UT System By the Numbers

• 15 institutions
  ▪ 9 academic institutions
  ▪ 6 health institutions

• 215,606 students (Fall 2012)
  ▪ 75% undergraduate
  ▪ 40% Hispanic

• 48,819 degrees/certificates awarded (AY 2012)
  ▪ 66% undergraduate
  ▪ One third of degrees awarded by public universities in Texas
  ▪ Nearly two thirds of degrees awarded by public health-related institutions in Texas
Framework for Advancing Excellence

• Framework for Advancing Excellence adopted in May 2011

• Key Elements - Framework Action Plan adopted in August 2011
  1. Undergraduate Student Access & Success
  2. Faculty/Administrators/Staff Excellence
  3. Research
  4. Productivity and Efficiency
  5. Enhance Philanthropic Success
  6. Ph.D. Programs
  7. The Health of Texas
  8. Expanding Educational and Health Opportunities in South Texas
Data Delivery: Old vs. New

- The Old Way = Before 2012
  - Annual publication of an accountability report and statistical handbook (or similar)
  - Periodic publication online of special reports or briefs (PDF/HTML)
  - On request, provide Excel spreadsheets and/or create graphs

- The New Way = After 2012
  - No more statistical handbook!
  - Continue to publish special reports/briefs but now create supporting topical dashboards
  - Data updated as it becomes available
  - New tools deliver online, dynamic and interactive reporting
Data Delivery: The New (for us) Tools

- **BI/Information Delivery Portal** [data.utsystem.edu](http://data.utsystem.edu)
  - Dashboards
  - Web reports
  - Online, publicly accessible

- **Visual Analytics** [exploredata.utsystem.edu](http://exploredata.utsystem.edu)
  - Data visualizations
  - Analytics
  - Mobile BI, publicly accessible
  - Online, publicly accessible
Building the Dashboard
### Dashboard Expansion: Working with the Campuses

#### Executive Expert Groups

<table>
<thead>
<tr>
<th>Focus</th>
<th>Members</th>
</tr>
</thead>
</table>
| Framework Structure  
Overarching goals/research questions  
Content Areas  
What Matters?  
Drill-down levels  
Benchmarks/Targets  
Final reports and materials | Chancellor  
EVCs  
EOs  
Presidents  
OSI Lead |

#### Expert Groups (Content & Technical)

<table>
<thead>
<tr>
<th>Focus</th>
<th>Member Types</th>
</tr>
</thead>
</table>
| Content Areas  
What Matters?  
Drill-down levels  
Benchmarks/Targets  
Metrics  
Refine and Define  
Data Sources  
Breakdowns | OSI Lead  
System Staff  
Provosts / Deans  
Campus IR Staff |

| OSI Lead  
OSI Staff  
System Staff  
Campus IR Staff |
Data Delivery: What’s on the Dashboard

Executive Dashboard

TOPICAL DASHBOARD
- Student Success
- Faculty Productivity
- Research & Tech Transfer
- Finance / Productivity & Efficiency
- Health Care

CORE INDICATORS
- Graduation Success
- Affordability
- Emerging Research Universities
- Diversity
- Information Dashboards for Specific Needs
Administering the Dashboard
SAS Applications

Enterprise Business Intelligence Environment
- Enterprise Guide 5.1
- Microsoft Add-In for Excel, Word, PowerPoint 5.1
- Management Console 9.3
- Olap Cube Studio 4.3
- Data Integration Studio 4.4
- Dataflux 2.1*
- SAS/ACCESS 9.31
- Information Map Studio 4.31
- BI Dashboard 4.31
- Information Delivery Portal 4.31
- Web Report Studio 4.31

Visual Analytics Environment
- Visual Analytics Hub 6.1
- Visual Analytics Viewer 6.1
- Visual Analytics Explorer 6.1

*Indicates SAS partner application

Dashboard’s Public Tools
SAS Business Intelligence vs. SAS Visual Analytics

Enterprise Business Intelligence

• OLAP cube capability enables in depth drill paths
• Easily allows exporting of all data tables and graphics to Excel or Word
• More of a traditional dashboard configuration

Visual Analytics

• Easier for non-programmers to manipulate/analyze data and create reports (SAS Visual Explorer).
• SAS Mobile BI app enables access to reports from the IPad.
• More visually pleasing than Web Report Studio reports
System Architecture

**SAS Enterprise Business Intelligence**
- Three separate server environments
  - DEV (development)
  - TEST
  - PROD (production)
- Promotion Workflow

**SAS Visual Analytics**
- Two separate server environments
  - DEV (development)
  - PROD (production)
Multiple environments ensure security and facilitate:

- Extracting / cleaning data
- Developing reports
- Pushing data and reports to internal / external users

Challenges

- Different operating systems (Linux and Windows) to maintain
- Separate metadata to administer (physical data files are shared through Samba enabled NAS drive)
Servers

Enterprise Business Intelligence

- Windows 2008 R2 x64 servers run in a vmware virtual environment
  - 1 server for Development
  - 3 servers (Application, mid-tier, and metadata) for Test
  - 3 servers (Application, mid-tier, and metadata) for Production

Visual Analytics

- Red Hat Enterprise Linux 6.4
  - 4 servers for Development (1 head node, 3 worker nodes)
  - 8 servers for Production (1 head node, 7 worker node)
Delivering & Using Data
Data Delivery: New in Visual Analytics

- Data available online (* are new metrics)
  - Enrollment data – with a powerful build your own capability
  - Patient care
  - Graduation rates. Coming soon: CLA outcomes data
  - Applied, Admitted, and Enrolled (including Top 10%)*
  - Coming soon: STEM and Health Degrees by Field*
  - Total Operational Revenue and Average Revenue per FTE Student*
  - Average Debt for Graduating Students (bachelor’s)*
  - Research Expenditures by Source; Technology Transfer
  - Tuition and Fees. Coming soon: Financial Aid*

- exploredata.utsystem.edu

- Mobile BI app now available at the App store
  - Video instructions on downloading the app and navigating the reports are available on the “Exploring the Productivity Dashboard” playlist at www.youtube.com/user/UTSystemVideo
Using Data: Peer Selection, Benchmarking & Goal-Setting

- **Using Data to Select Peers**
  - Baseline Peers – institutions statistically similar to you now
  - Aspirational Peers – institutions that are now what you plan to be in the long-term (10-15 years)

- **Benchmarking is critical to evaluating institutional performance**
  - Benchmark as starting point (you must know where you started so you can evaluate how far you have come)
  - Benchmark as context (performance relative to what)

- **Goal-Setting**
  - Top quintile of baseline performers as mid-range goals (2020)
  - Long-term goals set at bottom quintile of aspirational peers (2025)
Using Data: Peer Selection
A New Model for 2012

- Undergrad % minority
- Graduate % minority
- Undergrad % Hispanic
- Graduate % Hispanic
- Operational revenue per FTE
- % part-time enrollment

Need to reduce variables

- Full-Time Instructional Faculty
- Professor Salary (3-yr Avg)
- Total Enrollment
- Operational Revenue per FTE (3-yr Avg)
- 75th Percentile SAT
- Undergrad % Minority (3-yr Avg)
- % Pell Eligible
- % High Cost Degrees (3-yr Avg)
- Degrees Awarded as % of Total Degrees: Bachelor's
- Undergrad Enrollment as % of Total Enrollment
- Full-Time Enrollment as % of Total Enrollment
- Degrees Awarded as % of Total Degrees: Graduate

SAS PROC FACTOR
VARIMAX option

12 Rotated Factor Loadings

Carnegie Classifications 15-19
3-year averages

Distance Scores & Finding Similar Institutions:
Computed distances between all universities. Can order all 378 universities relative to their distance from a chosen one.
Using Data: Benchmarking

Delta Cost: An Overview

- Now led by the American Institutes for Research
- Focuses on college spending not just revenues
- Organizes data into aggregate measures of
  - Costs per student
  - Costs per degree/certificate produced
- Project Measures
  - Educated & Related (E&R) costs
  - Net tuition as a portion of E&R
  - State funding as a portion of E&R
  - Degrees produced per every 100 FTE enrolled (not cohort based)
  - E&R spending per completion (cost per degree)
Using Data: Benchmarking

Putting Delta Cost in Context: The Importance of Peer Comparisons

- Austin: $65,390
- UTA: $37,358
- UTD: $34,831
- UTEP: $38,820
- UTSA: $34,831
- ERU Avg: $38,740
- UTPA: $41,208
- UTPB: $42,180
- UTT: $37,542
- CU Avg: $40,310
Using Data: Benchmarking

Putting Delta Cost in Context: The Importance of Peer Comparisons

UT spent this much less in E&R per degree awarded

<table>
<thead>
<tr>
<th>Institution</th>
<th>UT</th>
<th>Baseline Comparison Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin</td>
<td>18,280</td>
<td>31,400</td>
</tr>
<tr>
<td>UTA</td>
<td>13,515</td>
<td>26,632</td>
</tr>
<tr>
<td>UTD</td>
<td>19,996</td>
<td>33,118</td>
</tr>
<tr>
<td>UTEP</td>
<td>15,312</td>
<td>28,434</td>
</tr>
<tr>
<td>UTSA</td>
<td>12,480</td>
<td>25,502</td>
</tr>
<tr>
<td>ERU Avg</td>
<td>14,777</td>
<td>28,899</td>
</tr>
<tr>
<td>UTPA</td>
<td>24,655</td>
<td>49,777</td>
</tr>
<tr>
<td>UTPB</td>
<td>14,352</td>
<td>28,474</td>
</tr>
<tr>
<td>UTT</td>
<td>17,928</td>
<td>37,050</td>
</tr>
<tr>
<td>CU Avg</td>
<td></td>
<td>32,250</td>
</tr>
</tbody>
</table>
Using Data: Goal-Setting

UT Austin: 4-Year Graduation Rates Performance Targets
for students graduating in 2015, 2020, 2025 (from the same institution)

- Most recent actual data
- 2015 goal
- 2020 goal
- 2025 goal

- Austin, 44.8%
- Peer Bottom Quintile, 42%
- Peer Average, 57%
- Peer Top Quintile, 73%
- 2015 goal: 50.3%
- 2020 goal: 55.0%
- 2025 goal: 70.0%
Using Data: Informing Policy-Making

- Support regental task forces
  - Task Force on University Excellence and Productivity
  - Student Debt Reduction Task Force
  - Task Force on Engineering Education
- Provide data for ad hoc requests
  - Internal – board, chancellor, officers
  - External – legislature, media, others
- Not just data
  - Data is just data
  - Research and analysis transform the data into information
  - Visualization and presentation make that information consumable

Examples follow
Supporting Regental Task Forces: Student Debt

Average Debt for Bachelor's Recipients, 2009-10

- **Austin**: $24,667
- **UTA**: $19,165
- **UTD**: $7,127
- **UTEP**: $18,773
- **UTSA**: $23,671
- **UTPA**: $13,480
- **UTPB**: $13,420
- **UTT**: $18,605

**National (Public) Avg Debt per Borrower, $21,740**

**National (Public) Avg Debt per Graduate, $12,174**

Legend:
- □ Avg Debt per Graduate
- ■ Avg Debt per Borrower
Supporting Regental Task Forces: Student Debt

Student Loan Default Rates
Compared to Texas 4-Year Public Schools

- UTA: 4.7%
- Austin: 2.8%
- UTB: 7.8%
- UTD: 4.0%
- UTEP: 7.4%
- UTPA: 4.4%
- UTPB: 6.7%
- UTSA: 5.8%
- UTT: 5.3%
- Texas: 6.0%
Supporting Regental Task Forces: Engineering Education

Characteristics of Entering E/CS Students:
SAT Scores (75th %ile) & Class Rank (Top 25%)
Engineering & Computer Science, 2011

Size of bubble is determined by % of entering cohort that was in the top 25% of HS class.
Supporting Regental Task Forces: Engineering Education

Average Starting Salary for E/CS Graduates, Class of 2012

- Computer Eng: $70,400
- Chemical: $66,400
- Computer Science: $64,400
- Aero/Astro: $64,000
- Mechanical: $62,300
- Electrical: $56,600
- Civil: $57,600
- All Graduates: $44,455
Using Data: Informing Policy-Making

- Make New Connections
  - New agreement with the Texas Workforce Commission
    - Employment outcomes (state; average salary; and, within Texas, industry)
  - Agreement with National Student Clearinghouse
    - Fill in the gaps after graduation, particularly for students who attend graduate school out of state
    - Where do undergraduates go if they don’t go to UT?
Using Data: Informing Policy-Making

- Be Data Smart
  - Data is just data
  - Research and analysis transform the data into information
  - Visualization and presentation make that information consumable

- Beware Data Marketing
  - Data should tell a story, but only in the sense that the visualizations presented should accurately reflect underlying patterns
  - Not all data consumers are data savvy
  - Use good data practices and be consistent
Thank you