



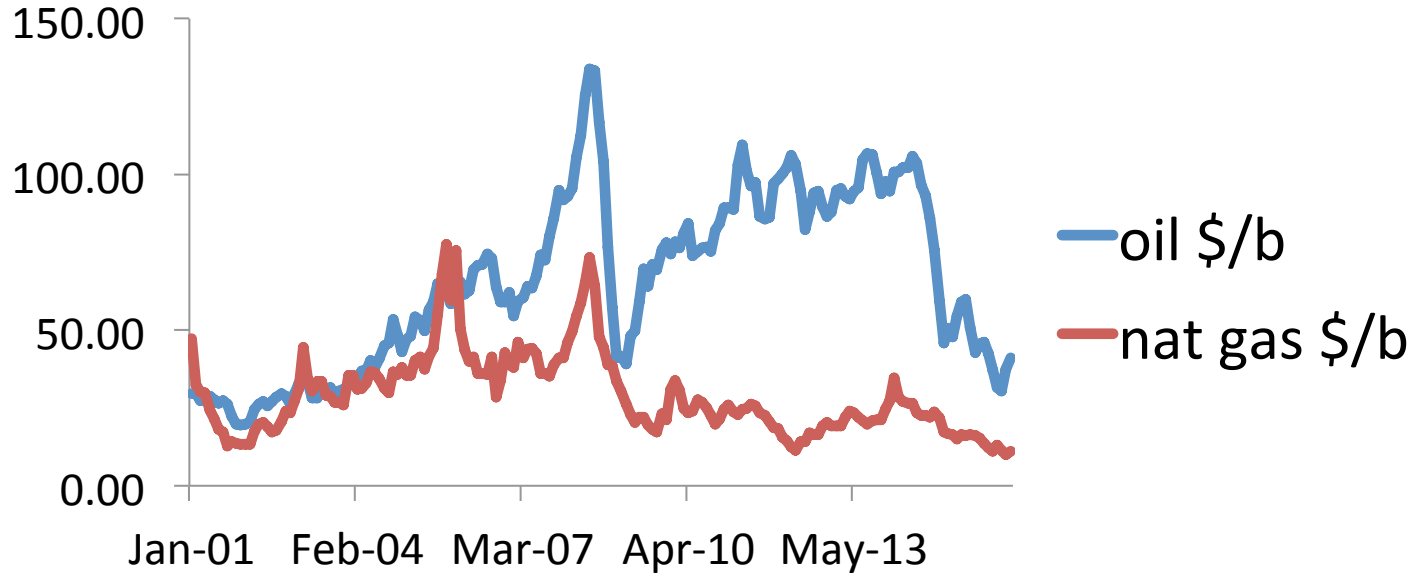
INSTITUTE FOR REGIONAL FORECASTING

The Greater Houston Economy and an Elusive Energy Recovery

Adam W. Perdue, Ph.D.
C.T. Bauer College of Business
June 2016

How did we get here?

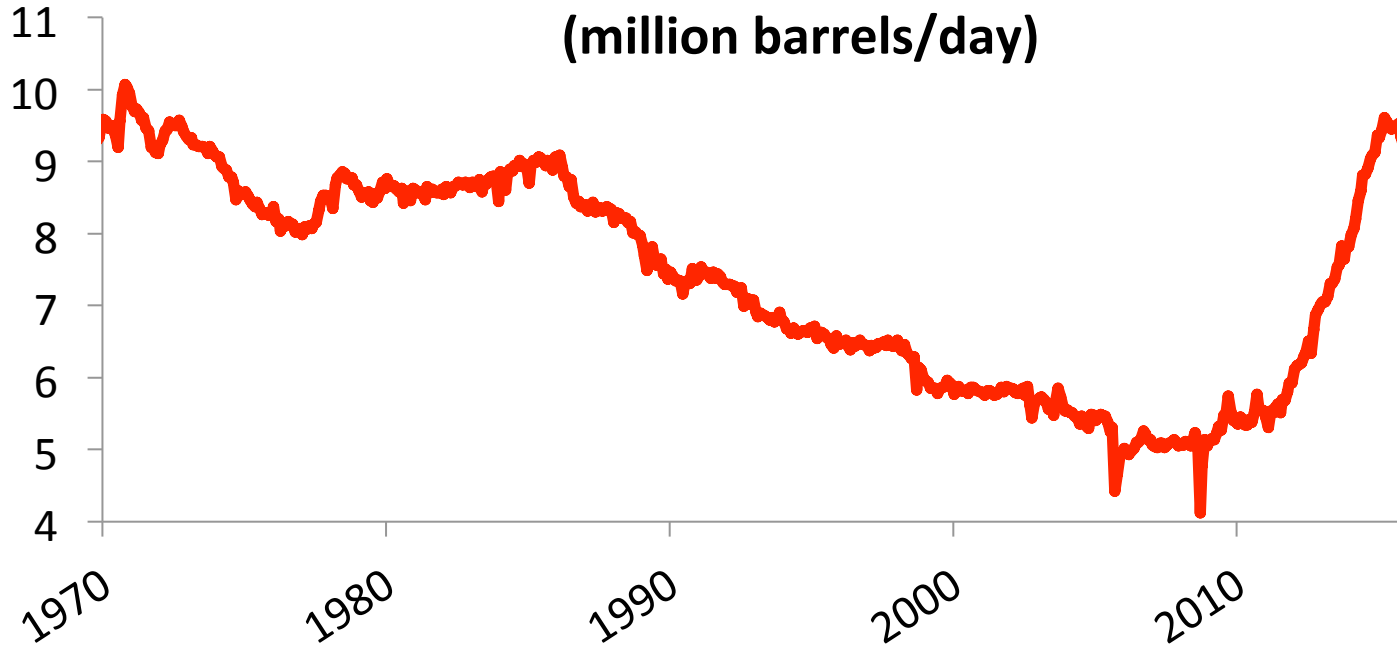
Oil & Gas Prices



DOE/EIA and calculations of the author

Upstream U.S. Oil Production

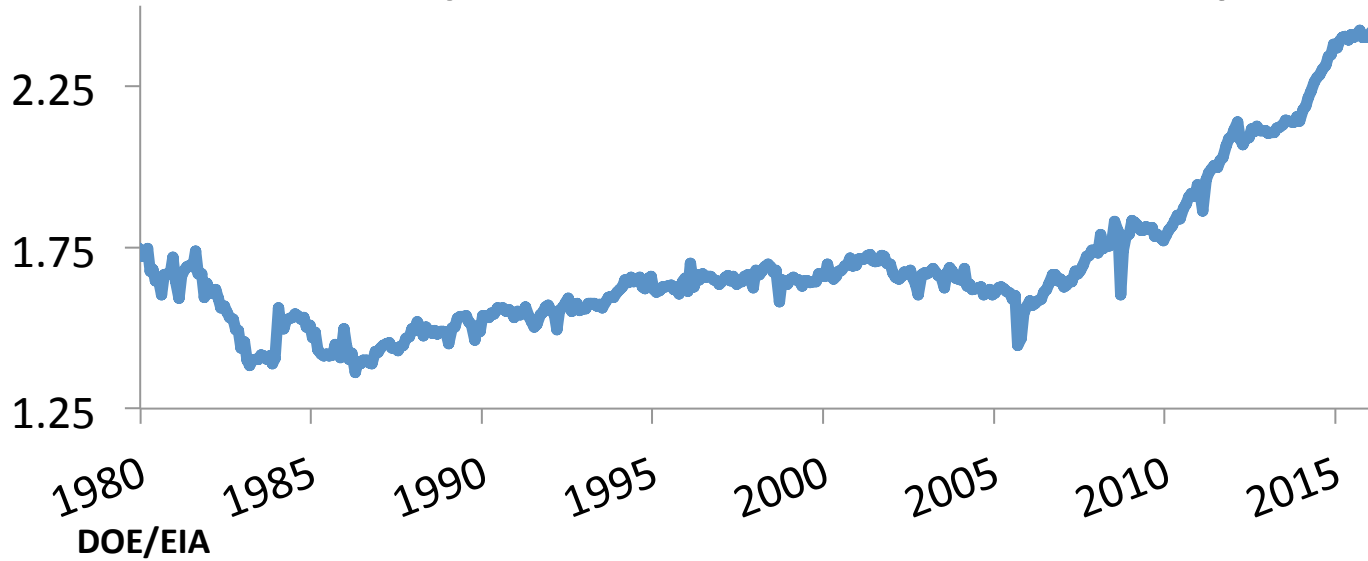
(million barrels/day)



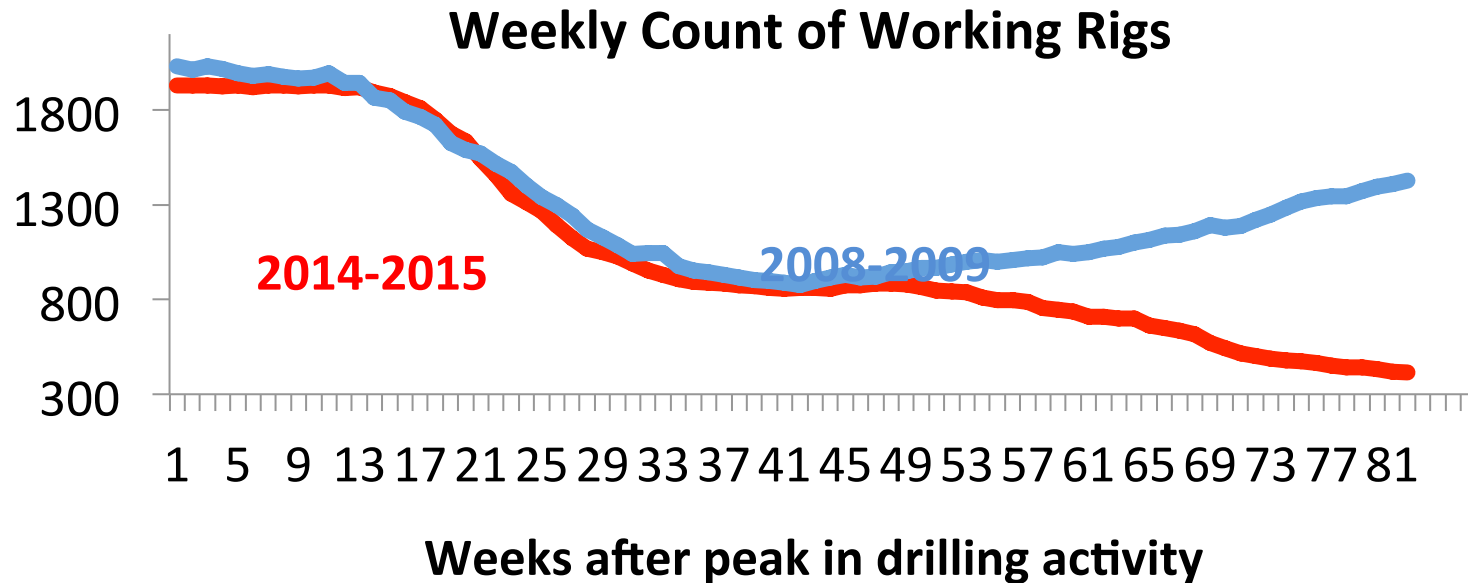
DOE/EIA, Seasonally adjusted by IRF

Upstream U.S. Natural Gas Production

Marketed production, Bcf/mo, seasonal adj



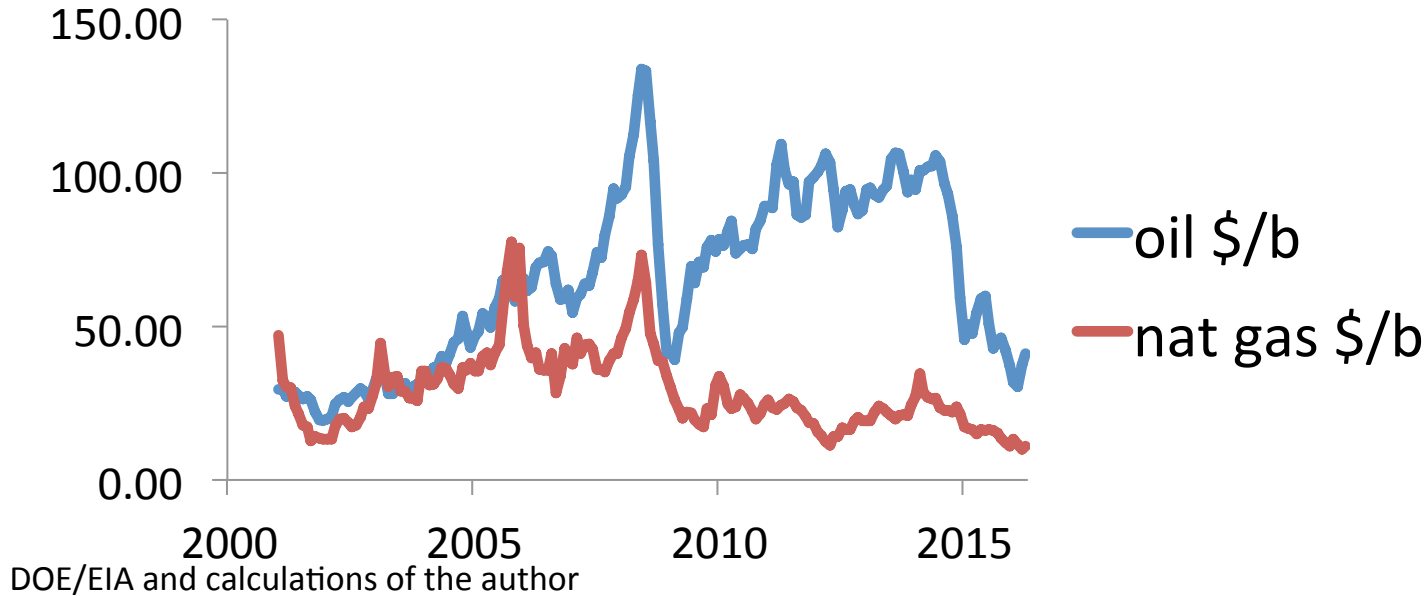
Upstream U.S. Drilling Activity



Downstream Boom Offsets Upstream Bust



Downstream Oil & Gas Prices



Downstream

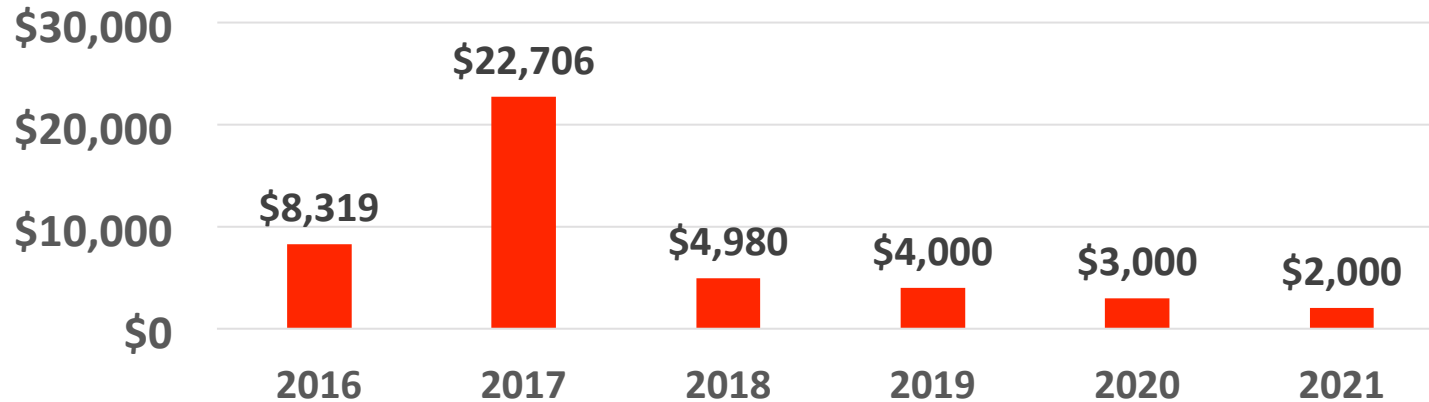
\$164 Billion U.S. Construction Boom is Based on Cheap Energy

- This \$164 total includes many industries and all of the U.S.
- New ethylene crackers, more ethylene-related expansion in PE, PVC and other derivative plants
- LNG export terminals to sell surplus natural gas into global markets
- Refiners have joined in with additional expansions

Note: The \$164 billion figure is based on all U.S. shale-related expansion, estimated by the American Chemistry Council in April, 2016

Projects Begin to Wind Down Rapidly After 2017

(Value of Projects Completed, \$ million)



Baytown Economic Development Foundation

Near term Job Growth in Houston
Determined by if/when upstream recovers
 (000 Jobs, Q4/Q4)

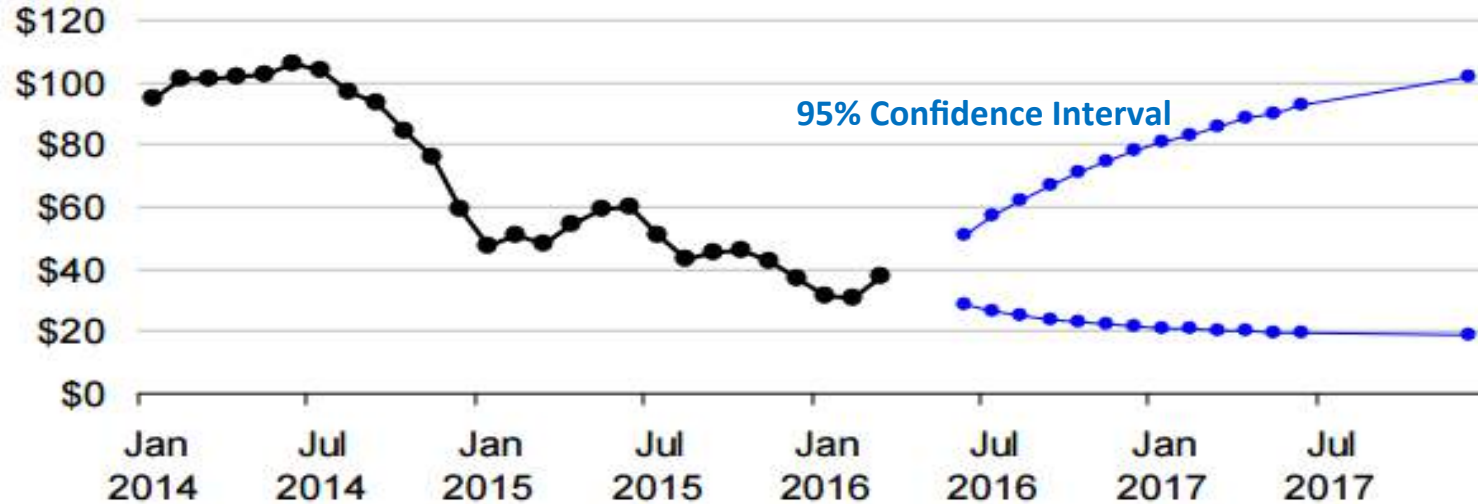
Scenario

Year	High	Medium	Low	30/50/20
2013	90.3	90.3	90.3	90.3
2014	112.1	112.1	112.1	112.1
2015	15.2	15.2	15.2	15.2
2016	-7.4	-11.1	-13.5	-10.8
2017	10.3	-34.2	-57.6	-30
2018	97.2	65.8	20.1	62.9
2019	94	107.3	69.4	97.1

Calculations of IRF, based on alternative upstream recovery scenarios

Upstream Recovery

WTI Price: Historical and Futures Price In April 2016
(\$/Barrel)

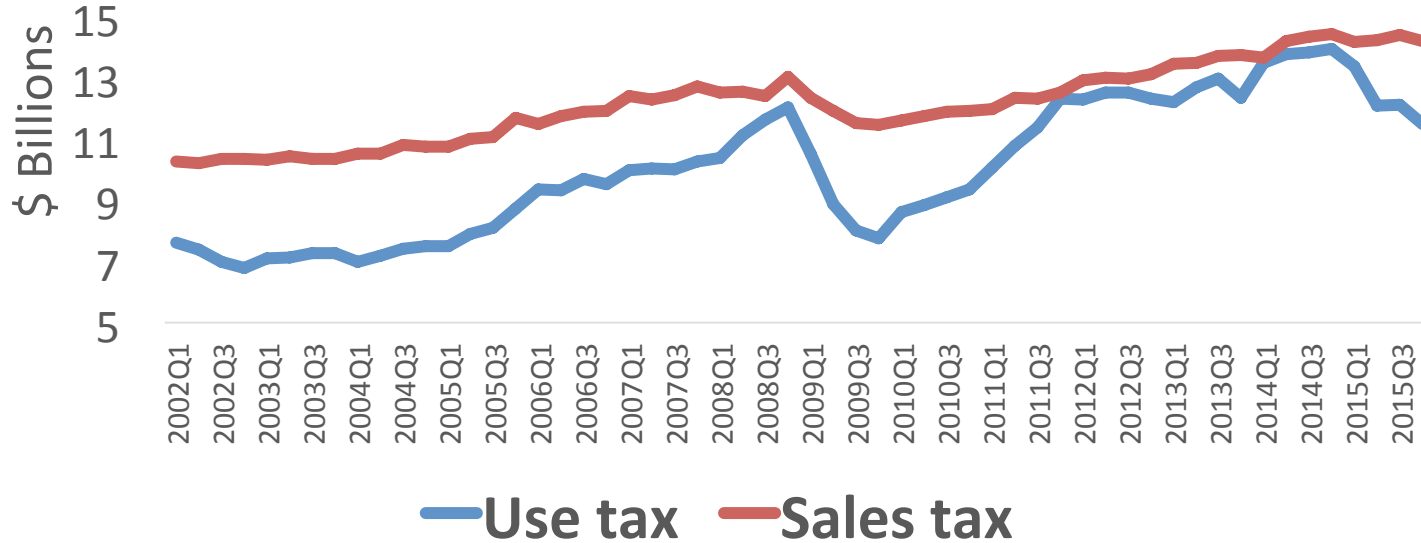


Energy Information Administration, *Short-term Energy Outlook*, April 2016

Consequences for Local Governments

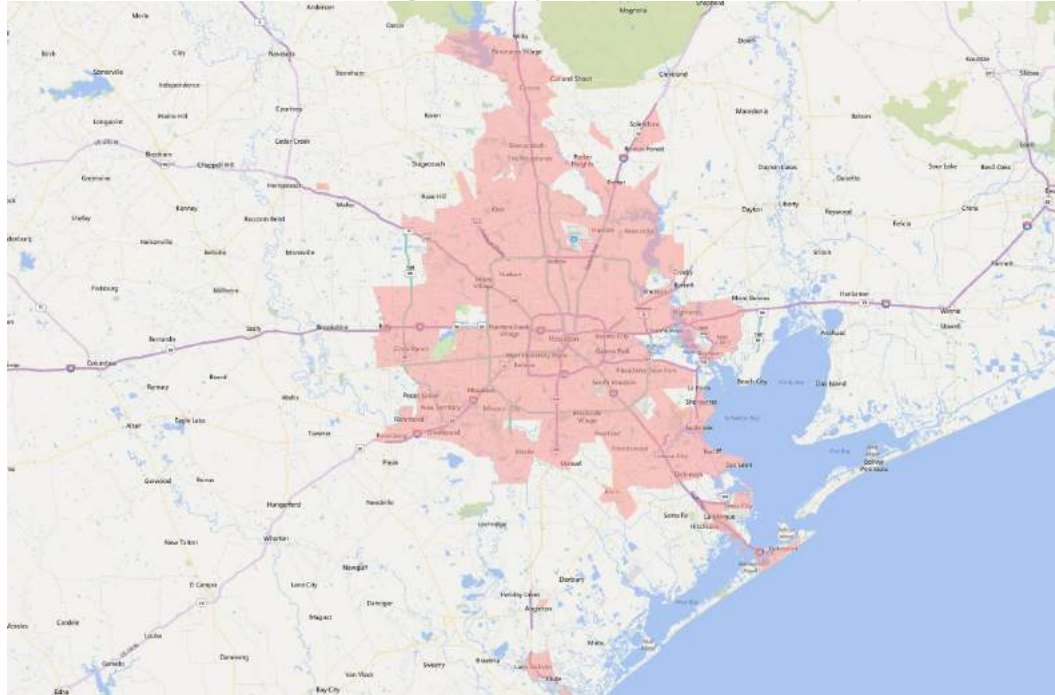
Real Taxable Sales in the Houston Metropolitan Area

Taxable sales by quarter, real \$ billion, s.a.



Consequences for Local Governments

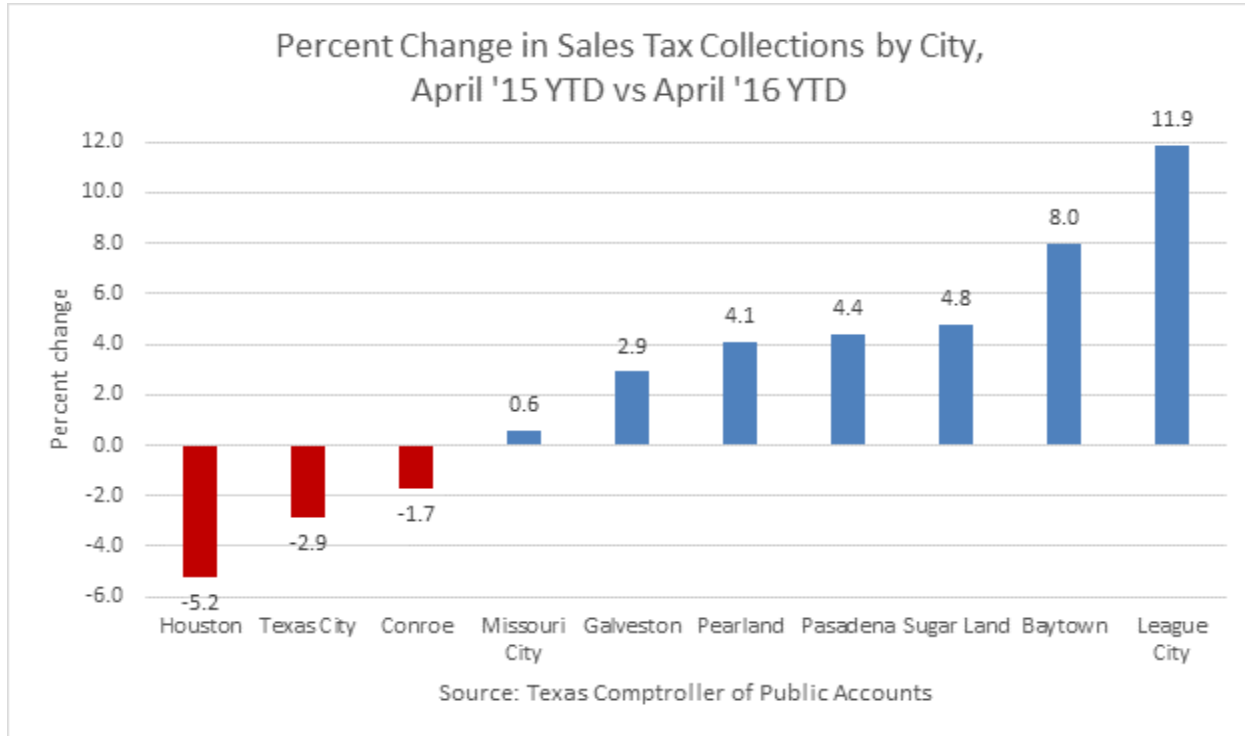
Population will continue to grow predominantly at the Urban Fringe



Consequences for Local Governments

- Is your municipality
 - In the Northwest Quadrant of the Metro?
 - Exposed to upstream as opposed to downstream
 - Already developed or still primarily rural?
 - Low population/development growth rates

Consequences for Local Governments



Fort Bend County

- Relatively limited exposure to Upstream and Downstream
- Continued rapid population growth

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Thank You

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