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## FROM HEADACHE TO SANITY: LOOKING BACK AT 2015 AND FORWARD TO 2016

2015 marked the slowdown of a frenzied and not necessarily pleasant party in the Houston economy. While oil prices collapsed, construction costs rose dramatically and budgets were broken, schedules not maintained, and many design and construction firms had overreached their capacity to deliver. That created problems for Owners, but also for the design and construction firms who struggled to maintain quality and internally were confronted with unanticipated costs they, too, were often forced to absorb.

What will 2016 and the future bring? More importantly, what factors may weigh on Owners and influence their future projects in 2016 and beyond?

2016 is still a cost and schedule hangover from the Texas economic boom. A number of those drivers – which go beyond merely energy prices – are still in place and can remain with us for some time to come.

Oil prices are only one component of local costs. Oil prices can create a surge – or fallout – in employment and commercial construction depending on their market trend. Construction, like oil and natural gas, is supply/demand driven. Its major component, labor, comprises approximately 50% of the total product cost and is often treated as a price elastic but disposable commodity, creating a boom/bust cycle similar to energy prices. Its two other components are materials and, an often forgotten component, capital.

Materials are also price elastic, but less so than labor because it is readily portable to other markets. Other than concrete, materials including cement, are national in market as opposed to labor, which is local and subject to transit only in extreme conditions. While Texas commercial construction is currently cooling off, the national construction market, and therefore materials demand, is rising. In spring 2016, for example, key cost trend indicator cement is scheduled to rise 10-15% in every national market - except Texas, where it will remain flat. For the foreseeable future, **Owners should not expect a price decrease benefit from materials due to national construction demand.**

Local construction labor costs, despite what might be inferred from present energy price trends, appear unlikely to recede from present levels with the possible exception of unskilled labor.

While commercial office space, some warehouses, and multi-family complexes are trending off the grid, retail is booming with a nearly 50% volume increase in 2016 over a booming 2015 and more planned for 2017. The real story driving costs for 2016-17 is the public sector and petrochemical. With tax revenues enhanced during the economic upsurge, governmental entities are moving forward with new infrastructure and facility construction, backfilling new demographic needs. Higher education is coming forward with over \$3.5 billion in new state university projects. And along the ship channel and Gulf Coast over \$8.3 billion in petrochemical plants may be completing in 2016 with another \$22.7 billion in 2017.

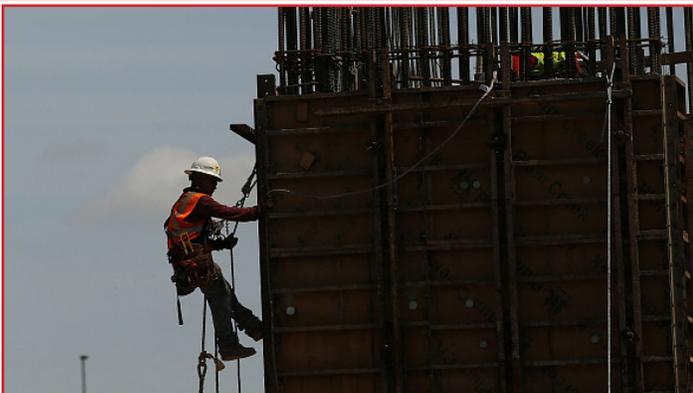
All these projects draw on the same labor pool which serves K-12. Petrochemical is still short field forces, is labor intensive, and pays higher wages than commercial work. Together with two other factors, this volume of local construction activity will likely maintain labor force demand at a level where wages will not exponentially rise as they have in recent years, but they will not appreciably fall. The first of the other two factors are accelerating retirements of construction worker, with a lack of replacements in the industry, compounded by a severe shortage in trade skills. The local and national labor force is less trained and less productive overall. With a steady flow of work and a shrinking pool of skills, wages will not dramatically decrease. **Costs will not rise as dramatically as in recent years, but they will not drop dramatically. A stabilization of labor costs should be anticipated, but with potential continued cost pressure on trades requiring craftsmen.**

The second factor is seldom seen, but impactful behind the scenes. Construction like the grocery industry is a high volume, but very low margin industry. Many of us have seen design firms affected by capital requirements and the inability

of principals to transfer equity in their firms when they exit, resulting in consolidation. The same is becoming true for construction. Construction company equity requirements for bonding, operating capital, insurance and healthcare burdens, constant technology improvements, and lender and stockholder mandates for an appropriate risk/reward balance are placing increased pressure on management and shaping a marketplace of large firms requiring a specific return on capital employed, and small firms with thin balance sheets and higher risks for project owners. **While labor cost driven pricing at present is permanently changing the regional construction market, a future capital driven influence could come into play.**

**We can anticipate relief from the upward cost pressure of the last few years into a more stable market. In the future those pressures can return due to demographic/trade training trends.** But as we enter what appears to be a period of sanity and clearer skies, we need to be aware that potential storms could lurk beyond the horizon.

Bob Richardson, Durotech Inc.



## Oil & Natural Gas Indicators



### West Texas Intermediate Spot Market Price

	Dec-15	Dec-14	% Change
Monthly Price	\$ 37.19	\$ 59.29	-37.30%

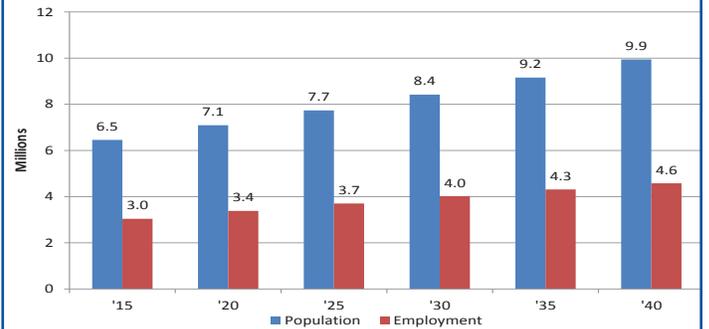


### Henry Hub Natural Gas Price

	Dec-15	Dec-14	% Change
Monthly Price	\$ 1.93	\$ 3.48	-44.50%

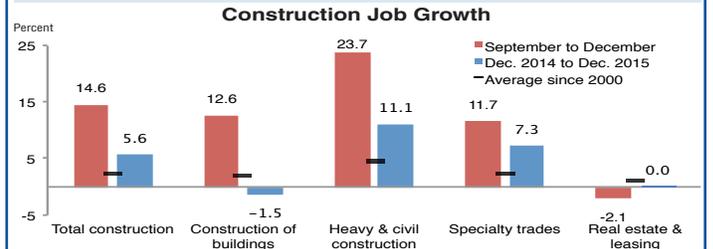
Source: Henry Hub / Greater Houston Partnership

### Population and Employment Houston-The Woodlands-Sugar Land MSA



## TEXAS CONSTRUCTION EMPLOYMENT

### Construction and Real Estate



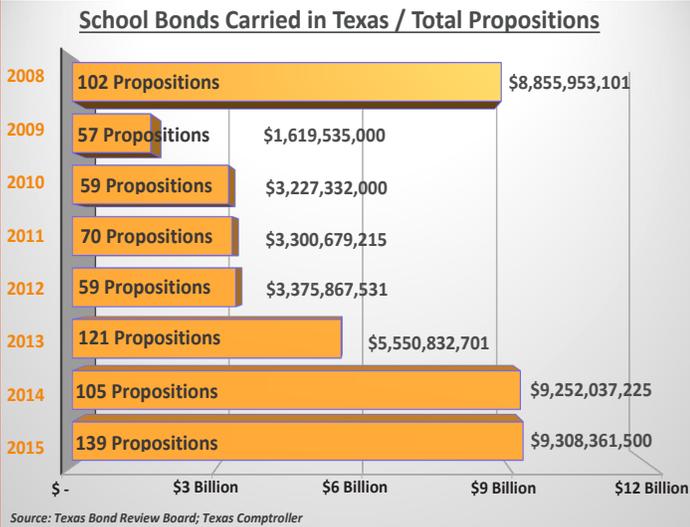
## PMI - Houston Indicators

	Dec-15	Dec-14	% Change
YTD Average Price	\$ 46.50	\$ 56.50	-21.5%
Monthly Price	\$ 43.30	\$ 51.50	-18.95%

The PMI is a leading indicator of economic conditions for Houston. An index number below 50 represents a contracting economy; readings above 50 indicate an expanding economy. The PMI, registered 45.6 in January 2016, up from 43.3 in December, according to the latest report from the Institute for Supply Management-Houston (ISM-Houston). With the January reading, the PMI has signaled economic contraction in Houston for 13 consecutive months.

Source: Purchasing Managers Index (ISM)/Greater Houston Partnership

## TEXAS SCHOOL BONDS CARRIED TOTAL PROPOSITIONS APPROVED



## 2015-2016 SQUARE FOOT COST DATA AVERAGE RANGES

### Elementary School Cost Data

2015	2016 Projected
\$170-210	\$179-221

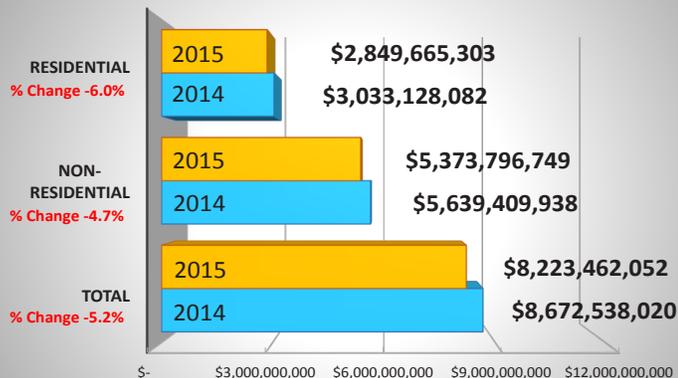
### Middle/Jr. High School Cost Data

2015	2016 Projected
\$200-215	\$212-228

### High School Cost Data

2015	2016 Projected
\$215-245	\$234-267

## City of Houston Permits



## RESIDENTIAL MARKET SLOWING



## HOUSTON HOME SALES SHOW RESILIENCE IN JANUARY 2016

### LEADING INDICATORS:

- 2015 home sales 81,224 down from **2014 record high of 83,307**
- 27,778 housing starts in 2015 down 7.1% over 2014 Metrostudy forecast for 2016 - 25,500 starts
- Average 2015 sales price \$280,290 up 3.7% from \$270,182 in 2014
- Single-family home sales declined 2.1 percent compared to January, marking the fourth consecutive monthly decline
- Total dollar volume was statistically flat at \$1.2 billion
- At 262,663, the single-family home average price reached its highest level ever for a January
- At \$200,000, the single-family home median price also achieved a January high
- Single-family homes months of inventory climbed to a 3.3 months supply versus 2.5 months a year earlier

Source: Houston Area Realtors/Metrostudy

## January Monthly Market Comparison Home Sales

	January 2015	January 2016	% Change
Total Property Sales	4,964	4,965	0.0%
Total active listings	27,865	32,260	15.8%
Single-family home sales	4,109	4,024	-2.1%
Single-family average sales price	\$ 261,913	\$ 262,663	0.3%
Single-family median sales price	\$ 190,000	\$ 200,000	5.3%
Single-family months inventory*	2.5	3.3	30.5%
Single-family pending sales**	5,237	5,714	9.1%

\* Months inventory estimates the number of months it will take to deplete current active inventory based on the prior 12 months sales activity. This figure is representative of the single-family homes market.

\*\* Effective May 2015, in an effort to be consistent with industry standards, the Houston MLS is now including all categories of pending sales in its reporting. Previously, the Houston MLS did not include "option pending" and "pending continue to show" listings in its reporting of pending sales. The new methodology is now all-inclusive for listings that went under contract during the month.

Source: Houston Association of Realtors

# HOUSE BILL 1295

During the Texas 84th legislature session HB 1295 was passed and signed into law by the governor on June 19, 2015 with an effective date of September 1, 2015. This bill is relating to the disclosure of research sponsors, and interested parties by persons contracting with governmental entities and state agencies. Section 3 of this bill amends Subchapter Z, Chapter 2252 of the Texas Government Code and it adds section 2252.908 which is the Disclosure of Interested Parties section of which is the focus this write up is about.

In summary, Section 2252.908 of the Texas Government Code requires a business entity that enters into a contract with a school district to submit a disclosure of interested parties (Form 1295) to the school district and state agency and applies to contracts with a value of \$1,000,000.00 or greater and applies to all contracts entered into on or after January 01, 2016.

An example of the Form 1295 is available on The Texas Ethics Commission's website [www.ethics.state.tx.us](http://www.ethics.state.tx.us); the form is required to be filled out online, printed, signed and notarized, and submitted with the contract of which it is applicable.

Texas Ethics Commission website has a link on the right side that has a white star for a new form 1295 Filing Application that will take you to the online form that must be used to file Form 1295. A business entity must use the application to enter the required information on Form 1295 and print a copy of the form and a separate certification of filing that will contain a unique certification number. An authorized agent of the business entity must sign the printed copy of the form and have the form notarized. The completed Form 1295 and certification of filing must be filed with the governmental body or state agency with which the business entity is entering into the contract. The governmental entity or state agency must notify the commission, using the commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The

commission will post the completed Form 1295 to its website within seven business days after receiving notice from the governmental entity or state agency.

It would be recommended that all contracts executed after January 1, 2016 that have a total value over \$1,000,000.00 would have the form 1295 filing included in the contract requirements much like the Non-Discriminatory Employment and Conflict of Interest forms.

*Mark French, Texas-IBI Group*



## AEC Market Feedback 2016

- Consultants have seen a slight decrease in demand for services. But for the most part they are staying busy, with layoffs only in their energy sector studios.
- General Contractors continue to work through their backlog. Concern is mounting for 2016 projects. Industrial, retail, and medical are still going strong.
- Subcontractors' workload is still challenging their capacity. Personnel that came to Houston during the "boom" now have the option of returning home to a recovered local economy.
- Commodities have held steady, and in a few cases decreased in cost. But we haven't seen construction material prices significantly affected.
- Long lead delivery times for critical path material and equipment continues to drive completion dates.

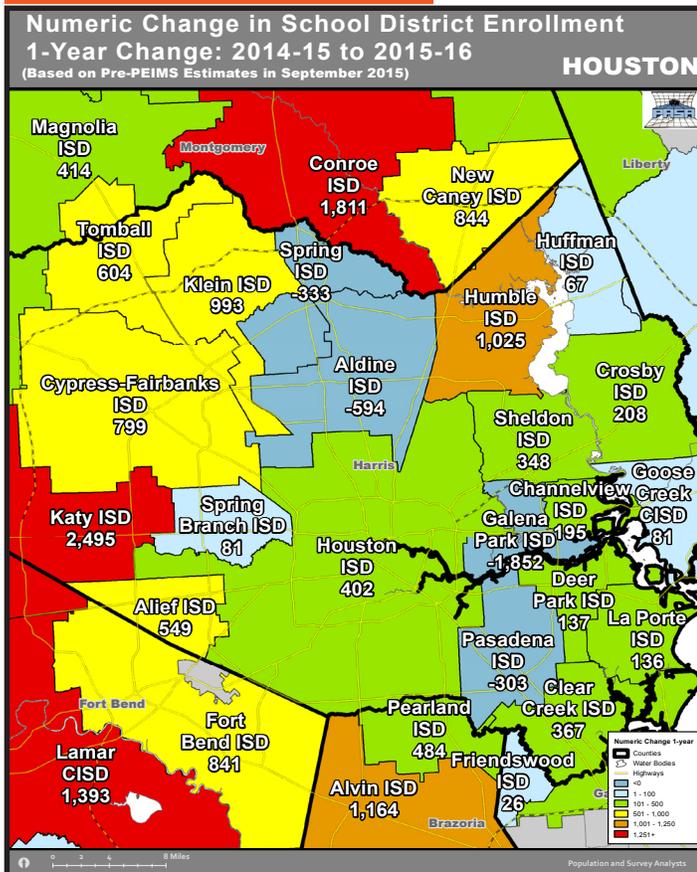
## Highest Growth School Districts in the Metro Area -- with Projected New Housing Five and Ten Years Forward

### This Year's Growth Trends:

A map of this year's enrollment growth (shown below) for local school districts shows that the highest numeric increases are in Katy I.S.D. and Conroe I.S.D. – despite being the two suburban districts which should be the most affected by the oil price downturn. The next-highest growth districts are Lamar C.I.S.D., followed by Humble and Alvin.

Keeping in mind that the smaller districts often have the greatest percent growth – the second map (next page) shows that New Caney had the biggest percent leap, followed by Alvin, then Lamar C.I.S.D., Tomball, Sheldon, and Waller.

Both types of high growth – numeric and percent – are in school districts that are steaming forward – each driven by uniquely strong “pulls” to their respective locales. **In most cases, families are continuing to gravitate to master-planned communities, despite job instability. So, these planned environments provide the chief factor in the strong growth for the districts described above.**



### Impacts of the Energy Sector Downturn:

It is important to see which locations within the Houston area have been the most affected by a plunge in housing starts. Decreases (or increases) in housing starts in the last quarter of 2015 relative to the last quarter of 2014 (from MetroStudy data) are as follows – for the top 8 districts:

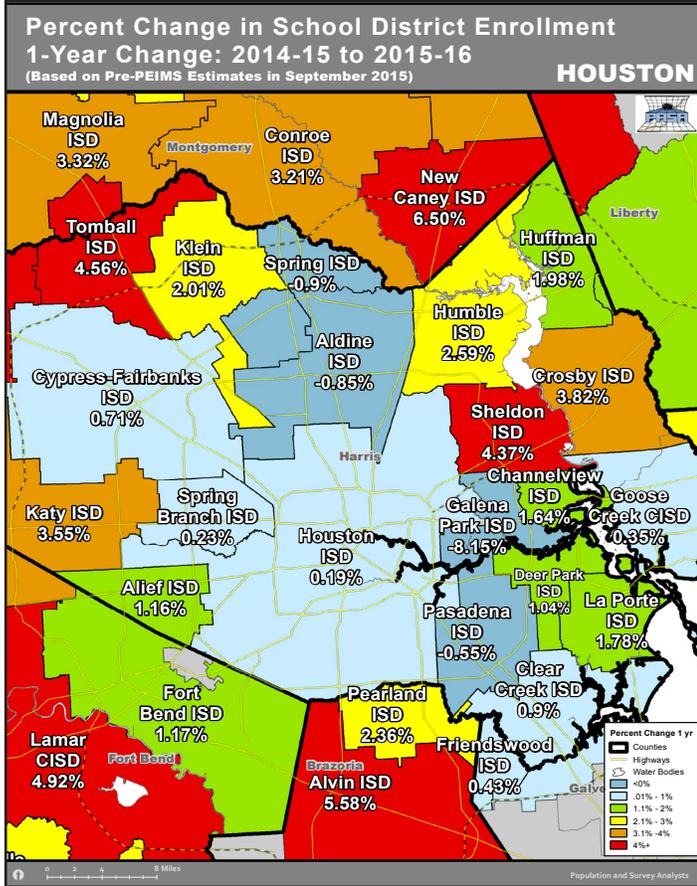
- Houston I.S.D. - 56%
- Klein I.S.D. - 42%
- Katy I.S.D. - 26%
- Cy-Fair I.S.D. - 18%
- Humble I.S.D. - 16%
- Conroe I.S.D. - 15%
- Lamar C.I.S.D. - 14%
- Fort Bend I.S.D. + 5.5%

Each school district, and broad sector of the Houston area, has different levels of dependency on oil revenue and the services that surround the energy sector. Yet these 8 local districts above were selected because they still have the largest number of housing starts – despite 7 of the 8 showing a decline in the last quarter of 2015 – compared to the last quarter of 2014. Fort Bend led the 2015 annual housing starts – with 3,510 new home starts (according to the MetroStudy data). Then, Katy followed, with 2,742 annual starts, and Lamar C.I.S.D. with 2,522. Finally, Cy-Fair, Houston, Conroe, Klein, and Humble ranked 4th through 8th, with the remaining Houston area districts showing a smaller number of new homes underway.

What does this overall decline in new home construction mean for the future of these districts? First, it has been noted that these 8 districts are still the most successful in adding new homes. And, the biggest loser among the top 8 – Houston I.S.D. – has new housing heavily oriented to townhomes and condos, which typically show an immediate slowdown during an energy pinch.

Klein I.S.D. is second highest in new housing construction declines, which is geographically closer to ExxonMobil, Southwestern, and other Woodlands-area energy offices than is the majority of the Conroe School District. And, Katy, with the third highest loss, has I-10's Energy Corridor, so can also be expected to have big cuts in new housing.

The remaining districts in this top 8 list all have both energy jobs and energy-related secondary jobs, but each still remains among the top producers of new housing – as of the last quarter of 2015.



Ten-year rank of projected new homes AND new apartments:

Lamar C.I.S.D.	49,506	all new housing units projected
Katy I.S.D.	47,195	
Cy-Fair I.S.D.	47,032	
Conroe I.S.D.	38,312	
Fort Bend I.S.D.	32,489	
Klein I.S.D.	23,748	
Humble I.S.D.	17,262	

*Dr. Pat Guseman, President, Population and Survey Analysts (PASA)*

*Scott Davis, Regional Director, Houston MetroStudy (A Hanley Wood Co.)*

### K-12 Construction Bonds Passed in the Last 3 Years = \$7.2 Billion

District	2013 (in millions)	2014 (in millions)	2015 (in millions)
	\$816	\$3,477	\$2,985
Clear Creek ISD	\$367		
Goose Creek ISD	\$177		
Alvin ISD	\$212		
Barbers Hill ISD	\$60		
Cy-Fair ISD		\$1,209	
Dickinson ISD		\$56	
LaPorte ISD		\$260	
Brazosport ISD		\$175	
Dayton ISD		\$87	
Ft. Bend ISD		\$484	
Katy ISD		\$748	
Lamar ISD		\$240	
Pasadena ISD		\$175	
Hardin ISD		\$16.8	
Sweeny ISD		\$26	
Alief ISD			\$341
Aldine ISD			\$798
East Chambers ISD			\$10
Klein ISD			\$498
Liberty ISD			\$33
Montgomery ISD			\$256
New Caney ISD			\$173
Willis ISD			\$109
Alvin ISD			\$245
Cleveland ISD			\$35
Conroe ISD			\$487
Magnolia ISD			\$92

Source: Texas Bond Review Board

### Projections of New Housing for Suburban School Districts – Five and Ten Years Forward:

Taking into account the prognosis for a slow energy recovery, the suburban districts discussed above STILL have the potential for considerable projected new housing occupancies, as shown below. (These projections are prepared by Population and Survey Analysts for every subdivision and for as-yet undeveloped parcel within each school district, and then summed.)

#### Five-year rank of projected new homes:

Cy-Fair I.S.D.	14,431	new homes projected
Lamar C.I.S.D.	14,064	
Conroe I.S.D.	13,543	
Fort Bend I.S.D.	13,350	
Katy I.S.D.	13,178	
Klein I.S.D.	6,471	
Humble I.S.D.	5,624	

## SCHOOL FINANCE UPDATE

On the school finance front, the same two issues that were on the agenda a year ago remain front-and-center in 2016. The school finance lawsuit awaits a ruling by the Texas Supreme Court and the slump in state revenues, due largely to the reversals in the oil industry, is expected to have a significant impact when the Legislature meets in 2017.

**Court Action.** The Texas school finance lawsuit, which is referred to as Michael Williams, et al., vs. The Texas Taxpayer and Student Fairness Coalition, et al., was heard by the Texas Supreme Court on September 1, 2015, the first day of the Court's current session. The majority of the Justices were actively engaged in the oral arguments presented to the Court by the plaintiffs in the case and the State.

**No ruling has been issued as of mid-February. The last time the Court took up a major school finance case a decade ago, it took about five months for the Court to issue its ruling.**

The positions of the parties in the case can be summarized as follows:

- **Plaintiffs:**

- o The school property tax is effectively a state tax (value growth accrues to the benefit of the state).
- o Finance structure is inadequate, unsuitable and inequitable.
- o Money does matter in public education.
- o The Legislature failed to determine the costs of its increased education standards as required by law.

- **Intervenors:**

- o Charter schools are disadvantaged in terms of funding.
- o State laws regulating public education make it inefficient.

- **State's Position:**

- o School funding is a political question and not subject to judicial review.

- o The case is not "ripe" and should be remanded to the trial court for further review.
- o Money doesn't matter in funding public education.

How the Court addresses these issues will have a significant impact on the funding of public education in Texas for a number of years, based on the history of previous rulings.

**Appropriations.** An enhanced revenue picture allowed the state to address a number of spending issues in its 2015 legislative session. The total state biennial budget of \$209 billion grew by 3.6 percent over the previous biennium. The important General Revenue portion of this budget totaled \$106.6 billion, a 12 percent increase over the previous biennium, although it includes \$3.8 billion in tax reductions—chiefly in the corporate franchise tax—with a \$1.25 billion increased homestead exemption for school taxes. The Legislature went home last spring with a \$6.4 billion unspent balance in General Revenue and a projected Rainy Day Fund balance of \$11.1 billion. The certification revenue estimate released last fall lowered the unspent General Revenue Fund balance to \$4.1 billion, with the Rainy Day fund balance reduced to \$10.4 billion, both of which remain substantial amounts, although now potentially less so due to declining energy markets.

The Legislature did finance enrollment growth increases expected to cost \$2.5 billion for the biennium and made some formula increases estimated to total \$1.4 billion. With \$1.25 billion added to offset the additional \$10,000 school homestead exemption, new Foundation School Program funding totaled \$6.11 billion. It is interesting to note that projected increases in local school district property values are expected to save the state \$4.5 billion in FSP state costs in the 2016-17 state biennium. When the \$1.1 billion in additional recapture funds from property-wealthy districts are added in, \$5.6 billion of the \$6.11 billion increase

will be funded through local property-value growth. The state's share of operations funding for schools is expected to decrease from 43.8 percent in 2015 to 40.9 percent by 2017.

In terms of school facilities funding, existing funding commitments for the Instructional Facilities Allotment (IFA) and Existing Debt Allotment (EDA) are maintained, although the state dollars are also reduced here due to projected property-value growth. A \$55 million increase in IFA funding was approved for the 2016-17 biennium. The New Instructional Facility Allotment (NIFA) that provides funds for new campus start-ups was funded at \$47.5 million for the biennium for the first time since it became a victim of budget cuts in 2011.

One concern is that a diminished revenue outlook may make it difficult to fund any school needs that might arise out of a Supreme Court ruling that is favorable to the plaintiffs in the case. The major state taxes are all tracking below the projected growth rates in the certification revenue estimate issued last fall. **Lower oil prices are expected to reduce revenues going into the Rainy Day Fund,** much of which has been targeted for highway funding. The state may be facing an austere revenue outlook when the Legislature meets next January.

Dan Casey - Moak, Casey & Associates



### Employment Gains and Losses in 2015

Accommodation and Food Service	+18,600	
Health Care	+16,700	
Government	+10,200	
Construction	+2,900	
Retail	+7,100	
Admin Services	+1,600	
Arts, Entertainment, Rec.	+1,000	
Information	+1,400	
Professional and Business Services	+400	
<b>Other Services</b>	<b>-1,500</b>	<b>Net Gain +15,200</b>
<b>Business Services</b>	<b>-1,400</b>	
<b>Wholesale Trade</b>	<b>-3,800</b>	
<b>Finance, Insurance, Real Estate</b>	<b>-5,200</b>	
<b>Transport, Warehousing, Utilities</b>	<b>-2,500</b>	
<b>Mining and Logging</b>	<b>-8,500</b>	
<b>Manufacturing</b>	<b>-16,000</b>	

Source: Partnership calculations based on Texas Workforce Commission data.

### Other Cost Influencers

- Nationally, construction employment in February and construction spending in January climbed to 7 year highs – US Bureau of Labor statistics
- National construction spending increased by 10.4% in 2015- US Census Bureau
- Shortage of construction workers in New York, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, San Francisco, per US Federal Reserve District reports

Bob Richardson, Durotech

## PROJECTED TRENDS

The following are results from a recent survey with local Houston-area specialty contractors that work in the education sector. AGC/A4LE makes no representations that this is a scientific study.

### Material Cost Increases Annual Percent Change

Trade	2015	2016 Projected
Labor Intensive Trades	6.2%	4.1%
Finishes / Specialty Trades	5.6%	5.1%
MEP Trades	3.8%	3.0%

### Labor Cost Increases Annual Percent Change

Trade	2015	2016 Projected
Labor Intensive Trades	11.3%	6.9%
Finishes / Specialty Trades	9.08%	6.93%
MEP Trades	9.05%	5.5%

### Revenue Increases Annual Percent Change

Trade	2015	2016 Projected
Labor Intensive Trades	13%	18%
Finishes / Specialty Trades	9%	22%
MEP Trades	13%	8%

### Margin Increases Annual Percent Change

Trade	2015	2016 Projected
Labor Intensive Trades	2.5%	3.8%
Finishes / Specialty Trades	2.8%	2.7%
MEP Trades	3.4%	0.5%

### Labor Production Rates Annual Percent Change

Trade	2015	2016 Projected
Labor Intensive Trades	-2%	-3%
Finishes / Specialty Trades	0%	0%
MEP Trades	-5%	-4.2%

## Houston Specialty Subcontractor Market Summary

Comments	
Labor	rate of cost increase slowing
Materials	% increase is flat
Revenue	rate of revenue growth decreasing
Margins	rate of increase is declining
Inflation	rate of increase is declining
Labor Productivity	skilled labor shortfall starting to show

## Houston Specialty Subcontractor Concerns and Cost Drivers Going Into 2016

Economy/ Work Backlog	50%
Labor	73%
Direct Labor Cost	3%
Labor Availability	23%
Labor Skills/ Training	30%
Jobsite Security Clearances & immigration	7%
Insurance Costs	10%
Increased Owner Requirements and Mandates (SB 9)	3%
Specifications and CD's	10%

## Workforce and Materials Cost Impacts:

- Aging workforce and few replacements.
- Skilled tradesmen are exiting construction into retirement and there aren't enough replacements.
- Trade cost and manpower issues.
- Kiley Advisors reports some local firms having to give 17% raises for two consecutive years to keep field staff.
- Downstream plant labor needs.
- \$40 billion in downstream plants are underway along the ship channel and Gulf Coast. The labor force to build them is short thousands of workers.
- National materials demand.
- Houston may be slowing but nationally the market for materials from elevators to window frames is increasing.
- Concrete prices influenced by local highway.
- The Grand Parkway is finishing but hundreds of millions more in highway work demands concrete.

Bob Richardson, Durotech

# HIDDEN DRIVERS OF RISING CONSTRUCTION COSTS

Construction costs as evaluated on a cost per square foot is considered a relatively straight forward comparison of construction costs over time. Given the data we are seeing if it is taken as an absolute comparison it would appear that costs are escalating significantly faster than inflation or raw material costs increases that are being experienced in the building industry as a whole.

However if one dives a bit deeper into the context of what is happening in the educational facility market there are other significant factors that are also influencing the per capita increase in projects both in size and in facility infrastructure. These influences have not affected all projects equally as the timing of their inclusion has varied, i.e. Authorities having jurisdiction have adopted new codes at different times and school districts' adoption of different technologies and teaching techniques have varied from district to district as well. These influences on cost have seeped into projects over the past few years and it makes a direct comparison of square foot cost purely attributable to construction escalation over the last few years difficult to isolate.

The list presented below is intended to highlight some of these influences and at least provoke some thought and consideration on the impacts that these types of items have had or will have on your specific building program.

## Governmental, Demographic or Community Driven Influences:

- Special Education
- Fine Arts
- Pre-Kindergarten and all day PK

## Sustainability Driven Influences:

- Transparency
- Daylighting

## Pedagogical or Curriculum Driven:

- Program increases -SF per student is on the rise
- Collaborative Learning Spaces (Expanded Circulation Spaces)
- Growth of or added spaces for STEM/STEAM and Maker Spaces

## Technology Driven:

- Technology
- Wireless and hard wired redundancy (expanded idf's, electrical and hvac scope)

## Authority Having Jurisdiction:

- New Codes and AHJ influences:
- IECC
- Fire –air sampling, signage increase, electronic locks
- MEP – ASHRAE, IAQ
- EPA SWPPP

Mark French, Texas - IBI Group

## Houston Region Petro Chemical Construction

2010 - 2023 243 projects worth \$147 Billion

2016 Completion	\$8.3 Billion
2017 Completion	\$22.7 Billion
2017-2021 Completion	\$14.8 Billion

Source: Houston Business Journal

