

# 2018-2019 BUDGET QUESTION

## *Response to Request for Information*

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**DEPARTMENT:** Fire and Public Works

**REQUEST NO.:** 2

**REQUESTED BY:** Garza

**DATE REQUESTED:** 4/10/18

**DATE POSTED:** 5/8/18

**REQUEST:** Please provide detailed explanation behind the construction costs, contingency, and cost escalation numbers included in the memo from March 30, 2018 for adding five new fire stations.

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**RESPONSE:** An “Architectural Project Budget Estimate” was developed for each fire station to determine the total estimated cost based on standard factors included in construction of new facilities. The estimates (based on industry standards, historical city of Austin averages, and project delivery cost data), include actual construction costs, project management costs, right of way acquisition, debt issuance, and more. The budget estimates provide a rough order of magnitude estimate to facilitate project definition and decision making.

The estimates have several key components including building type, building size, and the use of an industry standard estimate classification system. The estimates **do not include** fixtures, furniture and equipment.

The memo dated March 30, 2018 includes the total cost of five new fire stations, including all known cost estimations, contingencies and debt service. The construction costs provided in the memo were escalated based on the estimated mid-point of construction, assuming the first station opens in October 2020 and each subsequent station opens every two years (based on the concept of spreading out the resulting operational budget impacts). Construction timelines were sequenced based on current emergency response times.

The accelerated timeline to construct five new fire stations in ten years assumes the successful application of a public-private partnership (P3) model, similar to the approach approved by Council for a new Planning and Development Center. The P3 approach is anticipated to reduce the time and potentially the costs of bringing new facilities online. Staff from Financial Services and the Office of Real Estate Services continue to explore the possibility of applying this model to the acquisition of new fire stations, but if the P3 model proves unworkable, the 10-year timeline may not be achievable.

The construction, contingency and escalation cost estimates were developed as follows:

- **Estimated Construction Costs** are determined by the total square feet of the fire station multiplied by the estimated cost per square foot of construction and then rounded due to the level of accuracy for this estimate.
  - The cost per square foot of construction for the Onion Creek Fire Station (a three-bay station currently under construction) is currently \$510 per square foot.
  - Therefore, a three-bay station at 9,650 sq. ft. x \$510 per ft. = about \$4.9 million\*.

➤ A four-bay station at 10,596 sq. ft. x \$510 per ft. = about \$5.4 million. \*

\* The costs above are purely for construction and do not include other expenses related to constructing new fire stations, such as engineering services and land costs. See the table below for total costs.

- **Contingency funding** is established for each project based on estimated cost risks inherent to the design and construction process, the degree of uncertainty, and the accuracy of current design information. In order to determine adequate contingency funding for the project, we used an “estimating classification system” that is an industry standard. The classification level and accuracy range is determined using current design information.
  - With the limited design information we have at this time, a “Class 4” level of accuracy (-20% to 30%) is appropriate. So, we used a 20% contingency for the fire stations constructed within 5 years and a 30% contingency for construction within 10 years.
- **Cost Escalation** accounts for inflation from the current day to the mid-point of construction. Inflation costs consider labor, material and equipment, inflationary trends, market supply and demand, and global economic issues. Cost escalation is based on the national building construction project’s historic and current Cost Indexes established by the Engineering News-Record (ENR). These Cost Indexes varied over the past ten years from 2.37% to 3.01%, with the current average Cost Index of 2.37%. We used a cost index of 2.37% for these estimates.

The table below provides more detail on the specific cost estimates.

### Fire Station Cost Estimates

	<b>Travis Country</b>	<b>Del Valle/ Moore’s Crossing</b>	<b>Loop 360/ Davenport</b>	<b>Goodnight Ranch</b>	<b>Canyon Creek</b>
	10,596 sq/ft	10,596 sq/ft	10,596 sq/ft	9,650 sq/ft	9,650 sq/ft
<b>Construction (based on sq. ft.)</b>	\$5,400,000	\$5,400,000	\$5,400,000	\$4,900,000	\$4,900,000
<b>Other costs (Architecture/Engineering, Surveying, Testing, Inspections, Construction, Miscellaneous, AIPP)</b>	\$3,200,000	\$3,200,000	\$3,200,000	\$3,000,000	\$3,000,000
<b>Land &amp; Right of Way</b>	\$3,000,000	\$0	\$5,000,000	\$0	\$3,000,000
<b>Sub Total*</b>	\$11,600,000	\$8,600,000	\$13,600,000	\$8,000,000	\$11,000,000
<b>Contingency (% of subtotal)</b>	\$2,300,000 20%	\$1,700,000 20%	\$4,100,000 30%	\$2,400,000 30%	\$3,300,000 30%
<b>Debt Issuance</b>	\$77,000	\$57,000	\$97,000	\$57,000	\$78,000
<b>Total*</b>	<b>\$14,000,000</b>	<b>\$10,400,000</b>	<b>\$17,800,000</b>	<b>\$10,400,000</b>	<b>\$14,300,000</b>
<b>Estimated mid-year of construction</b>	2 years	5.5 years	6.5 years	7.5 years	10 years

	<b>Travis Country</b>	<b>Del Valle/ Moore's Crossing</b>	<b>Loop 360/ Davenport</b>	<b>Goodnight Ranch</b>	<b>Canyon Creek</b>
	10,596 sq/ft	10,596 sq/ft	10,596 sq/ft	9,650 sq/ft	9,650 sq/ft
<b>Estimated escalated construction cost (+2.37% per year)*</b>	<b><u>\$14,700,000</u></b>	<b><u>\$11,400,000</u></b>	<b><u>\$20,500,000</u></b>	<b><u>\$12,500,000</u></b>	<b><u>\$18,100,000</u></b>

\*Numbers do not necessarily total accurately due to rounding