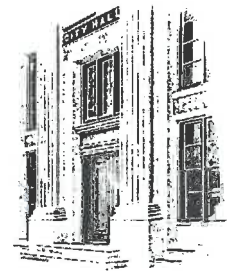




# City of Quincy

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**Thomas P. Koch**  
Mayor

*Office of Municipal Finance*  
Telephone: (617) 376-2706

**Eric J. Mason**  
Chief Analyst/Economist

From: Eric J. Mason, Chief Analyst/Economist  
To: Councilor Ian Cain, Chairman of the Finance Committee  
CC: City Council  
Christopher Walker, Chief of Staff to the Mayor  
Jennifer Manning, Clerk of Committees  
Date: November 19, 2019  
Subject: The Learning Center Cost Assumption

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Hi Councilor Cain,

Per your request, I have outlined the assumptions in the cost modeling presented regarding The Learning Center:

- The debt is modeled at a 4% interest rate over a term of 20 years.
  - Recently, we have been receiving interest in the low 3% range for long term bonds.
  - There is no assumed reduction in principle from bond premiums, which is extremely likely to happen.
  - The first two years are likely to be financed through bond anticipation notes, which would create a greater savings factor in the first two years; this reality is not expressed in the model.
- There is an assumption, based upon discussions with the School Department, that our Chapter 70 funding would be reduced by \$450,000 due to no longer sending forty pupils out of district.
  - While this cost assumption is not the traditional cost that is associated with funds being expensed, it is a specifically known reduction in resources so it is expressed in the model as a cost to give a clearer picture.
- Building Maintenance and Utility is based upon two assumptions:
  - The utility cost comes from a 2019 study by Iota Communications, Inc. on a per square foot utility cost basis; this defines utilities as: lighting, heating, cooling, ventilation, hot water, and marginality for associated consumption.
    - Iota Communications, Inc. data and analyses are used by Boeing, Walmart, and the Department of Defense.
  - There is a 6% assumed cost escalator built in to the model.
    - This is an aggressive growth rate, but energy costs are historically tricky to estimate in longitudinal analysis.
    - Improvements such as solar panels and more efficient utility systems can drastically reduce the cost escalation.

- Staffing is assumed in the model, for forty pupils, as:
  - 8 teachers at \$640,000
  - 24 para-teachers at \$840,000
  - 2 custodians at \$80,000
  - 1 secretary at \$60,000
  - 2 additional office staff members at \$90,000
  - These salaries are modeled at a 2% escalator.
  
- The model incorporates approximately \$200,000 in frictional marginality operating costs.
  - Unlike specific variables as mentioned above, these costs are the product of using higher than expected cost estimates in each specific variable. This practice allows for an assumption of cost that would be unforeseen from variable specific modeling. This is sometimes referred to as a non-zero constant assumption in linear modelling.

I hope this memo helped outline the various assumptions within the cost model. Please do not hesitate contact me with any questions or comments about these assumptions or the financial portions of this project as a whole.

Best,



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