Eagle Ford Expansions: The Latest Developments on the Play

Principal Investigator: Thomas Tunstall, Ph.D.


Thomas Tunstall, Ph.D.
Research Director
Institute for Economic Development
The University of Texas at San Antonio
thomas.tunstall@utsa.edu
Eagle Ford Initiatives Across UTSA

- Civil and Environmental Engineering, and Geology
  - Water Institute of Texas
  - Interactive Technology Experience Center (K-12 STEM)
  - Texas Sustainable Energy Research Institute (Energy-Water Nexus)

- Mechanical Engineering
  - Oil and Gas Certificate Program for Engineers

- College of Public Policy
  - Municipal Capacity Building Workshops
  - State of Texas Demographer’s Office

- College of Architecture, Construction and Planning
  - Center for Urban and Regional Planning

- Institute for Economic Development
  - Small Business Development Centers
  - Rural Business Program
  - Eagle Ford Shale Community Development Program
  - Center for Community and Business Research
University of Texas at San Antonio
Institute for Economic Development

- Eagle Ford Shale Community Development Program (14 Counties in South Texas)
- Small Business Development Centers - SBDC (79 Counties in South, West and Central Texas)
- Rural Business Program (79 Counties in South Texas)
- Procurement Technical Assistance Center (Texas)
- CP Morgan Chase Veteran's Program (Texas)
- Southwest Trade Adjustment Assistance Center (TX, OK, LA)
- SBDC National Information Clearinghouse (National)
- Minority Business Center (National)
- Community and Business Research (National, Int’l)
- International Trade Center (Mexico, Central/South America, Caribbean, North Africa)
Research at the Institute focuses on research projects that help business and policymakers plan for a dynamic future:

- **Economic Impact Studies**
- **Community Development Studies (I-35, SH 130)**
- **EB-5 Immigrant Investor Regional Center Impact Studies**
- **Analysis on Various Topics:**
  - Eagle Ford Shale
  - San Antonio Missions
  - South Texas Medical Center
  - University of Texas System
  - Targeted Industry Recruitment / Workforce Analysis
  - Repurposing of Military Bases for Commercial Use
As the Research Arm of UTSA’s Institute for Economic Development we are dedicated to serving:

- Economic development corporations (e.g., SA EDF)
- City, state and federal governments
- Workforce development boards
- Businesses
- Associations
- Other community stakeholders
In theory, there is no difference between theory and practice; in practice, there is.

- Yogi Berra
UTSA – Emerging Tier 1 University

• California: 9 Tier 1 Universities
  (Population 38 Million)

• New York: 7 Tier 1 Universities
  (Population 19 Million)

• Texas: Only 3 Tier 1 Universities
  (Population 26 Million)
Counties Included in Study Area

Producing Counties:
- Atascosa
- Bee
- DeWitt
- Dimmit
- Frio
- Gonzales
- Karnes
- La Salle

Adjacent Counties:
- Bexar
- Jim Wells
- Nueces
- San Patricio
- Uvalde
- Victoria

Counties not included in the analysis are
Leon, Milam, Brazos, Burleson, Lee, Fayette, Lavaca, Edwards, Houston, and Wood
Reasons for Increases in Economic Impact in 2013 and 2023

- Between $23B - $30B will be spent on capital expenditures in 2014
  - EFS Formation continues to exceed expectations
    - E&P companies regularly adjust initial production and estimated reserves upward
  - New manufacturing, port, shipping, and pipeline projects continue to be announced as a result of low-cost natural gas and growing supplies of light crude
Drilling Permits and Completions

Permits
Completed Wells

- 2008: 26
- 2009: 94
- 2010: 1010
- 2011: 2826
- 2012: 4145
- 2013: 4416

Completed Wells

- 2010: 1649
- 2011: 2983
- 2013: 3311
Texas Eagle Ford Shale
Drilling Permits Issued
2008 through August 2014

Source: Texas Railroad Commission DrillingPermitQuery(Includes New Drill & ReEnter Permits)
Texas Eagle Ford Shale
Total Natural Gas Production
2008 through July 2014

Million Cubic Feet (Mcf) Per Day

Source: Railroad Commission of Texas Production Data Query System (PDQ)
Daily Oil Production in the Top 4 U.S. Oil-Producing States, 2002-2012

Rankings: Crude Oil Production, October 2013 (thousand barrels)

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Crude Oil Production (thousand barrels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Texas</td>
<td>88,320</td>
</tr>
<tr>
<td>2</td>
<td>North Dakota</td>
<td>26,191</td>
</tr>
<tr>
<td>3</td>
<td>California</td>
<td>16,950</td>
</tr>
<tr>
<td>4</td>
<td>Alaska</td>
<td>16,136</td>
</tr>
<tr>
<td>5</td>
<td>Oklahoma</td>
<td>10,208</td>
</tr>
<tr>
<td>6</td>
<td>New Mexico</td>
<td>8,599</td>
</tr>
<tr>
<td>7</td>
<td>Louisiana</td>
<td>6,924</td>
</tr>
<tr>
<td>8</td>
<td>Wyoming</td>
<td>5,735</td>
</tr>
<tr>
<td>9</td>
<td>Colorado</td>
<td>5,708</td>
</tr>
<tr>
<td>10</td>
<td>Kansas</td>
<td>4,108</td>
</tr>
<tr>
<td>11</td>
<td>Utah</td>
<td>3,038</td>
</tr>
<tr>
<td>12</td>
<td>Montana</td>
<td>2,379</td>
</tr>
<tr>
<td>13</td>
<td>Mississippi</td>
<td>2,039</td>
</tr>
<tr>
<td>14</td>
<td>Alabama</td>
<td>862</td>
</tr>
<tr>
<td>15</td>
<td>Illinois</td>
<td>819</td>
</tr>
<tr>
<td>16</td>
<td>Michigan</td>
<td>678</td>
</tr>
<tr>
<td>17</td>
<td>Ohio</td>
<td>615</td>
</tr>
<tr>
<td>18</td>
<td>Arkansas</td>
<td>572</td>
</tr>
<tr>
<td>19</td>
<td>Pennsylvania</td>
<td>512</td>
</tr>
<tr>
<td>20</td>
<td>West Virginia</td>
<td>395</td>
</tr>
<tr>
<td>21</td>
<td>Kentucky</td>
<td>313</td>
</tr>
<tr>
<td>22</td>
<td>Nebraska</td>
<td>271</td>
</tr>
<tr>
<td>23</td>
<td>Florida</td>
<td>209</td>
</tr>
<tr>
<td>24</td>
<td>Indiana</td>
<td>202</td>
</tr>
<tr>
<td>25</td>
<td>South Dakota</td>
<td>154</td>
</tr>
</tbody>
</table>
Texas Oil Production Surpassed 1988 Levels in September 2012
### EOG Resources

### Big Fields Get Bigger

Maximizing NPV of the Eagle Ford

<table>
<thead>
<tr>
<th>Wells/Section (Unit)</th>
<th>April 2010</th>
<th>Feb 2012</th>
<th>Feb 2013</th>
<th>Feb 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>10</td>
<td>10 - 16</td>
<td>16</td>
</tr>
</tbody>
</table>

| Spacing Acres/Well   | 130 Acres  | 65 Acres  | 40-65 Acres | ≈40 Acres |
| Est. Reserves/Well, NAR | 320 MBoe  | 450 MBoe  | 400 MBoe   | 450 MBoe  |
| Est. Reserves/640 Acres | 1.6 MMBoe | 4.5 MMBoe | 6.4 MMBoe  | 7.2 MMBoe |
| CWC/Well             | $5.25 MM   | $6 MM     | $6 MM      | $5.5 MM   |
| Direct ATROR*/Well   | 80%        | 130%      | 100%       | 100%+     |
| NPV10/640 Acres      | $23 MM     | $69 MM    | $98 MM     | $114 MM   |
| Total Net Potential Resource | 0.9 BnBoe | 1.6 BnBoe | 2.2 BnBoe  | 3.2 BnBoe |

* See reconciliation schedule.
Reaching Deeper

Some of the innovations that have enabled oil output to increase almost continuously since the industry’s dawn

1909 ▲ | Roller-cone drill bits are introduced, shortening time required to drill a well.

1929 | Directional drilling creates ability to point wells in a general direction.

1941 | A horizontal well, which begins vertically and then turns to run horizontally underground, is drilled in Azerbaijan.

1946 | Researchers successfully “frac” a well in southwestern Kansas. Within a few years, hydraulic-fracturing technology will be commercially available.

1949 ▲ | Offshore drilling begins in the shallows of the Gulf of Mexico.

1959 | Halliburton invents high-temperature cement, allowing wells to reach deeper.

1970 ▲ | Seismic imaging technology is used by Shell and Mobil to find “bright spots” deep under the Gulf of Mexico that indicate oil deposits.

1982 | 3-D seismic imaging is introduced, vastly improving the industry’s ability to locate oil deposits.

1984 ▲ | The first “steerable” drilling system is introduced, allowing for far more precision than older directional drilling.

1998 | BP drills a horizontal well that extends more than six miles in southern England. In 2011, Exxon will beat the record with a 7.7 mile “extended reach” well off Sakhalin Island, Russia.

Sources: Society of Petroleum Engineers; “The Boom” (1946 item); Photos from left: Getty Images, Corbis, Statoil, Schlumberger
Crude oil production at select formations (April 2010-April 2014)

- Permian (Texas and New Mexico)
- Eagle Ford (Texas)
- Bakken (North Dakota and Montana)
M. King Hubbert, a geologist for Shell OIL, says that U.S. oil production will likely peak between 1965 and 1970 and decline steadily thereafter.

Output will indeed peak in 1970 and then trend downward—but it will jump by two-thirds from 2009 to mid-2014.
Scaling New Heights

World oil production, million barrels a day

Note: Figures include crude oil, shale oil, oil sands and natural-gas liquids.


The Wall Street Journal
Heading to the Coast
New pipelines will bring more of the Midwest and West Texas oil boom to Gulf Coast refineries.

PIPEDLINE PROJECTS
1. Magellan Longhorn (completed)
2. Occidental & Magellan BridgeTex
3. Sunoco Logistics Permian Express II
4. Sunoco Logistics Permian Express I
5. Enterprise & Enbridge Seaway (partially completed)
6. TransCanada Gulf Coast Project
7. Shell Houma to Houston (partially completed)

Source: the companies
The Wall Street Journal
Shale oil and gas have the potential to dramatically alter world energy markets

map of basins with assessed shale oil and gas formations, as of May 2013

Source: United States: EIA and USGS; Other basins: ARI
Implications of Mexican Energy Reform

- New exploration, drilling and operational economic impact
- Related midstream development (pipeline and storage) impact
- Results of rulemaking process
- Infrastructure issues
- Security issues
- Workforce needs
- Doing business with PEMEX
MEXICO’S ECONOMY AND HYDROCARBONS

Hydrocarbons represented 34% of the Federal budget.
More investment
Declining production
Growing demand

INVESTMENT IN E&P THOUSAND MILLIONS PESOS

OIL PRODUCTION THOUSANDS OF BARRELS PER DAY

Source: Secretaría de Energía

CCN-LAW.COM
How Is Energy Reform Likely to Proceed in Mexico?

- PEMEX will focus on conventional and deep water opportunities
- Initial private company E&P efforts will be focused on shale oil opportunities
- Wider availability of geological information in Northern Mexico will be important to private E&P efforts
- Natural gas pipeline infrastructure in Mexico will be built out before gas production begins
- Mexico-U.S. (Texas) partnership opportunities will abound
- Opportunities for support services (temporary housing, food service, trucking, welding, etc.) will be significant
E&P– UPSTREAM NEW MODEL

REGULATED BY MINISTRY OF ENERGY AND CNH

EXPLORATION AND PRODUCTION CONTRACTS

- LICENCES
  - In kind Hydrocarbons
- PRODUCTION SHARING CONTRACT
  - In kind Hydrocarbons
- PROFIT SHARING CONTRACT
  - Cash
- SERVICES
  - Cash

How do contractors get paid?

- Signing Bonus
- Contractual fee for exploratory phase (km)
- Royalties
- Compensation based on hydrocarbon value
- Compensation based on operating income

How the government get paid?

ISR

Taxes

Fee for Exploration and Production

$1500 E / $6,000 P(km³)
# THREE IMPORTANT TOPICS

<table>
<thead>
<tr>
<th>DOMESTIC CONTENT RULES</th>
<th>BOOKING OF THE RESERVES</th>
<th>SURFACE USE AND RIGHT OF WAY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>35% (2025)</strong></td>
<td>The booking of reserves is an important <strong>financial</strong> reporting practice that allows oil and gas companies to reflect the volume of reserves they have the right to produce and market. The reform establishes that private parties and PEMEX may “report for accounting and financial purposes, assignations and corresponding contract and expected benefits” as long as the assignations or contracts establish that, until produced, title to all hydrocarbons in the ground resides exclusively with the State.</td>
<td></td>
</tr>
</tbody>
</table>
| **25% (2015)**         |                          | The hydrocarbon industry is of public interest. No Eminent domain process authorized. Instead, activities shall be **negotiated:** Consideration must include, as applicable:
  - Compensation payments and damages
  - Rent for occupation, easement, or use of the land at market value;
  - If there is a commercial production of hydrocarbons, a percentage of the total revenue:
    - 0.5% - 2% oil.
    - 0.5% - 3% gas. |

Mexican participation in the supply and productive chain
To be determined in every Contract
AN IMPORTANT LEGAL DISTINCTION: MINERAL RIGHTS

FEDERAL LAW

IN MEXICO MINERAL RIGHTS BELONG TO THE NATION

STATE LAW
Transfer, mining and drilling

IN THE US AND TEXAS SURFACE AND MINERAL RIGHTS BELONG TO THE LANDOWNER
Economic Impact Study About the Opening of the Energy Sector in Mexico in the Northern States of Mexico, Including Legal Analysis of the Reform and a Guide on How to do Business in the Energy Sector in Mexico
GEOGRAPHICAL SCOPE OF THE STUDY

GEOLOGICAL PROVINCES OF
Sabinas
Tampico-Misantla
Burgos
Burro Picachos
Veracruz

STATES OF
COAHUILA
NUEVO LEON
SAN LUIS POTOSI
TAMAULIPAS
VERACRUZ
ECONOMIC IMPACT STUDY

ONLINE PLATFORM CONNECT B2B WITHIN ENERGY SECTOR IN MEXICO AND TEXAS

LEGAL ANALYSIS

BUSINESS ROADMAP ON HOW TO DO BUSINESS IN THE ENERGY SECTOR
AEM UTSA Energy Initiative
An **Online Platform** to facilitate business interaction within the energy sector in Mexico and the USA, linking **Government institutions**, **Academia** and **Companies** that participate in the extraction, transport and refining processes in both countries.
why we need a Platform?

Top Ten Oil Producers in Eagle Ford Shale

PEMEX®
The development and maintenance of this **Platform** is sponsored by the **AEM**. The **MBDA Global Center** from the **Institute for Economic Development in UTSA** will identify, and provide the companies involved in the energy sector in both countries.
AEM will develop the infrastructure of the platform including:

1. HOME
2. ABOUT US
3. FORUM
4. DIRECTORY USA
5. DIRECTORY MEXICO
6. BINATIONAL ENERGY NEWS
7. ENERGY REFORM LEGISLATION
8. EVENTS CALENDAR
9. BLOG
10. CONTACT
AEP INITIAL PRIORITY (Oct - Dec 2014)

the MBDA Global Center from will create a research team to identify, classify, and capture all relevant information of the companies involved in the energy sector in both countries and will transfer the files to AEM to be uploaded in the Platform.
AEP PRIORITIES FOR 2015

Long-Term Priorities (2015 and beyond) include the strategy to expand the AEP to all other regions in US with oil and gas activities and in Mexico (State level) and other countries. Promote the participation in AEP with Media, Chambers of Commerce and industrial Clusters, to enrich its content and promote visits to ensure its sustainability.
This **Platform** together with the other areas of the study will create a virtual **Binational Energy Business Ecosystem (BEBE)** that will allow American and Mexican entrepreneurs and SME’s to take **informed decisions** in their international expansion.
BINATIONAL ENERGY BUSINESS ECOSYSTEM (BEBE)

**STAKEHOLDERS**
- PEMEX
- PROMEXICO
- SENER
- CNH
- STATES
- CLUSTERS
- UNIVERSIDADES
- UANL
- UTSA IED CCBR
- UTSA IED MBDA
- CITY OF SAN ANTONIO
- ANGA
- ACADEMIA
- EFS CONSORTIUM
- RAIL ROAD COMMISION

**FDI PROMOTION & NETWORKING PARTNERS**
- EMPRESARIOS AEM
- NAFTA OFFICE MEXICO
- MEXICAN STATES OFFICE OF ECONOMIC DEVELOPMENT
- CHAMBERS OF COMMERCE
- UNIVERSIDADES
- MEDIA

**BINATIONAL ENERGY BUSINESS ECOSYSTEM (BEBE)**
- ECONOMIC IMPACT STUDIES
- ENERGY REFORM LEGAL ANALYSIS
- HOW TO ESTABLISH A BUSINESS
- TRAINING & TRADE ORIENTATION
- EXPORT / IMPORT STRATEGIES
- MARKETING STRATEGIES
- ACCESS TO TECHNOLOGY
- ACCESS TO BUSINESS RESOURCES
- www.AEMenergy.org

**TECHNOLOGY & BUSINESS RESOURCES**
- VENTURE CAPITAL
- FINANCIAL SERVICES
- ATTORNEYS
- REAL ESTATE AGENTS
- CPA SERVICES
- INSURANCE AGENTS
- LOGISTICS SERVICES
- TECHNICAL EDUCATION

**ACCESS TO THE MARKET**
- OIL COMPANIES, AGENTS, REPRESENTATIVES & DISTRIBUTORS
  - TRADE SHOWS
  - ADVERTISING
  - PROMOTION
  - MEDIA SERVICES
  - IMPORTER / TRADING COMPANY
  - DISTRIBUTOR
  - OIL COMPANIES
  - PRIVATE BUSINESS CONSULTANT
  - INVESTORS
IDEAS & SUGGESTIONS ARE WELCOMED

THANKS!

javier.smith@utsa.edu
Total Economic Output Impact in 2013
21-County Study Region

- Over $87 billion in economic output (up from $61B in 2012 and $25B in 2011)
- Over 154,000 full-time jobs supported (up from 116,000 in 2012 and 47,097 in 2011)
- Over $5.6 billion in salaries and benefits paid to workers (up from $4.7B in 2012 and $3.1B in 2011)
- Over $42 billion in gross regional product (up from $28B in 2012 and $12.63B in 2011)
- Over $2.2 billion in state revenues (up from $1.2B in 2012 and $358 million in 2011)
- Over $2.2 billion in local government revenues (up from $1B in 2012 and $257 million in 2011)
Moderate Scenario Estimated Combined Impacts for 2023 (21-County Area)

- More than $137 billion in total economic output
- 196,660 full-time jobs supported
- $12 billion in salaries and benefits paid
- $72 billion in gross regional product
- $4 billion in state revenues
- $4 billion in local government revenues
New and Expanded Rail Projects in the Eagle Ford

Rail can move ONE ton 500 miles on ONE gallon of fuel
Gardendale Railroad 2009 - La Salle County  Status:
Abandoned
Gardendale Rail Spur near Cotulla
There's no chance that the iPhone is going to get any significant market share. No chance.

NOT THERE YET
Notable past predictions of peak oil that didn’t turn out

1885 The state geologist of Pennsylvania warns that the “amazing exhibition of oil” is only a “temporary and vanishing phenomenon.” And John Archbold, John D. Rockefeller’s partner in Standard Oil, sells some company shares at a discount, fearing that oil will run out.

“I will drink every gallon [of oil] produced west of the Mississippi.”
John Archbold

Source: “The Quest” by Daniel Yergin, 2011
Photo: Library of Congress(2)
1919

"Within the next two to five years, the oil fields of this country will reach their maximum production, and from that time on we will face an ever-increasing decline."

Van H. Manning, director of the U.S. Bureau of Mines

> By the late 1920s, the market will be awash in oil, and the discovery of the giant East Texas oil field in 1931 will create a glut.
Energy tycoon T. Boone Pickens tells a conference of alternative-fuel advocates:

“Global oil [production] is 84 million barrels [per day]. I don’t believe you can get it any more than 84 million barrels. I don’t care what Abdullah, Putin or anybody else says about oil reserves or production. I think they are on decline in the biggest oil fields in the world today.”

> In 2013, global oil production will top 90 million barrels a day.
Updated Natural Gas Annual Production Forecast 2014

- 2013: 1,315,226
- 2014: 1,634,138
- 2015: 1,701,404
- 2016: 1,699,583
- 2017: 1,728,429
- 2018: 1,863,016
- 2019: 1,868,790
- 2020: 1,915,572
- 2021: 1,882,320
- 2022: 1,926,373
- 2023: 2,000,000

Graph showing the annual production forecast from 2013 to 2023.
Updated Eagle Ford Shale Oil/Condensate Annual Production Forecast (bbls) Scenarios

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (bbls)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>328,238,456</td>
</tr>
<tr>
<td>2014</td>
<td>419,142,267</td>
</tr>
<tr>
<td>2015</td>
<td>439,648,521</td>
</tr>
<tr>
<td>2016</td>
<td>451,320,866</td>
</tr>
<tr>
<td>2017</td>
<td>471,601,655</td>
</tr>
<tr>
<td>2018</td>
<td>495,956,733</td>
</tr>
<tr>
<td>2019</td>
<td>521,734,465</td>
</tr>
<tr>
<td>2020</td>
<td>547,483,184</td>
</tr>
<tr>
<td>2021</td>
<td>559,080,870</td>
</tr>
<tr>
<td>2022</td>
<td>579,227,374</td>
</tr>
</tbody>
</table>

Note: The graph shows the production forecast from 2013 to 2023.
Eagle Ford Oil and Gas Production (2012)

Bass Model (p = 0.003, q = 0.38 - assumes 5 billion barrels recoverable)

Actual Production

EFS Report Preliminary/Snapshot Forecast
Eagle Ford Oil and Gas Production (2013)

- Bass .003, .38, assumes 7.5 billion barrels recoverable
- Actual Production
Eagle Ford Oil and Gas Production (2014)

- Bass .003, .38, assumes 10 billion barrels recoverable
- Actual Production
Medium-Long Term Strategies for Success

• Look for **Opportunities to Diversify** the Local Economy (Destination Locations)

• **Rediscover Your Community’s History** and Architecture as a Tool for Economic Development (**Why was the City Founded in the First Place?**)

• Seize the Opportunity to Implement **Form-Based Zoning That Emphasizes Mixed-Use, Flexibility, Livability and Sustainability**

• **Forge Linkages, Alliances** and Engage Other EFS Communities, Higher Education Institutions

• **Identify Best Practices** from Other Shale Plays

• **Work with Elected Representatives** at the Municipal, County, State and National Levels on Infrastructure Planning
Bass Model - 3 Scenarios

Bass Model (p = 0.003, q = 0.38 - assumes 5 billion barrels recoverable)

Bass (p = 0.003, q = 0.38, assumes 7.5 billion barrels recoverable)

Bass (p = 0.003, q = 0.38, assumes 10 billion barrels recoverable)

Actual Production
Selected Central Texas Counties (1890)

- Williamson: 25,909
- Bell: 33,377
- Bexar: 49,266
- Travis: 36,322
- McLennan: 39,204
- Fayette: 31,481
Selected Central Texas Counties (2010)

- Bexar: 1,714,773
- Williamson: 422,679
- Bell: 310,235
- Travis: 1,024,266
- McLennan: 310,235
- Fayette: 24,554
Critical Immediate Needs: Improved Local Governance and Capacity

- Medium and Long-Term Planning, Particularly Land-Use and Capital Outlays

- Revenue and Investment Strategies: Dedicating Funds for Public Use Early (see Public Amenities, Quality of Life)
  - 2% Sales Tax Collection Allowed by State Law
  - $0.15 per $100 Property Tax for County Road/Bridge Account (est. 1883)
  - $0.30 per $100 Property Tax for FM Flood Control (est. 1931)
  - Systematic Allocation of Severance Tax Revenue to Impacted Counties
  - Use of Tax Increment Reinvestment Zones Enables Cities/Counties to Increase Property Values Not To Be Used in Ad Valorem Calculation
  - Debt Service Does Not Count Against Ad Valorem

- Community Involvement and Engaged Citizens

- Strong Institutional Management and Fiscal Discipline

- Development of a Skilled Workforce
Looking Beyond Eagle Ford: Examples of Sustainable Infrastructure
(Key to Attracting New Residents, Visitors and Industry)

- Better Roadways
- Improved Medical Facilities
- Broadband Networks
- More Housing Options
- Adequate Water and Power Supply, Improved Waste Management
- Better Quality K-12 and Vocational Education
- Improved Aesthetics, Elimination of Blight, Land Recycling (Bulldozing Derelict Houses, Cleaning Up Junkyards; Renovation and/or Repurposing of Historical Buildings)
- Branding: Identity, Gateways
- Livability: Public Amenities that Improve the Desirability of the Community and Quality of Life (Lakes, Parks, Hike/Bike Trails, Walkable Neighborhoods)

Why would someone want to live in or visit your community?
Quality of Life Components

- Social relationships and culture
- Public safety and crime rates
- Independence and personal autonomy
- Healthcare services
- Water and air quality
- Solid waste and wastewater treatment
- Electricity
- Telecommunication infrastructure
- Employment opportunities
- Housing options
- Schools and education
- Banking services
- Ease of travel
- Animal and destructive insect control
- Public transport
- Variety of restaurants
- Cultural events
- Sports and leisure activities
- Retail variety
- Religious options
- Climate
- Recreation
- Aesthetics
- Physical activity
Public Amenity Menu
(Ongoing Maintenance Will Be Required)

- Information Centers
- Museums
- Activity Centers
- Recreational Facilities
- Town Halls
- Open Spaces / Greenscapes
- Church Yards
- Public Playgrounds (including adult)
- Sport Field and Facilities
- Libraries
- Public Rights-of-Way / Footpaths
- Nature Reserves / State Parks
- Public Parks
- Country Parks
- Fountains / Reflecting Pools
- Cafes / Sitting Areas
- Town Squares
- Fishing Areas
- Mowing and Landscaping
- Flowers and Trees
- Litter Removal
- Bike Paths
- Lakes / Waterfronts
- Wide Sidewalks
- Outdoor Gathering Places
- Scenic Views
- Public Open Spaces
- Escalators
- Public Bathrooms
- Colleges and Universities
- Hospitals / Clinics
- Public Velodromes / Skate Parks
- Bridle Ways / Stables
- Community Centers
- Amphitheatres
- Dance Halls
Sample of Eagle Ford Projects Under Consideration

- Street Assessment Study
- Retail Analysis Study
- Main Street Program
- Website Promotion
- Airport Study
- Development Packets
- Downtown Beautification and Tourism
- IT Support
- Park and Open Spaces by Creek

- Develop a Regional Landfill
- Address Vacant Buildings, Downtown
- Infrastructure Improvements
- Land Development and Strategic Plans
- Strategic Plan, Succession Plan
- Turkey Creek Reservoir
- Purchase Street Sweeper
- Intellectual Capacity, Roles
The Future Ain’t What It Used To Be

- Yogi Berra
A Texan's Map of the United States

- Up Over Yonder Somewheres
- Heaven
- the OASIS
- Good Fishin' (sorta deep though)
- Gulf of Texas
- Damn Yankees
- Snowbird Fly Zone
- East Texas
Only Texas could turn defeat into a legend ... and a song, and a tourist attraction, and a major motion picture.
TEXAS IS THE
FINEST PORTION
OF THE GLOBE
THAT HAS EVER
BLESSED MY VISION.

Sam Houston 1833
“THERE ARE ONLY TWO STATES IN AMERICA: TEXAS AND NOT TEXAS.”
Thank you!

Eagle Ford Expansions: The Latest Developments on the Play

November 2014

Principal Investigator: Thomas Tunstall, Ph.D.


Researchers:
Gina Conti, Maricela Diaz-Wells, Jason Hernandez, Yongsun Lee, Vincent Loeffelholz, Neeraj Ravi, John Rodriguez, Feihua Teng, Carelli Torres, Binbin Wang, John Zhang

GIS Specialist: Hisham Eid

Thomas Tunstall, Ph.D.
Research Director
UTSA Institute for Economic Development
thomas.tunstall@utsa.edu