	$ 2,201,182	$ 2,205,418
Total Farmers Branch Costs	$ 2,215,833	$ 2,282,308	$ 2,350,777	$ 2,421,301	$ 2,493,940
Current Combined Costs of	$ 9,286,299	$ 9,614,888	$ 9,911,835	$ 10,207,390	$ 10,451,811

Existing staffing levels and minimum staffing requirements were also collected for each participating agency.

- Town of Addison Police Department Communications Center has 13 authorized full-time positions and is currently fully staffed with no vacancies, including one Telecommunications Supervisor and 12 Telecommunicators. Addison has a minimum staffing requirement of two Telecommunicators 24 hours per day, 7 days per week.

- City of Carrollton Communications Center has 31 authorized full-time positions with 12 total vacancies. Carrollton's current staffing includes one Communications Manager,

three Communications Supervisors, and 15 full-time Telecommunicators. The vacancies include one Supervisor and 11 full-time Telecommunicators. The minimum staffing requirement at Carrollton is four Telecommunicators 24 hours per day, 7 days per week.

- City of Coppell Police Department Communications Center has 13 authorized full time positions, with no vacancies. Coppell's current staffing includes one Communications Manager, four Police Dispatch Supervisors and 8 full-time Police Dispatchers. The minimum staffing requirement at Coppell is two Police Dispatchers 24 hours per day, 7 days per week.

- City of Farmers Branch Police Department Communications Center has 16 authorized full time positions, with one vacancy. Farmers Branches current staffing includes one Communications Lieutenant, four Team Leaders and 11 Communications Specialists. There is one vacant Communications Specialist position. The minimum staffing requirement at Farmers Branch One Team Leader and three Communications Specialists 24 hours per day, 7 days per week.

The combined authorized, filled and vacant position information for all agencies is shown in the following table:

Classification	Town of Addison	City of Carrollton	City of Coppell	City of Farmers Branch	Total by Classification
Authorized Telecommunicator	12	26	8	11	57
Actual Telecommunicator	12	15	8	11	46
Vacant Telecommunicator	0	11	0	0	11
Authorized Supervisor	1	4	4	4	13
Actual Supervisor	1	3	4	4	12
Vacant Supervisor	0	1	0	0	1
Authorized Manager	0	1	1	1	3
Actual Manager	0	1	1	1	3
Vacant Manager	0	0	0	0	0
Total Authorized	13	31	13	16	73
Total Actual	13	19	13	16	61
Total Vacant	0	12	0	0	12

Consolidated Operations Model and Estimated Budget Levels

Development of a staffing model for a consolidated public safety communications center requires the balancing of a number of interests and priorities so that the staffing levels meet the service delivery requirements of the agencies/communities they serve while also operating within a sustainable business model that fits within local budgetary constraints. While the communications center staff ultimately support a variety of tasks and responsibilities over the

course of their working shift, there are three primary tasks that have the most significant impact when establishing staffing level models:

- Answering incoming 911 and 10-digit phone calls, screening those calls to determine if a response or other action is needed, and entering the incident information into the CAD system if the nature of the event indicates this is appropriate (or providing information to the caller if CAD entry is not indicated).

- Dispatching calls for service to the law enforcement, fire service and EMS agencies supported by the communications center, or passing information on to outside jurisdictions and agencies if resources are needed from outside the communications center's agencies.

- Monitoring and supporting in-service units while they conduct their on-street activities and entering/processing CAD and database inquiries related to all field-initiated activities.

Each public safety organization has their own individual right and responsibility to establish levels of service that are appropriate and acceptable to their community (such as how many units to staff at any given time of the day, the types of events to receive a response, the depth of the response based on call type, etc.). These variations can be effectively managed through policies and procedures, training and tools within the CAD and call processing systems. There are however some basic performance expectations that are typically established for a consolidated public safety communications center so that all of the agencies they support can be assured of a consistent level of service for the call receiving and dispatching process. The two most common minimum performance expectations are focused on call answering and call processing times:

- Call Answering expectations are typically established at one or two levels of performance, expressed as the percentage of 9-1-1 and emergency calls that will be answered within a certain period of time during the normal "busy" hour. The busy hour is defined as the hour in which the highest volume of calls consistently occurs. The most commonly referenced standard is the Call Answering Standard/Model Recommendation published by the National Emergency Number Association (NENA Document 56-005) which identifies the target of answering 90% of 911 calls within 10 seconds during the busiest hour of the day and answering 95% of 911 calls within 20 seconds overall. The National Fire Protection Association Standards for the Installation, Maintenance and Use of Emergency Services Communications Systems (NFPA) 1221 7.4.1 currently recommends that 95% of alarms on emergency lines be answered in 15 seconds and that 99% of all alarms be answered within 40 seconds. NFPA 1221 7.4.1.1 requires compliance to be measured monthly.

- Call Processing and Dispatching expectations are also often established at multiple levels of performance. The most commonly referenced standard for fire/EMS events is NFPA 1221 (7.4.2), which currently recommends that 90% of call processing be completed in 60 seconds and 99% of call processing be completed in 90 seconds. Standards for law enforcement events are typically established by the agency and often vary based on event priority. NFPA 1221 7.4.2.1 requires compliance to be measured monthly.

A Public Safety Communications Consolidation Analysis Report was conducted by RCC Consultants, Inc. in mid to late 2011 and was based on 2010 workload data. This business case analysis was initiated in early 2012, resulting in the availability of calendar year 2011 workload data, including telephone call volumes, dispatched incident volumes, ancillary duties, etc. The 2011 workload data provided the by the study participants was evaluated and staffing estimates were calculated.

First, we will examine dispatch workload. Consideration must be given to the number of units supported and the individual requirements of each agency, as well as CAD event workload, in determining the number of dispatch positions required to support multiple agencies in a single consolidated Communications Center.

CAD workload data has been collected from each agency and reviewed with the participants for comparability and consistency. All agencies in the study use CAD events to track workload, including unit responses and field generated events. This information was provided by all participating agencies and analyzed. It was determined that the information tracked by all fire agencies participating in the study was consistent, while the information tracked by law enforcement agencies in the study varied. In addition to tracking unit responses and field generated events, the Town of Addison and the City of Carrollton also used CAD events to track many unit statuses that were either not tracked or tracked in a different manner by the City of Coppell and the City of Farmers Branch.

All agencies worked together to calibrate their information to ensure a like comparison. Data that was determined to be a status-oriented rather than a response-oriented was extracted so that the data being used in this business case analysis includes only the CAD event types that result in either a dispatch-generated or field-generated unit response. These statistics are shown in the following table:

	Law - Dispatched	Law - Officer Initiated	Law Total	%		Fire	EMS	Fire/EMS Total	%		Other (1)	Totals	Combined % Breakdown
Addison	23530	78059	**101,589**	33%		1106	1510	**2,616**	14%			**104,205**	31%
Carrollton	77110	49722	**126,832**	41%		3048	6591	**9,639**	51%		15	**136,486**	41%
Coppell	24612	12569	**37,181**	12%		1856	1002	**2,858**	15%		-	**40,039**	12%
Farmers Branch	21391	25092	**46,483**	15%		1,633	2063	**3,696**	20%		-	**50,179**	15%
Totals	146,643	165,442	**312,085**	100%		7,643	11,166	**18,809**	100%		15	**330,909**	100%
% of overall Workload			94%					6%			0%		
(1) Carrollton other city departments													

Just over 50% of Fire/EMS workload is attributable to the City of Carrollton, followed by the City of Farmers Branch with the City of Coppell and the Town of Addison handling similar workloads. All of the Fire Departments in the study operate in a regional manner, with automatic aid and sharing of manpower and equipment occurring on a regular basis. These agencies will greatly benefit from consolidated dispatch in that this regional dispatch model will allow them to work together more easily with improved efficiency and interoperability. It is recommended that Fire/EMS dispatch support be combined into one primary fire dispatch position and one tactical fire dispatch position. These positions will work together to handle Fire/EMS related traffic with the primary dispatcher handling the majority of duties and the tactical dispatcher becoming engaged on more involved or tactical events. Both will serve as call receivers as dispatch workload allows, with the expectation that the tactical fire dispatch position will have more available time to support call receiving responsibilities.

CAD workload statistics for law enforcement indicate that the City of Carrollton has the highest total CAD event counts, with the majority of these events initiating in Communications. The Town of Addison is a close second to the City of Carrollton in CAD workload, however the majority of their workload is field initiated. The City of Farmers Branch also a slightly higher percentage of their workload generated in the field. Currently, The Town of Addison, and Cities of Coppell and Farmers Branch each operate using one law enforcement position 24X7 while the City of Carrollton uses one primary patrol channel position and one NCIC position 24X7.

Law Enforcement dispatch is more jurisdictionally oriented than Fire/EMS dispatching; agencies support one another in emergency situations, however they work independently, within their own regional boundaries on a routine basis. While the radio traffic levels may support the combining of law enforcement agencies onto shared channels, the individuality of the agencies may not support this. There are several possible configurations available to support law enforcement functions, while enabling each agency to maintain their independent levels of service and improving interoperability with a range of four to five law enforcement dispatchers 24X7.

The City of Carrollton's primary law enforcement radio traffic is too busy to handle primary radio traffic and NCIC traffic and will continue to need to operate in the current manner in a consolidated Communications Center. The City of Carrollton primary law enforcement channel

traffic is busy during peak times, and may eventually require splitting into two primary law enforcement channels; however, they are functioning at this time using one primary law enforcement channel and will continue to do so. It is suggested that this NCIC position become a shared channel by all agencies. The Town of Addison's law enforcement traffic also warrants a primary channel.

It would likely be possible to combine the Cities of Coppell and Farmers Branch into one shared law enforcement dispatch channel, if both of these agencies are willing. Doing so would allow each agency to maintain their independent response levels; however, their units would share the attention of one dispatcher. An alternative for the Cities of Coppell and Farmers Branch may be to operate independent law enforcement channels during the 16 busier hours of the day and combine onto one shared law enforcement channel during the slower 8 hours of the day. This could be done within the communications center by patching channels together, and would not require any action on the part of the patrol unit. If the shared channel concept is not favorable to the agencies, then each may have a dedicated law enforcement dispatcher.

A five position law enforcement dispatch staffing model 24X7 would include one dispatcher for each agency and one shared NCIC dispatch position that can be dedicated to inquiry-type activities, tactical events, and/or primary channel support. A four position law enforcement dispatcher staffing model 24X7 would include one law enforcement dispatch position each for the Town of Addison and the City of Carrollton, one shared law enforcement dispatch position for the Cities of Coppell and Farmers Branch and one shared law enforcement dispatch position to support all primary channels. A hybrid staffing model would include five law enforcement dispatch positions during the 16 busiest hours of the day and four law enforcement dispatch positions during the 8 slower hours of the day. Dispatchers in each staffing model will serve as call receivers as dispatch workload allows, with the expectation that the shared law enforcement dispatch position, the City of Coppell and the City of Farmers Branch law enforcement positions will have more available time to support call receiving responsibilities.

Depending on radio traffic, dispatcher times available to support call receiving activities will vary. During slower times, it is possible to handle telephone call volume workload with staffed dispatch positions. Peak call times will result in busier periods for dispatchers, reducing the available time to support the call receiver function therefore requiring additional staff on hand to handle call receiver duties. This call receiver availability is also impacted by combining law enforcement channels; working multiple jurisdictions on a shared channel will increase the radio traffic and decrease the call receiver availability time.

Total dispatch workload will require two fire/EMS dispatchers and four or five law enforcement dispatchers, depending on the service level each law enforcement agency requires. Additionally, one shift supervisor per shift is recommended to oversee the work of call receivers, fire/EMS and law enforcement dispatchers on duty. The shift supervisor would be considered a working supervisor; functioning as a telecommunicator but also having the added responsibility of

oversight. In order to maintain a consistent service level 24X7, a personnel break plan must be considered. This can include an additional position that would also serve as call receiver and provide relief to dispatch positions, utilizing the shared law enforcement or tactical fire position, or utilizing the shift supervisor.

Next, we consider combined telephone call volumes. A variety of telephone call volume data was provided by each of the study participants. While some pieces of information were consistently available from all study participants, other statistics were only available from some of the participants. Further, some of the information was only available for limited time periods. However, enough data is present to establish a reasonable projection of what the combined call volumes would look like for a consolidated communications center operation.

When determining total telephone call volumes, there are three sets of data that represent telephone workload for a Communications Center: incoming 911 telephone calls, incoming 10-digit emergency and administrative calls, and outgoing calls. Following is the combined annual telephone call volume data broken down into these three categories for the agencies involved in this project:

2011 Telephone Data	911 Total	10-Digit	Outbound	Totals
Town of Addison	22,873	45,229	33,685	101,787
City of Carrollton	70,211	134,661	54,974	259,846
City of Coppell	12,488	40,464	15,791	68,743
City of Farmers Branch	22,179	93,204	19,870	135,253
Combined Totals	127,751	313,558	124,320	565,629

Rather than consider individual workload, as was done for fire/EMS and law enforcement event data, telephone volumes are combined for consideration of workload in a consolidated communications center. This data is then broken down further into monthly, weekly, daily and hourly comparisons. The combined total incoming annual telephone call volume was estimated at approximately 1209 calls per normal 24-hour day; outgoing calls were estimated at approximately 341 calls per normal 24-hour day; this brings the total daily call volume estimation to approximately 1550 calls per day.

While both incoming and outgoing data must be included, there is a significant differentiation in that the inbound calls must be answered on demand, while many of the outgoing calls can be made as time allows between other duties. Examples of outgoing calls include 911 hang-up call back attempts, ambulance or wrecker request, warrant confirmation, etc. In order to determine combined workloads for these four jurisdictions, 100% of incoming calls were used, while only 60% of outgoing calls were used, bringing the estimated daily call volume to approximately 1414 calls per day.

Hourly call volume data from each agency was compared and averaged together to determine arrival rate call percentages by hour of the day. These percentages were then applied to the estimated daily call volume of 1414, resulting in the hourly call distribution shown in the following table:

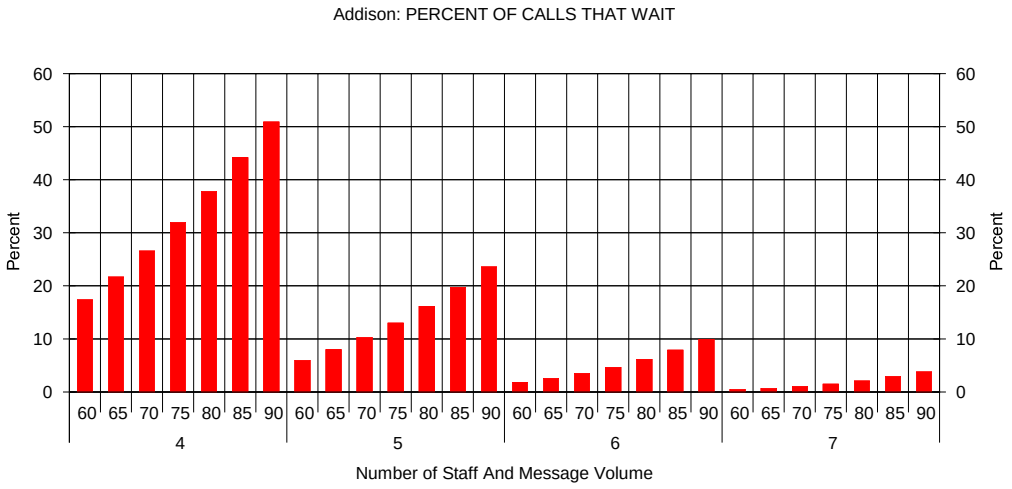
Hour of Day	Estimated Hourly Distribution		
00:00 to 01:00	2.8%	39	
01:00 to 02:00	2.4%	34	
02:00 to 03:00	2.1%	29	
03:00 to 04:00	1.7%	24	
04:00 to 05:00	1.4%	19	
05:00 to 06:00	1.9%	26	
06:00 to 07:00	2.4%	34	
07:00 to 08:00	3.5%	50	
08:00 to 09:00	4.7%	66	
09:00 to 10:00	5.4%	76	
10:00 to 11:00	**5.7%**	**80**	
11:00 to 12:00	**6.0%**	**85**	
12:00 to 13:00	**5.8%**	**82**	
13:00 to 14:00	**6.3%**	**89**	**Busiest Hour**
14:00 to 15:00	**6.2%**	**88**	
15:00 to 16:00	**6.2%**	**88**	
16:00 to 17:00	**5.9%**	**84**	
17:00 to 18:00	5.2%	74	
18:00 to 19:00	5.1%	72	
19:00 to 20:00	4.3%	61	
20:00 to 21:00	4.1%	58	
21:00 to 22:00	4.2%	60	
22:00 to 23:00	3.8%	54	
23:00 to 00:00	3.1%	44	
	100%	1414	

This information also revealed predictable patterns. The slowest 8 hours will occur between 2300 and 0700 hours, with call volumes ranging from 19 to 44. The busier 16 hours will occur between 0700 and 2300 with call volumes ranging from 50 to 89. The busiest hour of the day on average is the hour from 1300 and 1400, with 6.3% of calls arriving. It is interesting to note, however, that the three hours before and after 1300 are within tenths of a percent of the busiest hour.

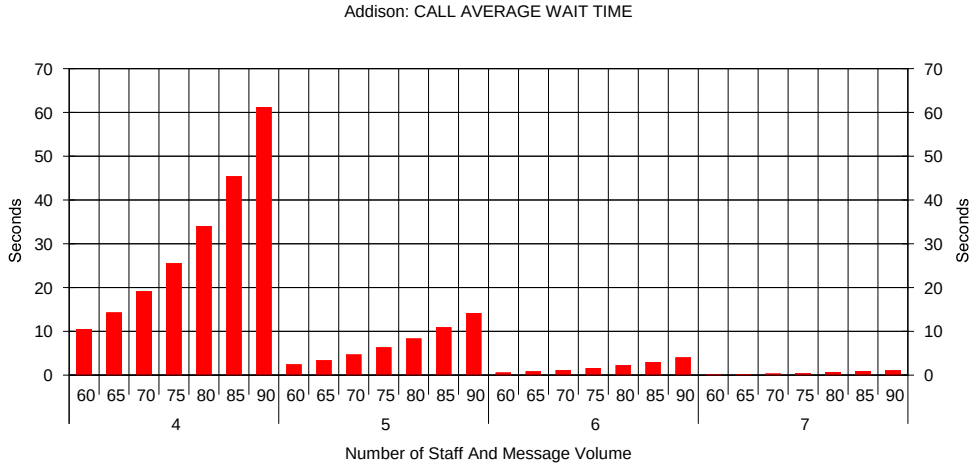
Another factor necessary to determine the level of staffing necessary to handle these volumes within the referenced standards is the call duration. Telephone calls will be of varying durations, with some being resolved in less than a minute and others requiring longer periods of time to complete. For purposes of workload analysis and staffing projections, average call duration of 120 seconds is used to develop the statistical models discussed below. This duration has been found to be reasonable for communication centers of this size and includes time for not only all of the actual on-phone time with the caller but a small dwell period at the conclusion of the phone call to complete any CAD or other call processing activities and be ready to answer the next inbound call. It also recognizes that outbound calls are often even longer than this time period, but are of a lower priority and can be placed on hold to allow answering of an inbound call.

With the estimated call duration and call arrival metrics established, it is possible to apply statistical tools to model what the call answering performance would look like at varying call arrival rates and varying staffing levels. For this modeling, a range of hourly call volumes from sixty to ninety has been examined against a call receiver staffing count ranging from four to seven. It is important to note that when referring to a call receiver in this context, we are not suggesting that these are all dedicated positions staffed only to answer calls. Rather, this represents the combined number of call receivers and dispatchers that would need to be in the Center and logged into the CAD and phone system so they are ready to take the next inbound call. Typically, they would be handling dispatching responsibilities and performing other functions supported by the Center, while concurrently being able to handle inbound calls so that call answering performance goals could be met on a consistent basis.

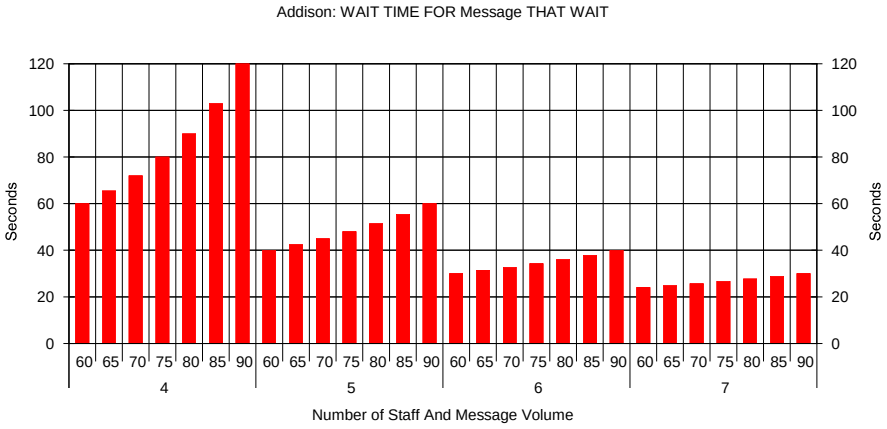
The first way to evaluate call receiver staffing is to estimate the percentages of calls that would need to wait at any given staffing level. The graph below illustrates that for a call arrival rate of ninety calls per hour, the high call volume projection, more than 50% of calls would experience a wait time with four call receivers available. Having a fifth call receiver available brings that potential to around 23%; a sixth call receiver brings that potential to approximately 10%; and a seventh call receiver brings that potential to less than 5%.



The actual potential wait times for calls that wait will be highly variable. The graph below shows that for the same sixty to ninety arrival rate and four call receivers, the average wait time would be approximately 60 seconds. Six call receivers result in an average wait time of approximately five seconds. Keep under consideration that these call volumes are based on combined inbound and outbound totals; at critical times, much of the outgoing phone traffic can be suspended until time allows.



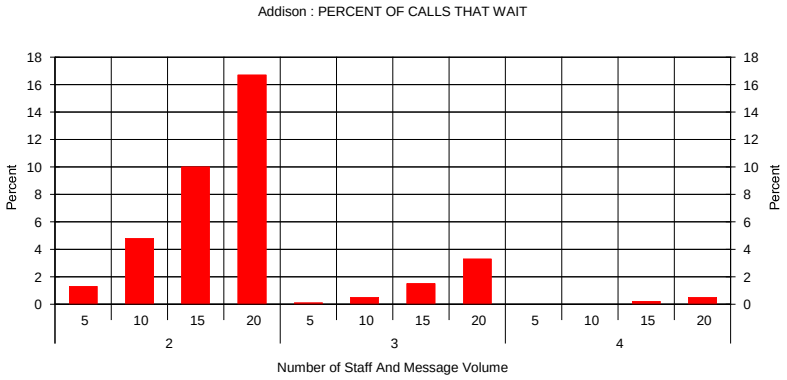
But knowing the average wait time needs to be balanced against understanding what the actual wait times might be for each of the calls that have to wait. A high percentage of quickly answered calls can pull the average down while there are still a few individual callers who experience considerably longer wait times. If that happened to be the call with a life-threatening emergency, the goal would be to have the wait time as low as reasonably possible. The graph below depicts that at the same sixty to ninety call arrival rate and four call receivers, wait times would reach more than one hundred and twenty seconds. However, having a fifth call receiver available brings the potential wait time down to approximately sixty seconds, and a sixth call receiver reduces that potential wait time to forty seconds even at the higher total inbound and outbound call volume of ninety in that busy hour.

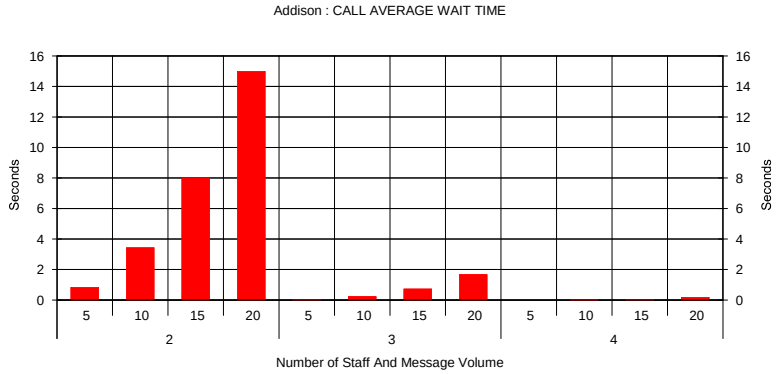


While this amount of wait-time would be unacceptably high if the inbound call were a life-threatening emergency, the practical reality is that since the statistical analysis includes both incoming and outgoing telephone processing duties for the emergency communications staff, there is a high probability that low-priority calls will be able to be terminated or placed on hold so that inbound 9-1-1 and 10-digit emergency lines can be answered quickly.

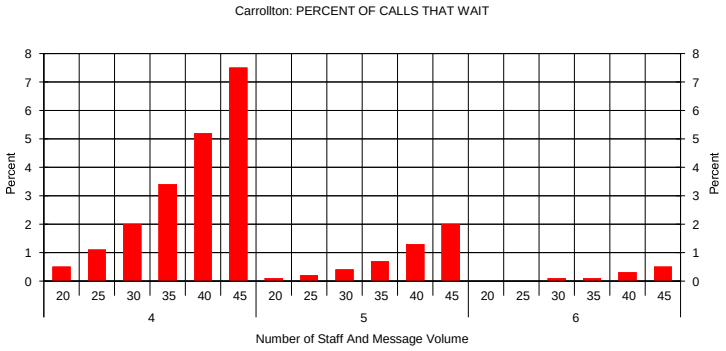
iXP was asked to provide the same hourly call volume analysis for each individual agency using their existing staffing models. For the purposes of this exercise, the same 120 second call duration was used so the results were comparable. These statistics are reflected in the tables on the following pages for each of the participating jurisdictions.

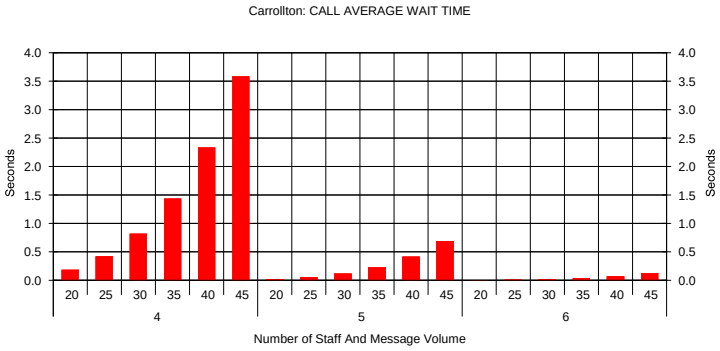
Addison Average Calls per Day: 242		
Hour of Day	% of Calls per Hour	# Calls per Hour
00	3.1%	8
01	2.6%	6
02	2.6%	6
03	1.9%	5
04	1.4%	3
05	2.4%	6
06	2.7%	7
07	3.1%	8
08	4.4%	11
09	5.3%	13
10	5.7%	14
11	5.8%	14
12	5.8%	14
13	6.3%	15
14	6.7%	16
15	5.6%	14
16	5.2%	13
17	4.7%	11
18	4.4%	11
19	4.1%	10
20	3.8%	9
21	4.5%	11
22	4.3%	10
23	3.7%	9
	100%	242

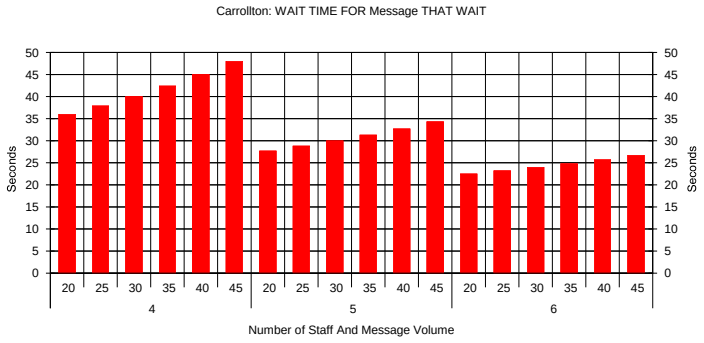




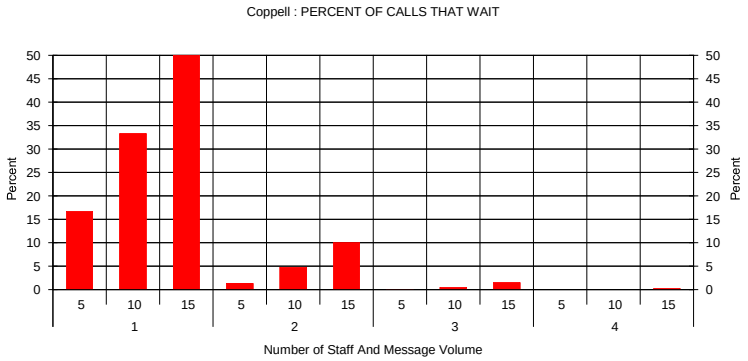
Carrollton Average Calls per Day: 652		
Hour of Day	**% of Calls per Hour**	**# Calls per Hour**
00	3.0%	20
01	3.4%	22
02	2.0%	13
03	1.6%	10
04	1.6%	10
05	1.6%	10
06	2.0%	13
07	3.4%	22
08	3.4%	22
09	3.4%	22
10	4.4%	29
11	5.4%	35
12	5.4%	35
13	5.9%	38
14	5.4%	35
15	6.4%	42
16	6.4%	42
17	5.9%	38
18	5.9%	38
19	4.9%	32
20	5.4%	35
21	5.4%	35
22	4.4%	29
23	3.4%	22
	100%	652

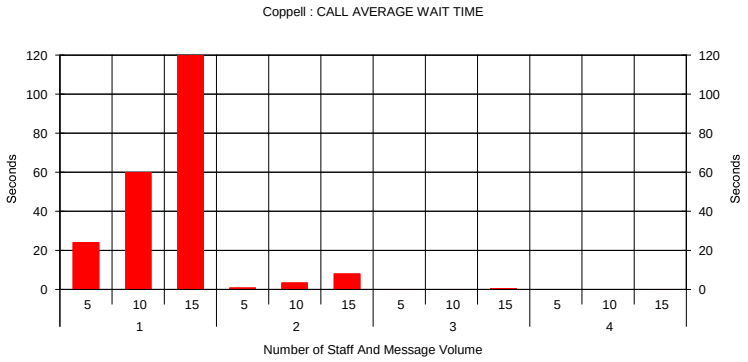


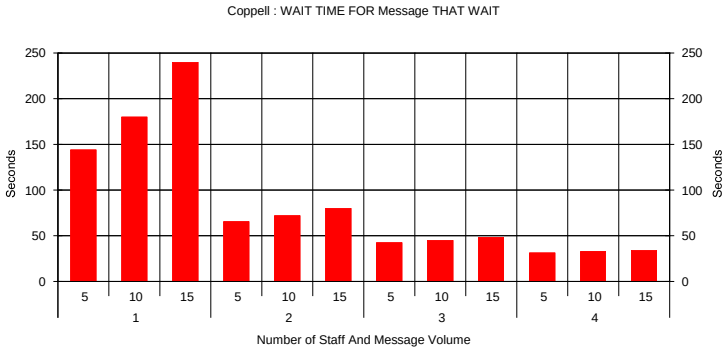




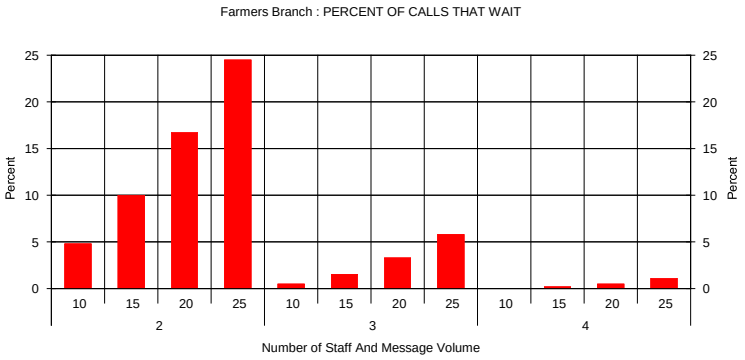
Coppell Average Calls per Day: 171		
Hour of Day	**% of Calls per Hour**	**# Calls per Hour**
00	2.1%	4
01	1.7%	3
02	1.7%	3
03	1.2%	2
04	1.2%	2
05	1.4%	2
06	2.5%	4
07	4.0%	7
08	5.3%	9
09	6.1%	10
10	6.3%	11
11	6.5%	11
12	6.2%	11
13	6.4%	11
14	6.4%	11
15	6.5%	11
16	6.2%	11
17	5.5%	9
18	5.0%	9
19	4.4%	8
20	3.7%	6
21	3.5%	6
22	3.7%	6
23	2.5%	4
	100%	171

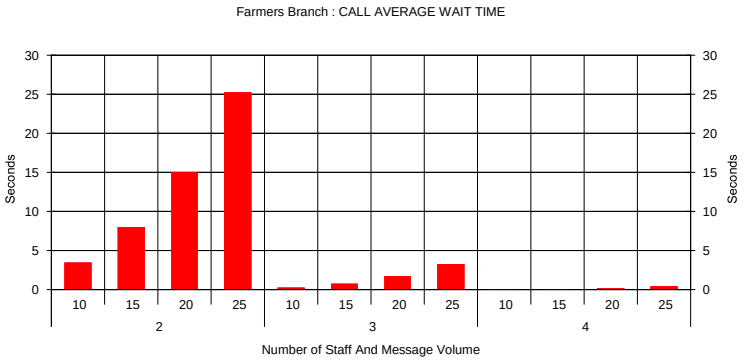


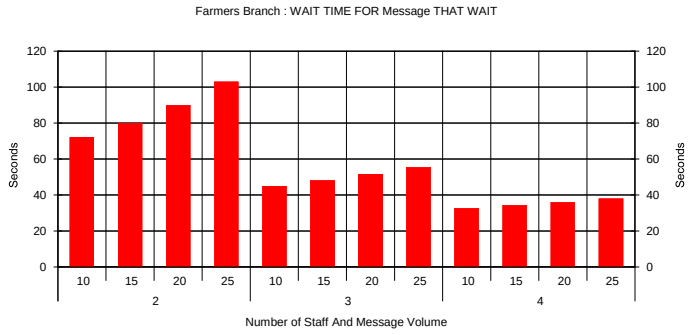




Farmers Branch Average Calls per Day: 349		
Hour of Day	**% of Calls per Hour**	**# Calls per Hour**
00	2.8%	10
01	2.0%	7
02	2.0%	7
03	2.0%	7
04	1.2%	4
05	2.0%	7
06	2.4%	8
07	3.5%	12
08	5.5%	19
09	6.7%	23
10	6.3%	22
11	6.3%	22
12	5.9%	21
13	6.7%	23
14	6.3%	22
15	6.3%	22
16	5.9%	21
17	4.7%	16
18	5.1%	18
19	3.9%	14
20	3.5%	12
21	3.5%	12
22	2.8%	10
23	2.8%	10
	100%	349







Consolidated Staffing Level Recommendations

Staffing recommendations for a consolidated communications center vary by time of day to map to workload. During the slower 8 hours of the day, from 2300 to 0700, staffing recommendations include one shift supervisor and seven to eight telecommunicators, depending on whether the City of Coppell and the City of Farmers Branch's desire to have a dedicated law enforcement dispatch position. During the busier 16 hours of the day, from 0700 to 2300, two additional telecommunicators are recommended to function as call receivers, and during the busiest 8 hours of the day, from 0900 to 1700 hours, one additional telecommunicator is recommended. A personnel break plan is recommended. During the slower 8 hours of the day the tactical fire dispatch, shared law enforcement dispatch and/or shift supervisor position can provide breaks; however during the busier 16 hours of the day staffing a relief/break position is recommended. When not providing a break, this position can support call receiving functions.

The existing communications centers each provide additional duties that must be addressed in consideration of a consolidated communications center, including front desk activities, monitoring security cameras, entering and maintaining warrants, handling bond-outs and emergency weather sirens. In the case of the City of Coppell, communications members monitor prisoners in the jail, maintaining prisoners' property, coordinating meals, etc. In some cases, these ancillary duties will be able to move to a consolidated communications center. Some duties can be altered through process and technology to allow them to be supported remotely. But some duties, including jailer responsibilities for the City of Coppell will be left behind. The consolidated center's Governing Board and each of the agencies will need to determine if these services will continue in the consolidated center and, if so, if there will be any fees attached to providing these services.

Staffing a single position on a continuous 24-hour basis can require up to 6 FTE personnel after normal vacation, holiday and sick-leave policies are considered. For this exercise, benefited time averages were used for each agency including, 9 paid holidays (72 hours), 20 days of vacation (160 hours), 12 paid sick days (96 hours). Add to that 8 hours per month dedicated to training (96 hours), and the total time away from work calculations is 424 hours. No time away was calculated for work and meal breaks, as these are typically considered duty time and will not require backfilling with other personnel. Given these shared factors, staffing a single position on a continuous 24-hour basis will require 5.3 FTE personnel. Therefore, based on the revised call volume and workload estimates, a total staffing model of 56 to 61 personnel is recommended for the consolidated organization as estimated in the table below.

3 Option Staffing FTE Comparison				
Position	**Schedule**	**FTE Count Option 1**	**FTE Count Option 2**	**FTE Count Option 3**
Communications Center Manager	Normal Business Hours	1	1	1
Administrative Assistant	Normal Business Hours	1	1	1
Technology Support Personnel	Normal Business Hours	2	2	2
Quality Assurance/Records Custodian	Normal Business Hours	1	1	1
Training Supervisor	Normal Business Hours	1	1	1
Shift Supervisors	24X7	5.3	5.3	5.3
Telecommunicator serving Addison Police Department and Call Receiving	24X7	5.3	5.3	5.3
Telecommunicator serving Carrollton Police Department and Call Receiving	24X7	5.3	5.3	5.3
Telecommunicator serving Coppell Police Department and Call Receiving	Option 1 - 24X7 Option 2 - 16 hours per day	5.3	3.5	0
Telecommunicator serving Farmers Branch Police Department and Call Receiving	Option 1 - 24X7 Option 2 - 16 hours per day	5.3	3.5	0
Telecommunicator serving Coppell Police Department and Farmers Branch Police Department and Call Receiving 24X7	Option 2 - 16 hours per day Option 3 - 24X7	0	1.8	5.3
Telecommunicator serving Addison, Carrollton, Coppell and Farmers Branch Police Departments and Call Receiving	24X7	5.3	5.3	5.3
Telecommunicator serving as Primary Fire Dispatch and Call Receiving	24X7	5.3	5.3	5.3
Telecommunicator serving as Tactical Fire Dispatch and Call Receiving	24X7	5.3	5.3	5.3
Telecommunicators for Call Receiving and Breaks	16 hours per day	3.5	3.5	3.5
Telecommunicators for Call Receiving	16 hours per day	7.1	7.1	7.1
Telecommunicators for Call Receiving	8 hours per day	1.8	1.8	1.8
	Total FTEs	**61**	**59**	**56**

The actual position descriptions and counts would be slightly different than the mathematical calculations. First, rather than just having two categories of operational personnel (Telecommunicators and Supervisors), iXP recommends adoption of a Communications Training Officer (CTO) position that serves as an intermediary position between Telecommunicator and Supervisor. The CTO continues to be a working position in the communications center staffing model (as is recommended for the Supervisor position). This model brings a number of operational and quality assurance benefits when the number of established CTO positions allows there to be one on duty during most normal shift cycles.

This allows the CTO to collaborate with the Supervisor in both the routine operation of the shift and in working with new personnel as the transition from new-hire/trainee into a fully functional Telecommunicator. Further, the CTO can serve as a backup to the Supervisor and even serve in that function when short-term scheduling mechanics would otherwise call for working a Supervisor on overtime. This allows the CTO position to not only be seen as a promotional opportunity for Telecommunicators, it also provides an opportunity for CTOs to prepare themselves for advancement into Supervisor positions when they occur.

With the inclusion of the CTO classification, the 56 to 61 operational personnel identified in the table above would translate to the following actual operational staffing model:

Title	FTE Count Option 1	FTE Count Option 2	FTE Count Option 3
Communications Center Manager	1	1	1
Administrative Assistant	1	1	1
Technology Support Personnel	2	2	2
Quality Assurance/Records Custodian	1	1	1
Training Supervisor	1	1	1
Shift Supervisors	6	6	6
CTOs	6	6	6
Telecommunicators	43	41	38
Total FTEs	**61**	**59**	**56**

The service level recommendation includes Emergency Medical Dispatch, which is not currently offered at the Town of Addison or City of Coppell. Additionally, a formalized training program meeting industry standards is recommended to ensure a well-trained workforce, resulting in a consistent high level of service and improved employee development opportunities. The staffing recommendation includes an administrative supervisor position to oversee the formal training program and perform quality assurance, including measuring individual and center performance in comparison to industry standards and compliance with requirements.

It is important to remember that the operational model being recommended for the consolidated operation is for all Supervisor, CTO and Telecommunicator personnel to be fully cross-trained so they can perform as call receivers and dispatchers for all law enforcement, fire service and emergency medical functions. With this model in place and a routine staffing of at least 7 positions (with additional positions during the busiest hours of the day) the level of service that can be provided to the public and the agencies being served will be substantially higher than each of the current organizations can deliver on their own. The breadth of knowledge and depth of

staffing capabilities, along with the added EMD service, benefits citizens and first responders, and has a positive impact on each city's Insurance Service Office (ISO) rating.

Projected Operational Budget Model

Based on the operational model discussed in the previous section and the normal operational costs for the specialized systems and facilities needed to operate a contemporary consolidated communications center for the participating jurisdictions (described in the following sections), it is possible to develop estimated annual operating budgets that would fairly represent the anticipated costs of operating a consolidated organization of this structure.

To develop these budget estimates, certain assumptions need to be made so that the underlying rational for key budget items is well understood in the interpretation of the budget estimate. Since personnel costs are the single largest item in a communications center budget, the assumptions made for this cost element have the most significant impact on expected future costs. For this budget estimation process, salary and benefit rates that are slightly higher than the existing average midpoint of the participating jurisdictions were used.

Salary and benefit data provided by the participating jurisdictions reflected the following compensation levels for telecommunicator personnel:

Current pay structures	Addison		Carrollton		Coppell		Farmers Branch		
	Low	High	Low	High	Low	High	Low	High	
Communications Specialists	$35,746	$53,599	$ 34,445	$ 48,235	$ 37,648	$ 52,707	$ 33,072	$ 47,944	
Mid-Point		$ 44,673		$ 41,340		$ 45,178		$ 40,508	
Blended average of Mid-Points									**$ 42,925**
Blended average of High-Points									**$ 50,621**

Based on this data, the value used in the budget modeling was $45,000 which is slightly higher than the blended average of the mid-points and comparable to the mid-points for Addison and Coppell.

Assumed compensation levels for the CTO and Supervisor classifications were based on 7.5% splits from the previous salary point, resulting in CTOs being estimated at $48,357 and Supervisors being set at $52,003. This is slightly higher than the blended average of the mid-points and comparable to the mid-point for Coppell.

Current pay structures	Addison		Carrollton		Coppell		Farmers Branch		
	Low	High	Low	High	Low	High	Low	High	
Communications Supervisor	$37,918	$56,888	$ 39,437	$ 55,224	$ 43,555	$ 60,965	$ 39,060	$ 56,640	
Mid-Point		$ 47,403		$ 47,331		$ 52,260		$ 47,850	
Blended average of Mid-Points									**$ 48,711**
Blended average of High-Points									**$ 57,429**

The salary and benefit data also allowed individual and averaged benefit costs to be examined. Benefit load values varied among the jurisdictions with the lowest aggregate cost in Farmers

Branch at 35% and the highest in Carrollton at 44%. The aggregated benefit costs across all jurisdictions were 41%, and this was the value used for the operational budget modeling in this business case analysis.

	Addison	Carrollton	Coppell	Farmers Branch	Combined Totals	
Salary Data						
Salaries	$ 556,900	$ 1,172,014	$ 707,689	$ 705,162		
Overtime	$ 50,000	$ 141,200	$ 33,385	$ 100,000		
Salaries - Temps		$ 14,575				
Total Salaries	**$ 606,900**	**$ 1,327,789**	**$ 741,074**	**$ 805,162**	**$ 3,480,925**	
Benefit Data						
Certified Police/Fire MAS				$ 1,200		
Merit Bonus	$ 5,570		$ 21,229			
Comp Incentive			$ 27,000			
CTO Pay			$ 1,400			
On Call Pay		$ 14,850				
Assignment Pay		$ 18,000				
FLSA Adjustments			$ 6,555			
Education Incentive		$ 18,000		$ 600		
Language Pay Incentive				$ 1,800		
Longevity Pay	$ 5,250		$ 7,722	$ 7,992		
Vacation Buyback	$ 2,120					
Sick Leave Bonus	$ 1,280					
TMRS	$ 74,480	$ 223,574	$ 121,774	$ 138,069		
Deferred Compensation	$ 11,050	$ 6,856				
Group Hospital & Life Insurance	$ 141,320	$ 272,157	$ 118,788	$ 104,083		
Long Term Disability Insurance		$ 5,277	$ 1,640	$ 1,150		
FICA and Medicare	$ 9,480	$ 19,362	$ 11,675	$ 8,804		
Workers Comp	$ 900		$ 1,212	$ 15,500		
Benefit Total	**$ 251,450**	**$ 578,076**	**$ 318,995**	**$ 279,197**	**$ 1,427,718**	**41.0%**
Individual Benefit Ratios	41%	44%	43%	35%		
Total Salary and Benefit	**$ 858,350**	**$ 1,905,865**	**$ 1,060,069**	**$ 1,084,359**	**$ 4,908,643**	

Operational costs were modeled in three categories: Salary and Benefit Costs; Technical Systems Maintenance/Refreshment Costs; and Other Maintenance and Operations Costs. Salary and Benefit costs were modeled at the highest staffing level option described previously (61) to that the maximum estimated costs are being evaluated in this business case analysis. Selection of either of the lower staffing level alternatives would result in slightly lower overall costs of operations and slightly larger savings to the agencies participating in the consolidation.

Updated total cost of operations tables have been built for two different implementation alternatives. First, a model was developed assuming that a new purpose-built stand-alone facility was developed and operated for the consolidated communications center and that the consolidated organization took direct responsibility for procurement and operation of all their technology systems. Next, this model was modified to reflect the updated cost estimates from CyrusOne to locate the consolidated communications center in their hosted facility. Updated

Denco models were not developed since this alternative is unacceptable for the home rule jurisdictions.

The estimated operating costs over the full 20-year business case analysis time period are shown in full size tables in Appendix A. The tables below provide an overview of the expected costs in the first 10 years for each of the implementation models.

Stand Alone Facility Operating Cost Model

Total Estimated Cost of Operations	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Salary and Benefit Costs										
Communications Center Director	$ 119,863	$ 123,459	$ 127,163	$ 130,978	$ 134,907	$ 138,954	$ 143,123	$ 147,417	$ 151,839	$ 156,394
Administrative Assistant	$ 63,457	$ 65,361	$ 67,322	$ 69,341	$ 71,421	$ 73,564	$ 75,771	$ 78,044	$ 80,385	$ 82,797
Q/A and L/R Custodian	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682
Training Supervisor	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682
Technical Systems Manager	$ 107,485	$ 110,709	$ 114,031	$ 117,452	$ 120,975	$ 124,604	$ 128,343	$ 132,193	$ 136,159	$ 140,243
Technical Systems Technician	$ 97,714	$ 100,645	$ 103,664	$ 106,774	$ 109,977	$ 113,277	$ 116,675	$ 120,175	$ 123,781	$ 127,494
Communications Supervisor	$ 439,995	$ 453,195	$ 466,790	$ 480,794	$ 495,218	$ 510,075	$ 525,377	$ 541,138	$ 557,372	$ 574,093
Telecommunicators/CTO	$ 409,297	$ 421,576	$ 434,224	$ 447,250	$ 460,668	$ 474,488	$ 488,723	$ 503,384	$ 518,486	$ 534,040
Telecommunicators	$2,728,650	$2,810,509	$2,894,825	$2,981,669	$3,071,119	$3,163,253	$3,258,151	$3,355,895	$3,456,572	$3,560,269
Subtotals	**$4,113,125**	**$4,236,519**	**$4,363,615**	**$4,494,523**	**$4,629,359**	**$4,768,240**	**$4,911,287**	**$5,058,625**	**$5,210,384**	**$5,366,696**
Technical Systems Maintenance Costs										
9-1-1 Telephone System	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400
9-1-1 Trunk Lines	$ 57,900	$ 59,637	$ 61,426	$ 63,269	$ 65,167	$ 67,122	$ 69,136	$ 71,210	$ 73,346	$ 75,546
Backup POTS Lines	$ 4,440	$ 4,573	$ 4,710	$ 4,852	$ 4,997	$ 5,147	$ 5,302	$ 5,461	$ 5,624	$ 5,793
CAD System (hardware and software)	$ -	$ 203,333	$ 209,433	$ 315,716	$ 222,188	$ 228,853	$ 235,719	$ 342,791	$ 250,074	$ 257,577
Firehouse interfaces to CAD	$ 12,000	$ 12,360	$ 12,731	$ 13,113	$ 13,506	$ 13,911	$ 14,329	$ 14,758	$ 15,201	$ 15,657
Police RMS interfaces to CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095
ProQA Medical and Police interfaced with CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095
Radio Console System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Microwave additions to radio system infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup Radios & Antenna System	$ 5,280	$ 5,386	$ 5,493	$ 5,603	$ 5,715	$ 5,830	$ 5,946	$ 6,065	$ 6,186	$ 6,310
Headsets and Interfaces	$ -	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400
Master Time Synchronization	$ 300	$ 306	$ 312	$ 318	$ 325	$ 331	$ 338	$ 345	$ 351	$ 359
Logging & Recording System	$ 7,303	$ 7,449	$ 7,598	$ 7,750	$ 7,905	$ 8,063	$ 58,224	$ 8,389	$ 8,557	$ 8,728
Large Screen Displays	$ -	$ -	$ -	$ 3,000	$ 1,500	$ -	$ -	$ 1,500	$ 1,500	$ 1,500
Network Backbone & Admin Telephony (Cisco)	$ 6,500	$ 6,695	$ 6,896	$ 7,103	$ 7,316	$ 7,535	$ 7,761	$ 7,994	$ 8,234	$ 8,481
Internet Connectivity	$ 16,800	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476	$ 20,060	$ 20,662	$ 21,282	$ 21,920
MetroEthernet Connectivity to PD RMS Systems	$ 224,964	$ 229,463	$ 234,053	$ 238,734	$ 243,508	$ 248,378	$ 253,346	$ 258,413	$ 263,581	$ 268,853
PRI Circuits for General Telephony	$ 45,600	$ 46,968	$ 48,377	$ 49,828	$ 51,323	$ 52,863	$ 54,449	$ 56,082	$ 57,765	$ 59,498
Dispatch Admin PCs	$ -	$ -	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000
Administrative servers, racks, KVM, etc.	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -
Admin PCs, printers, FAX, etc.	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -
Interfaces to Ancillary Systems	$ 5,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280
UPS System Maintenance	$ -	$ 1,200	$ 1,224	$ 1,248	$ 50,000	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 50,000
Tech Room Fire Suppression Maint	$ -	$ 500	$ 510	$ 520	$ 531	$ 541	$ 552	$ 563	$ 574	$ 586
Generator Maintenance	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390
HVAC Maintenance	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390
Subtotals	**$ 480,767**	**$ 696,534**	**$ 715,264**	**$ 874,446**	**$ 800,320**	**$ 793,419**	**$ 864,038**	**$ 969,663**	**$ 852,306**	**$ 922,859**
Other Maintenance and Operations Costs										
Language Line Services	$ 8,000	$ 8,160	$ 8,323	$ 8,490	$ 8,659	$ 8,833	$ 9,009	$ 9,189	$ 9,373	$ 9,561
Utility Costs	$ 21,935	$ 22,373	$ 22,821	$ 23,277	$ 23,743	$ 24,217	$ 24,702	$ 25,196	$ 25,700	$ 26,214
Console Furniture & Chairs	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390
Training & Travel	$ 45,750	$ 46,665	$ 47,598	$ 48,550	$ 49,521	$ 50,512	$ 51,522	$ 52,552	$ 53,603	$ 54,675
Office Supplies	$ 4,200	$ 4,284	$ 4,370	$ 4,457	$ 4,546	$ 4,637	$ 4,730	$ 4,824	$ 4,921	$ 5,019
Misc. Hardware and Software	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951
Janitorial Service	$ 9,000	$ 9,180	$ 9,364	$ 9,551	$ 9,742	$ 9,937	$ 10,135	$ 10,338	$ 10,545	$ 10,756
Small tools & equipment	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412	$ 5,520	$ 5,631	$ 5,743	$ 5,858	$ 5,975
General Facility Maint & Repair	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951
Photocopiers/FAX equipment	$ 6,000	$ 6,120	$ 6,242	$ 6,367	$ 6,495	$ 6,624	$ 6,757	$ 6,892	$ 7,030	$ 7,171
Uniforms	$ 16,500	$ 8,250	$ 8,415	$ 8,583	$ 8,755	$ 8,930	$ 9,109	$ 9,291	$ 9,477	$ 9,666
HR & Benefit Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682
Accounting Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682
Legal Services	$ 12,000	$ 12,240	$ 12,485	$ 12,734	$ 12,989	$ 13,249	$ 13,514	$ 13,784	$ 14,060	$ 14,341
Subtotal	**$ 198,385**	**$ 193,772**	**$ 197,648**	**$ 201,601**	**$ 205,633**	**$ 209,745**	**$ 213,940**	**$ 218,219**	**$ 222,583**	**$ 227,035**
Total Annual Estimated Costs	**$4,792,277**	**$5,126,826**	**$5,276,527**	**$5,570,570**	**$5,635,311**	**$5,771,404**	**$5,989,265**	**$6,246,507**	**$6,285,273**	**$6,516,589**

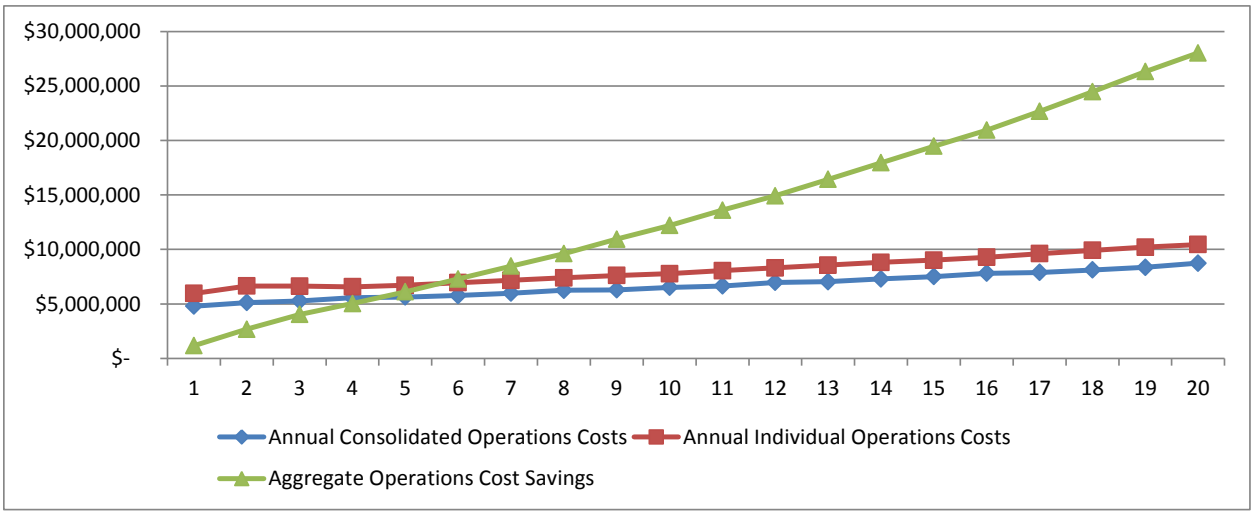
Consolidated Communications Center Hosted in the CyrusOne Facility Operating Cost Model

Total Estimated Cost of Operations	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Salary and Benefit Costs										
Communications Center Director	$ 119,863	$ 123,459	$ 127,163	$ 130,978	$ 134,907	$ 138,954	$ 143,123	$ 147,417	$ 151,839	$ 156,394
Administrative Assistant	$ 63,457	$ 65,361	$ 67,322	$ 69,341	$ 71,421	$ 73,564	$ 75,771	$ 78,044	$ 80,385	$ 82,797
Q/A and L/R Custodian	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682
Training Supervisor	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682
Technical Systems Manager	$ 107,485	$ 110,709	$ 114,031	$ 117,452	$ 120,975	$ 124,604	$ 128,343	$ 132,193	$ 136,159	$ 140,243
Technical Systems Technician	$ 97,714	$ 100,645	$ 103,664	$ 106,774	$ 109,977	$ 113,277	$ 116,675	$ 120,175	$ 123,781	$ 127,494
Communications Supervisor	$ 439,995	$ 453,195	$ 466,790	$ 480,794	$ 495,218	$ 510,075	$ 525,377	$ 541,138	$ 557,372	$ 574,093
Telecommunicators/CTO	$ 409,297	$ 421,576	$ 434,224	$ 447,250	$ 460,668	$ 474,488	$ 488,723	$ 503,384	$ 518,486	$ 534,040
Telecommunicators	$2,728,650	$2,810,509	$2,894,825	$2,981,669	$3,071,119	$3,163,253	$3,258,151	$3,355,895	$3,456,572	$3,560,269
Subtotals	**$4,113,125**	**$4,236,519**	**$4,363,615**	**$4,494,523**	**$4,629,359**	**$4,768,240**	**$4,911,287**	**$5,058,625**	**$5,210,384**	**$5,366,696**
Technical Systems Maintenance Costs										
9-1-1 Telephone System	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400
9-1-1 Trunk Lines	$ 57,900	$ 59,637	$ 61,426	$ 63,269	$ 65,167	$ 67,122	$ 69,136	$ 71,210	$ 73,346	$ 75,546
Backup POTS Lines	$ 4,440	$ 4,573	$ 4,710	$ 4,852	$ 4,997	$ 5,147	$ 5,302	$ 5,461	$ 5,624	$ 5,793
CAD System (hardware and software)	$ -	$ 203,333	$ 209,433	$ 315,716	$ 222,188	$ 228,853	$ 235,719	$ 342,791	$ 250,074	$ 257,577
Firehouse interfaces to CAD	$ 12,000	$ 12,360	$ 12,731	$ 13,113	$ 13,506	$ 13,911	$ 14,329	$ 14,758	$ 15,201	$ 15,657
Police RMS interfaces to CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095
ProQA Medical and Police interfaced with CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095
Radio Console System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Microwave additions to radio system infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup Radios & Antenna System	$ 5,280	$ 5,386	$ 5,493	$ 5,603	$ 5,715	$ 5,830	$ 5,946	$ 6,065	$ 6,186	$ 6,310
Headsets and Interfaces	$ -	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400
Master Time Synchronization	$ 300	$ 306	$ 312	$ 318	$ 325	$ 331	$ 338	$ 345	$ 351	$ 359
Logging & Recording System	$ 7,303	$ 7,449	$ 7,598	$ 7,750	$ 7,905	$ 8,063	$ 58,224	$ 8,389	$ 8,557	$ 8,728
Large Screen Displays	$ -	$ -	$ -	$ 3,000	$ 1,500	$ -	$ -	$ 1,500	$ 1,500	$ 1,500
Network Backbone & Admin Telephony (Cisco)	$ 6,500	$ 6,695	$ 6,896	$ 7,103	$ 7,316	$ 7,535	$ 7,761	$ 7,994	$ 8,234	$ 8,481
Internet Connectivity	$ 16,800	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476	$ 20,060	$ 20,662	$ 21,282	$ 21,920
MetroEthernet Connectivity to PD RMS Systems	$ 224,964	$ 229,463	$ 234,053	$ 238,734	$ 243,508	$ 248,378	$ 253,346	$ 258,413	$ 263,581	$ 268,853
PRI Circuits for General Telephony	$ 45,600	$ 46,968	$ 48,377	$ 49,828	$ 51,323	$ 52,863	$ 54,449	$ 56,082	$ 57,765	$ 59,498
Dispatch Admin PCs	$ -	$ -	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000
Administrative servers, racks, KVM, etc.	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -
Admin PCs, printers, FAX, etc.	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -
Interfaces to Ancillary Systems	$ 5,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280
UPS System Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Tech Room Fire Suppression Maint	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Generator Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
HVAC Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotals	**$ 476,767**	**$ 690,754**	**$ 709,369**	**$ 868,433**	**$ 745,459**	**$ 786,961**	**$ 857,452**	**$ 962,944**	**$ 845,453**	**$ 867,492**
Other Maintenance and Operations Costs										
Language Line Services	$ 8,000	$ 8,160	$ 8,323	$ 8,490	$ 8,659	$ 8,833	$ 9,009	$ 9,189	$ 9,373	$ 9,561
Rent (includes all utilities and facility services)	$ 324,000	$ 333,720	$ 343,732	$ 354,044	$ 364,665	$ 375,605	$ 386,873	$ 398,479	$ 410,434	$ 422,747
Console Furniture & Chairs	$ 2,000	$ 2,060	$ 2,122	$ 2,185	$ 2,251	$ 2,319	$ 2,388	$ 2,460	$ 2,534	$ 2,610
Training & Travel	$ 45,750	$ 46,665	$ 47,598	$ 48,550	$ 49,521	$ 50,512	$ 51,522	$ 52,552	$ 53,603	$ 54,675
Office Supplies	$ 4,200	$ 4,284	$ 4,370	$ 4,457	$ 4,546	$ 4,637	$ 4,730	$ 4,824	$ 4,921	$ 5,019
Misc. Hardware and Software	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951
Janitorial Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Small tools & equipment	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412	$ 5,520	$ 5,631	$ 5,743	$ 5,858	$ 5,975
General Facility Maint & Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Photocopiers/FAX equipment	$ 6,000	$ 6,120	$ 6,242	$ 6,367	$ 6,495	$ 6,624	$ 6,757	$ 6,892	$ 7,030	$ 7,171
Uniforms	$ 16,500	$ 8,250	$ 8,415	$ 8,583	$ 8,755	$ 8,930	$ 9,109	$ 9,291	$ 9,477	$ 9,666
HR & Benefit Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682
Accounting Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682
Legal Services	$ 12,000	$ 12,240	$ 12,485	$ 12,734	$ 12,989	$ 13,249	$ 13,514	$ 13,784	$ 14,060	$ 14,341
Subtotal	**$ 481,450**	**$ 485,759**	**$ 498,832**	**$ 512,267**	**$ 526,075**	**$ 540,265**	**$ 554,850**	**$ 569,840**	**$ 585,246**	**$ 601,080**
Total Annual Estimated Costs	**$5,071,342**	**$5,413,033**	**$5,571,815**	**$5,875,223**	**$5,900,893**	**$6,095,466**	**$6,323,588**	**$6,591,409**	**$6,641,083**	**$6,835,269**

With comparably developed projected costs established for both the prospective consolidated model and for continuing the individually operated dispatch operations, these costs can be compared to determine the levels of operational costs savings that could be achieved for each of the implementation alternatives. The following tables show the first 5 years of projected costs for each of the implementation alternatives compared to the projected costs for sustaining the four separate communications centers. The graph following each table shows these costs projected over the full 20-year business case analysis time period and the full tables for the 20-year analysis are provided in full size tables in Appendix A.

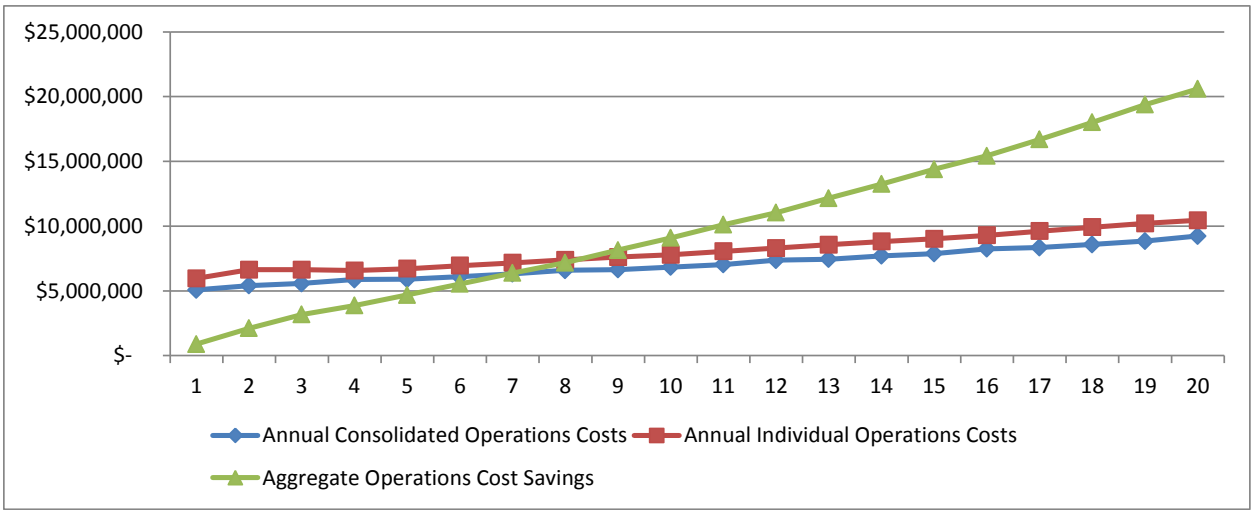
Stand Alone Facility Operating Cost Model Comparison

Operations Cost Comparisons		Year 1	Year 2	Year 3	Year 4	Year 5
Salary and Benefit Costs		$ 4,113,125	$ 4,236,519	$ 4,363,615	$ 4,494,523	$ 4,629,359
Technical Systems Maintenance Costs		$ 480,767	$ 696,534	$ 715,264	$ 874,446	$ 800,320
Other Maintenance and Operations Costs		$ 198,385	$ 193,772	$ 197,648	$ 201,601	$ 205,633
Total Annual Estimated Costs		**$ 4,792,277**	**$ 5,126,826**	**$ 5,276,527**	**$ 5,570,570**	**$ 5,635,311**
Current Costs of Operation						
Town of Addison	3.0%	$ 1,159,345	$ 1,194,125	$ 1,229,949	$ 1,266,848	$ 1,304,853
Technology Refreshments			$ 500,000			
Total Addison Costs		**$ 1,159,345**	**$ 1,694,125**	**$ 1,229,949**	**$ 1,266,848**	**$ 1,304,853**
City of Carrollton	3.0%	$ 2,121,199	$ 2,184,835	$ 2,250,380	$ 2,317,891	$ 2,387,428
Technology Refreshments				$ 60,000		
Total Carrollton Costs		**$ 2,121,199**	**$ 2,184,835**	**$ 2,310,380**	**$ 2,317,891**	**$ 2,387,428**
City of Coppell	3.0%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,374,344	$ 1,415,574
Technology Refreshments					$ 60,000	
Total Coppell Costs		**$ 1,257,719**	**$ 1,295,451**	**$ 1,334,314**	**$ 1,434,344**	**$ 1,415,574**
City of Farmers Branch	3.0%	$ 1,422,259	$ 1,464,927	$ 1,508,875	$ 1,554,141	$ 1,600,765
Technology Refreshments				$ 250,000		
Total Farmers Branch Costs		**$ 1,422,259**	**$ 1,464,927**	**$ 1,758,875**	**$ 1,554,141**	**$ 1,600,765**
Total Current Combined Costs of Operations		**$ 5,960,522**	**$ 6,639,338**	**$ 6,633,518**	**$ 6,573,223**	**$ 6,708,620**
Potential Combined Annual Operations Cost Savings		**$ 1,168,245**	**$ 1,512,512**	**$ 1,356,991**	**$ 1,002,653**	**$ 1,073,309**
Accumulated Combined Operations Cost Savings		**$ 1,168,245**	**$ 2,680,757**	**$ 4,037,748**	**$ 5,040,401**	**$ 6,113,710**



CyrusOne Hosted Technology Facility Operating Cost Model Comparison

Operations Cost Comparisons		Year 1	Year 2	Year 3	Year 4	Year 5
Salary and Benefit Costs		$ 4,113,125	$ 4,236,519	$ 4,363,615	$ 4,494,523	$ 4,629,359
Technical Systems Maintenance Costs		$ 476,767	$ 690,754	$ 709,369	$ 868,433	$ 745,459
Other Maintenance and Operations Costs		$ 481,450	$ 485,759	$ 498,832	$ 512,267	$ 526,075
Total Annual Estimated Costs		**$ 5,071,342**	**$ 5,413,033**	**$ 5,571,815**	**$ 5,875,223**	**$ 5,900,893**
Current Costs of Operation						
Town of Addison	3.0%	$ 1,159,345	$ 1,194,125	$ 1,229,949	$ 1,266,848	$ 1,304,853
Technology Refreshments			$ 500,000			
Total Addison Costs		**$ 1,159,345**	**$ 1,694,125**	**$ 1,229,949**	**$ 1,266,848**	**$ 1,304,853**
City of Carrollton	3.0%	$ 2,121,199	$ 2,184,835	$ 2,250,380	$ 2,317,891	$ 2,387,428
Technology Refreshments				$ 60,000		
Total Carrollton Costs		**$ 2,121,199**	**$ 2,184,835**	**$ 2,310,380**	**$ 2,317,891**	**$ 2,387,428**
City of Coppell	3.0%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,374,344	$ 1,415,574
Technology Refreshments					$ 60,000	
Total Coppell Costs		**$ 1,257,719**	**$ 1,295,451**	**$ 1,334,314**	**$ 1,434,344**	**$ 1,415,574**
City of Farmers Branch	3.0%	$ 1,422,259	$ 1,464,927	$ 1,508,875	$ 1,554,141	$ 1,600,765
Technology Refreshments				$ 250,000		
Total Farmers Branch Costs		**$ 1,422,259**	**$ 1,464,927**	**$ 1,758,875**	**$ 1,554,141**	**$ 1,600,765**
Total Current Combined Costs of Operations		**$ 5,960,522**	**$ 6,639,338**	**$ 6,633,518**	**$ 6,573,223**	**$ 6,708,620**
Potential Combined Annual Operations Cost Savings		**$ 889,180**	**$ 1,226,305**	**$ 1,061,702**	**$ 698,000**	**$ 807,727**
Accumulated Combined Operations Cost Savings		**$ 889,180**	**$ 2,115,485**	**$ 3,177,187**	**$ 3,875,187**	**$ 4,682,914**



Both of these implementatoin alternatives result in substantial operational cost savings on an annual and aggregated basis and clearly demonstrate that there is a positive business case for consolidated operations. The operational cost savings are the largest in the stand-alone facility alternative since the costs of operting a stand-alone facility will be lower than operating out of a hosted facility where annual rent costs will be incurred. Operational savings are only part of the equation however, and to fully understand the complete business case benefits of each alternative the full capital expenditure (CAPEX) and debt service costs of establishing the facility and technology systems must also be factored into the analysis. This information is further analyzed following the Technology and Facilities sections of this report.

Technology

Emergency Telephony

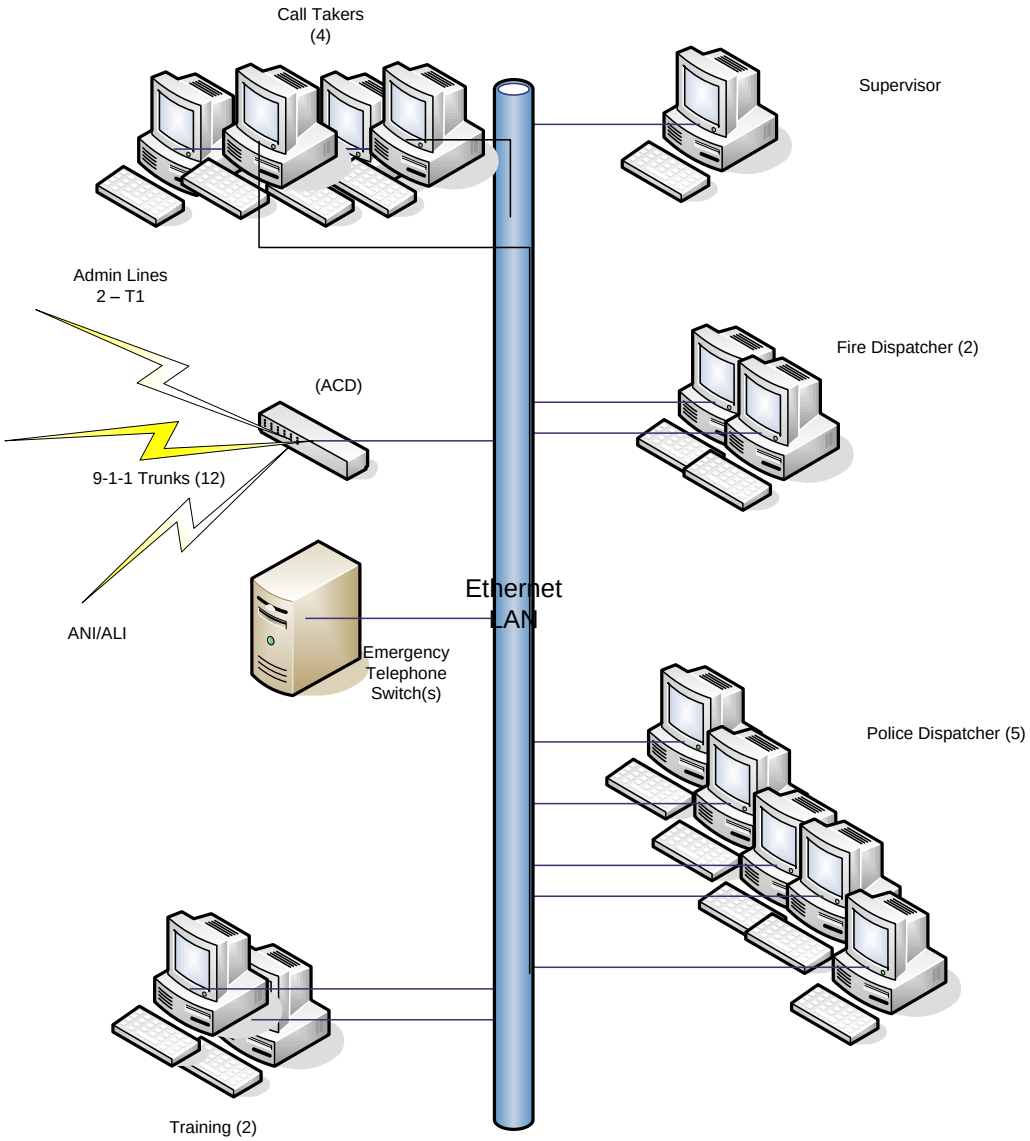
The current four (4) Public Safety Answering Points (PSAPs) are located within two (2) carriers' 9-1-1 infrastructure, that being AT&T and Verizon. Between the two (2) carriers there are six (6) tandem switches within this shared emergency telephone network and multiple diverse paths as a result of having multiple switches. Currently, both Addison and Farmer's Branch have AT&T supplying their emergency telephony service and Coppell has Verizon supplying this service. These cities are identified as having "home rule" status, meaning they are responsible to purchase and maintain their emergency telephone equipment but the revenue collected by carrier surcharges for emergency telephone service are paid to these cities. The monies are meant to provide revenue to fund emergency services to their constituents. Carrollton has elected to "contract" with the Denco Area 9-1-1 District for their emergency telephony services. As a participating agency, Carrollton entered into an Agreement with Denco Area 9-1-1 District for emergency telephony services. In turn, all 9-1-1 revenues earmarked for Carrollton are in turn paid to the Denco Area 9-1-1 District. A detailed review of this relationship and its' impact on

the consolidation were addressed in the Capital Investment Strategies section in the July, 2012 Business Case Report.

It is estimated, based upon estimated combined workload statistics and staffing levels, that the new consolidated Center will require twelve (12) 9-1-1 trunks (using the assumption that all of the above listed PSAPs will consolidate into the proposed new Center). The twelve trunks should be configured to accept all classes of service being delivered so as not to "choke" emergency calls based upon class of service. The budgetary estimate to install twelve new 9-1-1 trunks and the supporting ANI/ALI lines at a new Center is $20,045.20 and the monthly fee is $4,825.00. The maintenance and support cost is included in the monthly cost. These costs are using the approach that the new Center will be responsible for delivering and maintaining their own 9-1-1 trunks and equipment by using one of the Local Exchange Carriers (LEC).

iXP is assuming a fourteen (14) position Center to support operations; this amount will support training, spare and overflow operational positions. The proposed configurations of the positions are as follows;

- One (1) Supervisor position
- Five (5) police dispatchers
- Two (2) fire dispatchers
- Four (4) call takers
- Two (2) training/overflow positions



The emergency telephone system will need to support the above configuration with an Automatic Call Distributor (ACD) so that the bulk of the incoming emergency calls will be handled by the call takers. The ACD will need to be configured to allow multiple queues so that emergency calls can be directed to other telecommunicators should all the call takers be handling emergency calls. Within the emergency telephone equipment will be the capability for two (2) combination direct dial extension and/or outbound calling. It is assumed for this Report that each position will receive dial tone from the administrative telephone switch and each position will have a backup line from a carrier as a backup in case the administrative switch or carrier T1 lines fail. The capabilities of the administrative telephone system are described in its own section later in this Report.

Further the emergency telephony system should have the following functionality:

- A system that provides operator positions the ability to answer all emergency and non-emergency calls.
- A system configuration that provides for redundant critical components to insure the reliability that is essential to emergency call processing.
- Extensive call transfer capabilities.
- Management information and Center call statistics.
- A system that is compliant with American Disabilities Act standards (ADA).
- A system that is compliant with Federal Communication Commission standards (FCC).
- Barge In
- Busy Out Line
- Caller ID
- Call Forward
  - Busy/No Answer/Fixed
- Call in Queue Indicator
- Call Pickup
- Call Transfer
  - Single Function Transfer
  - Supervised Transfer
- Conferencing
- Customer Definable Console Keys
- Direct Inward Dialing (Extension)
- Direct Outward Dialing
- Disaster Recovery Plan
  - Alternate Routing
  - Cellular Back-up
  - Equipment Replacement
- Growth Capabilities
- Intercom
- Last Number Redial
- Log On/Log off Features
- Management of call transfer to busy position
- Mute
- Spectracom NetClock compatible interface
- Remote Maintenance & Diagnostics
- Speed Calling
  - System
  - Position

- System Alarms
  - Supervisor Notification
  - Remote Notification
- System Announcements
- Supervisor Alerts
  - Alarms
  - Call Threshold
  - Call Processing Time
  - Call Hold Recall Timer
- Supervisor Controls
  - Call Monitoring
  - Security
- Telecommunication Device for the Deaf (TDD)
- Uniform System Dialing
- Volume Control for Handsets/Headsets
- ALI
- ANI
- Call Queuing
- Call Waiting Indicators
  - Ringing
  - Lights
  - Supervisor Notification
- Distinctive Ringing
- Hold
- Overflow Routing
- Priority Call Routing
- Abandoned Call Management
- Agent Management
  - Log In
- Management Reporting
  - Answer Time
  - Hold
  - Abandoned Calls
  - Busy In
  - Busy Out
  - Make Set Busy
  - Position Busy Percentages
- Call In Queue Indicator
  - Multiple Queues
  - Multiple Types
- Flexible ACD Parameters

- Multiple ACD groups to a single position
- Multiple Queues Avalable
  - Priorities
  - Functions
- Off-hook condition of operator on a
  - Non-emergency = busy to ACD
- Preferred Routing
- Queue Size and Management
- Single Position to Multiple ACD Groups
- CAD port for transfer of ANI/ALI/GPS data to CAD

The emergency telephone system proposed by AT&T is the Cassidian Sentinel Patriot (Verizon also advised that they could provide the emergency telephone system and prices comparable to AT&T). The budgetary estimate is based upon current State of Texas government pricing. The budgetary estimate to purchase is $815,287.50 and the monthly maintenance for AT&T is $4,200.00 for a five (5) year term. This maintenance includes on site hardware and software support. Additionally, Cassidian (the product vendor) forecasts an annual support cost for the software of $25,000.00, starting year 2. The budgetary purchase price includes a redundant configuration, in essence two (2) distinct systems that could be placed in two (2) geographically diverse locations (connectivity not included). This includes the SpectraCom NetClock GPS antenna and device, it should be noted the pricing for this functionality is included in this document in its' own section as not provided by AT&T. The pricing also includes the MIS or reporting package from Cassidian so all the statistical information concerning the emergency telephone functionality can be queried. This system was configured to provide ANI/ALI and location data to the CAD mapping system so as not to have multiple maps on the telecommunicator's workspace. Any rebid of wireless 9-1-1 data will be requested by the emergency telephony equipment and display on the CAD mapping system.

Also, for those instances where a person calling using the emergency or administrative telephone lines, a Language Line service will be configured. This is a service available using a third party service and the conference calling feature of the Center telephone equipment. There is a cost dependent upon use and the estimated cost per year is $8,000.00.

Emergency Telephone Redundancy

The connectivity between the Cassidian emergency telephone system and the Cisco administrative telephone system is used for the following:

- To provide outbound calls from the telecommunicator position(s) on the dispatch floor.
- Call receipt from forwarded calls from the participating agencies/towns during afterhours.

- For receiving the emergency and alarm company calls made through published ten (10) digit numbers.

Since the administrative telephony system does not require redundancy, a mechanism is needed to allow outbound calls in case the Cisco 3945 CME router fails. iXP Corporation, as industry best practices, configures multiple layers of communications to minimize the possibility of loss of communications thereby hindering operations at the center. Therefore the Cassidian emergency phone system is recommended to be equipped with an additional fourteen (14) POTS lines that can be used for outbound calls in the event of a Call Manager failure. The budgetary estimate for these fourteen (14) lines is $4,784.64 per month and a onetime installation charge of approximately $1,040.00.

Dispatch Position Headsets

In order to effectively manage all of the different and multiple types of communications by the dispatcher, audio headsets are recommended for use by the dispatchers. The carrier installer would work with the radio console vendor to splice into the two (2) cables containing the telephone and radio audio at each position at the audio "interface" jack. In this fashion, each dispatcher will have the capability to answer any of the telephone lines appearing at their position as well as monitor/talk on the primary radio channel configured at their position. At every position, "selected" radio audio is delivered to the headset and "unselected" radio audio is delivered to the speakers on the desktop so the dispatcher can monitor multiple radio channels also.

In this configuration, a dispatcher will be able to manage multiple telephone lines (9-1-1, emergency & nonemergency 10 digit telephone lines, outgoing telephone lines) and that "primary" radio channel responsibility. All telephone and the primary (select) radio audio will be delivered to the headset. Each position will be configured with two (2) plug-in units so a dispatcher can work as well as another user, such as a training officer, plugged into the same audio to monitor and take over if needed.

The budgetary estimate for the jacks (one per position, two spares) and two (2) different types of headset styles (one issued per employee) for sixty employees is $7500.00. It is anticipated to spend approximately $400.00 per year after start up for break fix and for new employee sets. This estimate should cover new headsets and jacks and/or additional equipment required for the newly installed 9-1-1 telephony platform.

Back Up Radio System

The recommended backup radio system would consist of a single telephone style Motorola MC3000 remote located at each of the ten (10) dispatch positions. Each remote would be connected, via dedicated Cat5e cabling, to a corresponding Motorola Astro digital consolette located in the equipment room. Each of the consolettes would be programmed similarly with all

the participating agencies talk groups. For interoperability, any surrounding first responders or agencies can also be programmed in the system, provided they communicate over a compatible Motorola radio communication system.

The estimated cost of equipment hardware is $6,200.00 per position considering ten (10) dispatch positions equipped with backup radio equipment totals $62,000.00.

The Backup radio system would also require an independent antenna system. To minimize multiply cable runs, antennas, mounting structure and labor an antenna combiner system should be utilized. This would require a single cable run to the roof and single antenna. The estimated cost for this system is $4,255.00.

Logging/Recording

All telephone and radio communications related to emergency communications must be recorded within the PSAP. There are several uses for the recorded audio; the primary use is to support subpoena requests for court purposes. Secondary uses are the ability to instantly replay a call or transmission and to support quality assurance programs within the center. The instant playback feature allows a call-taker or dispatcher to easily replay conversations that may be initially difficult to understand for various reasons. This feature (referred to as Instant Recall Recording or IRR) is quite often available on telephone/radio equipment as well as being a feature on most logging/recording system. Whichever approach is used it will need to be configured for easy access by the call-taker/dispatcher.

Most logging/recording system manufacturers offer a Quality Assurance (QA) program within their systems. QA systems are a tool to provide both informal and formal quality assurance capability to PSAP management which allows for ongoing process and personnel improvement. Last, each system must allow for the retrieval of all conversations relative to an event and storage to a media that conforms to local chain of custody rules for evidence. Queries based upon criteria such as date and time, Call Taker or Dispatcher position, Call Taker or Dispatcher ID, specific 9-1-1 trunk or radio channel are formulated to search the database of stored audio communications and retrieve those relevant conversations for playback. Most systems have proprietary recording formats so only a vendor specific player can be used to reproduce the selected communications. When selecting a logging/recording vendor, consideration must also be given to Next Generation 9-1-1 capabilities and whether the selected logging/recording system is capable of evolving as 911 technologies evolve.

It is iXP's recommendation to record all communications at two (2) distinct points for each type of audio. However, since the Trunked Radio system being purchased will have an integrated logging and recording capability to capture all radio audio on all talk groups, it will not be necessary to include this technology in the system defined here. The two distinct points should be the technical source of the audio as well as each individual call-taker/dispatch position.

Technical sources include the 9-1-1 trunk or a suitable hand-off directly from the 9-1-1 system vendor. This approach results in additional channel requirements but it insures that all emergency and administrative audio is recorded. Due to the importance of the data involved, iXP also recommends the inclusion of some level of redundancy within the logging/recording system. This redundancy can be in the form of a completely redundant/mirrored system or a small stand-alone recorder that records only the telephone and radio communications from the individual positions.

With the above considerations in mind and based on the anticipated channel requirements for the new consolidated PSAP, iXP recommends implementing a redundant system which would consist of two (2) independent loggers that store and archive audio data to a Network Attached Storage (NAS) device. The primary system would consist of a 96 channel logger that would record all available audio sources and the secondary recorder would consist of 24 channels to record the individual positions. The system would also have the ability to be expanded in the future if the need arises.

It may be possible to achieve some efficiency with regard to consolidating the Administration lines being forwarded from the individual agencies thereby reducing the number of channels required on the primary logger. Pricing is provided below for a 72 channel primary logger as an option if when the final telephony design is approved, there are less than 72 telephone lines to record.

If the requirement is to also record the backup radio channels (10), then the primary system should be the 96 channel system. The backup system will be sufficient to handle this additional audio as it is recording at each of the fourteen (14) positions.

The budgetary estimate for both a primary and secondary logging/recording system is provided below. The estimates include shipping and installation. Annual maintenance estimates are provided as a separate line item.

Primary System – 96 Channels - $44,870

The final configuration of the primary system would include the following features;

- Primary 96 Channel recording system
  - 1 TB internal storage
  - Raid1
- Integrated Quality Monitoring application
- 42U equipment rack
- KVM switch
- Rack mount KVM
- Replay workstation

Annual Maintenance, Primary - $5,328 (Year 6 and 7 would escalate by 5%)

- 24x7 Help Desk
- 4 hour on-site response
- Software upgrade assurance

Optional Primary System – 72 Channels - $35,398

This system would have the exact same features as the 96 channel recorded above except for the channel count.

Annual Maintenance, Primary - $3,997 (Year 6 and 7 would escalate by 5%)

Optional Secondary System - $14,275

The optional secondary system would be similar to the primary recorder but with reduced channel count. Its' purpose is to backup the recording capability at each position should the primary recording system fail. It lacks the QA functionality that the primary system contains. The rack and supporting rack equipment would not be necessary.

Secondary 24 Channel recording system

- 500 GB internal storage
- Raid1

Annual Maintenance, Secondary - $1,975

- 24x7 Help Desk
- 4 hour on-site response
- Software upgrade assurance

We are assuming the following for a recording channel count:

Position telephones = 14
Position radios = N/A
911 lines (trunk side recording, hand-off from Vesta) = 12
Alarm Company Direct Lines = 2
Non-emergency admin lines = 4
Back up POTS lines (1 per position) = 14
Admin lines – call forward from each of the agency's telephone switch after hours = 34

Total = 80 channels

Computer Aided Dispatch/Mobiles

Currently, the following Computer Aided Dispatch (CAD) systems are being utilized at the four (4) Communications Centers considering the consolidation;

- Addison – Tiburon
- Carrollton – Enroute
- Coppell – Integrated Computer Systems (ICS)
- Farmers Branch – VisionAIR (now owned by TriTech)

The options are to either use one of the existing systems (listed above) in the consolidated Communications Center or replace it with an entirely new system that meets the user requirements. Only three (3) current vendors have responded and they are Enroute, Integrated Computer Systems, and TriTech. Tiburon responded to our initial inquiry but failed to follow up to continue in the process. For the purposes of this Report, we are focusing on CAD and dispatch related systems. Figured in this budgetary estimate will be the ability pass CAD incident data to respective police and fire records management systems.

Using one of the existing CAD/Mobile systems can be beneficial for two reasons; 1) existing license transfers (if approved by the vendor) will potentially reduce costs versus purchasing a new system and, 2) a percentage of users on that system will not require training, thereby reducing those costs and having a core group of experienced users with that system.

Any CAD/Mobile system will be required to support a multiagency/multijurisdictional operation. The current vendors listed above claim to have this functionality. The following assumptions are being used to develop budgetary pricing for CAD/Mobile technology in the consolidated center;

- Redundant CAD servers and Mobile Message Switch servers
- Fourteen (14) CAD dispatch positions
- CAD Interface to AVL
- CAD Interface to EMD/ProQA
- CAD Interface to 9-1-1 ANI/ALI
- CAD Interface to NCIC/TLETS
- CAD Interface to network time synchronization system
- CAD Interface to existing police and fire records systems
- CAD Mapping
- Mobile Interface to NCIC/TLETS
- Mobile Mapping
- Mobile dispatch functionality
- Two Hundred and Fifty (250) police/fire mobile users
- Installation, training and support services
- Maintenance/support costs for ten (10) years from installation/acceptance

These assumptions are provided to level set the budgetary estimates to provide CAD/Mobile functionality in the new Center.

TriTech has supplied a price of $1,500,000.00 as a budgetary cost estimate for the requested functionality. There is a cost of $1,015,000 for services for installation and training as well. This

cost does not include the cost of the vehicular mobile hardware and their connectivity to the systems via commercial carrier networks. The annual maintenance support costs for the first year are typically included in the purchase price and maintenance for years two (2) on start from $310,000.00 annually. The cost of maintenance then typically increases three (3) to five (5) percent per year after year two (2). This maintenance cost includes all maintenance for CAD and Mobiles. TriTech did not provide a hardware requirements document nor did they provide a cost estimate for hardware for this configuration. They said they did not have enough information to provide that cost to us at this time (see estimated hardware costs later in this section).

ICS has supplied a price of $1,750,000.00 as a budgetary cost estimate for the requested functionality. ICS provided a price list of hardware they recommended with the information they had at this time. The hardware they priced would run around $115,000.00 to handle the configuration of software that they recommended, bringing the total purchase cost to $1,865,000.00. There is a cost of $75,000.00 for services for installation and training as well. This cost does not include the cost of the vehicular mobile hardware and their connectivity to the systems via commercial carrier networks. The annual maintenance support costs for the first year are typically included in the purchase price and maintenance for years two (2) is estimated at $165,000.00 annually. The cost of maintenance then typically increases three (3) to five (5) percent per year after year two (2). This maintenance cost includes all maintenance for CAD and Mobiles.

Enroute has supplied a price $850,000.00 as a budgetary cost estimate for the requested functionality. There is a cost of $105,000.00 for services for installation and training as well. This cost does not include the cost of the vehicular mobile hardware and their connectivity to the systems via commercial carrier networks. The annual maintenance support costs for the first year are included in the purchase price and maintenance for years two (2) on are estimated $135,000.00 annually. The cost of maintenance then typically increases three (3) to five (5) percent per year after year two (2). This maintenance cost includes all maintenance for CAD and Mobiles. Enroute does not typically do pass through hardware since their clients can typically get a better price then they do. They provided some basic hardware requirements but not enough for us to accurately price their hardware requirements (see estimated hardware costs later in this section).

The proposed CAD system to be used in the consolidated Communications Center would be required to at least send to each participating agency's Records Management System a CAD incident data record at the closing of each CAD incident. Then it would be the responsibility of each agency to configure their RMS to receive this incident data for them to maintain their own records. Upon inquiry to the current police and non-firehouse RMS vendors it appears that an estimate for them to create an interface is estimated at $30,000.00 for each agency. This number could be a little higher or lower based on the complexity of the systems involved (the CAD system selected). There would then be an added yearly maintenance cost for the interface(s). The estimated cost of maintenance for each interface is $5,000.00 annually. The cost of maintenance typically increases three (3) to five (5) percent per year after year two.

Another third party interface that would be required is for those fire agencies using the FireHouse Records Management Systems. The FireHouse interface to the TBD CAD system will cost $5,000.00 per agency. The cost of maintenance for the FireHouse interface is estimated at $3,000.00 annually. The cost of maintenance typically increases three (3) to five (5) percent per year after year two.

Another important part of a CAD system is the ability to run management reports from the data. Whether you are looking at workload/work performance of dispatcher/call takers or the workload/work performance of your first responders in the field this is a crucial part of today's CAD systems. The information that can be gleaned from this data is almost priceless in many situations and is vital to any PSAP. It is important to have a variety of "canned" reports built into the system as well as the ability to use third party software to create custom reports.

Another piece of software that is recommended to address minimum user requirement is Priority Dispatch's Emergency Medical Dispatch (EMD). This software is in use across the country as a standardized method of dealing with medical calls. This software not only allows a way to ensure medical calls are handled the same way every time but also in a method that can provide quality assurance. This software and licensing will cost approximately $110,000.00 for a center the size of the one being considered in this consolidation. There is also an estimated yearly maintenance fee of $8,600.00 a year. The cost listed above includes the software, backup card sets and the training needed to implement this product. This product requires an interface with the CAD system but the cost of the interface and the yearly maintenance is included in the CAD cost listed earlier in the document.

The hardware required to support the recommended software needs to be considered as well. Each vendor has its minimum or recommended requirements for hardware. For a consolidated center approach, iXP recommends operation of CAD in a redundant or high availability configuration. This means that two (2) servers and use of high availability software to make the second server a "hot" spare of the primary. If there is a hardware failure of the primary server you have a second server that can immediately take over without a loss of service. We have estimated the cost of hardware with the CAD vendor descriptions above. If the CAD vendor did not provide it then we provided an explanation about why they did not. In iXP's experience, the estimated cost for this configuration is $125,000 as a minimum. This is for CAD servers, Message Switch servers, third party (Priority Dispatch, etc) application servers, vendor maintenance desktops, and CAD desktops. iXP also recommends a technical refresh, typically every three (3) years, to keep this infrastructure equipment under the manufacturer's warranty. If a vendor uses virtualization or high availability configurations, then the hardware cost can be twice that amount estimated above. The above estimate is based upon an Intel platform using dual server configurations with software keeping both server databases synchronization with an automatic failover should the primary fail.

Time Synchronization

A time synchronization system is a must in the emergency communications environment. If all of the disparate technologies supporting the center are left on their own internal time clocks, it is a given they cannot be maintained to the same time. So even if a call for service is handled quickly, the time stamps for the incident in the various systems will be different and will support ambiguity on how the call was processed through the Center. The recommended time synchronization system utilizes a GPS antenna to receive time inputs from a nationally recognized time source. The other equipment includes time servers to bridge connectivity to the time synchronization system and a time wall display for the Center. The time synchronization solution includes the required devices, Antenna, wall display, time servers and receiver.

It is envisioned that all technologies supporting the center operations will connect to the time synchronization system so all these systems will be on the one time. All date/time stamps for the systems will therefore be accurate synchronized to one time. The budgetary estimate for this system for a new facility is approximately $10,000.00 for equipment and installation, including a ninety (90) day warranty. Ongoing maintenance for this system should be on a time and materials arrangement and one can expect to spend $1,500.00 over a five year period for maintenance.

Network, Administrative Telephony and Administrative Computer Systems Recommendations

This section describes the high level configuration of the LAN, WAN and administrative systems recommended to support the new consolidated facility. The following subsystems are included in this section:

- LAN – Local Area Network
- WAN – Wide Area Network
- Administrative Computer System(s)
- Administrative Telephony
    - Integration with 911 Telephony

The following diagram depicts the overall design of the LAN, WAN and administrative telephones at the center.

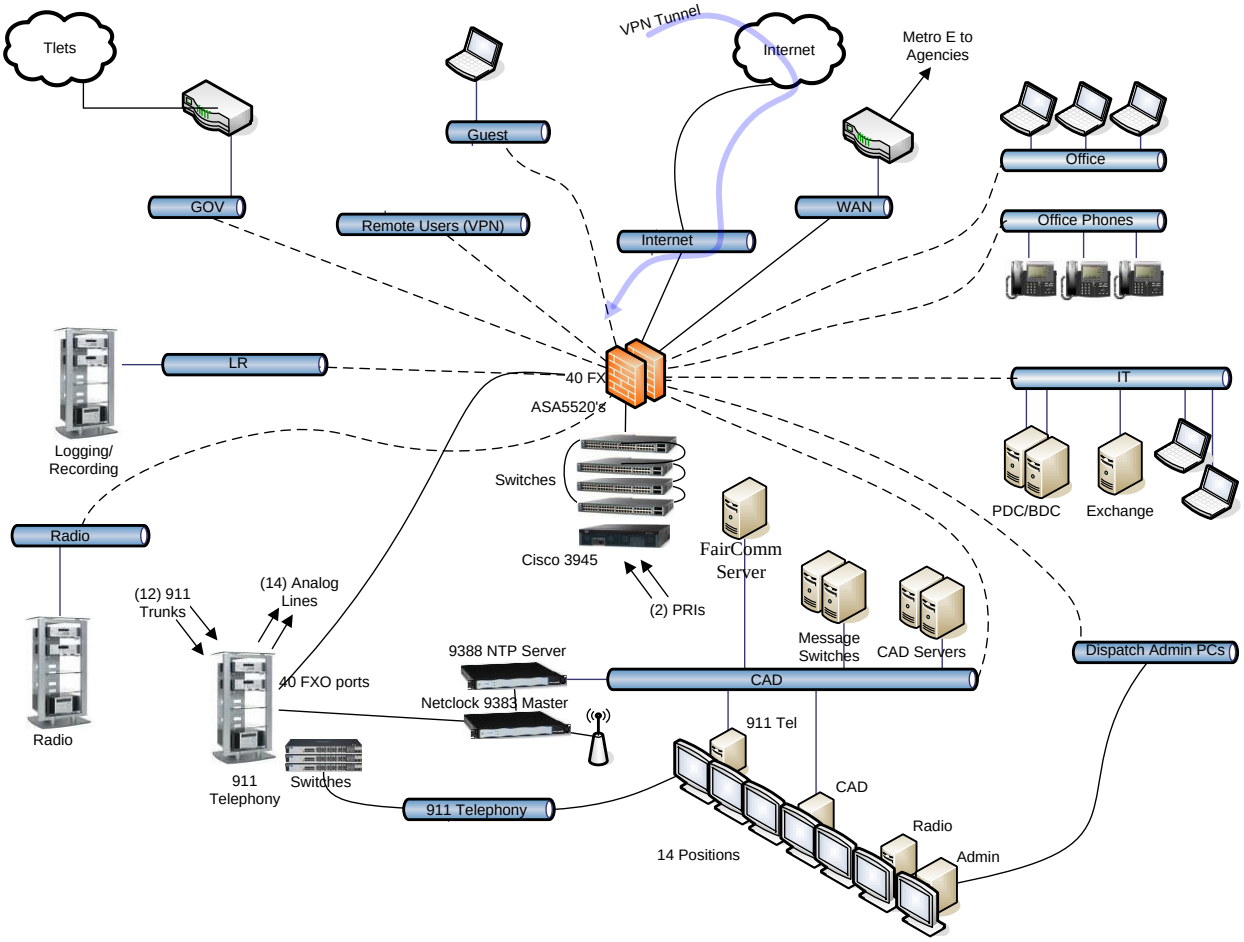


Figure 1 - Logical Overview

As shown, the Local Area Network is logically separated into several VLANs (Virtual LANs). Access to each VLAN is controlled by the main firewalls. These firewalls implement specific rules that only allow the necessary traffic to/from each VLAN.

Please note that the previous diagram depicts a logical view of the network and does not reflect the actual physical connectivity of the components. The physical view is shown below:

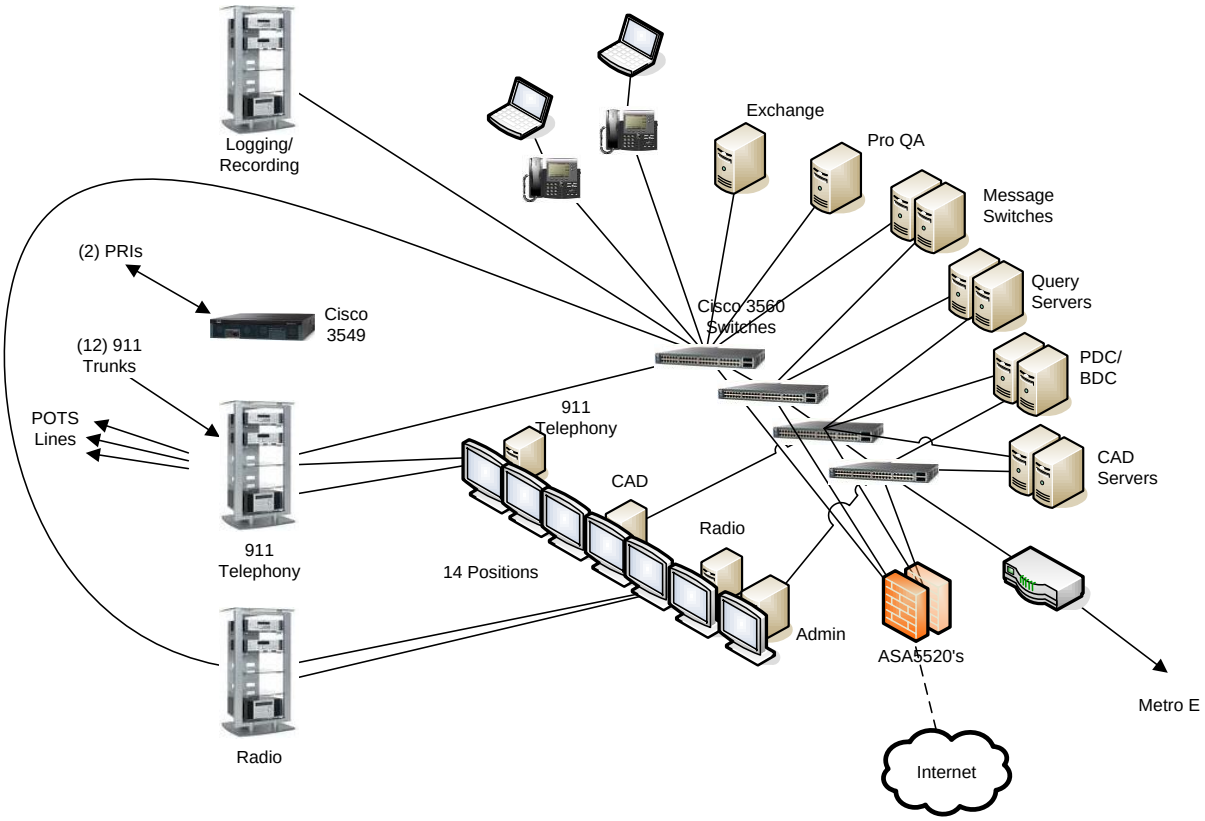


Figure 2 - Physical View

Wide Area Network

External to the communications center, the Wide Area Network is proposed using the Metro Ethernet ports provided by AT&T (pricing was also requested from Verizon and has yet to be received). Please note that the aggregate bandwidth of all remote sites is 20Mb/sec whereas the bandwidth at the new consolidated center is 25Mb/sec which allows for the potential overloading at the hub site using the current proposed configuration.

It is assumed when designing this network that each agency would continue to connect to their current host (PSAP) and connect through that host to interface FireHouse RMS and current police RMS to CAD.

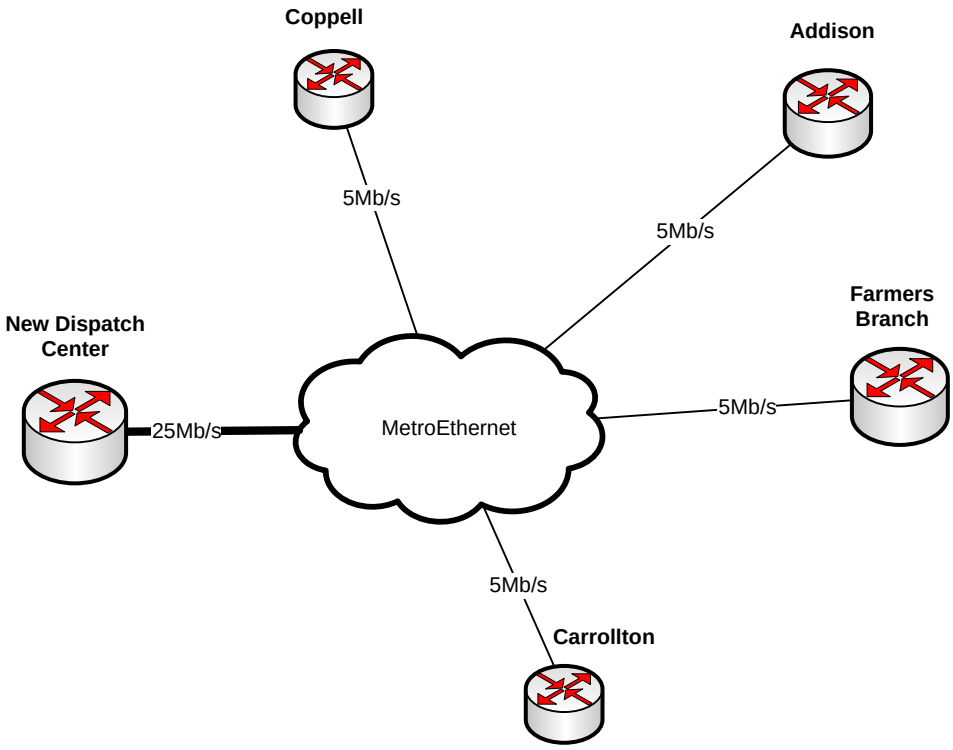


Figure 3 – Proposed Wide Area Network

The following is the proposed list of the remote sites on a Metro Ethernet network (shown above):

- Town of Addison– 5MB
- City of Carrollton PSAP –5MB
- City of Farmers Branch PSAP – 5MB
- City of Coppell PSAP – 5MB
- New Consolidated Dispatch Center (TBD) – 25MB

The budgetary estimate from AT&T for the managed Metro Ethernet data connectivity is $18,746.84 a month (3 year term) and includes the AT&T managed routers for the remote locations in monthly charges. These prices assume the AT&T fiber availability at the site. In the proposed managed Metro Ethernet offering, AT&T would be responsible for the providing, setup, configuration and maintenance of the routers required for the MetroEthernet wide area network (pricing was also requested from Verizon and has yet to be received).

Verizon provided an email quote, very vague that would cost approximately ½ of the quotes provided by AT&T. However, this quote from Verizon is for unmanaged services and additional routers/switches and labor would be required in this scenario. Equal to what is described in this section if AT&T provided the same type of quote as Verizon.

Internet Connectivity

A 10 Mb/s AT&T managed MetroEthernet internet circuit will be provisioned to provide the required WAN connectivity. The budgetary estimate for this is circuit is approximately **$4013.00** per month (pricing was also requested from Verizon and has yet to be received)**.**

An unmanaged MetroEthernet offering from AT&T can lower the monthly price and may be more cost effective in the long run. However, in this scenario, the responsibility to provide the routers and manage the network shifts to the local agencies.

LAN Switches

iXP is estimating approximately one hundred and seventy (170) connections to be supported by the LAN switches in the new center. Each connection is in the form of a Fast Ethernet connection (100 Mb/sec) with RJ45 termination. This high number of connections is in part due to the network redundancy where most devices are dually connecting. To meet this approximate configuration, it is recommended to use four (4) Cisco 3560 - 48 port switches to support all the estimated LAN connections.

Firewalls

Two (2) firewalls are proposed to be used in an active/standby configuration to control all traffic to/from the new center and inter VLAN routing within the center. The firewalls will also be used to support the remote users (vendor maintenance, LAN support staff, etc.) as may also be used for VPN tunnels for mobile computing. For the purposes of this Report, it is recommended to use two (2) Cisco ASA 5520 firewalls, or like equipment, for this purpose.

WAN

One (1) router should be necessary for WAN connectivity, based upon the above assumptions. A Cisco 2911 (or equivalent) equipped with FastEthernet cards will be used to support the proposed WAN connectivity. This WAN router is included in the AT&T managed internet budgetary price.

Administrative Telephones

For budgetary purposes, the administrative telephony system is based on the Cisco Call Manager technology. A Cisco 3945 will perform the Call Manager Express functionality including voice mail. This router will also house the interface cards for the PRI and FXS connections. The PRI circuits provide the voice connectivity to and from the local telephone provider. It also includes IP phones, licenses and various cards and interfaces. The 40 FXS ports will provide the call transfers between the administrative phone system and the emergency telephony system and provide the call forwarding required for the agencies during afterhours. The alternate options to using FXS cards include using PRI interfaces or VOIP (SIP Trunking) to transfer calls from Cisco Call manager to the emergency telephone system and may be more cost effective but compatibility with the emergency telephone system can't be fully verified at this time.

Network and Administrative Telephony System Price Estimates

The budgetary estimate for the Switches, Router, Call Manager Express & Firewalls is approximately $95,343.00. The remote routers for the AT&T MetroEthernet circuits at the agencies would be supplied by AT&T under the managed services. If the AT&T unmanaged MertoEthernet service is opted for then the budgetary estimate for the purchasing WAN and MetroEthernet routers for the PSAC and remote sites are approximately an additional $18475.00.

The maintenance costs beginning at the time of shipment for the network equipment is anticipated to be $8,000.00 annually. In the AT&T unmanaged option the maintenance cost would be an additional $3,300.00 annually. This maintenance cost routinely increases at an annual rate of 3%. For budgetary purposes we're using the AT&T managed services offering.

As shown in the Physical & Logical network diagrams two (2) PRI circuits provide for the inbound/outbound telephony traffic. FXS/FXO connectivity provides for call transfers between the Cisco CME and the emergency telephone system (Cassidian). The budgetary cost for the two (2) T1 PRI telephone lines is $3,800.00 a month and may include additional installation charges.

TLETS

The new consolidated center will need to apply for a new TLETS membership. The center must have an FBI issued ORI before it can apply for the TLETS membership. The process to obtain an FBI ORI takes approximately two (2) to (4) weeks.

After the ORI is issued the new center must apply for a new membership with the State of Texas Department of Public Safety CJIS Security Office. Once the request is approved, the new center will need to work with the TLETS Order Center and TLETS satellite vendor to schedule the installation and set up of the configuration based on the number of requested Omnixx workstations and/or Interface servers. This process will take approximately four (4) to (6) weeks.

The new consolidated center is responsible for meeting the requirements for the TLET connection but once the requirements are met, the cost of the equipment and installation is covered by the state.

Dispatch Furniture

Extremely durable furniture is required to support 24x7 dispatch operations. Most dispatch furniture use a slat wall design or a monitor tree to allow the secure mounting of monitors freeing valuable desktop work space. It is important that the workstation cabinets include equipment shelves on full extension glides, exhaust fans and wire management channels. Based upon the some of the furniture currently being used at the PSAP's, work space lift furniture is being utilized and therefore priced for this business case as the baseline functional requirement. The chairs used in the Center should be of the same 24x7, durable, high use design. For these purposes, iXP Corporation is supplying budgetary pricing for chairs with solid steel frames, heavy duty wheels, rated to support a minimum of 350 pounds, also the fabric rated to support a couple hundred thousand "rubs" (count of sitting in the chairs).

The current PSAP's utilize the following furniture:

- Addison – older non branded furniture
- Carrollton – Watson Synergy w/ lifts
- Coppell – Evans w/lifts
- Farmers Branch – Purpose built workstations

The budgetary estimate for the furniture and chairs (fourteen positions) is as follows:

- Evans with lifts - $240,000.00
    - Difference would be in delivery location and installation difficulty
    - Evans doesn't make a model without lifts
- Watson Synergy with lifts - $230,000.00
    - Could be a slight increase or decrease based on installation difficulty
- Watson Synergy without lifts - $148,000.00

  - Could be a slight increase or decrease based on installation difficulty
- Global Furniture Maxima II dispatch chairs or similar - $17,000.00
  - Final price based on chair selection and delivery

Based on this information the price range to expect for total cost is $240,000.00 for consoles with lifts and $170,000.00 for consoles without lifts. It is further estimated that the Center will spend approximately $1,000.00 per year (starting year 2) to fix ancillary components of the chairs and furniture. Besides the above listed dispatch furniture vendors, another widely used public safety furniture line is that of Wright-line, that also meet the above requirements and pricing.

Large Screen Displays

In most public safety communications centers the use of large screen displays is common to allow viewing by many as opposed to one monitor per position. This is often the case to view weather feeds, mapping and units (if using AVL), weather alerting applications, and traffic and/or agency CCTV feeds. The number of large screens depends on the configuration of the dispatch floor, number of telecommunicators, and number of systems to display. For the purposes of this Report, it is assumed to use two (2) large screen displays for weather, two (2) large screen displays AVL/Vehicles, and four (4) displays, one for each agency's CCTV feeds. For the AVL and CCTV feeds a computer on the network will be required, accessible by a designated position for control to drive the large screen displays. Typical weather channels can use satellite or cable connectivity without a computer. iXP will use the following assumptions for this section;

- 42" Panasonic LCD television/monitor capable or equivalent - $600.00 each
- Networked computer for application display, cabling - $1100.00 each
- Wall mount - $50.00 each

Using the above assumptions, the total for this equipment, not counting installation labor is approximately $8,300.00. Support for these components can be done on a break/fix basis.

Ancillary Technologies

The last area of consideration for technology is the ancillary technologies that are handled as part of day to day operations at each of the current PSAP locations. These are any responsibilities that are handled by telecommunicators that would relate to a technical field such as surveillance camera, intercoms, internal facility systems, etc. Listed below are these areas grouped by the current PSAP:

Addison PSAP – This agency has the following systems to consider:

  - Surveillance System – Camera & DVR
  - Jail Security Console
  - Outdoor Weather Warning System

- ATS Alarm Monitoring
- 3SI Currency Tracking System
- Police Department Receptionist 24/7
- Answer administrative telephone lines

There is a camera system that is set up throughout the public safety buildings, local parks and in a tunnel that runs under the airport. The system is passively monitored in the PSAP by the telecommunicators. The cameras are on the city network and can be accessed as objects on that network. It is an IP based camera system that can be accessed through the network and the feeds simply accessed by the consolidated center if there is a desire for the passive monitoring to continue, provided connectivity and access is established. The dispatchers also act as the backup to the Jailer and have the ability to lock down the jail should there be a problem. They do not maintain regular control over access but have emergency access to carry out an emergency lockdown. To effectively activate the Outdoor Weather Warning systems, it would be more cost effective to move the control stations and radios to the new center for control. It will cost approximately $500.00 for the antenna and cable to provide radio signal to activate the radios. The alternative if we cannot move the radio, another radio will be required and it will be approximately $1,000.00 dollars to setup the control station at the newly consolidated center. The monitoring of the ATS and 3SI systems can be done over the internet connection at a designated console of choice. Also, a direct dial phone can be installed in the lobby for people to use to contact the center if there is a need to continue the receptionist duties. Currently, Admin telephone lines are also answered by the telecommunicators during certain time periods. This functionality can be accomplished by configuring the current administrative telephone system to forward all calls to the consolidated center at the designated times.

Carrollton PSAP – This agency has the following systems to consider:

- Surveillance System – Camera & DVR
- Fire Alarm Monitoring for the City
- Outdoor Weather Warning System
- Answer administrative telephone lines

The cameras are on the city network and can be accessed as objects on that network. It is an IP based camera system that can be accessed through the network and the feeds simply accessed by the consolidated center if there is a desire for the passive monitoring to continue, provided connectivity and access is established. The most cost effective solution for the Fire Alarm panel that is located in the center is to have that panel be transferred to the new center and be monitored at that location. Any alarm is considered a high priority incident and the monitoring of it at the consolidated center would lead to quicker response to alarms. The cost for a point to point 56Kb telephone connection to connect the center to the alarm control panel is approximately $110.00 a month. To effectively activate the Outdoor Weather Warning systems, it would be more cost effective to move the control stations and radios to the new center for control. It will cost approximately $500.00 for the antenna and cable to provide radio signal to activate the radios. The alternative if we cannot move the radio, another radio will be required

and it will be approximately $1,000.00 dollars to setup the control station at the newly consolidated center. Currently, Admin telephone lines are also answered by the telecommunicators during certain time periods. This functionality can be accomplished by configuring the current administrative telephone system to forward all calls to the consolidated center at the designated times.

Coppell PSAP – This agency has the following systems to consider:

- Surveillance System – Camera & DVR
- Alarm monitoring – Fire and Panic Alarm from City Hall
- Monitor inmates while they are in custody – No Jailer on Duty
- Police Department Receptionist 24/7
- Answer administrative telephone lines
- Enter warrants online

The cameras are on the city network and can be accessed as objects on that network. It is an IP based camera system that can be accessed through the network and the feeds simply accessed by the consolidated center if there is a desire for the passive monitoring to continue, provided connectivity and access is established. The jail monitoring can be handled through the camera system if the desire is still to have the dispatcher monitor the prisoners. The dispatcher can pull up camera feeds via the network trust and notify officers if they are needed at the jail. The most cost effective solution for the Fire Alarm panel that is located in the center is to have that panel be transferred to the new center and be monitored at that location. Any alarm is considered a high priority incident and the monitoring of it at the consolidated center would lead to quicker response to alarms. The cost for a point to point 56Kb telephone connection to connect the center to the alarm control panel is approximately $110.00 a month. To effectively activate the Outdoor Weather Warning systems, it would be more cost effective to move the control stations and radios to the new center for control. It will cost approximately $500.00 for the antenna and cable to provide radio signal to activate the radios. The alternative if we cannot move the radio, another radio will be required and it will be approximately $1,000.00 dollars to setup the control station at the newly consolidated center. Currently, Admin telephone lines are also answered by the telecommunicators during certain time periods. This functionality can be accomplished by configuring the current administrative telephone system to forward all calls to the consolidated center at the designated times. If the requirement is for the functionality to enter warrants electronically over the city system to the new center, then access into the city network via a network trust and the software to access that function needs to provide for in the new center.

Farmers Branch PSAP – This agency has the following systems to consider:

- Surveillance System – Camera & DVR
- Jail access control – monitor inmates via camera and intercom
- Fire Alarm monitoring for the city
- Outdoor Weather Warning System
- Answer administrative telephone lines

- Confirm warrants electronically via court system

The cameras are on the city network and can be accessed as objects on that network. It is an IP based camera system that can be accessed through the network and the feeds simply accessed by the consolidated center if there is a desire for the passive monitoring to continue, provided connectivity and access is established. The jail access is done through a hard wired physical control box and would be best handled by moving that control box to the jailer's office. If there is a desire to allow the control of some of the doors at the Police Department to be also handled at the new center, then it would be best to look into a system that could send control signals via IP to the door contacts at the building. The most cost effective solution for the Fire Alarm panel that is located in the center is to have that panel be transferred to the new center and be monitored at that location. Any alarm is considered a high priority incident and the monitoring of it at the consolidated center would lead to quicker response to alarms. The cost for a point to point 56Kb telephone connection to connect the center to the alarm control panel is approximately $110.00 a month. To effectively activate the Outdoor Weather Warning systems, it would be more cost effective to move the control stations and radios to the new center for control. It will cost approximately $500.00 for the antenna and cable to provide radio signal to activate the radios. The alternative if we cannot move the radio, another radio will be required and it will be approximately $1,000.00 dollars to setup the control station at the newly consolidated center. Currently, Admin telephone lines are also answered by the telecommunicators during certain time periods. This functionality can be accomplished by configuring the current administrative telephone system to forward all calls to the consolidated center at the designated times. If the requirement is for the functionality to enter warrants electronically over the city system to the new center, then access into the city network via a network trust and the software to access that function needs to provide for in the new center.

Call-taker/Dispatcher Position(s) – Administrative Function

All dispatch positions should be configured with fourteen (14) workstations that allow access to the internet yet segregated by a proper network design from the other applications. The workstations and monitors for the emergency telephony, radio, and CAD will be supplied by those vendors and the only pricing in this section is for the administrative workstation and monitors. The budgetary estimate for these workstations, monitors, etc., is $30,000.00 using standard Dell Computer pricing. With the purchases comes a three (3) year onsite warranty and after that this equipment can be kept up using a break fix support program. It is important to order and equip these computers with strong anti-virus, spam protection programs as well as detailed Standard Operating Procedures (SOPs) to limit the use of this equipment.

Administrative Backroom Equipment

The equipment listed in the below table supports the administrative function of a new center. The network and administrative telephone system will coexist in these equipment racks. Also, it recommends that the new consolidated center will require its' own domain. The administrative

IT structure would include the domain, exchange, archive, and backup servers. The budgetary estimate for this equipment is $33,000.00.

Equipment (Placeholder)	**Description/Comments**
FairComm Server (EMD)	Used for the ProQA application
NAS Server	Used for storage of miscellaneous data
PDC	Primary Domain Controller (security, etc.)
BDC	Backup Domain controller (security, etc.)
Exchange	Email, etc.
Tape Backup System	Network backup
Cabinet#1	Standard rack (secure)
KVM#1	KVM and switch (for each rack)
Cabinet#2	Standard rack (secure)
KVM#2	KVM and switch (for each rack)

A technology refresh program should be implemented to replace the infrastructure equipment every three (3) years in order to continue most manufacturer's warranties and keep said equipment current and in optimal working condition. Again, a strong anti-virus program should be purchased, implemented and managed to protect these systems supporting the center operations.

Administrative Offices

In addition to the Communications center workstations and systems, several other offices are used to provide management and analysis functions. The equipment in these offices consists of laptops, monitors and large printers, etc. The budgetary estimate for this equipment is $16,750.00.

System Integration

The final anticipated cost that needs to be factored into the overall cost estimates for the technology systems is the effort to oversee the integration of all these systems into a cohesive operating environment to support the emergency communications operations. This system

integration effort requires careful coordination with each system vendor to make sure their systems are properly prepared and installed so that they interact properly with other systems and the backbone network and facility systems. iXP estimates a total anticipated cost of $1,100.000.00 for the overall technology, operational and center transition system integration process depending on the selected system alternatives described in this report.

The combined total cost estimate for the technology systems for a new purpose-built emergency communications facility is shown in the following table:

Estimated Technology System Costs	**Estimated Cost**
9-1-1 Emergency Telephone system	$ 836,298
Computer Aided Dispatch/Mobile (hardware & software)	$ 1,865,000
Interfaces on Police and Fire RMS Systems to CAD	$ 105,000
ProQA Medical and Police interfaced with CAD	$ 210,000
Radio Console System (initial setup and then position moves)	$ 150,000
Microwave system modifications to join radio system loop	$ 350,000
Backup radio equipment	$ 79,225
Headsets	$ 7,500
Dispatch Furniture (with installation, chairs)	$ 259,000
Master Time Synchronization	$ 10,000
Primary & Backup Logging/Recording system	$ 59,595
Large Screen Displays	$ 11,800
Network, administrative telephony	$ 95,343
Administrative Hardware	$ 79,750
Interfaces to Ancillary Technology	$ 10,280
System Integration, transition and PM	$ 1,100,000
Total Estimated Technolgy System Costs	**$ 5,228,791**

Facilities

The previously conducted Consolidation Analysis Report identified the need for a facility of approximately 10,600 square feet. Based on some of the revised operational thinking in this business case analysis, iXP developed a high level space plan for the proposed organizational structure to use as a foundation for facility capital cost estimates. The following table shows iXP's thinking on the required facility configuration and size.

Space Plan for Addison, Farmers Branch, Carrollton & Coppell Consolidated PSAP					
	Space Description	Space Type	Sq Ft	#	Total Sq Ft
General Spaces					
1	Entrance/Vestibule	Hard Walled	150	1	150
2	Admin Assistant/Front Counter	Hard Walled	150	1	150
3	Director	Hard Walled	150	1	200
4	Operations Manager (future)	Hard Walled	120	1	150
5	Training Coordinator	Hard Walled	150	1	150
6	Spare Office	Hard Walled	120	1	120
7	Q/A and L/R Custodian	Hard Walled	150	1	150
8	Admin Conference Room	Hard Walled	250	1	250
9	work room	Hard Walled	200	1	200
10	Technical Staff Work Area	Hard Walled	400	1	400
11	Large Meeting Room/Training Room	Hard Walled	1000	1	1,000
12	General Storage		150	1	150
13	Break Room	Open/alcove	600	1	600
14	Exercise Room	Hard Walled	500	1	500
15	"Public" Restrooms	Hard Walled	150	2	300
16	"Com Room" Restrooms/Showers	Hard Walled	150	2	300
17	Shift Employee Mail Slots	Open/alcove	50	1	50
18	Quiet/Counseling Room	Hard Walled	120	1	120
19	Janitor/Maintenance Closet	Hard Walled	150	1	150
	Sub-Total General Office Spaces				**5,090**
	Gross-up factor for circulation & building infrastructure			**35%**	**1,782**
	Sub-Total General Office Spaces				**6,872**
Operational Floor					
20	Shift Supervisors	Desk/Workstations	70	6	420
21	Supervisor Position	Console	180	1	180
22	PD Dispatch Positions	Console	150	4	600
23	PD Query/Support Position	Console	150	1	150
24	Fire/EMS Dispatch Positions	Console	150	2	300
25	Training/Special Events Dispatch Positions	Console	150	2	300
26	Call Receiver Positions	Console	150	4	600
27	Dispatcher/Call Receiver Growth area	Console	150	4	600
	Sub-Total for Operational Staff Spaces				**3,150**
	Gross-up factor for circulation & building infrastructure			**25%**	**788**
	Sub-Total for Operational Staff Spaces				**3,938**
Technology Room and Facility Infrastructure					
28	Technology Equipment Room	Hard Walled	500	1	500
29	Electrical, UPS and Battery Room	Hard Walled	300	1	300
30	Mechanical Room	Hard Walled	700	1	700
	Rooms				**1,500**
	Gross-up factor for circulation & building infrastructure			**15%**	**225**
	Rooms				**1,725**
Combined Total of Communications Center Spaces					**12,534**

Emergency communications facilities are among the most expensive construction efforts a local municipality will ever undertake. These facilities need to be designed and constructed to withstand the reasonably expected environmental and local hazards the facility will be exposed to and accomplish this with reliability margins in compliance with building codes for essential facilities. To the maximum extent feasible they need to be provisioned with alternative power sources and mechanical systems to provide high probability of remaining operational even when external conditions are the most challenging.

As a result, iXP's experience has shown that these facilities can often cost as much as $433 per square foot to construct and outfit with the mechanical, power and facility infrastructure systems to allow the facility to operate in a reliable and secure manner over the most challenging of local environmental conditions. This cost estimate includes all the costs of designing the facility, the general contractor and trades subcontractors, permitting, special inspections, cost escalation margins, contingencies and construction project management costs. It does not include an estimate for the cost of the land on which to locate the facility. Using this estimated cost as the reference point for this business case analysis, the anticipated capital expenditure for the consolidated communications facility would be approximately $5,412,500.

During the original business case process in 2012, a unique facility alternative was brought to the attention of the participating jurisdictions and iXP. CyrusOne, a nationwide operator of high-availability data centers that already operates several facilities in Texas, is in the process of establishing an additional facility in the city of Carrollton. While CyrusOne's facilities are typically designed and operated similar to other hosted data-center environments, the characteristics of this particular facility would allow it to be configured so that an emergency communications center could be located within more traditional office space setting and the entire operation supported by the high-availability environment established for the full hosted data center facility. This includes fully redundant emergency power, mechanical systems and utility connections, which is a higher level of reliability and availability then is usually developed for a municipal emergency communications center.

During the business case analysis process iXP toured CyrusOne's facilities and had numerous meetings and conversations with their facility planning and construction personnel. CyrusOne also hosted a tour of the facility for several representatives from the participating jurisdictions so they could directly experience the quality and reliability being designed into the facility. While the scope of this business case analysis didn't allow for detailed facility planning and cost estimating work with CyrusOne, enough information was provided for them to provide cost estimates for both the one-time costs of outfitting the space to accommodate an emergency communications center and the on-going lease costs to use the facility over a multi-year tenancy. These costs were reflected in the July 2012 Business Case Report and were found to be higher than costs that would be experienced if a stand-alone purpose-built facility were constructed.

In the work conducted for this Updated Business Case Report, iXP and Carrollton representatives were able to conduct more in-depth facility space planning process with CyrusOne and this resulted in a significant modification to the estimated up-front build-out costs and to the monthly recurring lease costs. CyrusOne now estimates the up-front built-out costs to total $1,800,000, which would net out to approximately $150 per square foot for an estimated required space of 12,000 square feet. While slightly higher than the earlier estimate of $1.3 million, it is still a reasonable cost given the nature of the construction of the facility, the extensive use of raised flooring, and the need for dedicated electrical and mechanical systems for the communications center spaces. Even at the $1.8 million estimate, this is significantly less expensive than the estimated costs for designing and constructing a purpose-built stand-alone facility.

CyrusOne's method of calculating ongoing lease costs is to price them as monthly recurring costs on a square footage basis. This cost is now estimated at $2.25 which when applied against an estimated 12,000 square foot occupied space in their facility would result in annual leas costs of $324,000. This is significantly less expensive than the $660,000 estimated in the original Business Case Report. This rate would escalate at an annual rate estimated at 3% through the duration of a 15 year lease. This would be an all-inclusive cost covering all utility costs, all facility maintenance costs, and fully benefiting from the facility's high availability and high security environment.

It is iXP's belief that the CyrusOne facility would provide a far more reliable and resilient environment for an emergency communications facility than would likely be planned and constructed if a purpose-built facility were developed. While it is technically possible for a stand-alone emergency communications center to be developed to the same levels of redundancy and availability provided at the CyrusOne facility, this is seldom done in the municipal facility setting. More often, these facilities are designed and constructed with single redundancies for electrical power, marginal redundancies for mechanical systems, and limited redundancies for other utilities and telecommunications services. While these are typically sufficient for most emergency communications facilities (particularly when reasonable backup facilities are developed and maintained to deal with the most catastrophic facility failures), they do not match the high-availability environment offered at the CyrusOne facility.

Capital Investment Strategies

The final comparative analysis to determine if consolidation of the communications centers is a sound economic decision is to determine if the aggregated operational savings from consolidation will cover the capital investment costs for building and equipping the new facility. While some communities will see the improvements in service quality and depth of coverage at equal or lower costs of annual operations as being more than enough justification for proceeding with a consolidation initiative, other communities will need the confidence that the accumulated savings over time will cover the costs of the capital investments as well.

For this analysis, iXP has used the following assumptions to formulate annual cost estimates for the debt service costs that would likely be faced to establish the consolidated communications center under each of the implementation alternatives examined:

- The assumed cost for the facility investment for a stand-alone purpose-built facility is $6,229,250. This estimate has been revised from the July 2012 Business Case Report to reflect the cost of acquiring land on which to locate the facility. The assumed cost for the build-out of leased space at the CyrusOne facility is $1,800,000.

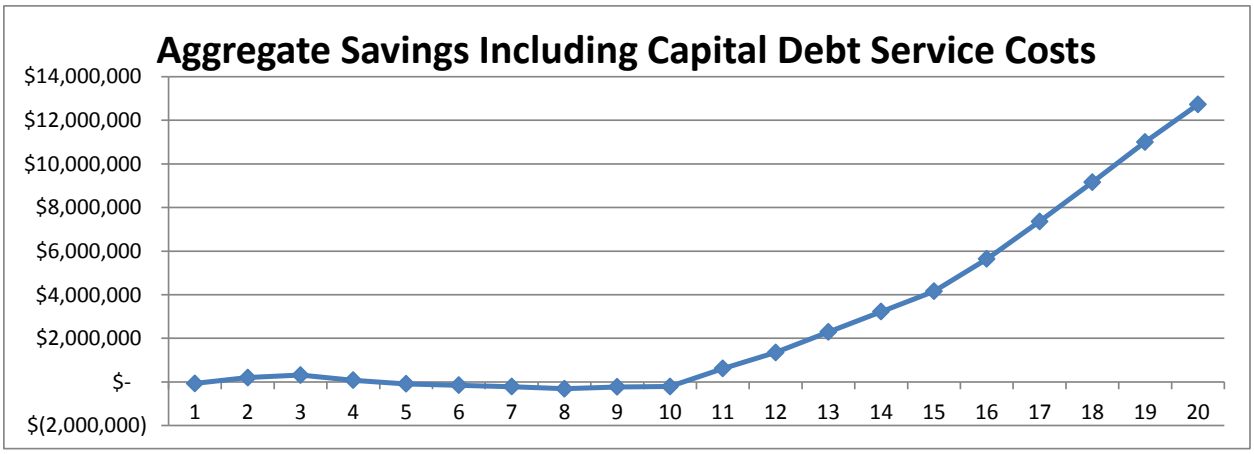
- The assumed cost for the technology and start-up investments for the stand-alone and CyrusOne alternatives is $5,228,791.

- Debt duration for the facility build-out costs is assumed at 15 years for both the stand-alone facility and for the CyrusOne alternative to align with the proposed CyrusOne lease duration. Debt duration for the technology and start-up costs is assumed at 10 years.

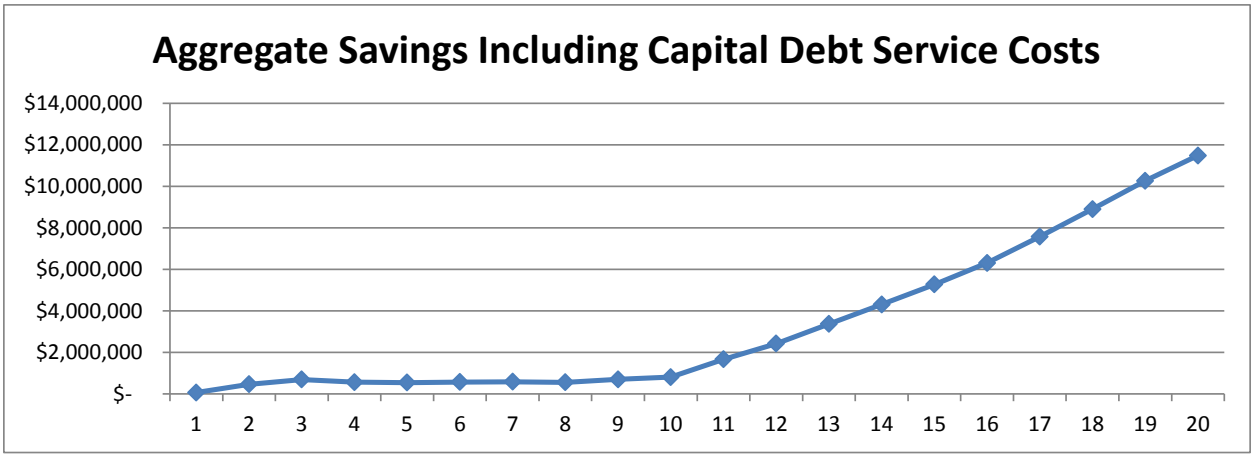
- Debt servicing was assumed on an annual basis at an annual debt service cost of 4.5%.

With these parameters in place, it is possible to compare the combined annual debt service costs to the annual and accumulated operational savings to determine whether there is a positive business case for consolidation and where the economic breakeven point would be. The following discussions and graphs provide a summarized look at how each of the implementation scenarios plays out across the full 20-year business case analysis timeframe. The detailed total cost of ownership tables, from which these graphics were derived, are provided in Appendix A.

Stand-Alone Facility Model – In this implementation model, the operational cost savings in the first 10 years come very close to covering the full CAPEX and debt service costs for both the facility and technology investments. Once technology debts are retired, savings in the tenth through twentieth year aggregate to just under $13 million over the 20-year timeframe.



CyrusOne Hosted Technology Facility Model – In this implementation model, the operational cost savings begin in the first year of the model and then begin to climb after year 10 when the initial technology capital debt is retired. Total savings across the 20-year timeframe approach $12 million.



Both of these implementation scenarios provide a positive business case over the full 20-year business case analysis timeframe.

Possible Cost Allocation Models

As discussed earlier in this report, cost allocation models that are easy to understand and explain are often the most successful. Discussions within the projects leadership indicated that an initial model based on CAD event metrics was the most likely place to begin the examination of possible cost allocation models for the consolidated emergency communications organization. CAD data was re-examined with the participating jurisdiction so that event counts could be developed that are as comparable across the jurisdictions as possible. These statistics are shown in the following table:

	Law - Dispatched	Law - Officer Initiated	Law Total	%		Fire	EMS	Fire/EMS Total	%		Other (1)	Totals	Combined % Breakdown
Addison	23530	78059	**101,589**	33%		1106	1510	**2,616**	14%			**104,205**	31%
Carrollton	77110	49722	**126,832**	41%		3048	6591	**9,639**	51%		15	**136,486**	41%
Coppell	24612	12569	**37,181**	12%		1856	1002	**2,858**	15%		-	**40,039**	12%
Farmers Branch	21391	25092	**46,483**	15%		1,633	2063	**3,696**	20%		-	**50,179**	15%
Totals	146,643	165,442	**312,085**	100%		7,643	11,166	**18,809**	100%		15	**330,909**	100%
% of overall Workload			94%					6%			0%		
(1) Carrollton other city departments													

As a point of reference, when viewed from the perspective of each jurisdiction's current costs of operations, the proportionality would be:

Addison – 19%
Carrollton – 36%
Coppell – 21%
Farmers Branch – 24%

Using the percentage breakdowns derived from the Calls for Service data, a cost allocation model was developed that allows the allocated costs for each jurisdiction to be compared to the projected costs for continuing their independent operations. These models were run out for the full 20-year business case analysis timeframe and these full tables are included in Appendix A. The first 5 years of each model are shown and discussed in the tables below to provide the reader with an overview of the results.

The first band of figures in each table show how the combined OPEX and CAPEX costs for each individual year would be allocated across the four participating jurisdictions based on the event-count metrics shown above. The second band of figures shows the projected cost of continuing to operate the independent dispatch operation. The third band of figures shows either the savings benefit to each jurisdiction or the additional costs they would face in that model.

For both of the facility alternatives, even when the aggregate savings is positive across the four jurisdictions, the significantly different percentage relationship between their current costs of operations and the Calls For Service workload metric-based formula results in Addison and

Carrollton facing significant annual cost increases while Coppell and Farmers Branch would experience significant annual cost savings.

Stand-Alone Facility Alternative

Cost Allocation on a Call For Service Proportionality Basis						
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Total OPEX and CAPEX Costs		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149
Jurisdiction	**CFS-Based Allocation Percentage**					
Addison	31%	$ 1,899,860	$ 2,005,211	$ 2,052,353	$ 2,144,948	$ 2,165,336
Carrollton	41%	$ 2,488,405	$ 2,626,393	$ 2,688,138	$ 2,809,418	$ 2,836,121
Coppell	12%	$ 729,989	$ 770,468	$ 788,582	$ 824,160	$ 831,993
Farmers Branch	15%	$ 914,861	$ 965,592	$ 988,292	$ 1,032,881	$ 1,042,698
Collective Total Annual Cost		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149
Estimated Costs to Continue Current Operations with Individual Facilities						
Addison	19%	$ 1,159,345	$ 1,694,125	$ 1,229,949	$ 1,266,848	$ 1,304,853
Carrollton	36%	$ 2,121,199	$ 2,184,835	$ 2,310,380	$ 2,317,891	$ 2,387,428
Coppell	21%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,434,344	$ 1,415,574
Farmers Branch	24%	$ 1,422,259	$ 1,464,927	$ 1,758,875	$ 1,554,141	$ 1,600,765
Collective Total Annual Cost		$ 5,960,522	$ 6,639,338	$ 6,633,518	$ 6,573,223	$ 6,708,620
(Savings) or Increased Cost by Jurisdiction and Collectively						
Addison		$ 740,515	$ 311,086	$ 822,403	$ 878,101	$ 860,483
Carrollton		$ 367,206	$ 441,558	$ 377,758	$ 491,527	$ 448,693
Coppell		$ (527,730)	$ (524,982)	$ (545,732)	$ (610,184)	$ (583,580)
Farmers Branch		$ (507,398)	$ (499,335)	$ (770,582)	$ (521,260)	$ (558,067)
Collective Total Annual (Savings) or Increased Cost		$ 72,593	$ (271,674)	$ (116,153)	$ 238,184	$ 167,529

CyrusOne Hosted Facility Alternative

Cost Allocation on a Call For Service Proportionality Basis						
		Year 1	Year 2	Year 3	Year 4	Year 5
Total OPEX and CAPEX Costs		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306
Jurisdiction	CFS-Based Allocation Percentage					
Addison	31%	$ 1,857,864	$ 1,965,464	$ 2,015,466	$ 2,111,011	$ 2,119,094
Carrollton	41%	$ 2,433,400	$ 2,574,333	$ 2,639,824	$ 2,764,967	$ 2,775,555
Coppell	12%	$ 713,853	$ 755,196	$ 774,409	$ 811,120	$ 814,226
Farmers Branch	15%	$ 894,638	$ 946,452	$ 970,530	$ 1,016,539	$ 1,020,431
Collective Total Annual Cost		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306
Estimated Costs to Continue Current Operations with Individual Facilities						
Addison	19%	$ 1,159,345	$ 1,694,125	$ 1,229,949	$ 1,266,848	$ 1,304,853
Carrollton	36%	$ 2,121,199	$ 2,184,835	$ 2,310,380	$ 2,317,891	$ 2,387,428
Coppell	21%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,434,344	$ 1,415,574
Farmers Branch	24%	$ 1,422,259	$ 1,464,927	$ 1,758,875	$ 1,554,141	$ 1,600,765
Collective Total Annual Cost		$ 5,960,522	$ 6,639,338	$ 6,633,518	$ 6,573,223	$ 6,708,620
(Savings) or Increased Cost by Jurisdiction and Collectively						
Addison		$ 698,519	$ 271,339	$ 785,517	$ 844,163	$ 814,241
Carrollton		$ 312,201	$ 389,498	$ 329,444	$ 447,076	$ 388,127
Coppell		$ (543,866)	$ (540,254)	$ (559,906)	$ (623,224)	$ (601,348)
Farmers Branch		$ (527,621)	$ (518,475)	$ (788,345)	$ (537,602)	$ (580,334)
Collective Total Annual (Savings) or Increased Cost		$ (60,766)	$ (397,892)	$ (233,289)	$ 130,413	$ 20,686

Clearly, the Calls for Service model results in a significantly altered cost profile for each of the jurisdictions, some with substantial savings and others with substantial increases. This is likely the result of the actual workload affecting the staffing and operational costs of each of their current operations not being well reflected in a simplified Calls for Service type of metric.

The total costs to operate a 9-1-1 and emergency communications organization are largely driven by labor costs (about 80% on average across the four cities) and labor costs are a result of the staffing levels needed to handle the workload from the agencies being served. So in essence, labor costs become a logical proxy for the combined impacts of calls for service volumes and all the other responsibilities of the communications center. In addition to that, the largest single non-labor cost is typically the costs for maintaining the 9-1-1 equipment and buying the 9-1-1 services from the carrier (trunking, selective routing, database, etc.). All of these costs vary with

the nature of the community and this is then reflected in their combined impact on the total budget for each jurisdiction.

In aggregate then, the proportionality of the total budgets of the individual jurisdictions becomes a logical proxy for what the individual impacts will be on the costs of a consolidated operation. Even though the consolidated operation will have efficiencies that bring down the total cost of doing business, it will still be staffing and supporting 9-1-1 related costs that are essentially in the same proportionality to what is being spent to sustain the current stand-alone operations.

If the current proportionality of operating costs were used as the cost allocation metric for the consolidated organization, the picture changes substantially compared to the Calls for Service model as shown in the tables below. Here, each of the jurisdictions benefit from the combined savings of consolidation. Even jurisdictions that have slight cost increases in these early years have significant savings over the full 20-year run and the savings are relatively well balanced across all four jurisdictions. The full 20-year versions of these tables are provided in Appendix A.

Stand Alone Facility Alternative

Alternative Cost Allocation Model Reflecting Current Cost Proportionality						
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Total OPEX and CAPEX Costs		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149
Jurisdiction	**Cost Allocation based on Current Cost Proportionality**					
Addison	19%	$ 1,146,292	$ 1,209,856	$ 1,238,299	$ 1,294,167	$ 1,306,468
Carrollton	36%	$ 2,171,921	$ 2,292,359	$ 2,346,251	$ 2,452,107	$ 2,475,414
Coppell	21%	$ 1,266,954	$ 1,337,209	$ 1,368,647	$ 1,430,396	$ 1,443,991
Farmers Branch	24%	$ 1,447,947	$ 1,528,239	$ 1,564,167	$ 1,634,738	$ 1,650,276
		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149
(Savings) or Increased Cost by Jurisdiction and Collectively						
Addison		$ (13,053)	$ (484,269)	$ 8,350	$ 27,320	$ 1,615
Carrollton		$ 50,722	$ 107,524	$ 35,871	$ 134,215	$ 87,985
Coppell		$ 9,235	$ 41,759	$ 34,332	$ (3,948)	$ 28,417
Farmers Branch		$ 25,689	$ 63,312	$ (194,707)	$ 80,597	$ 49,511
Collective Total Annual (Savings) or Increased Cost		$ 72,593	$ (271,674)	$ (116,153)	$ 238,184	$ 167,529

CyrusOne Hosted Facility Alternative

Alternative Cost Allocation Model Reflecting Current Cost Proportionality						
		Year 1	Year 2	Year 3	Year 4	Year 5
Total OPEX and CAPEX Costs		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306
Jurisdiction	Cost Allocation based on Current Cost Proportionality					
Addison	19%	$ 1,120,954	$ 1,185,875	$ 1,216,043	$ 1,273,691	$ 1,278,568
Carrollton	36%	$ 2,123,912	$ 2,246,921	$ 2,304,082	$ 2,413,309	$ 2,422,550
Coppell	21%	$ 1,238,949	$ 1,310,704	$ 1,344,048	$ 1,407,764	$ 1,413,154
Farmers Branch	24%	$ 1,415,941	$ 1,497,947	$ 1,536,055	$ 1,608,873	$ 1,615,034
		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306
(Savings) or Increased Cost by Jurisdiction and Collectively						
Addison		$ (38,391)	$ (508,251)	$ (13,906)	$ 6,843	$ (26,285)
Carrollton		$ 2,713	$ 62,086	$ (6,298)	$ 95,418	$ 35,122
Coppell		$ (18,770)	$ 15,253	$ 9,734	$ (26,580)	$ (2,419)
Farmers Branch		$ (6,318)	$ 33,020	$ (222,820)	$ 54,732	$ 14,268
Collective Total Annual (Savings) or Increased Cost		$ (60,766)	$ (397,892)	$ (233,289)	$ 130,413	$ 20,686

In preparation of this Updated Business Case Report there were also discussions among the participants about potentially using the ratios established for the radio system costs. In this model 50% of the costs are allocated to Carrollton and the other three cities each shoulder 16.67% (one third) of the costs. Since this model does not reflect operational workload or current labor or operational costs of the existing communications centers, it was felt that it would not be a useful model for allocating costs for a consolidated communications center.

The reader is encouraged to examine the full 20-year allocation models in Appendix A of this report to fully appreciate the collective and individual cost savings or increases that would result from applying either of these suggested cost allocation models to either of the two facility models.

Conclusion

This business case analysis process was initiated to allow the municipalities of Addison, Carrollton, Coppell and Farmers Branch to fully understand the potential service level benefits and economic efficiencies that could be achieved through consolidation of their emergency communications functions. To accomplish this, detailed information has been assembled to identify the current costs of operations and how those costs would escalate over time. Information has also been developed to establish economic projections for the anticipated costs of both establishing a newly-formed consolidated emergency communications organization and operating that organization into the future.

The data and analysis in this report clearly indicate that there are significant operational efficiencies and economic benefits in the consolidated approach. Each of the implementation alternatives examined resulted in significant operational expense savings over the business case analysis timeframe. The largest operational expense advantage results from the model where a stand-alone facility is constructed. This alternative would yield an estimated $28 million in combined operational cost savings over the 20-year analysis timeframe. The alternative of locating the consolidated communications center in the CyrusOne data center would yield an estimated $20.6 million in combined operational cost savings over the 20-year analysis timeframe.

To achieve these savings, the jurisdictions would need to make capital investments in facility and technology assets for the newly established emergency communications organizations. These investments would likely need to be funded with long-term capital debt instruments that would add an element of capital debt servicing to the overall operational cost picture for the consolidated organization. Even with these costs factored into the analysis for a total cost of ownership (TCO) perspective, both of the facility implementation alternatives result in a positive business case situation. The alternative of creating a stand-alone facility had the largest projected overall 20-year savings of approximately $12.7 million and the CyrusOne hosted facility alternative results in a 20-year savings of approximately $11.5 million.

The business case analysis clearly demonstrates a positive business case argument for consolidation, whether viewed through the prism of combined operational cost savings or through the more stringent perspective of the savings being sufficient to fully cover the total cost of ownership while still returning a bottom line savings. When coupled with the improved operational efficiencies and improved levels of service to the communities being served, the consolidation of emergency communications functions appears to be a reasonable and prudent policy objective to continue towards implementation and realization.

iXP Corporation has appreciated the opportunity to continue working with Addison, Carrollton, Coppell and Farmers Branch on this consolidation initiative. We believe that the spirit of cooperation and collaboration that have been evident during this business case analysis process

provide a solid foundation for successfully moving forward to formally implement a consolidated emergency communications organization – an organization that would provide enhanced levels of service to the communities while also achieving bottom-line economic savings. We look forward to working with your communities further to help make these accomplishments a reality.

Appendix A

This Appendix section contains the full 20-year tables referred to throughout the report in their more natural 11x17 horizontal format for easier reading and reference.

Stand-Alone Facility Operating Cost Model

Total Estimated Cost of Operations	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Salary and Benefit Costs																					
Communications Center Director	$ 119,863	$ 123,459	$ 127,163	$ 130,978	$ 134,907	$ 138,954	$ 143,123	$ 147,417	$ 151,839	$ 156,394	$ 161,086	$ 165,919	$ 170,896	$ 176,023	$ 181,304	$ 186,743	$ 192,345	$ 198,116	$ 204,059	$ 210,181	$ 3,220,768
Administrative Assistant	$ 63,457	$ 65,361	$ 67,322	$ 69,341	$ 71,421	$ 73,564	$ 75,771	$ 78,044	$ 80,385	$ 82,797	$ 85,281	$ 87,839	$ 90,474	$ 93,189	$ 95,984	$ 98,864	$ 101,830	$ 104,885	$ 108,031	$ 111,272	$ 1,705,113
Q/A and L/R Custodian	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682	$ 98,553	$ 101,509	$ 104,555	$ 107,691	$ 110,922	$ 114,250	$ 117,677	$ 121,207	$ 124,844	$ 128,589	$ 1,970,471
Training Supervisor	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682	$ 98,553	$ 101,509	$ 104,555	$ 107,691	$ 110,922	$ 114,250	$ 117,677	$ 121,207	$ 124,844	$ 128,589	$ 1,970,471
Technical Systems Manager	$ 107,485	$ 110,709	$ 114,031	$ 117,452	$ 120,975	$ 124,604	$ 128,343	$ 132,193	$ 136,159	$ 140,243	$ 144,451	$ 148,784	$ 153,248	$ 157,845	$ 162,580	$ 167,458	$ 172,482	$ 177,656	$ 182,986	$ 188,475	$ 2,888,158
Technical Systems Technician	$ 97,714	$ 100,645	$ 103,664	$ 106,774	$ 109,977	$ 113,277	$ 116,675	$ 120,175	$ 123,781	$ 127,494	$ 131,319	$ 135,258	$ 139,316	$ 143,496	$ 147,800	$ 152,234	$ 156,801	$ 161,506	$ 166,351	$ 171,341	$ 2,625,598
Communications Supervisor	$ 439,995	$ 453,195	$ 466,790	$ 480,794	$ 495,218	$ 510,075	$ 525,377	$ 541,138	$ 557,372	$ 574,093	$ 591,316	$ 609,056	$ 627,327	$ 646,147	$ 665,532	$ 685,498	$ 706,062	$ 727,244	$ 749,062	$ 771,533	$ 11,822,824
Telecommunicators/CTO	$ 409,297	$ 421,576	$ 434,224	$ 447,250	$ 460,668	$ 474,488	$ 488,723	$ 503,384	$ 518,486	$ 534,040	$ 550,062	$ 566,563	$ 583,560	$ 601,067	$ 619,099	$ 637,672	$ 656,802	$ 676,506	$ 696,802	$ 717,706	$ 10,997,976
Telecommunicators	$2,728,650	$2,810,509	$2,894,825	$2,981,669	$3,071,119	$3,163,253	$3,258,151	$3,355,895	$3,456,572	$3,560,269	$3,667,077	$3,777,089	$3,890,402	$4,007,114	$4,127,328	$4,251,147	$4,378,682	$4,510,042	$4,645,344	$4,784,704	$ 73,319,841
Subtotals	**$4,113,125**	**$4,236,519**	**$4,363,615**	**$4,494,523**	**$4,629,359**	**$4,768,240**	**$4,911,287**	**$5,058,625**	**$5,210,384**	**$5,366,696**	**$5,527,697**	**$5,693,528**	**$5,864,333**	**$6,040,263**	**$6,221,471**	**$6,408,115**	**$6,600,359**	**$6,798,370**	**$7,002,321**	**$7,212,390**	**$110,521,221**
Technical Systems Maintenance Costs																					
9-1-1 Telephone System	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 1,383,000
9-1-1 Trunk Lines	$ 57,900	$ 59,637	$ 61,426	$ 63,269	$ 65,167	$ 67,122	$ 69,136	$ 71,210	$ 73,346	$ 75,546	$ 77,813	$ 80,147	$ 82,552	$ 85,028	$ 87,579	$ 90,206	$ 92,913	$ 95,700	$ 98,571	$ 101,528	$ 1,555,795
Backup POTS Lines	$ 4,440	$ 4,573	$ 4,710	$ 4,852	$ 4,997	$ 5,147	$ 5,302	$ 5,461	$ 5,624	$ 5,793	$ 5,967	$ 6,146	$ 6,330	$ 6,520	$ 6,716	$ 6,917	$ 7,125	$ 7,339	$ 7,559	$ 7,786	$ 119,304
CAD System (hardware and software)	$ -	$ 203,333	$ 209,433	$ 315,716	$ 222,188	$ 228,853	$ 235,719	$ 342,791	$ 250,074	$ 257,577	$ 265,304	$ 373,263	$ 281,461	$ 289,905	$ 298,602	$ 407,560	$ 316,787	$ 326,290	$ 336,079	$ 446,161	$ 5,607,097
Firehouse interfaces to CAD	$ 12,000	$ 12,360	$ 12,731	$ 13,113	$ 13,506	$ 13,911	$ 14,329	$ 14,758	$ 15,201	$ 15,657	$ 16,127	$ 16,611	$ 17,109	$ 17,622	$ 18,151	$ 18,696	$ 19,256	$ 19,834	$ 20,429	$ 21,042	$ 322,444
Police RMS interfaces to CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095	$ 26,878	$ 27,685	$ 28,515	$ 29,371	$ 30,252	$ 31,159	$ 32,094	$ 33,057	$ 34,049	$ 35,070	$ 537,407
ProQA Medical and Police interfaced with CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095	$ 26,878	$ 27,685	$ 28,515	$ 29,371	$ 30,252	$ 31,159	$ 32,094	$ 33,057	$ 34,049	$ 35,070	$ 537,407
Radio Console System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Microwave additions to radio system infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup Radios & Antenna System	$ 5,280	$ 5,386	$ 5,493	$ 5,603	$ 5,715	$ 5,830	$ 5,946	$ 6,065	$ 6,186	$ 6,310	$ 6,436	$ 6,565	$ 6,696	$ 6,830	$ 6,967	$ 7,106	$ 7,248	$ 7,393	$ 7,541	$ 7,692	$ 128,290
Headsets and Interfaces	$ -	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 7,600
Master Time Synchronization	$ 300	$ 306	$ 312	$ 318	$ 325	$ 331	$ 338	$ 345	$ 351	$ 359	$ 366	$ 373	$ 380	$ 388	$ 396	$ 404	$ 412	$ 420	$ 428	$ 437	$ 7,289
Logging & Recording System	$ 7,303	$ 7,449	$ 7,598	$ 7,750	$ 7,905	$ 8,063	$ 58,224	$ 8,389	$ 8,557	$ 8,728	$ 8,902	$ 9,080	$ 9,262	$ 59,447	$ 9,636	$ 9,829	$ 10,025	$ 10,226	$ 10,430	$ 10,639	$ 277,444
Large Screen Displays	$ -	$ -	$ -	$ 3,000	$ 1,500	$ -	$ -	$ 1,500	$ 1,500	$ 1,500	$ -	$ 1,500	$ -	$ 1,500	$ 1,500	$ 1,500	$ -	$ -	$ 1,500	$ 3,000	$ 19,500
Network Backbone & Admin Telephony (Cisco)	$ 6,500	$ 6,695	$ 6,896	$ 7,103	$ 7,316	$ 7,535	$ 7,761	$ 7,994	$ 8,234	$ 8,481	$ 8,735	$ 8,998	$ 9,267	$ 9,545	$ 9,832	$ 10,127	$ 10,431	$ 10,744	$ 11,066	$ 11,398	$ 174,657
Internet Connectivity	$ 16,800	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476	$ 20,060	$ 20,662	$ 21,282	$ 21,920	$ 22,578	$ 23,255	$ 23,953	$ 24,671	$ 25,412	$ 26,174	$ 26,959	$ 27,768	$ 28,601	$ 29,459	$ 451,422
MetroEthernet Connectivity to PD RMS Systems	$ 224,964	$ 229,463	$ 234,053	$ 238,734	$ 243,508	$ 248,378	$ 253,346	$ 258,413	$ 263,581	$ 268,853	$ 274,230	$ 279,714	$ 285,309	$ 291,015	$ 296,835	$ 302,772	$ 308,827	$ 315,004	$ 321,304	$ 327,730	$ 5,466,033
PRI Circuits for General Telephony	$ 45,600	$ 46,968	$ 48,377	$ 49,828	$ 51,323	$ 52,863	$ 54,449	$ 56,082	$ 57,765	$ 59,498	$ 61,283	$ 63,121	$ 65,015	$ 66,965	$ 68,974	$ 71,043	$ 73,175	$ 75,370	$ 77,631	$ 79,960	$ 1,225,289
Dispatch Admin PCs	$ -	$ -	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 36,000
Administrative servers, racks, KVM, etc.	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ 125,000
Admin PCs, printers, FAX, etc.	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ 60,000
Interfaces to Ancillary Systems	$ 5,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 117,600
UPS System Maintenance	$ -	$ 1,200	$ 1,224	$ 1,248	$ 50,000	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 50,000	$ 1,600	$ 1,632	$ 1,665	$ 1,698	$ 50,000	$ 1,800	$ 1,836	$ 1,873	$ 1,910	$ 1,948	$ 175,817
Tech Room Fire Suppression Maint	$ -	$ 500	$ 510	$ 520	$ 531	$ 541	$ 552	$ 563	$ 574	$ 586	$ 598	$ 609	$ 622	$ 634	$ 647	$ 660	$ 673	$ 686	$ 700	$ 714	$ 11,420
Generator Maintenance	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390	$ 2,438	$ 2,487	$ 2,536	$ 2,587	$ 2,639	$ 2,692	$ 2,746	$ 2,800	$ 2,856	$ 2,914	$ 48,595
HVAC Maintenance	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390	$ 2,438	$ 2,487	$ 2,536	$ 2,587	$ 2,639	$ 2,692	$ 2,746	$ 2,800	$ 2,856	$ 2,914	$ 48,595
Subtotals	**$ 480,767**	**$ 696,534**	**$ 715,264**	**$ 874,446**	**$ 800,320**	**$ 793,419**	**$ 864,038**	**$ 969,663**	**$ 852,306**	**$ 922,859**	**$ 891,651**	**$1,051,438**	**$ 936,804**	**$1,008,766**	**$1,030,108**	**$1,144,576**	**$1,028,426**	**$1,053,441**	**$1,082,640**	**$1,245,542**	**$ 18,443,007**
Other Maintenance and Operations Costs																					
Language Line Services	$ 8,000	$ 8,160	$ 8,323	$ 8,490	$ 8,659	$ 8,833	$ 9,009	$ 9,189	$ 9,373	$ 9,561	$ 9,752	$ 9,947	$ 10,146	$ 10,349	$ 10,556	$ 10,767	$ 10,982	$ 11,202	$ 11,426	$ 11,654	$ 194,379
Utility Costs	$ 21,935	$ 22,373	$ 22,821	$ 23,277	$ 23,743	$ 24,217	$ 24,702	$ 25,196	$ 25,700	$ 26,214	$ 26,738	$ 27,273	$ 27,818	$ 28,375	$ 28,942	$ 29,521	$ 30,111	$ 30,714	$ 31,328	$ 31,954	$ 532,951
Console Furniture & Chairs	$ 2,000	$ 2,040	$ 2,081	$ 2,122	$ 2,165	$ 2,208	$ 2,252	$ 2,297	$ 2,343	$ 2,390	$ 2,438	$ 2,487	$ 2,536	$ 2,587	$ 2,639	$ 2,692	$ 2,746	$ 2,800	$ 2,856	$ 2,914	$ 48,595
Training & Travel	$ 45,750	$ 46,665	$ 47,598	$ 48,550	$ 49,521	$ 50,512	$ 51,522	$ 52,552	$ 53,603	$ 54,675	$ 55,769	$ 56,884	$ 58,022	$ 59,183	$ 60,366	$ 61,573	$ 62,805	$ 64,061	$ 65,342	$ 66,649	$ 1,111,605
Office Supplies	$ 4,200	$ 4,284	$ 4,370	$ 4,457	$ 4,546	$ 4,637	$ 4,730	$ 4,824	$ 4,921	$ 5,019	$ 5,120	$ 5,222	$ 5,327	$ 5,433	$ 5,542	$ 5,653	$ 5,766	$ 5,881	$ 5,999	$ 6,119	$ 102,049
Misc. Hardware and Software	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951	$ 12,190	$ 12,434	$ 12,682	$ 12,936	$ 13,195	$ 13,459	$ 13,728	$ 14,002	$ 14,282	$ 14,568	$ 242,974
Janitorial Service	$ 9,000	$ 9,180	$ 9,364	$ 9,551	$ 9,742	$ 9,937	$ 10,135	$ 10,338	$ 10,545	$ 10,756	$ 10,971	$ 11,190	$ 11,414	$ 11,642	$ 11,875	$ 12,113	$ 12,355	$ 12,602	$ 12,854	$ 13,111	$ 218,676
Small tools & equipment	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412	$ 5,520	$ 5,631	$ 5,743	$ 5,858	$ 5,975	$ 6,095	$ 6,217	$ 6,341	$ 6,468	$ 6,597	$ 6,729	$ 6,864	$ 7,001	$ 7,141	$ 7,284	$ 121,487
General Facility Maint & Repair	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951	$ 12,190	$ 12,434	$ 12,682	$ 12,936	$ 13,195	$ 13,459	$ 13,728	$ 14,002	$ 14,282	$ 14,568	$ 242,974
Photocopiers/FAX equipment	$ 6,000	$ 6,120	$ 6,242	$ 6,367	$ 6,495	$ 6,624	$ 6,757	$ 6,892	$ 7,030	$ 7,171	$ 7,314	$ 7,460	$ 7,609	$ 7,762	$ 7,917	$ 8,075	$ 8,237	$ 8,401	$ 8,569	$ 8,741	$ 145,784
Uniforms	$ 16,500	$ 8,250	$ 8,415	$ 8,583	$ 8,755	$ 8,930	$ 9,109	$ 9,291	$ 9,477	$ 9,666	$ 9,860	$ 10,057	$ 10,258	$ 10,463	$ 10,672	$ 10,886	$ 11,103	$ 11,325	$ 11,552	$ 11,783	$ 204,935
HR & Benefit Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682	$ 29,256	$ 29,841	$ 30,438	$ 31,047	$ 31,667	$ 32,301	$ 32,947	$ 33,606	$ 34,278	$ 34,963	$ 583,137
Accounting Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682	$ 29,256	$ 29,841	$ 30,438	$ 31,047	$ 31,667	$ 32,301	$ 32,947	$ 33,606	$ 34,278	$ 34,963	$ 583,137
Legal Services	$ 12,000	$ 12,240	$ 12,485	$ 12,734	$ 12,989	$ 13,249	$ 13,514	$ 13,784	$ 14,060	$ 14,341	$ 14,628	$ 14,920	$ 15,219	$ 15,523	$ 15,834	$ 16,150	$ 16,473	$ 16,803	$ 17,139	$ 17,482	$ 291,568
Subtotal	**$ 198,385**	**$ 193,772**	**$ 197,648**	**$ 201,601**	**$ 205,633**	**$ 209,745**	**$ 213,940**	**$ 218,219**	**$ 222,583**	**$ 227,035**	**$ 231,576**	**$ 236,207**	**$ 240,931**	**$ 245,750**	**$ 250,665**	**$ 255,678**	**$ 260,792**	**$ 266,008**	**$ 271,328**	**$ 276,754**	**$ 4,624,250**
Total Annual Estimated Costs	**$4,792,277**	**$5,126,826**	**$5,276,527**	**$5,570,570**	**$5,635,311**	**$5,771,404**	**$5,989,265**	**$6,246,507**	**$6,285,273**	**$6,516,589**	**$6,650,923**	**$6,981,173**	**$7,042,069**	**$7,294,779**	**$7,502,244**	**$7,808,370**	**$7,889,577**	**$8,117,819**	**$8,356,289**	**$8,734,686**	**$133,588,477**

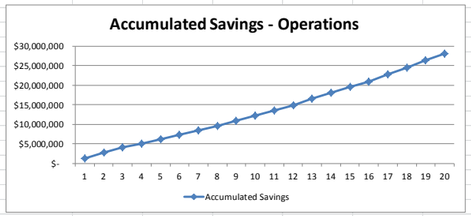
CyrusOne Hosted Facility Operating Cost Model

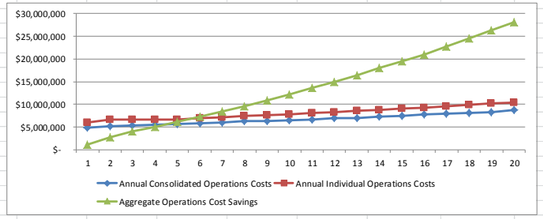
Total Estimated Cost of Operations	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Salary and Benefit Costs																					
Communications Center Director	$ 119,863	$ 123,459	$ 127,163	$ 130,978	$ 134,907	$ 138,954	$ 143,123	$ 147,417	$ 151,839	$ 156,394	$ 161,086	$ 165,919	$ 170,896	$ 176,023	$ 181,304	$ 186,743	$ 192,345	$ 198,116	$ 204,059	$ 210,181	$ 3,220,768
Administrative Assistant	$ 63,457	$ 65,361	$ 67,322	$ 69,341	$ 71,421	$ 73,564	$ 75,771	$ 78,044	$ 80,385	$ 82,797	$ 85,281	$ 87,839	$ 90,474	$ 93,189	$ 95,984	$ 98,864	$ 101,830	$ 104,885	$ 108,031	$ 111,272	$ 1,705,113
Q/A and L/R Custodian	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682	$ 98,553	$ 101,509	$ 104,555	$ 107,691	$ 110,922	$ 114,250	$ 117,677	$ 121,207	$ 124,844	$ 128,589	$ 1,970,471
Training Supervisor	$ 73,332	$ 75,532	$ 77,798	$ 80,132	$ 82,536	$ 85,012	$ 87,563	$ 90,190	$ 92,895	$ 95,682	$ 98,553	$ 101,509	$ 104,555	$ 107,691	$ 110,922	$ 114,250	$ 117,677	$ 121,207	$ 124,844	$ 128,589	$ 1,970,471
Technical Systems Manager	$ 107,485	$ 110,709	$ 114,031	$ 117,452	$ 120,975	$ 124,604	$ 128,343	$ 132,193	$ 136,159	$ 140,243	$ 144,451	$ 148,784	$ 153,248	$ 157,845	$ 162,580	$ 167,458	$ 172,482	$ 177,656	$ 182,986	$ 188,475	$ 2,888,158
Technical Systems Technician	$ 97,714	$ 100,645	$ 103,664	$ 106,774	$ 109,977	$ 113,277	$ 116,675	$ 120,175	$ 123,781	$ 127,494	$ 131,319	$ 135,258	$ 139,316	$ 143,496	$ 147,800	$ 152,234	$ 156,801	$ 161,506	$ 166,351	$ 171,341	$ 2,625,598
Communications Supervisor	$ 439,995	$ 453,195	$ 466,790	$ 480,794	$ 495,218	$ 510,075	$ 525,377	$ 541,138	$ 557,372	$ 574,093	$ 591,316	$ 609,056	$ 627,327	$ 646,147	$ 665,532	$ 685,498	$ 706,062	$ 727,244	$ 749,062	$ 771,533	$ 11,822,824
Telecommunicators/CTO	$ 409,297	$ 421,576	$ 434,224	$ 447,250	$ 460,668	$ 474,488	$ 488,723	$ 503,384	$ 518,486	$ 534,040	$ 550,062	$ 566,563	$ 583,560	$ 601,067	$ 619,099	$ 637,672	$ 656,802	$ 676,506	$ 696,802	$ 717,706	$ 10,997,976
Telecommunicators	$2,728,650	$2,810,509	$2,894,825	$2,981,669	$3,071,119	$3,163,253	$3,258,151	$3,355,895	$3,456,572	$3,560,269	$3,667,077	$3,777,089	$3,890,402	$4,007,114	$4,127,328	$4,251,147	$4,378,682	$4,510,042	$4,645,344	$4,784,704	$ 73,319,841
Subtotals	**$4,113,125**	**$4,236,519**	**$4,363,615**	**$4,494,523**	**$4,629,359**	**$4,768,240**	**$4,911,287**	**$5,058,625**	**$5,210,384**	**$5,366,696**	**$5,527,697**	**$5,693,528**	**$5,864,333**	**$6,040,263**	**$6,221,471**	**$6,408,115**	**$6,600,359**	**$6,798,370**	**$7,002,321**	**$7,212,390**	**$110,521,221**
Technical Systems Maintenance Costs																					
9-1-1 Telephone System	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 50,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 75,400	$ 1,383,000
9-1-1 Trunk Lines	$ 57,900	$ 59,637	$ 61,426	$ 63,269	$ 65,167	$ 67,122	$ 69,136	$ 71,210	$ 73,346	$ 75,546	$ 77,813	$ 80,147	$ 82,552	$ 85,028	$ 87,579	$ 90,206	$ 92,913	$ 95,700	$ 98,571	$ 101,528	$ 1,555,795
Backup POTS Lines	$ 4,440	$ 4,573	$ 4,710	$ 4,852	$ 4,997	$ 5,147	$ 5,302	$ 5,461	$ 5,624	$ 5,793	$ 5,967	$ 6,146	$ 6,330	$ 6,520	$ 6,716	$ 6,917	$ 7,125	$ 7,339	$ 7,559	$ 7,786	$ 119,304
CAD System (hardware and software)	$ -	$ 203,333	$ 209,433	$ 315,716	$ 222,188	$ 228,853	$ 235,719	$ 342,791	$ 250,074	$ 257,577	$ 265,304	$ 373,263	$ 281,461	$ 289,905	$ 298,602	$ 407,560	$ 316,787	$ 326,290	$ 336,079	$ 446,161	$ 5,607,097
Firehouse interfaces to CAD	$ 12,000	$ 12,360	$ 12,731	$ 13,113	$ 13,506	$ 13,911	$ 14,329	$ 14,758	$ 15,201	$ 15,657	$ 16,127	$ 16,611	$ 17,109	$ 17,622	$ 18,151	$ 18,696	$ 19,256	$ 19,834	$ 20,429	$ 21,042	$ 322,444
Police RMS interfaces to CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095	$ 26,878	$ 27,685	$ 28,515	$ 29,371	$ 30,252	$ 31,159	$ 32,094	$ 33,057	$ 34,049	$ 35,070	$ 537,407
ProQA Medical and Police interfaced with CAD	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 26,095	$ 26,878	$ 27,685	$ 28,515	$ 29,371	$ 30,252	$ 31,159	$ 32,094	$ 33,057	$ 34,049	$ 35,070	$ 537,407
Radio Console System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Microwave additions to radio system infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup Radios & Antenna System	$ 5,280	$ 5,386	$ 5,493	$ 5,603	$ 5,715	$ 5,830	$ 5,946	$ 6,065	$ 6,186	$ 6,310	$ 6,436	$ 6,565	$ 6,696	$ 6,830	$ 6,967	$ 7,106	$ 7,248	$ 7,393	$ 7,541	$ 7,692	$ 128,290
Headsets and Interfaces	$ -	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 400	$ 7,600
Master Time Synchronization	$ 300	$ 306	$ 312	$ 318	$ 325	$ 331	$ 338	$ 345	$ 351	$ 359	$ 366	$ 373	$ 380	$ 388	$ 396	$ 404	$ 412	$ 420	$ 428	$ 437	$ 7,289
Logging & Recording System	$ 7,303	$ 7,449	$ 7,598	$ 7,750	$ 7,905	$ 8,063	$ 58,224	$ 8,389	$ 8,557	$ 8,728	$ 8,902	$ 9,080	$ 9,262	$ 59,447	$ 9,636	$ 9,829	$ 10,025	$ 10,226	$ 10,430	$ 10,639	$ 277,444
Large Screen Displays	$ -	$ -	$ -	$ 3,000	$ 1,500	$ -	$ -	$ 1,500	$ 1,500	$ 1,500	$ -	$ 1,500	$ -	$ 1,500	$ 1,500	$ 1,500	$ -	$ -	$ 1,500	$ 3,000	$ 19,500
Network Backbone & Admin Telephony (Cisco)	$ 6,500	$ 6,695	$ 6,896	$ 7,103	$ 7,316	$ 7,535	$ 7,761	$ 7,994	$ 8,234	$ 8,481	$ 8,735	$ 8,998	$ 9,267	$ 9,545	$ 9,832	$ 10,127	$ 10,431	$ 10,744	$ 11,066	$ 11,398	$ 174,657
Internet Connectivity	$ 16,800	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476	$ 20,060	$ 20,662	$ 21,282	$ 21,920	$ 22,578	$ 23,255	$ 23,953	$ 24,671	$ 25,412	$ 26,174	$ 26,959	$ 27,768	$ 28,601	$ 29,459	$ 451,422
MetroEthernet Connectivity to PD RMS Systems	$ 224,964	$ 229,463	$ 234,053	$ 238,734	$ 243,508	$ 248,378	$ 253,346	$ 258,413	$ 263,581	$ 268,853	$ 274,230	$ 279,714	$ 285,309	$ 291,015	$ 296,835	$ 302,772	$ 308,827	$ 315,004	$ 321,304	$ 327,730	$ 5,466,033
PRI Circuits for General Telephony	$ 45,600	$ 46,968	$ 48,377	$ 49,828	$ 51,323	$ 52,863	$ 54,449	$ 56,082	$ 57,765	$ 59,498	$ 61,283	$ 63,121	$ 65,015	$ 66,965	$ 68,974	$ 71,043	$ 73,175	$ 75,370	$ 77,631	$ 79,960	$ 1,225,289
Dispatch Admin PCs	$ -	$ -	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 36,000
Administrative servers, racks, KVM, etc.	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000	$ 125,000
Admin PCs, printers, FAX, etc.	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ -	$ -	$ -	$ 12,000	$ 60,000
Interfaces to Ancillary Systems	$ 5,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 5,280	$ 7,280	$ 5,280	$ 117,600
UPS System Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Tech Room Fire Suppression Maint	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Generator Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
HVAC Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotals	**$ 476,767**	**$ 690,754**	**$ 709,369**	**$ 868,433**	**$ 745,459**	**$ 786,961**	**$ 857,452**	**$ 962,944**	**$ 845,453**	**$ 867,492**	**$ 884,577**	**$1,044,223**	**$ 929,445**	**$1,001,259**	**$ 974,183**	**$1,136,733**	**$1,020,426**	**$1,045,281**	**$1,074,317**	**$1,237,052**	**$ 18,158,581**
Other Maintenance and Operations Costs																					
Language Line Services	$ 8,000	$ 8,160	$ 8,323	$ 8,490	$ 8,659	$ 8,833	$ 9,009	$ 9,189	$ 9,373	$ 9,561	$ 9,752	$ 9,947	$ 10,146	$ 10,349	$ 10,556	$ 10,767	$ 10,982	$ 11,202	$ 11,426	$ 11,654	$ 194,379
Rent (includes all utilities and facility services)	$ 324,000	$ 333,720	$ 343,732	$ 354,044	$ 364,665	$ 375,605	$ 386,873	$ 398,479	$ 410,434	$ 422,747	$ 435,429	$ 448,492	$ 461,947	$ 475,805	$ 490,079	$ 504,781	$ 519,925	$ 535,523	$ 551,588	$ 568,136	$ 8,706,001
Console Furniture & Chairs	$ 2,000	$ 2,060	$ 2,122	$ 2,185	$ 2,251	$ 2,319	$ 2,388	$ 2,460	$ 2,534	$ 2,610	$ 2,688	$ 2,768	$ 2,852	$ 2,937	$ 3,025	$ 3,116	$ 3,209	$ 3,306	$ 3,405	$ 3,507	$ 53,741
Training & Travel	$ 45,750	$ 46,665	$ 47,598	$ 48,550	$ 49,521	$ 50,512	$ 51,522	$ 52,552	$ 53,603	$ 54,675	$ 55,769	$ 56,884	$ 58,022	$ 59,183	$ 60,366	$ 61,573	$ 62,805	$ 64,061	$ 65,342	$ 66,649	$ 1,111,605
Office Supplies	$ 4,200	$ 4,284	$ 4,370	$ 4,457	$ 4,546	$ 4,637	$ 4,730	$ 4,824	$ 4,921	$ 5,019	$ 5,120	$ 5,222	$ 5,327	$ 5,433	$ 5,542	$ 5,653	$ 5,766	$ 5,881	$ 5,999	$ 6,119	$ 102,049
Misc. Hardware and Software	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 11,262	$ 11,487	$ 11,717	$ 11,951	$ 12,190	$ 12,434	$ 12,682	$ 12,936	$ 13,195	$ 13,459	$ 13,728	$ 14,002	$ 14,282	$ 14,568	$ 242,974
Janitorial Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Small tools & equipment	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412	$ 5,520	$ 5,631	$ 5,743	$ 5,858	$ 5,975	$ 6,095	$ 6,217	$ 6,341	$ 6,468	$ 6,597	$ 6,729	$ 6,864	$ 7,001	$ 7,141	$ 7,284	$ 121,487
General Facility Maint & Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Photocopiers/FAX equipment	$ 6,000	$ 6,120	$ 6,242	$ 6,367	$ 6,495	$ 6,624	$ 6,757	$ 6,892	$ 7,030	$ 7,171	$ 7,314	$ 7,460	$ 7,609	$ 7,762	$ 7,917	$ 8,075	$ 8,237	$ 8,401	$ 8,569	$ 8,741	$ 145,784
Uniforms	$ 16,500	$ 8,250	$ 8,415	$ 8,583	$ 8,755	$ 8,930	$ 9,109	$ 9,291	$ 9,477	$ 9,666	$ 9,860	$ 10,057	$ 10,258	$ 10,463	$ 10,672	$ 10,886	$ 11,103	$ 11,325	$ 11,552	$ 11,783	$ 204,935
HR & Benefit Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682	$ 29,256	$ 29,841	$ 30,438	$ 31,047	$ 31,667	$ 32,301	$ 32,947	$ 33,606	$ 34,278	$ 34,963	$ 583,137
Accounting Services from Principal	$ 24,000	$ 24,480	$ 24,970	$ 25,469	$ 25,978	$ 26,498	$ 27,028	$ 27,568	$ 28,120	$ 28,682	$ 29,256	$ 29,841	$ 30,438	$ 31,047	$ 31,667	$ 32,301	$ 32,947	$ 33,606	$ 34,278	$ 34,963	$ 583,137
Legal Services	$ 12,000	$ 12,240	$ 12,485	$ 12,734	$ 12,989	$ 13,249	$ 13,514	$ 13,784	$ 14,060	$ 14,341	$ 14,628	$ 14,920	$ 15,219	$ 15,523	$ 15,834	$ 16,150	$ 16,473	$ 16,803	$ 17,139	$ 17,482	$ 291,568
Subtotal	**$ 481,450**	**$ 485,759**	**$ 498,832**	**$ 512,267**	**$ 526,075**	**$ 540,265**	**$ 554,850**	**$ 569,840**	**$ 585,246**	**$ 601,080**	**$ 617,356**	**$ 634,084**	**$ 651,278**	**$ 668,952**	**$ 687,118**	**$ 705,791**	**$ 724,986**	**$ 744,717**	**$ 765,000**	**$ 785,850**	**$ 12,340,796**
Total Annual Estimated Costs	**$5,071,342**	**$5,413,033**	**$5,571,815**	**$5,875,223**	**$5,900,893**	**$6,095,466**	**$6,323,588**	**$6,591,409**	**$6,641,083**	**$6,835,269**	**$7,029,629**	**$7,371,834**	**$7,445,056**	**$7,710,474**	**$7,882,772**	**$8,250,639**	**$8,345,771**	**$8,588,368**	**$8,841,638**	**$9,235,292**	**$141,020,597**

Stand-Alone Facility Total Cost of Ownership Model

Total Estimated Cost of Operations and Capital in a Stand Alone Facility and 61 Total Staffing

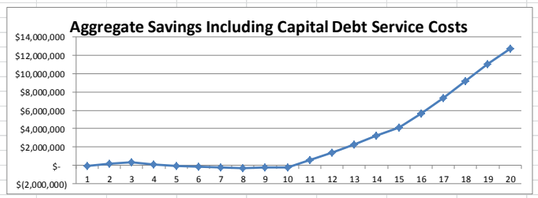
Operations Cost Comparisons		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Salary and Benefit Costs		$ 4,113,125	$ 4,236,519	$ 4,363,615	$ 4,494,523	$ 4,629,359	$ 4,768,240	$ 4,911,287	$ 5,058,625	$ 5,210,384	$ 5,366,696	$ 5,527,697	$ 5,693,528	$ 5,864,333	$ 6,040,263	$ 6,221,471	$ 6,408,115	$ 6,600,359	$ 6,798,370	$ 7,002,321	$ 7,212,390	$ 110,521,221
Technical Systems Maintenance Costs		$ 480,767	$ 696,534	$ 715,264	$ 874,446	$ 800,320	$ 793,419	$ 864,038	$ 969,663	$ 852,306	$ 922,859	$ 891,651	$ 1,051,438	$ 936,804	$ 1,008,766	$ 1,030,108	$ 1,144,576	$ 1,028,426	$ 1,053,441	$ 1,082,640	$ 1,245,542	$ 18,443,007
Other Maintenance and Operations Costs		$ 198,385	$ 193,772	$ 197,648	$ 201,601	$ 205,633	$ 209,745	$ 213,940	$ 218,219	$ 222,583	$ 227,035	$ 231,576	$ 236,207	$ 240,931	$ 245,750	$ 250,665	$ 255,678	$ 260,792	$ 266,008	$ 271,328	$ 276,754	$ 4,624,250
Total Annual Estimated Costs		**$ 4,792,277**	**$ 5,126,826**	**$ 5,276,527**	**$ 5,570,570**	**$ 5,635,311**	**$ 5,771,404**	**$ 5,989,265**	**$ 6,246,507**	**$ 6,285,273**	**$ 6,516,589**	**$ 6,650,923**	**$ 6,981,173**	**$ 7,042,069**	**$ 7,294,779**	**$ 7,502,244**	**$ 7,808,370**	**$ 7,889,577**	**$ 8,117,819**	**$ 8,356,289**	**$ 8,734,686**	**$ 133,588,477**
Current Costs of Operation																						
Town of Addison	3.0%	$ 1,159,345	$ 1,194,125	$ 1,229,949	$ 1,266,848	$ 1,304,853	$ 1,343,999	$ 1,384,319	$ 1,425,848	$ 1,468,624	$ 1,512,682	$ 1,558,063	$ 1,604,805	$ 1,652,949	$ 1,702,537	$ 1,753,613	$ 1,806,222	$ 1,860,408	$ 1,916,221	$ 1,973,707	$ 2,032,918	$ 31,152,034
Technology Refreshments			$ 500,000					$ 50,000					$ 50,000					$ 50,000				$ 650,000
Total Addison Costs		**$ 1,159,345**	**$ 1,694,125**	**$ 1,229,949**	**$ 1,266,848**	**$ 1,304,853**	**$ 1,343,999**	**$ 1,434,319**	**$ 1,425,848**	**$ 1,468,624**	**$ 1,512,682**	**$ 1,558,063**	**$ 1,654,805**	**$ 1,652,949**	**$ 1,702,537**	**$ 1,753,613**	**$ 1,806,222**	**$ 1,910,408**	**$ 1,916,221**	**$ 1,973,707**	**$ 2,032,918**	**$ 31,802,034**
City of Carrollton	3.0%	$ 2,121,199	$ 2,184,835	$ 2,250,380	$ 2,317,891	$ 2,387,428	$ 2,459,051	$ 2,532,823	$ 2,608,807	$ 2,687,071	$ 2,767,684	$ 2,850,714	$ 2,936,236	$ 3,024,323	$ 3,115,052	$ 3,208,504	$ 3,304,759	$ 3,403,902	$ 3,506,019	$ 3,611,199	$ 3,719,535	$ 56,997,411
Technology Refreshments				$ 60,000					$ 60,000					$ 60,000					$ 60,000			$ 240,000
Total Carrollton Costs		**$ 2,121,199**	**$ 2,184,835**	**$ 2,310,380**	**$ 2,317,891**	**$ 2,387,428**	**$ 2,459,051**	**$ 2,532,823**	**$ 2,668,807**	**$ 2,687,071**	**$ 2,767,684**	**$ 2,850,714**	**$ 2,936,236**	**$ 3,084,323**	**$ 3,115,052**	**$ 3,208,504**	**$ 3,304,759**	**$ 3,403,902**	**$ 3,566,019**	**$ 3,611,199**	**$ 3,719,535**	**$ 57,237,411**
City of Coppell	3.0%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,374,344	$ 1,415,574	$ 1,458,041	$ 1,501,782	$ 1,546,836	$ 1,593,241	$ 1,641,038	$ 1,690,269	$ 1,740,977	$ 1,793,207	$ 1,847,003	$ 1,902,413	$ 1,959,485	$ 2,018,270	$ 2,078,818	$ 2,141,182	$ 2,205,418	$ 33,795,381
Technology Refreshments					$ 60,000					$ 60,000					$ 60,000					$ 60,000		$ 240,000
Total Coppell Costs		**$ 1,257,719**	**$ 1,295,451**	**$ 1,334,314**	**$ 1,434,344**	**$ 1,415,574**	**$ 1,458,041**	**$ 1,501,782**	**$ 1,546,836**	**$ 1,653,241**	**$ 1,641,038**	**$ 1,690,269**	**$ 1,740,977**	**$ 1,793,207**	**$ 1,907,003**	**$ 1,902,413**	**$ 1,959,485**	**$ 2,018,270**	**$ 2,078,818**	**$ 2,201,182**	**$ 2,205,418**	**$ 34,035,381**
City of Farmers Branch	3.0%	$ 1,422,259	$ 1,464,927	$ 1,508,875	$ 1,554,141	$ 1,600,765	$ 1,648,788	$ 1,698,252	$ 1,749,199	$ 1,801,675	$ 1,855,725	$ 1,911,397	$ 1,968,739	$ 2,027,801	$ 2,088,635	$ 2,151,294	$ 2,215,833	$ 2,282,308	$ 2,350,777	$ 2,421,301	$ 2,493,940	$ 38,216,631
Technology Refreshments				$ 250,000			$ 40,000					$ 40,000										$ 330,000
Total Farmers Branch Costs		**$ 1,422,259**	**$ 1,464,927**	**$ 1,758,875**	**$ 1,554,141**	**$ 1,600,765**	**$ 1,688,788**	**$ 1,698,252**	**$ 1,749,199**	**$ 1,801,675**	**$ 1,855,725**	**$ 1,951,397**	**$ 1,968,739**	**$ 2,027,801**	**$ 2,088,635**	**$ 2,151,294**	**$ 2,215,833**	**$ 2,282,308**	**$ 2,350,777**	**$ 2,421,301**	**$ 2,493,940**	**$ 38,546,631**
Total Current Combined Costs of Operations		**$ 5,960,522**	**$ 6,639,338**	**$ 6,633,518**	**$ 6,573,223**	**$ 6,708,620**	**$ 6,949,879**	**$ 7,167,175**	**$ 7,390,690**	**$ 7,610,611**	**$ 7,777,129**	**$ 8,050,443**	**$ 8,300,756**	**$ 8,558,279**	**$ 8,813,227**	**$ 9,015,824**	**$ 9,286,299**	**$ 9,614,888**	**$ 9,911,835**	**$ 10,207,390**	**$ 10,451,811**	**$ 161,621,458**
Potential Combined Annual Operations Cost Savings		**$ 1,168,245**	**$ 1,512,512**	**$ 1,356,991**	**$ 1,002,653**	**$ 1,073,309**	**$ 1,178,475**	**$ 1,177,910**	**$ 1,144,183**	**$ 1,325,338**	**$ 1,260,540**	**$ 1,399,520**	**$ 1,319,584**	**$ 1,516,210**	**$ 1,518,448**	**$ 1,513,580**	**$ 1,477,930**	**$ 1,725,311**	**$ 1,794,016**	**$ 1,851,101**	**$ 1,717,125**	**$ 28,032,981**
Accumulated Combined Operations Cost Savings		**$ 1,168,245**	**$ 2,680,757**	**$ 4,037,748**	**$ 5,040,401**	**$ 6,113,710**	**$ 7,292,185**	**$ 8,470,095**	**$ 9,614,278**	**$ 10,939,616**	**$ 12,200,155**	**$ 13,599,675**	**$ 14,919,259**	**$ 16,435,469**	**$ 17,953,918**	**$ 19,467,498**	**$ 20,945,428**	**$ 22,670,739**	**$ 24,464,755**	**$ 26,315,856**	**$ 28,032,981**	

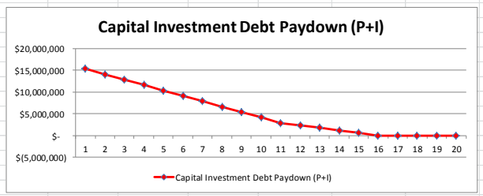




Ability of Operations Cost Savings to Cover CAPEX and Debt Service Costs

Potential Combined Annual Operations Cost Savings (above)		**$ 1,168,245**	**$ 1,512,512**	**$ 1,356,991**	**$ 1,002,653**	**$ 1,073,309**	**$ 1,178,475**	**$ 1,177,910**	**$ 1,144,183**	**$ 1,325,338**	**$ 1,260,540**	**$ 1,399,520**	**$ 1,319,584**	**$ 1,516,210**	**$ 1,518,448**	**$ 1,513,580**	**$ 1,477,930**	**$ 1,725,311**	**$ 1,794,016**	**$ 1,851,101**	**$ 1,717,125**	**$ 28,032,981**
Facility CAPEX Debt Service		$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)	$ (580,029)						**$ (8,700,438)**
Principal	$ 6,229,250																					
Number of Years	15																					
Annual Interest Rate	4.5%																					
Technology and Start-up CAPEX Debt Service		$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)											**$ (6,608,084)**
Principal	$ 5,228,791																					
Number of Years	10																					
Annual Interest Rate	4.5%																					
Total Annual Debt Service Costs		**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (1,240,838)**	**$ (580,029)**	**$ (580,029)**	**$ (580,029)**	**$ (580,029)**	**$ (580,029)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (15,308,522)**
Total Net Savings or (Additional Cost) compared to Total Current Cos		**$ (72,593)**	**$ 271,674**	**$ 116,153**	**$ (238,184)**	**$ (167,529)**	**$ (62,363)**	**$ (62,928)**	**$ (96,654)**	**$ 84,500**	**$ 19,702**	**$ 819,491**	**$ 739,555**	**$ 936,181**	**$ 938,419**	**$ 933,551**	**$ 1,477,930**	**$ 1,725,311**	**$ 1,794,016**	**$ 1,851,101**	**$ 1,717,125**	**$ 12,724,458**
Aggregate Savings		$ (72,593)	$ 199,082	$ 315,235	$ 77,051	$ (90,478)	$ (152,841)	$ (215,769)	$ (312,423)	$ (227,923)	$ (208,221)	$ 611,270	$ 1,350,824	$ 2,287,006	$ 3,225,425	$ 4,158,976	$ 5,636,906	$ 7,362,217	$ 9,156,233	$ 11,007,333	$ 12,724,458	



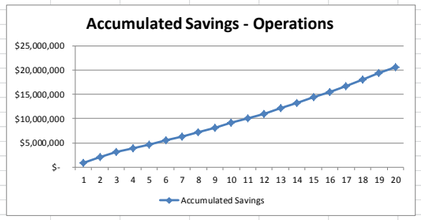


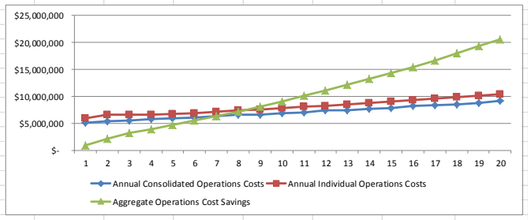
Combined Facility and Implementation Debt Burden (Principal + Interest)	$ 15,308,522	$ 15,308,522	$ 14,067,685	$ 12,826,847	$ 11,586,009	$ 10,345,172	$ 9,104,334	$ 7,863,496	$ 6,622,659	$ 5,381,821	$ 4,140,984	$ 2,900,146	$ 2,320,117	$ 1,740,088	$ 1,160,058	$ 580,029	$ (0)	$ (0)	$ (0)	$ (0)	$ (0)	

CyrusOne Hosted Facility Total Cost of Ownership Model

Total Estimated Cost of Operations and Capital in the CyrusOne Facility and 61 Total Staffing

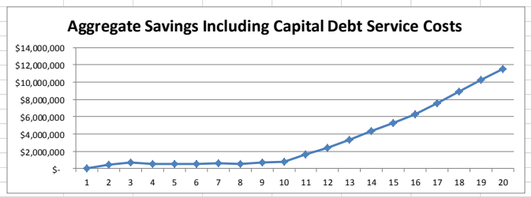
Operations Cost Comparisons		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Salary and Benefit Costs		$ 4,113,125	$ 4,236,519	$ 4,363,615	$ 4,494,523	$ 4,629,359	$ 4,768,240	$ 4,911,287	$ 5,058,625	$ 5,210,384	$ 5,366,696	$ 5,527,697	$ 5,693,528	$ 5,864,333	$ 6,040,263	$ 6,221,471	$ 6,408,115	$ 6,600,359	$ 6,798,370	$ 7,002,321	$ 7,212,390	$ 110,521,221
Technical Systems Maintenance Costs		$ 476,767	$ 690,754	$ 709,369	$ 868,433	$ 745,459	$ 786,961	$ 857,452	$ 962,944	$ 845,453	$ 867,492	$ 884,577	$ 1,044,223	$ 929,445	$ 1,001,259	$ 974,183	$ 1,136,733	$ 1,020,426	$ 1,045,281	$ 1,074,317	$ 1,237,052	$ 18,158,581
Other Maintenance and Operations Costs		$ 481,450	$ 485,759	$ 498,832	$ 512,267	$ 526,075	$ 540,265	$ 554,850	$ 569,840	$ 585,246	$ 601,080	$ 617,356	$ 634,084	$ 651,278	$ 668,952	$ 687,118	$ 705,791	$ 724,986	$ 744,717	$ 765,000	$ 785,850	$ 12,340,796
Total Annual Estimated Costs		**$ 5,071,342**	**$ 5,413,033**	**$ 5,571,815**	**$ 5,875,223**	**$ 5,900,893**	**$ 6,095,466**	**$ 6,323,588**	**$ 6,591,409**	**$ 6,641,083**	**$ 6,835,269**	**$ 7,029,629**	**$ 7,371,834**	**$ 7,445,056**	**$ 7,710,474**	**$ 7,882,772**	**$ 8,250,639**	**$ 8,345,771**	**$ 8,588,368**	**$ 8,841,638**	**$ 9,235,292**	**$ 141,020,597**
Current Costs of Operation																						
Town of Addison	3.0%	$ 1,159,345	$ 1,194,125	$ 1,229,949	$ 1,266,848	$ 1,304,853	$ 1,343,999	$ 1,384,319	$ 1,425,848	$ 1,468,624	$ 1,512,682	$ 1,558,063	$ 1,604,805	$ 1,652,949	$ 1,702,537	$ 1,753,613	$ 1,806,222	$ 1,860,408	$ 1,916,221	$ 1,973,707	$ 2,032,918	$ 31,152,034
Technology Refreshments			$ 500,000					$ 50,000					$ 50,000					$ 50,000				$ 650,000
Total Addison Costs		**$ 1,159,345**	**$ 1,694,125**	**$ 1,229,949**	**$ 1,266,848**	**$ 1,304,853**	**$ 1,343,999**	**$ 1,434,319**	**$ 1,425,848**	**$ 1,468,624**	**$ 1,512,682**	**$ 1,558,063**	**$ 1,654,805**	**$ 1,652,949**	**$ 1,702,537**	**$ 1,753,613**	**$ 1,806,222**	**$ 1,910,408**	**$ 1,916,221**	**$ 1,973,707**	**$ 2,032,918**	**$ 31,802,034**
City of Carrollton	3.0%	$ 2,121,199	$ 2,184,835	$ 2,250,380	$ 2,317,891	$ 2,387,428	$ 2,459,051	$ 2,532,823	$ 2,608,807	$ 2,687,071	$ 2,767,684	$ 2,850,714	$ 2,936,236	$ 3,024,323	$ 3,115,052	$ 3,208,504	$ 3,304,759	$ 3,403,902	$ 3,506,019	$ 3,611,199	$ 3,719,535	$ 56,997,411
Technology Refreshments				$ 60,000					$ 60,000					$ 60,000					$ 60,000			$ 240,000
Total Carrollton Costs		**$ 2,121,199**	**$ 2,184,835**	**$ 2,310,380**	**$ 2,317,891**	**$ 2,387,428**	**$ 2,459,051**	**$ 2,532,823**	**$ 2,668,807**	**$ 2,687,071**	**$ 2,767,684**	**$ 2,850,714**	**$ 2,936,236**	**$ 3,084,323**	**$ 3,115,052**	**$ 3,208,504**	**$ 3,304,759**	**$ 3,403,902**	**$ 3,566,019**	**$ 3,611,199**	**$ 3,719,535**	**$ 57,237,411**
City of Coppell	3.0%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,374,344	$ 1,415,574	$ 1,458,041	$ 1,501,782	$ 1,546,836	$ 1,593,241	$ 1,641,038	$ 1,690,269	$ 1,740,977	$ 1,793,207	$ 1,847,003	$ 1,902,413	$ 1,959,485	$ 2,018,270	$ 2,078,818	$ 2,141,182	$ 2,205,418	$ 33,795,381
Technology Refreshments					$ 60,000					$ 60,000					$ 60,000					$ 60,000		$ 240,000
Total Coppell Costs		**$ 1,257,719**	**$ 1,295,451**	**$ 1,334,314**	**$ 1,434,344**	**$ 1,415,574**	**$ 1,458,041**	**$ 1,501,782**	**$ 1,546,836**	**$ 1,653,241**	**$ 1,641,038**	**$ 1,690,269**	**$ 1,740,977**	**$ 1,793,207**	**$ 1,907,003**	**$ 1,902,413**	**$ 1,959,485**	**$ 2,018,270**	**$ 2,078,818**	**$ 2,201,182**	**$ 2,205,418**	**$ 34,035,381**
City of Farmers Branch	3.0%	$ 1,422,259	$ 1,464,927	$ 1,508,875	$ 1,554,141	$ 1,600,765	$ 1,648,788	$ 1,698,252	$ 1,749,199	$ 1,801,675	$ 1,855,725	$ 1,911,397	$ 1,968,739	$ 2,027,801	$ 2,088,635	$ 2,151,294	$ 2,215,833	$ 2,282,308	$ 2,350,777	$ 2,421,301	$ 2,493,940	$ 38,216,631
Technology Refreshments				$ 250,000			$ 40,000					$ 40,000										$ 330,000
Total Farmers Branch Costs		**$ 1,422,259**	**$ 1,464,927**	**$ 1,758,875**	**$ 1,554,141**	**$ 1,600,765**	**$ 1,688,788**	**$ 1,698,252**	**$ 1,749,199**	**$ 1,801,675**	**$ 1,855,725**	**$ 1,951,397**	**$ 1,968,739**	**$ 2,027,801**	**$ 2,088,635**	**$ 2,151,294**	**$ 2,215,833**	**$ 2,282,308**	**$ 2,350,777**	**$ 2,421,301**	**$ 2,493,940**	**$ 38,546,631**
Total Current Combined Costs of Operations		**$ 5,960,522**	**$ 6,639,338**	**$ 6,633,518**	**$ 6,573,223**	**$ 6,708,620**	**$ 6,949,879**	**$ 7,167,175**	**$ 7,390,690**	**$ 7,610,611**	**$ 7,777,129**	**$ 8,050,443**	**$ 8,300,756**	**$ 8,558,279**	**$ 8,813,227**	**$ 9,015,824**	**$ 9,286,299**	**$ 9,614,888**	**$ 9,911,835**	**$ 10,207,390**	**$ 10,451,811**	**$ 161,621,458**
Potential Combined Annual Operations Cost Savings		**$ 889,180**	**$ 1,226,305**	**$ 1,061,702**	**$ 698,000**	**$ 807,727**	**$ 854,412**	**$ 843,587**	**$ 799,281**	**$ 969,528**	**$ 941,861**	**$ 1,020,814**	**$ 928,922**	**$ 1,113,223**	**$ 1,102,753**	**$ 1,133,052**	**$ 1,035,660**	**$ 1,269,117**	**$ 1,323,466**	**$ 1,365,752**	**$ 1,216,519**	**$ 20,600,860**
Accumulated Combined Operations Cost Savings		**$ 889,180**	**$ 2,115,485**	**$ 3,177,187**	**$ 3,875,187**	**$ 4,682,914**	**$ 5,537,326**	**$ 6,380,913**	**$ 7,180,194**	**$ 8,149,722**	**$ 9,091,583**	**$ 10,112,396**	**$ 11,041,319**	**$ 12,154,541**	**$ 13,257,295**	**$ 14,390,347**	**$ 15,426,006**	**$ 16,695,123**	**$ 18,018,589**	**$ 19,384,341**	**$ 20,600,860**	

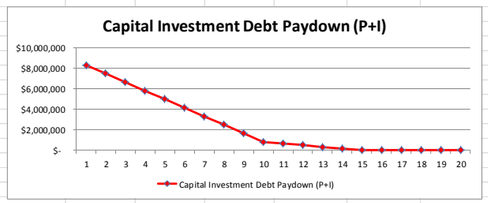




Ability of Operations Cost Savings to Cover CAPEX and Debt Service Costs

Potential Combined Annual Operations Cost Savings (above)		**$ 889,180**	**$ 1,226,305**	**$ 1,061,702**	**$ 698,000**	**$ 807,727**	**$ 854,412**	**$ 843,587**	**$ 799,281**	**$ 969,528**	**$ 941,861**	**$ 1,020,814**	**$ 928,922**	**$ 1,113,223**	**$ 1,102,753**	**$ 1,133,052**	**$ 1,035,660**	**$ 1,269,117**	**$ 1,323,466**	**$ 1,365,752**	**$ 1,216,519**	**$ 20,600,860**
Facility CAPEX Debt Service		$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)	$ (167,605)						**$ (2,514,073)**
Principal	$ 1,800,000																					
Number of Years	15																					
Annual Interest Rate	4.5%																					
Technology and Start-up CAPEX Debt Service		$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)	$ (660,808)											**$ (6,608,084)**
Principal	$ 5,228,791																					
Number of Years	10																					
Annual Interest Rate	4.5%																					
Total Annual Debt Service Costs		**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (828,413)**	**$ (167,605)**	**$ (167,605)**	**$ (167,605)**	**$ (167,605)**	**$ (167,605)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (9,122,157)**
Total Net Savings or (Additional Cost) compared to Total Current Co		**$ 60,766**	**$ 397,892**	**$ 233,289**	**$ (130,413)**	**$ (20,686)**	**$ 25,999**	**$ 15,173**	**$ (29,132)**	**$ 141,115**	**$ 113,447**	**$ 853,209**	**$ 761,317**	**$ 945,618**	**$ 935,148**	**$ 965,447**	**$ 1,035,660**	**$ 1,269,117**	**$ 1,323,466**	**$ 1,365,752**	**$ 1,216,519**	**$ 11,478,703**
Aggregate Savings		$ 60,766	$ 458,658	$ 691,947	$ 561,534	$ 540,848	$ 566,847	$ 582,020	$ 552,888	$ 694,002	$ 807,450	$ 1,660,658	$ 2,421,976	$ 3,367,594	$ 4,302,742	$ 5,268,189	$ 6,303,849	$ 7,572,966	$ 8,896,432	$ 10,262,184	$ 11,478,703	





Combined Facility and Implementation Debt Burden (Principal + Interest)	$ 9,122,157	$ 8,293,744	$ 7,465,331	$ 6,636,917	$ 5,808,504	$ 4,980,091	$ 4,151,677	$ 3,323,264	$ 2,494,851	$ 1,666,438	$ 838,024	$ 670,419	$ 502,815	$ 335,210	$ 167,605	$ -	$ -	$ -	$ -	$ -	$ -	

Stand-Alone Facility Cost Allocation Models

Alternative Cost Allocation Models - Stand Alone Facility and 61 Total Staff Cost

Cost Allocation on a Call For Service Proportionality Basis		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Total OPEX and CAPEX Costs		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149	$ 7,012,241	$ 7,230,103	$ 7,487,345	$ 7,526,111	$ 7,757,427	$ 7,230,952	$ 7,561,202	$ 7,622,098	$ 7,874,808	$ 8,082,273	$ 7,808,370	$ 7,889,577	$ 8,117,819	$ 8,356,289	$ 8,734,686	$ 148,896,999
Jurisdiction	**CFS-Based Allocation Percentage**																					
Addison	31%	$ 1,899,860	$ 2,005,211	$ 2,052,353	$ 2,144,948	$ 2,165,336	$ 2,208,192	$ 2,276,798	$ 2,357,805	$ 2,370,012	$ 2,442,855	$ 2,277,065	$ 2,381,063	$ 2,400,239	$ 2,479,819	$ 2,545,151	$ 2,458,897	$ 2,484,470	$ 2,556,344	$ 2,631,440	$ 2,750,599	$ 46,888,455
Carrollton	41%	$ 2,488,405	$ 2,626,393	$ 2,688,138	$ 2,809,418	$ 2,836,121	$ 2,892,254	$ 2,982,112	$ 3,088,214	$ 3,104,203	$ 3,199,611	$ 2,982,463	$ 3,118,677	$ 3,143,794	$ 3,248,026	$ 3,333,597	$ 3,220,623	$ 3,254,118	$ 3,348,258	$ 3,446,617	$ 3,602,690	$ 61,413,730
Coppell	12%	$ 729,989	$ 770,468	$ 788,582	$ 824,160	$ 831,993	$ 848,460	$ 874,821	$ 905,946	$ 910,637	$ 938,625	$ 874,924	$ 914,883	$ 922,251	$ 952,828	$ 977,931	$ 944,789	$ 954,615	$ 982,232	$ 1,011,086	$ 1,056,871	$ 18,016,092
Farmers Branch	15%	$ 914,861	$ 965,592	$ 988,292	$ 1,032,881	$ 1,042,698	$ 1,063,335	$ 1,096,372	$ 1,135,380	$ 1,141,259	$ 1,176,335	$ 1,096,501	$ 1,146,580	$ 1,155,814	$ 1,194,135	$ 1,225,595	$ 1,184,060	$ 1,196,374	$ 1,230,985	$ 1,267,147	$ 1,324,527	$ 22,578,723
Collective Total Annual Cost		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149	$ 7,012,241	$ 7,230,103	$ 7,487,345	$ 7,526,111	$ 7,757,427	$ 7,230,952	$ 7,561,202	$ 7,622,098	$ 7,874,808	$ 8,082,273	$ 7,808,370	$ 7,889,577	$ 8,117,819	$ 8,356,289	$ 8,734,686	$ 148,896,999
Estimated Costs to Continue Current Operations with Individual Facilities																						
Addison	19%	$ 1,159,345	$ 1,694,125	$ 1,229,949	$ 1,266,848	$ 1,304,853	$ 1,343,999	$ 1,434,319	$ 1,425,848	$ 1,468,624	$ 1,512,682	$ 1,558,063	$ 1,654,805	$ 1,652,949	$ 1,702,537	$ 1,753,613	$ 1,806,222	$ 1,910,408	$ 1,916,221	$ 1,973,707	$ 2,032,918	$ 31,802,034
Carrollton	36%	$ 2,121,199	$ 2,184,835	$ 2,310,380	$ 2,317,891	$ 2,387,428	$ 2,459,051	$ 2,532,823	$ 2,668,807	$ 2,687,071	$ 2,767,684	$ 2,850,714	$ 2,936,236	$ 3,084,323	$ 3,115,052	$ 3,208,504	$ 3,304,759	$ 3,403,902	$ 3,566,019	$ 3,611,199	$ 3,719,535	$ 57,237,411
Coppell	21%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,434,344	$ 1,415,574	$ 1,458,041	$ 1,501,782	$ 1,546,836	$ 1,653,241	$ 1,641,038	$ 1,690,269	$ 1,740,977	$ 1,793,207	$ 1,907,003	$ 1,902,413	$ 1,959,485	$ 2,018,270	$ 2,078,818	$ 2,201,182	$ 2,205,418	$ 34,035,381
Farmers Branch	24%	$ 1,422,259	$ 1,464,927	$ 1,758,875	$ 1,554,141	$ 1,600,765	$ 1,688,788	$ 1,698,252	$ 1,749,199	$ 1,801,675	$ 1,855,725	$ 1,951,397	$ 1,968,739	$ 2,027,801	$ 2,088,635	$ 2,151,294	$ 2,215,833	$ 2,282,308	$ 2,350,777	$ 2,421,301	$ 2,493,940	$ 38,546,631
Collective Total Annual Cost		$ 5,960,522	$ 6,639,338	$ 6,633,518	$ 6,573,223	$ 6,708,620	$ 6,949,879	$ 7,167,175	$ 7,390,690	$ 7,610,611	$ 7,777,129	$ 8,050,443	$ 8,300,756	$ 8,558,279	$ 8,813,227	$ 9,015,824	$ 9,286,299	$ 9,614,888	$ 9,911,835	$ 10,207,390	$ 10,451,811	$ 161,621,458
(Savings) or Increased Cost by Jurisdiction and Collectively																						
Addison		$ 740,515	$ 311,086	$ 822,403	$ 878,101	$ 860,483	$ 864,193	$ 842,479	$ 931,956	$ 901,389	$ 930,173	$ 719,003	$ 726,258	$ 747,290	$ 777,282	$ 791,537	$ 652,675	$ 574,061	$ 640,124	$ 657,732	$ 717,681	$ 15,086,421
Carrollton		$ 367,206	$ 441,558	$ 377,758	$ 491,527	$ 448,693	$ 433,203	$ 449,290	$ 419,407	$ 417,132	$ 431,928	$ 131,749	$ 182,441	$ 59,471	$ 132,974	$ 125,093	$ (84,136)	$ (149,784)	$ (217,761)	$ (164,583)	$ (116,846)	$ 4,176,318
Coppell		$ (527,730)	$ (524,982)	$ (545,732)	$ (610,184)	$ (583,580)	$ (609,581)	$ (626,961)	$ (640,889)	$ (742,604)	$ (702,413)	$ (815,346)	$ (826,094)	$ (870,955)	$ (954,174)	$ (924,482)	$ (1,014,696)	$ (1,063,655)	$ (1,096,586)	$ (1,190,096)	$ (1,148,547)	$ (16,019,289)
Farmers Branch		$ (507,398)	$ (499,335)	$ (770,582)	$ (521,260)	$ (558,067)	$ (625,453)	$ (601,880)	$ (613,819)	$ (660,417)	$ (679,390)	$ (854,896)	$ (822,159)	$ (871,987)	$ (894,500)	$ (925,699)	$ (1,031,773)	$ (1,085,934)	$ (1,119,792)	$ (1,154,154)	$ (1,169,413)	$ (15,967,909)
Collective Total Annual (Savings) or Increased Cost		$ 72,593	$ (271,674)	$ (116,153)	$ 238,184	$ 167,529	$ 62,363	$ 62,928	$ 96,654	$ (84,500)	$ (19,702)	$ (819,491)	$ (739,555)	$ (936,181)	$ (938,419)	$ (933,551)	$ (1,477,930)	$ (1,725,311)	$ (1,794,016)	$ (1,851,101)	$ (1,717,125)	$ (12,724,458)

Alternative Cost Allocation Model Reflecting Current Cost Proportionality		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
Total OPEX and CAPEX Costs		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149	$ 7,012,241	$ 7,230,103	$ 7,487,345	$ 7,526,111	$ 7,757,427	$ 7,230,952	$ 7,561,202	$ 7,622,098	$ 7,874,808	$ 8,082,273	$ 7,808,370	$ 7,889,577	$ 8,117,819	$ 8,356,289	$ 8,734,686	$ 148,896,999
Jurisdiction	**Cost Allocation based on Current Cost Proportionality**																					
Addison	19%	$ 1,146,292	$ 1,209,856	$ 1,238,299	$ 1,294,167	$ 1,306,468	$ 1,332,326	$ 1,373,720	$ 1,422,595	$ 1,429,961	$ 1,473,911	$ 1,373,881	$ 1,436,628	$ 1,448,199	$ 1,496,214	$ 1,535,632	$ 1,483,590	$ 1,499,020	$ 1,542,386	$ 1,587,695	$ 1,659,590	$ 28,290,430
Carrollton	36%	$ 2,171,921	$ 2,292,359	$ 2,346,251	$ 2,452,107	$ 2,475,414	$ 2,524,407	$ 2,602,837	$ 2,695,444	$ 2,709,400	$ 2,792,674	$ 2,603,143	$ 2,722,033	$ 2,743,955	$ 2,834,931	$ 2,909,618	$ 2,811,013	$ 2,840,248	$ 2,922,415	$ 3,008,264	$ 3,144,487	$ 53,602,920
Coppell	21%	$ 1,266,954	$ 1,337,209	$ 1,368,647	$ 1,430,396	$ 1,443,991	$ 1,472,571	$ 1,518,322	$ 1,572,342	$ 1,580,483	$ 1,629,060	$ 1,518,500	$ 1,587,852	$ 1,600,641	$ 1,653,710	$ 1,697,277	$ 1,639,758	$ 1,656,811	$ 1,704,742	$ 1,754,821	$ 1,834,284	$ 31,268,370
Farmers Branch	24%	$ 1,447,947	$ 1,528,239	$ 1,564,167	$ 1,634,738	$ 1,650,276	$ 1,682,938	$ 1,735,225	$ 1,796,963	$ 1,806,267	$ 1,861,782	$ 1,735,429	$ 1,814,688	$ 1,829,304	$ 1,889,954	$ 1,939,746	$ 1,874,009	$ 1,893,498	$ 1,948,276	$ 2,005,509	$ 2,096,325	$ 35,735,280
		$ 6,033,115	$ 6,367,663	$ 6,517,364	$ 6,811,408	$ 6,876,149	$ 7,012,241	$ 7,230,103	$ 7,487,345	$ 7,526,111	$ 7,757,427	$ 7,230,952	$ 7,561,202	$ 7,622,098	$ 7,874,808	$ 8,082,273	$ 7,808,370	$ 7,889,577	$ 8,117,819	$ 8,356,289	$ 8,734,686	$ 148,896,999
(Savings) or Increased Cost by Jurisdiction and Collectively																						
Addison		$ (13,053)	$ (484,269)	$ 8,350	$ 27,320	$ 1,615	$ (11,673)	$ (60,599)	$ (3,253)	$ (38,662)	$ (38,771)	$ (184,182)	$ (218,176)	$ (204,750)	$ (206,324)	$ (217,981)	$ (322,632)	$ (411,389)	$ (373,835)	$ (386,012)	$ (373,328)	$ (3,511,604)
Carrollton		$ 50,722	$ 107,524	$ 35,871	$ 134,215	$ 87,985	$ 65,356	$ 70,015	$ 26,637	$ 22,329	$ 24,990	$ (247,571)	$ (214,203)	$ (340,367)	$ (280,121)	$ (298,886)	$ (493,746)	$ (563,654)	$ (643,604)	$ (602,935)	$ (575,048)	$ (3,634,492)
Coppell		$ 9,235	$ 41,759	$ 34,332	$ (3,948)	$ 28,417	$ 14,530	$ 16,539	$ 25,507	$ (72,757)	$ (11,978)	$ (171,769)	$ (153,125)	$ (192,566)	$ (253,293)	$ (205,136)	$ (319,728)	$ (361,459)	$ (374,076)	$ (446,362)	$ (371,134)	$ (2,767,011)
Farmers Branch		$ 25,689	$ 63,312	$ (194,707)	$ 80,597	$ 49,511	$ (5,850)	$ 36,973	$ 47,764	$ 4,592	$ 6,057	$ (215,969)	$ (154,051)	$ (198,498)	$ (198,681)	$ (211,549)	$ (341,824)	$ (388,810)	$ (402,501)	$ (415,791)	$ (397,615)	$ (2,811,352)
Collective Total Annual (Savings) or Increased Cost		$ 72,593	$ (271,674)	$ (116,153)	$ 238,184	$ 167,529	$ 62,363	$ 62,928	$ 96,654	$ (84,500)	$ (19,702)	$ (819,491)	$ (739,555)	$ (936,181)	$ (938,419)	$ (933,551)	$ (1,477,930)	$ (1,725,311)	$ (1,794,016)	$ (1,851,101)	$ (1,717,125)	$ (12,724,458)

CyrusOne Hosted Facility Cost Allocation Models

Alternative Cost Allocation Models - CyrusOne Facility and 61 Total Staff Cost

Cost Allocation on a Call For Service Proportionality Basis																				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Total**
Total OPEX and CAPEX Costs		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306	$ 6,923,880	$ 7,152,002	$ 7,419,823	$ 7,469,496	$ 7,663,682	$ 7,197,234	$ 7,539,439	$ 7,612,661	$ 7,878,079	$ 8,050,377	$ 8,250,639	$ 8,345,771	$ 8,588,368	$ 8,841,638	$ 9,235,292	$ 150,142,755
Jurisdiction	**CFS-Based Allocation Percentage**																					
Addison	31%	$ 1,857,864	$ 1,965,464	$ 2,015,466	$ 2,111,011	$ 2,119,094	$ 2,180,366	$ 2,252,203	$ 2,336,541	$ 2,352,184	$ 2,413,334	$ 2,266,447	$ 2,374,209	$ 2,397,267	$ 2,480,849	$ 2,535,106	$ 2,598,170	$ 2,628,128	$ 2,704,523	$ 2,784,279	$ 2,908,243	$ 47,280,750
Carrollton	41%	$ 2,433,400	$ 2,574,333	$ 2,639,824	$ 2,764,967	$ 2,775,555	$ 2,855,808	$ 2,949,899	$ 3,060,364	$ 3,080,852	$ 3,160,945	$ 2,968,555	$ 3,109,700	$ 3,139,901	$ 3,249,375	$ 3,320,441	$ 3,403,041	$ 3,442,278	$ 3,542,340	$ 3,646,802	$ 3,809,168	$ 61,927,551
Coppell	12%	$ 713,853	$ 755,196	$ 774,409	$ 811,120	$ 814,226	$ 837,769	$ 865,371	$ 897,776	$ 903,787	$ 927,283	$ 870,844	$ 912,250	$ 921,109	$ 953,224	$ 974,072	$ 998,303	$ 1,009,813	$ 1,039,167	$ 1,069,812	$ 1,117,443	$ 18,166,825
Farmers Branch	15%	$ 894,638	$ 946,452	$ 970,530	$ 1,016,539	$ 1,020,431	$ 1,049,936	$ 1,084,529	$ 1,125,141	$ 1,132,673	$ 1,162,120	$ 1,091,388	$ 1,143,280	$ 1,154,383	$ 1,194,631	$ 1,220,758	$ 1,251,126	$ 1,265,552	$ 1,302,339	$ 1,340,745	$ 1,400,439	$ 22,767,629
Collective Total Annual Cost		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306	$ 6,923,880	$ 7,152,002	$ 7,419,823	$ 7,469,496	$ 7,663,682	$ 7,197,234	$ 7,539,439	$ 7,612,661	$ 7,878,079	$ 8,050,377	$ 8,250,639	$ 8,345,771	$ 8,588,368	$ 8,841,638	$ 9,235,292	$ 150,142,755
Estimated Costs to Continue Current Operations with Individual Facilities																						
Addison	19%	$ 1,159,345	$ 1,694,125	$ 1,229,949	$ 1,266,848	$ 1,304,853	$ 1,343,999	$ 1,434,319	$ 1,425,848	$ 1,468,624	$ 1,512,682	$ 1,558,063	$ 1,654,805	$ 1,652,949	$ 1,702,537	$ 1,753,613	$ 1,806,222	$ 1,910,408	$ 1,916,221	$ 1,973,707	$ 2,032,918	$ 31,802,034
Carrollton	36%	$ 2,121,199	$ 2,184,835	$ 2,310,380	$ 2,317,891	$ 2,387,428	$ 2,459,051	$ 2,532,823	$ 2,668,807	$ 2,687,071	$ 2,767,684	$ 2,850,714	$ 2,936,236	$ 3,084,323	$ 3,115,052	$ 3,208,504	$ 3,304,759	$ 3,403,902	$ 3,566,019	$ 3,611,199	$ 3,719,535	$ 57,237,411
Coppell	21%	$ 1,257,719	$ 1,295,451	$ 1,334,314	$ 1,434,344	$ 1,415,574	$ 1,458,041	$ 1,501,782	$ 1,546,836	$ 1,653,241	$ 1,641,038	$ 1,690,269	$ 1,740,977	$ 1,793,207	$ 1,907,003	$ 1,902,413	$ 1,959,485	$ 2,018,270	$ 2,078,818	$ 2,201,182	$ 2,205,418	$ 34,035,381
Farmers Branch	24%	$ 1,422,259	$ 1,464,927	$ 1,758,875	$ 1,554,141	$ 1,600,765	$ 1,688,788	$ 1,698,252	$ 1,749,199	$ 1,801,675	$ 1,855,725	$ 1,951,397	$ 1,968,739	$ 2,027,801	$ 2,088,635	$ 2,151,294	$ 2,215,833	$ 2,282,308	$ 2,350,777	$ 2,421,301	$ 2,493,940	$ 38,546,631
Collective Total Annual Cost		$ 5,960,522	$ 6,639,338	$ 6,633,518	$ 6,573,223	$ 6,708,620	$ 6,949,879	$ 7,167,175	$ 7,390,690	$ 7,610,611	$ 7,777,129	$ 8,050,443	$ 8,300,756	$ 8,558,279	$ 8,813,227	$ 9,015,824	$ 9,286,299	$ 9,614,888	$ 9,911,835	$ 10,207,390	$ 10,451,811	$ 161,621,458
(Savings) or Increased Cost by Jurisdiction and Collectively																						
Addison		$ 698,519	$ 271,339	$ 785,517	$ 844,163	$ 814,241	$ 836,368	$ 817,885	$ 910,693	$ 883,560	$ 900,652	$ 708,385	$ 719,405	$ 744,319	$ 778,312	$ 781,493	$ 791,948	$ 717,719	$ 788,302	$ 810,571	$ 875,324	$ 15,478,716
Carrollton		$ 312,201	$ 389,498	$ 329,444	$ 447,076	$ 388,127	$ 396,757	$ 417,076	$ 391,557	$ 393,781	$ 393,262	$ 117,841	$ 173,465	$ 55,579	$ 134,323	$ 111,937	$ 98,282	$ 38,377	$ (23,679)	$ 35,603	$ 89,633	$ 4,690,140
Coppell		$ (543,866)	$ (540,254)	$ (559,906)	$ (623,224)	$ (601,348)	$ (620,272)	$ (636,411)	$ (649,059)	$ (749,454)	$ (713,755)	$ (819,425)	$ (828,728)	$ (872,097)	$ (953,779)	$ (928,341)	$ (961,183)	$ (1,008,456)	$ (1,039,651)	$ (1,131,371)	$ (1,087,975)	$ (15,868,556)
Farmers Branch		$ (527,621)	$ (518,475)	$ (788,345)	$ (537,602)	$ (580,334)	$ (638,852)	$ (613,723)	$ (624,058)	$ (669,002)	$ (693,606)	$ (860,009)	$ (825,459)	$ (873,418)	$ (894,004)	$ (930,536)	$ (964,707)	$ (1,016,756)	$ (1,048,438)	$ (1,080,556)	$ (1,093,501)	$ (15,779,003)
Collective Total Annual (Savings) or Increased Cost		$ (60,766)	$ (397,892)	$ (233,289)	$ 130,413	$ 20,686	$ (25,999)	$ (15,173)	$ 29,132	$ (141,115)	$ (113,447)	$ (853,209)	$ (761,317)	$ (945,618)	$ (935,148)	$ (965,447)	$ (1,035,660)	$ (1,269,117)	$ (1,323,466)	$ (1,365,752)	$ (1,216,519)	$ (11,478,703)

Alternative Cost Allocation Model Reflecting Current Cost Proportionality																						
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Total**
Total OPEX and CAPEX Costs		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306	$ 6,923,880	$ 7,152,002	$ 7,419,823	$ 7,469,496	$ 7,663,682	$ 7,197,234	$ 7,539,439	$ 7,612,661	$ 7,878,079	$ 8,050,377	$ 8,250,639	$ 8,345,771	$ 8,588,368	$ 8,841,638	$ 9,235,292	$ 150,142,755
Jurisdiction	**Cost Allocation based on Current Cost Proportionality**																					
Addison	19%	$ 1,120,954	$ 1,185,875	$ 1,216,043	$ 1,273,691	$ 1,278,568	$ 1,315,537	$ 1,358,880	$ 1,409,766	$ 1,419,204	$ 1,456,100	$ 1,367,475	$ 1,432,493	$ 1,446,406	$ 1,496,835	$ 1,529,572	$ 1,567,622	$ 1,585,697	$ 1,631,790	$ 1,679,911	$ 1,754,706	$ 28,527,123
Carrollton	36%	$ 2,123,912	$ 2,246,921	$ 2,304,082	$ 2,413,309	$ 2,422,550	$ 2,492,597	$ 2,574,721	$ 2,671,136	$ 2,689,019	$ 2,758,925	$ 2,591,004	$ 2,714,198	$ 2,740,558	$ 2,836,108	$ 2,898,136	$ 2,970,230	$ 3,004,478	$ 3,091,813	$ 3,182,990	$ 3,324,705	$ 54,051,392
Coppell	21%	$ 1,238,949	$ 1,310,704	$ 1,344,048	$ 1,407,764	$ 1,413,154	$ 1,454,015	$ 1,501,920	$ 1,558,163	$ 1,568,594	$ 1,609,373	$ 1,511,419	$ 1,583,282	$ 1,598,659	$ 1,654,397	$ 1,690,579	$ 1,732,634	$ 1,752,612	$ 1,803,557	$ 1,856,744	$ 1,939,411	$ 31,529,978
Farmers Branch	24%	$ 1,415,941	$ 1,497,947	$ 1,536,055	$ 1,608,873	$ 1,615,034	$ 1,661,731	$ 1,716,480	$ 1,780,757	$ 1,792,679	$ 1,839,284	$ 1,727,336	$ 1,809,465	$ 1,827,039	$ 1,890,739	$ 1,932,090	$ 1,980,153	$ 2,002,985	$ 2,061,208	$ 2,121,993	$ 2,216,470	$ 36,034,261
		$ 5,899,756	$ 6,241,446	$ 6,400,229	$ 6,703,636	$ 6,729,306	$ 6,923,880	$ 7,152,002	$ 7,419,823	$ 7,469,496	$ 7,663,682	$ 7,197,234	$ 7,539,439	$ 7,612,661	$ 7,878,079	$ 8,050,377	$ 8,250,639	$ 8,345,771	$ 8,588,368	$ 8,841,638	$ 9,235,292	$ 150,142,755
(Savings) or Increased Cost by Jurisdiction and Collectively																						
Addison		$ (38,391)	$ (508,251)	$ (13,906)	$ 6,843	$ (26,285)	$ (28,461)	$ (75,438)	$ (16,082)	$ (49,419)	$ (56,583)	$ (190,588)	$ (222,311)	$ (206,543)	$ (205,702)	$ (224,042)	$ (238,600)	$ (324,712)	$ (284,431)	$ (293,796)	$ (278,213)	$ (3,274,911)
Carrollton		$ 2,713	$ 62,086	$ (6,298)	$ 95,418	$ 35,122	$ 33,546	$ 41,898	$ 2,329	$ 1,947	$ (8,758)	$ (259,710)	$ (222,037)	$ (343,765)	$ (278,944)	$ (310,368)	$ (334,529)	$ (399,424)	$ (474,206)	$ (428,210)	$ (394,830)	$ (3,186,020)
Coppell		$ (18,770)	$ 15,253	$ 9,734	$ (26,580)	$ (2,419)	$ (4,026)	$ 138	$ 11,327	$ (84,647)	$ (31,665)	$ (178,850)	$ (157,695)	$ (194,548)	$ (252,606)	$ (211,834)	$ (226,851)	$ (265,658)	$ (275,261)	$ (344,439)	$ (266,007)	$ (2,505,402)
Farmers Branch		$ (6,318)	$ 33,020	$ (222,820)	$ 54,732	$ 14,268	$ (27,057)	$ 18,229	$ 31,558	$ (8,996)	$ (16,442)	$ (224,061)	$ (159,274)	$ (200,763)	$ (197,896)	$ (219,204)	$ (235,680)	$ (279,323)	$ (289,569)	$ (299,308)	$ (277,470)	$ (2,512,370)
Collective Total Annual (Savings) or Increased Cost		$ (60,766)	$ (397,892)	$ (233,289)	$ 130,413	$ 20,686	$ (25,999)	$ (15,173)	$ 29,132	$ (141,115)	$ (113,447)	$ (853,209)	$ (761,317)	$ (945,618)	$ (935,148)	$ (965,447)	$ (1,035,660)	$ (1,269,117)	$ (1,323,466)	$ (1,365,752)	$ (1,216,519)	$ (11,478,703)

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