Texas Higher Education Coordinating Board

Data Modernization Initiative Update

Lori Fey, Deputy Commissioner - Data Analytics and Innovation

January 26, 2022

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Data Modernization Initiative

Vision

Equip internal and external stakeholders with **actionable insight** and **data for decision making** purposes

Goals

Design and implement a **modern, flexible data architecture;** Deliver **user centered value** through **dynamic access, robust governance** and **security**

Identify and **deliver high priority reports and/or dashboards** utilizing current data

Evolve current **processes and websites** to support new offerings

Approach

Planning & Detailed Design (6 months) → Proof of Concept (2 months) → Implementation (12 18 months)

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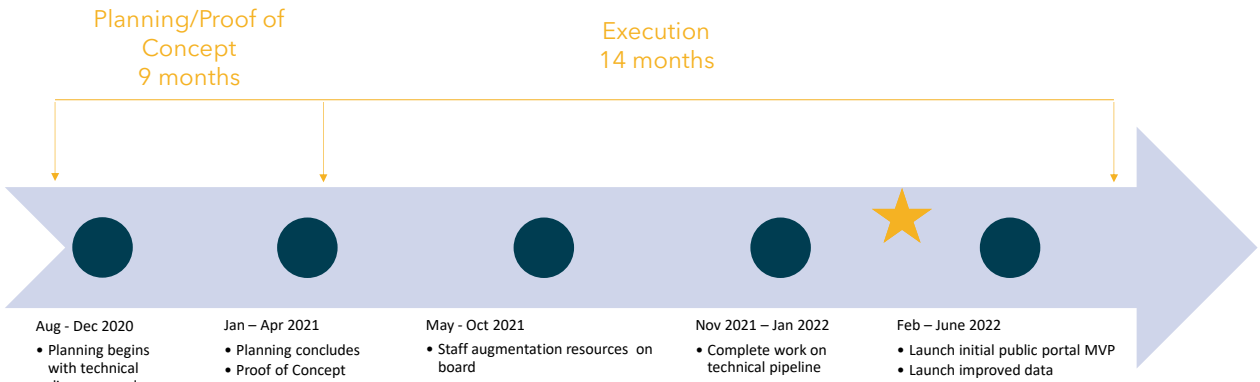
Data Modernization Initiative Timeline



Aug - Dec 2020
- Planning begins with technical discovery and stakeholder engagement
- Conceptual design developed
- THECB data governance review launched

Jan – Apr 2021
- Planning concludes
- Proof of Concept
- Procurement launch
- Initial technical projects launch
- Enhanced THECB data governance designed and implemented

May - Oct 2021
- Staff augmentation resources on board
- Project roadmap work launches on 12 of 19 projects
- Parallel focus on technical pipeline and public-facing assets
- Tri-agency data governance review launched

Nov 2021 – Jan 2022
- Complete work on technical pipeline
- Develop additional portals with differentiated data access
- Initial internal release of new public portal to include most frequently requested data

Feb – June 2022
- Launch initial public portal MVP
- Launch improved data submission portals
- Complete remaining technical projects
- Consider additional scope as budget and GEER timeline allows
- Implement enhanced Tri-agency data governance, as needed

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Implementation Roadmap through July 2022

	Accomplished to Date	Work in Progress	Planned Work through July 2022
Tech & Data Architecture	√ Established **technical and production environments** for testing and development √ Built quality assurance and user testing environments √ **Launched** work with Deloitte to support development of: • Form and document submission portal • Privileged data portal and secure data enclave • Data management program including data modeling and governance • Change management and stakeholder engagement	• **Continue developing data products** into new, improved user experience dashboards. • Continue work with Deloitte to design and develop **privileged and secure data access products** • Complete first release of the **initial public portal data for internal testing and use** • Complete release of the **data submission portal for use by institutions** submitting Financial Aid Data System (FADS) reports using the modernized data pipeline • **Procure vendor** to design high-quality user interface/user experience (UI/UX) for externally facing portals	• **Onboard vendor** and launch design/development for public portal UI/UX • Launch additional iterations of products according to a refined road map and prioritization • **Initiate stakeholder outreach and feedback** based on change management and stakeholder engagement plans • **Continue implementation work** with Deloitte on **change management** and **stakeholder engagement** work • **Continue training** internal team on new cloud components
Governance	√ Consolidated stakeholder input √ Completed assessment and recommendations report √ Approved data governance charter and handbook by the data governance council √ Launched new agency-wide data governance structure √ Completed review of Tri-Agency governance	• **Leverage Deloitte data governance support** to implement procedures and processes for the operation of the Data Governance Council (DGC), including external stakeholder group(s) to inform recommendations of the DGC • Prioritize and develop **implementation approach for Tri-Agency data governance improvements** based on assessment, together with TWC and TEA partners • Identify and procure a web-based solution for a **comprehensive, accessible data dictionary**	• **Finalize project charter** to guide development of Tri-Agency governance structures, policies, and processes based on recommendations • **Solicit feedback from external stakeholder group(s)** on priority THECB and Tri-Agency data governance areas
Communications	√ Secured cloud-based hosting environment √ Completed expert review of main website by new partners to assess main website build √ Completed user testing to support ongoing improvements to agency websites √ Completed migration of websites from test environment to development environment	• Continue executing pre-launch adjustments to main website • Prepare to **launch main agency website** • Plan for **launch of refreshed data site**, currently targeting late summer	• Launch **refreshed agency data website** utilizing new UI/UX design • Refine **consolidated architecture and migration plan** for all agency websites

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Current Data Views – Fall Enrollment Report

Fall Enrollment by Ethnicity
Texas Public Universities

Institution	Fall 2018							Fall 2019						
	White	African American	Hispanic	Asian	International	Other	Total	White	African American	Hispanic	Asian	International	Other	Total
003541 Angelo State University	5,320	762	3,501	174	236	249	10,242	4,796	714	4,167	153	238	221	10,289
003581 Lamar University	6,484	3,570	2,674	572	494	382	14,176	6,617	3,647	3,013	583	389	562	14,811
003592 Midwestern State University	2,885	905	1,145	177	386	214	5,712	2,694	910	1,123	163	301	309	5,500
003630 Prairie View A&M University	164	8,037	838	195	232	50	9,516	144	7,563	772	178	217	66	8,940
003606 Sam Houston State University	10,619	3,888	5,026	451	294	747	21,025	10,588	4,015	5,206	467	314	773	21,363
003624 Stephen F. Austin State University	7,784	2,201	2,355	174	117	427	13,058	7,713	2,031	2,395	169	116	438	12,862
003625 Sul Ross State University	661	161	953	14	10	86	1,885	578	141	884	12	6	23	1,644
000020 Sul Ross State University Rio Grande College	61	5	797	3	NA	24	890	54	9	733	2	2	21	821
003631 Tarleton State University	8,600	1,269	2,537	186	81	445	13,118	8,483	1,292	2,681	202	87	432	13,177
009651 Texas A&M International University	162	48	7,415	33	169	57	7,884	216	55	7,786	36	150	62	8,305
003632 Texas A&M University	35,920	2,136	13,753	4,596	5,284	1,983	63,694	35,370	2,042	14,194	5,030	5,130	2,093	63,859
010298 Texas A&M University at Galveston	1,295	39	348	42	15	67	1,806	1,138						
042295 Texas A&M University-Central Texas	1,035	658	566	92	5	108	2,464	992						
003565 Texas A&M University-Commerce	5,497	2,684	2,348	288	412	843	12,072	5,144	2,					
011161 Texas A&M University-Corpus Christi	4,416	751	5,756	360	362	284	11,929	4,256						
003639 Texas A&M University-Kingsville	1,212	416	5,735	91	999	88	8,541	1,117						
042485 Texas A&M University-San Antonio	1,176	471	4,616	106	138	109	6,616	1,067						
029269 Texas A&M University-Texarkana	1,180	338	299	36	66	148	2,067	1,142						
003642 Texas Southern University	202	7,646	871	317	642	54	9,732	197	7,					
003615 Texas State University	17,508	4,321	14,323	1,031	537	924	38,644	16,927	4,					
003644 Texas Tech University	20,358	2,646	10,283	1,147	2,153	1,258	37,845	20,686	2,					
003646 Texas Woman's University	6,388	2,775	4,043	1,406	254	498	15,364	6,292	2,					
009930 The University of Texas Permian Basin	2,208	419	2,762	165	121	159	5,834	1,952						
003599 The University of Texas Rio Grande Valley	892	236	25,131	386	779	1,065	28,489	919						
003656 The University of Texas at Arlington	14,231	6,457	11,615	4,533	4,467	1,193	42,496	13,668	6,					
003658 The University of Texas at Austin	21,247	2,484	11,296	10,354	4,240	2,063	51,684	20,301	2,					

Table of Contents | Univ.EnrollByEth | Univ.EnrollByGender | HRI.EnrollByEth | HRI.EnrollByGender | 2yr.EnrollByEth | 2yr.En

Fall Enrollment at Public Institutions

Tab	Report Title
Univ.EnrollByEth	Fall Enrollment at Public Universities by Ethnicity
Univ.EnrollByGende	Fall Enrollment at Public Universities by Gender
HRI.EnrollByEth	Fall Enrollment at Public Health-Related Institutions by Ethnicity
HRI.EnrollbyGender	Fall Enrollment at Public Health-Related Institutions by Gender
2yr.EnrollByEth	Fall Enrollment at Public 2-year Institutions by Ethnicity
2yr.EnrollbyGender	Fall Enrollment at Public 2-year Institutions by Gender
Fall.EnrollFlex	Fall Enrollment at Public Universities and 2-year Institutions Including Flex Entry

Source: THECB, CBM001
Flex enrollment only includes those students not otherwise enrolled in the fall semester.
*Flex enrollments shown here are unduplicated at the sector and state levels. Figures shown as totals will not sum to the individual flex enrollments from each institution.

Source: http://www.txhigheredaccountability.org/AcctPublic/InteractiveReport/Predefined

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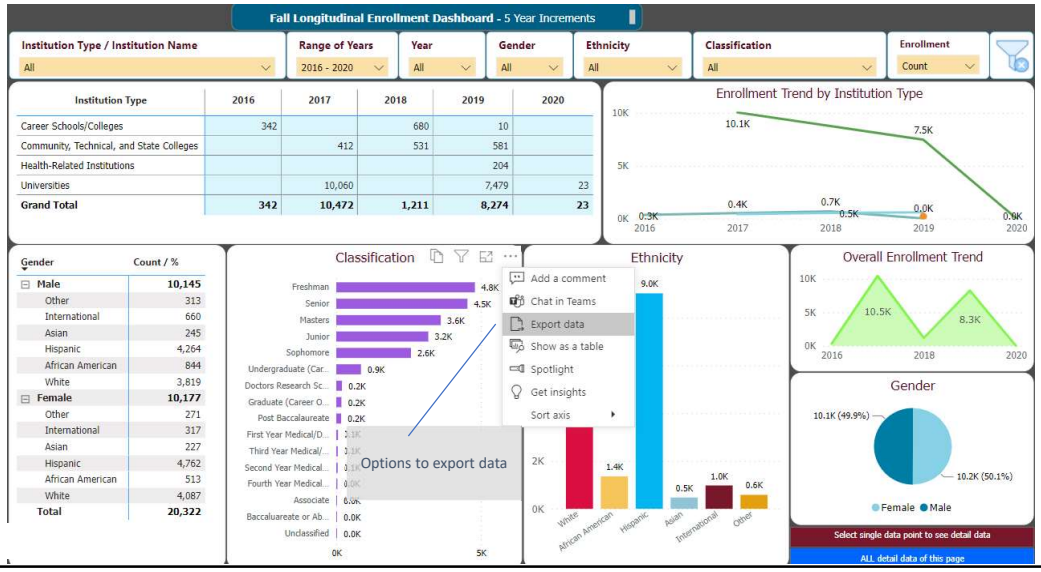
Progress Examples – Enrollment Dashboard

(1 of 4)



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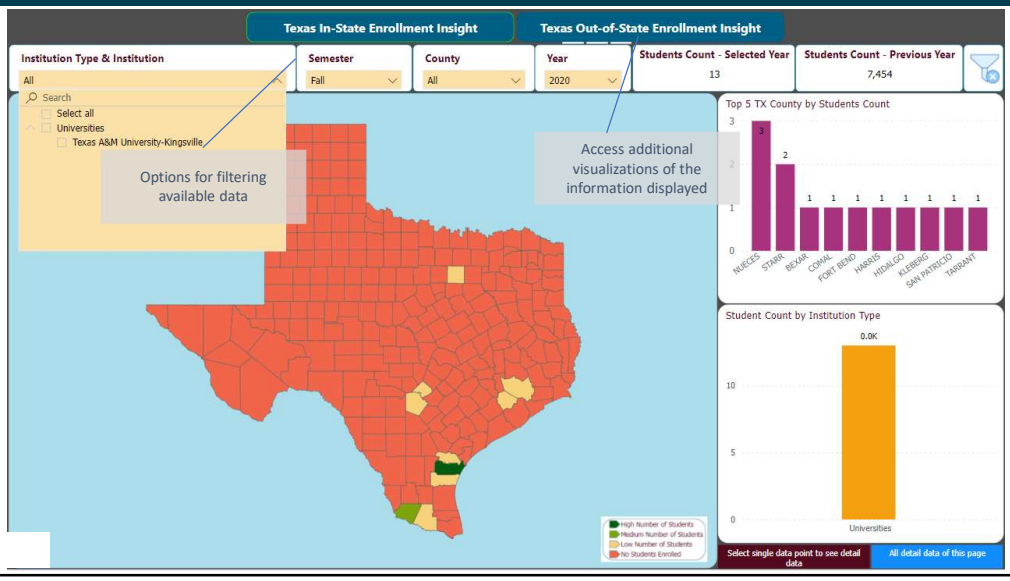
Progress Examples – Enrollment Dashboard

(2 of 4)



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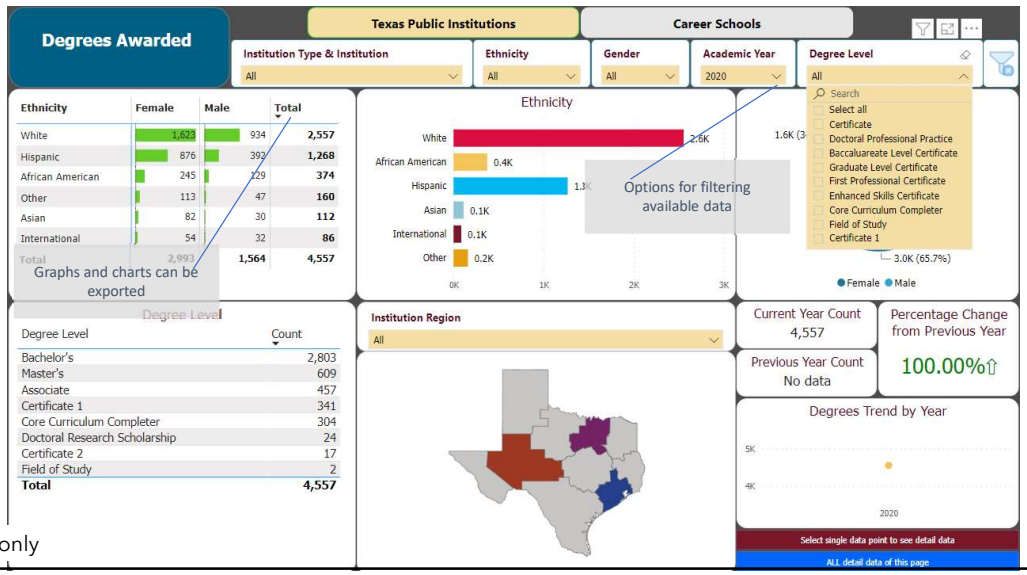
Progress Examples – Degrees & Certificates Dashboard

(3 of 4)



Test data only

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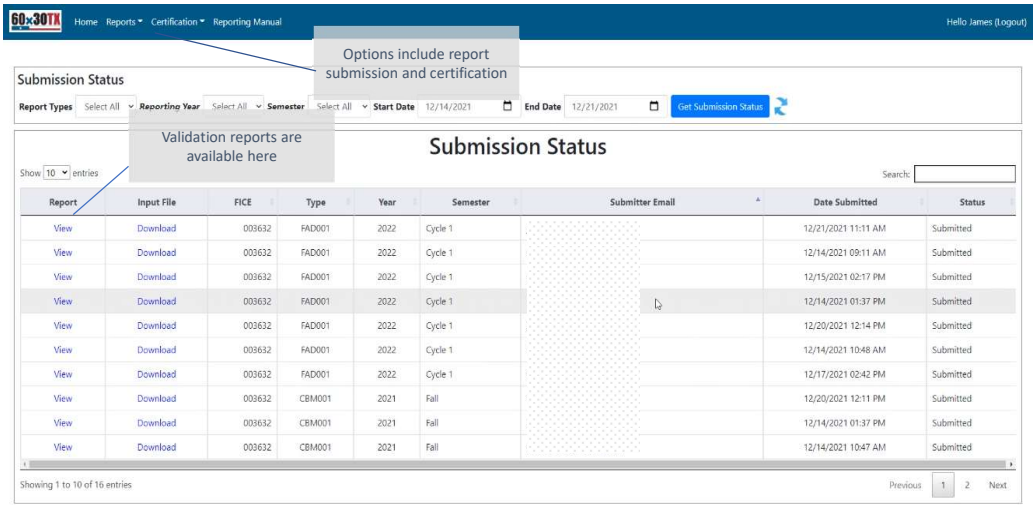
Progress Examples – FADS Data Submission

(4 of 4)



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Other Noteworthy Progress

DRAFT

Data Management & Infrastructure

- Created automated curation and validation pipelines
- Built Extract-Transfer-Load (ETL) pipelines that move on-premises data to cloud
- Completed development and production environments in CI/CD pipeline
- Migrated CBM data supporting initial dashboards
- Launched data architecture and governance project with Deloitte team
- Identified priority use cases for privileged data portal and secure data enclave

Tools

- Improved the test-data generation tool that creates de-identified data sets for use in development environments

Program Management

- Launched change management work with Deloitte team to support upcoming releases
- In progress on procurement for public portal UI/UX design and development, responses due Jan. 19
- Provided $2.26M in grants to 57 public institutions for reporting system updates, funded by GEER

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Questions?

Lori Fey
Lori.Fey@highered.Texas.gov

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