

# Fincom Questions to SBC/PPDC

4/9/2018

## Goal:

*To discuss and understand the main drivers of cost in the School Building and Community Center projects, as well as to try and identify which concepts seem to have the best overall long term value for Lincoln. We understand the projects are at the concept phase and thus we will try to focus on the higher level aspects. We recognize that some questions below are covered by materials already posted online, but we appreciate your patience in comprehensively reviewing the cost oriented information to make sure all attendees of this meeting are on the "same page".*

*We are, of course, interested in CapComm's questions as well, and we have tried not to duplicate them here.*

## Questions for Both Projects

*Please identify any possible differences in the cost of the projects that might result from doing both School Building and Community Center projects together versus doing them separately.*

In general there is economy in scale, so it would seem the community center would benefit in cost reduction from being added to the school construction project. The cost estimators for the community center thought through the benefits and detriments of combining the projects though and concluded potential cost savings would be matched with potential cost increases.

The greatest cost savings of combining projects would be gained from the concurrent construction of the two projects verses linear scheduling. It would be very difficult to allow for the continued use of the campus to construct the two projects concurrently verses having one start after the completion of the other. Therefore the possibility of having the same subcontractors work on both projects in the same time frame is negated. The purchase of any shared materials in greater quantity to save money would require storage for the project constructed last. Additionally any general contractor administrative work redundancy between the two projects that could produce cost savings if the project were done concurrently is reduced if they are done one after the other.

The main complication though with the combination of these two projects is the vast difference in scale and building type. The general contractor and major subcontractors who are able to build a 160k square foot project do not typically compete for 23k square foot buildings. It is likely that using the general contractor and subcontractors that typically handle the bigger more complex projects for the smaller community center will actually add cost to the community center. The general contracting firms that manage the larger projects necessarily operate with more layers of personnel hierarchy and administration than the firms that build the smaller projects, adding cost unnecessarily to the smaller project. This is also true for the subcontractors. It is also likely that a steel shop, for example, who can handle the larger project, will be more expensive than the smaller steel shop that typically takes on only 25,000 square foot projects.

If the two projects were closer in scale and building type and were built concurrently there would be cost savings. But due to their vast difference in scale and their likely linear phasing, any likely cost savings would be negated by other cost increases.

The combination of site work (roads, parking, drainage and utilities) for the two projects would produce savings if they could be done at the same time. This may produce difficulties in the campus usage though that would outweigh the cost savings.

## Community Center

*What stats, metrics, projections, and assumptions are being used for capacity planning to drive the design? (population, usage, etc.)*

The Community Center design has been driven by a wide variety of data for both the size and layout of the building as well as exterior features including the parking lot. Development of the program began in 2011 with the Community Center Feasibility Committee and has been refined and peer-reviewed by the 2015 Community

Center Study Committee, the 2016 Campus Master Planning Committee, and the current Community Center Preliminary Planning and Design Committee and the consulting/architectural firms who worked with these committees.

Data used to determine what programs and services should be offered, what rooms will be needed, and what their size should be has included:

- current population demographics with a senior population increase projection based on 34 years of past experience
- 17 years of COA and PRD attendance statistics and trends
- information from other COAs and Parks and Recreation departments on their most popular programs and services, especially those that have recently opened new facilities. The new Wellesley Tolles Parsons Center, for example, reports that they have had an increase in attendance of 62% in just their first six months compared to last year at this time.
- the COA's own human services statistics and trends and those of other departments and town organizations, including significant increases in the number of people who:
  - are in severe need of physical and mental health services
  - have financial crises that could result in eviction and utility shut-off
  - have food insecurity
  - are at risk of homelessness
  - have substance abuse issues, and more
- a determination from the state Executive Office of Elder Affairs based on their experience with over 300 Councils on Aging that senior centers or senior components of community centers should have 5-6 gross square feet (gsf) per senior. According to the 2017 Town Census, Lincoln currently has 2026 residents over 60. Therefore the senior component of the community center (COA designated space plus half of shared space) should be about 10,100 to 12,100 gsf now. Given that the senior population continues to increase, by the time the community center is built this recommended gsf will be even larger. The senior component of the current design is well within the 2017 recommended gsf.
- feedback from charrettes and public forums done by the 2012, 2015, 2016 and current committees
- focus groups and individual interviews with the Schools administration and community groups who might use the community center
- a programming survey distributed at various public forums, via the town website, and Bemis Hall in 2015 by the Community Center Study Committee.

The COA and PRD turned this data into a program that included the number and kinds of rooms that will be needed along with their size. The program included the actual activities and services currently being offered by the two departments and community organizations using the pods with a modest increase to take into account senior population increases as well as those programs that are core to COAs and PRDs across the state that we are not able to offer our residents. This was "reality-checked" by creating a matrix showing exactly what current and proposed future activities would happen in each room so that we could be sure that each room would be used and each activity could be housed.

The program was developed using the following assumptions that:

- those non-profit organizations currently using Bemis Hall for storage and other uses would continue to do so
- programs held in the upstairs of Bemis Hall evenings and weekends will continue as they are now
- community organizations that use the pods will be accommodated in the new community center
- LEAP will remain in pod C (this decision was made in collaboration with LEAP)
- school maintenance will need to be accommodated in the pods or in a new separate building

More extensive data used to create the program is available in the following [appendices: A - COA Population and Attendance statistics, B - PRD Population and Attendance statistics, C -Results of the 2015 Survey, D - Current Program, E - Updated Programming Matrix, and F – CC Program Comparison Chart](#), a bar chart showing what space we currently have for specific functions and how that space would change in the new community center.

The design was further informed by data collected from two other senior or community centers about their parking and attendance (*please see [appendix G – Parking Analysis](#)*) as well as considerations that affect all facilities, such as those regarding ADA compliance, and all facilities to be used by older adults (lots of natural light, short distances between rooms, a drop-off area for elders who will be dropped off at the front entrance, etc.).

Both the program and layout will enable the COA and PRD to offer programs and services that we cannot provide now in a safe and appropriate way. Currently, Bemis Hall cannot be renovated to enable the Town to offer its seniors:

- Safe and adequate parking. Those who part in front need to pull out into traffic and we have had a number of “near-misses” when cars came up the hill quickly and nearly collided with seniors leaving. Parking is actually more of a constraint on the number of activities we are able to offer than the number and size of rooms. It makes no sense to offer programs that people will not be able to attend because they cannot park. So if we have programs that we anticipate will fill our parking lot, we are not able to offer any concurrent programs even if we have the space available.
- Safe pathway to entrance of Bemis Hall. Seniors must walk long distances and cross a busy street to get to our front entrance, which is a barrier for the frail elders who need our services the most.
- Facilities that are ADA compliant and adequate, welcoming, and comfortable for elders with disabilities
- Truly private counseling and other social services for those residents most in need of all ages.
- Key programs that are essential to how a COA functions and benefits elders, namely
  - Informal space for socializing to reduce social isolation
  - Congregate meals for both nutritional support and to reduce social isolation

The PRD is not able to offer the following in their current location:

- A clean, reasonably comfortable, mold-free environment
- ample parking for large programs that meet during the school day
- use of fitness equipment such as treadmills, stationary bicycles,
- cooking programs (since the school home economics rooms was repurposed)
- safe storage of fitness and tumbling equipment (everything is pushed up to the side of the room and is easily accessible by children who should not be using them unsupervised.)
- audio visual programs
- showers for patrons
- ADA compliant restrooms and entryways
- spaces for parents to wait for children’s classes to end...you’re either in a classroom, or you’re out on the sidewalk.

The members of the CCPDC believe that the 23,000 square foot program realistically balances the need for adequate space to meet the diverse needs of all Lincoln residents both now and into the future, the economic realities of needing to keep the cost reasonable for tax payers, and the benefits and sacrifices of shared space. More and more communities are choosing to build shared facilities due to their economic efficiency and the quality-of-life benefits of having many generations in one place. However they must be both adequate and appropriate for the demonstrated needs of the community to be cost-effective so as to avoid future expansions. For a more detailed analysis of the principles used to create the program, please see [appendix H – Program Principles](#).

***How do comparable community center projects compare in sqft/resident, size, population served, and/or other relevant metrics?***

While it is important to make sure that our square footage and design is reasonable for Lincoln’s population, it is also essential to remember that each town is different and uniquely approaches what services they offer their residents. We have compared our proposed community center to towns around us that have larger populations but which have similar populations to ours in terms of both service expectations and needs as well as towns across the state whose total populations are most similar to ours. Information about these towns and their services and facilities is included in [appendix I - What Can We Learn from Other Towns?](#)

Among our conclusions from our analysis of this data are:

- The Lincoln COA and PRD offer more services than most towns our size. Our services are well-used and attended and therefore we will need facilities that are appropriate to what we offer. The one town our size that offers a senior facility larger than the senior component of the community center says that they are already short on space.
- Almost all towns we spoke with, including those with quite new facilities, said that they built too small and now need more space. We do not want to make the same mistakes as other towns by assuming that their facilities are adequate for their population when they are not, especially when these mistakes cost towns more in the long run when additions need to be built.
- Based on the Executive Office of Elder Affairs benchmark noted above, the only one that exists relative to the community center, we are right on target for size.

***What are the projected cost estimates in \$/sf terms, and what is the source for those cost estimates? Do they vary by the type and mix of space proposed?***

Please see the attached [appendix J - Community Center Estimates](#), a cost estimate breakdown for each of the three schemes. Cost per square foot and site work line items were established with ZVI Construction, who is the cost estimator on Maryann Thompson's team. Comparable projects as well as ZVI's experience in construction in the region were used to establish the numbers shown.

The Estimate sheet for each of the three schemes shows cost line items and totals for the Community Center building, site work for improvements on the full Hartwell site, and soft costs.

We received a lot of feedback at the community meetings that if the Pods are going to stay to continue to house LEAP and Maintenance, then the cost for their renovation should be understood alongside of the Community Center cost with the understanding that this work will also need to happen in the near future. Therefore also included separately on the estimate sheets are estimates for the continued housing of LEAP and Maintenance on the site, though the work is not technically part of the Community Center. In Scheme 1 only one Pod is maintained and renovated to house LEAP and a new shed building is constructed to house Maintenance. In Scheme 2 two pods remain and are renovated for the LEAP and Maintenance. In Scheme 3 all three Pods are renovated as part of the Community Center Building. Leap continues to occupy a full Pod and Maintenance continues to occupy half a Pod. The other Pod and a half houses part of the Community Center square footage. In all the schemes the Community Center is approximately 23,500 square feet.

The cost per square foot number being used for the new construction of the Community center building is an average cost for the different types of spaces in the building. There are spaces that will cost less, such as storage rooms, and there are spaces that will cost more, such as the teaching kitchen with commercial equipment. At the schematic design level of development it is typical to carry an average cost per square foot which will allow for the range of costs needed.

The rate of escalation of the cost of construction has been high and rising through Boston's recent building boom. But ZVI and other contractors that Maryann Thompson Architects works with are reporting that it has leveled off. To be conservative, ZVI is recommending the use of a 3 to 5% per year escalation rate. There is a feeling though that the industry escalation rate may come down significantly in the near future.

***How do the cost estimates compare with comparable projects? Where the cost metrics deviate materially from each comparable, identify the key drivers of the deviation.***

We have gathered information on a number of comparable projects. It is difficult to find apples to apples comparisons due to the range of years that the buildings were constructed and the changing economy. In addition we are carrying site improvement for the full Hartwell site, which constitutes a much larger site in relationship to the building square footage than is typical. None of comparable projects shown have as large of a site area and some, like Belmont, are on constrained urban sites with little site work. The Hartwell site improvements also include improvements to the wetlands, a condition unique to our site.

The following are comparable projects with a calculation of current cost with escalation calculated:

The estimates for the Lincoln Community Center schemes are ranging in cost per square foot for hard + soft cost from \$511/sq. ft. to \$538/ sq. ft.

### Comparable New Construction - Community Centers or COA - Hard + Soft Cost

	YEAR	SQ FT	TOTAL COST	\$/SQ FT	2018 \$/SF WITH ESCALATION*
FALMOUTH	Funding 2017	17,000 sq. ft.	\$9,500,000	\$559	\$559
WELLESLEY	2017	13,000 sq. ft.	\$10,000,000	\$769	\$808
NEEDHAM	2013	20,000 sq. ft.	\$8,000,000	\$400	\$506
NATICK	2012	28,000 sq. ft.	\$10,000,000	\$357	\$470
BELMONT	2009	18,500 sq. ft.	\$6,000,000	\$324	\$475
FRANKLIN	2007	19,000 sq. ft.	\$6,200,000	\$326	
HOPKINGTON	2006	14,300 sq. ft.	\$4,200,000	\$294	
WESTON	2001	22,500 sq. ft.	\$5,500,000	\$244	

### Comparable New Construction – Other MTA Work - Hard + Soft Cost

	Location	YEAR	SQ FT	TOTAL COST	\$/SQ FT	2018 \$/SF WITH ESCALATION
FOOTE SCHOOL	New Haven, CT	2012	16,000 sq. ft.	\$6,600,000	\$413	\$542
TEMPLE AHAVAT ACHIM	Gloucester, MA	2011	12,000 sq. ft.	\$4,220,000	\$352	\$481

\* Escalation assumed: 2008- 2010 at 3%; 2011-2014 at 4%, 2015-2017 at 5%

### **What are the best estimates for long-term energy costs? Are there plans to consider energy efficiency approaches, and if so, what are the expected incremental costs and energy savings?**

Our plans are to embed in the building design with common sense sustainable features that will get the building to perform 50% better than code requires. These plans include:

- Superinsulation to R30 in the walls and R60 in the roof
- Triple glazed windows
- LED lighting
- High efficiency Heat pumps for Heating and Ventilating
- Operable windows for cross ventilation and the stack effect
- Facing the larger openings to the south to take in the winter sun-Overhangs on the south to reduce solar gain in the summer; yet let in solar gain in the winter.

The incremental cost to embed the structure with the above sustainability measures run about \$25/SF. On a 23,500 SF building this amounts to \$587,500. These numbers are currently included within our cost estimate numbers so would not be an add-on.

To get the building to be net zero there will have to be on site generation of energy. We have priced a solar array that would go both on the roof of the building and as a canopy structure at the new parking lot at \$1.1M. This number is outside our current cost estimate, and would only be anticipated if Lincoln decided to go for net zero energy for the building

The roof mounted array would be a 68KW system and would cost @\$200,000  
The Parking Canopy array would be a 104KW system and would cost @\$900,000.

The payback period for PV arrays that are large enough to get a structure to net zero is typically 9 years, however the cost of the PV arrays varies with the international markets and so it is hard to make a determination on payback time exactly. Typically it is in the 9 year window.

**What are the best estimates for long-term operating and maintenance costs? What's the best estimate for marginal increases or savings relative to current operating and maintenance costs (i.e. for COA in Bemis and PRD in Hartwell)?**

We are designing an efficient building so energy usage will be lower than typical, but we need to be further along in our design, and define more variables, to make reliable energy model calculations. Below is a estimated chart of the relevant building operating and maintenance costs, based on FY17 numbers:

	*Utilities/Supplies	Custodial	Total
Bemis Hall	22,297	13,572	35,869
Hartwell Pods**	22,400	7,200	29,600
Community Center***	69,110	44,000	113,110

*\*Utilities are based on massenergyinsight.net numbers for gas and electric. Water is a local estimate.*

*\*\*Pod calculations based on a % of Hartwell Campus utilities*

*\*\*\*Based on Hartwell Campus utilities/supplies per sq ft and one full time custodian.*

**What is the expected change (if any) in maintenance and operating costs for Bemis once COA departs?**

Any change in the maintenance and operating costs for Bemis Hall would depend on how the Town chooses to use the building once the COA leaves. If:

- the upstairs hall is used similarly to the way it is now on evenings and weekends
- the Friends of the Library book sale, the Minute Men, and the Lincoln Historical Society continue to use space in the basement rent-free as they currently do
- the remaining program and office spaces have a use similar in impact on the building to the COA

We can assume that the overall maintenance and operating costs will be much the same.

Many towns have buildings of about the vintage of Bemis Hall that were previously used as town halls. Towns have put them to a variety of uses, including art spaces, historic exhibits, community use, and rentals. The Library has already expressed an interest in using Bemis Hall for programming. There could be some income if Lincoln decides to rent the space currently used exclusively by the COA, which is about 1700 square feet, and the upstairs hall on weekdays.

Based on the experience of Bedford, which rents out space in its Old Town Hall to non-profits, Lincoln could realize perhaps \$36,000 per year for the 1700 square feet. If the upstairs hall was rented to private individuals or organizations then more rental income could be generated, though it is difficult to quantify how much that would be until we know who might be interested in renting it. Currently we receive about \$2000-3000 per year from upstairs rentals on evenings and weekends. This number is low because almost all users are town departments or Lincoln-based non-profits who use the space rent-free. Bedford also rents its upstairs hall and brings in about \$22,000 annually. However, they charge non-profit organizations for use of the space, so it is unclear whether rentals would bring in anything close to a similar amount.

For more detailed information, please see [appendix K - What Will Happen to Bemis Hall](#)

**After construction and occupancy, what will be the first expected major capital maintenance/repair items? What's the expected timing?**

Mechanical equipment generally has a 10 year life expectancy, so this will likely be the first major expense. In 10 years replacing and/or rehabbing parts in the mechanical system to a condition equal to new will cost approximately \$40,000 for this size building. Following this, roofs typically have a 20-30 year warranty depending on what is specified.

The exterior materials of the Community Center have not yet been finalized. It is likely that the building may have at least some exterior wood siding or trim. Depending on exposure the finish will need to be re-applied in 3-5 years.

**Please summarize feedback the PPDC has received from the community on costs and budget.**

- People have been receptive to the program overall in a number of different public forums over the years.
- We have explained the shared-use concept and how it leads to efficiencies, which has been generally well received.
- We haven't received significant criticism of the program as presented.
- We've been asked to provide a realistic budget with detailed cost estimates and include appropriate escalation assumptions.
- We have explored options we thought might be less expensive but turned out not to be so:
  - a. The infill model was an attempt to create a significant costs savings, but it did not provide major savings.
  - b. The repurposing Smith School scheme turned out to be even more expensive than any Hartwell scheme
- The current program is sized based on current offerings and modest enhancements. Some have urged us, for comparison purposes, to develop a scaled back program. We feel we have a bare bones program as is... any significant reduction would require a curtailing of current activities.
- The community has asked us to be mindful of the tax impact and timing of our project, relative to the school building project. These conversations are ongoing and we look forward to what we expect will be a healthy discussion of this matter on April 30.