RCM Budget Model Technical Team Report

DATA ANALYSIS

November 2024

Accomplishments To Date:

This summer the budget office hired a new Senior Budget Analyst, Jenna Gross, as our point person for the technical programming work next spring. Over the last few months, she has been getting familiar with current processes, data points, and making connections with other pertinent staff. She is also exploring existing software available at Texas State and evaluating its ability to be used for the RCM budget model.

We also met with the RCM Budget Model Technical Team over the course of a couple of months and discussed each of the thirteen decision points. In addition, we have an initial identification of issues around the status of the data available vs. the data required to implement a robust RCM budget model. As we proceed with the development of an RCM budget model, having clean and standardized data will be essential. Currently, data at Texas State exists in its raw state across multiple systems (e.g., Banner, SAP). Accessing data requires business knowledge to properly identify what data is needed, knowledge about the data structure for each system, technical skills to retrieve and clean the data, and analytic skills to bring the data together from multiple systems for proper interpretation. This creates a cumbersome process, limiting insights into the data since most of the time is spent learning the data structure to retrieve and clean the data rather than focusing on the use of the data to inform decisions.

Creating data marts for each of the functional areas and metrics as part of a unified data layer allows us to shift from retrieval to analysis of the data. By using standard definitions and methodologies to consolidate data from various sources, we can ensure access to consistent and reliable information for timely decision-making. The pre-defined nature of the data marts helps improve operational efficiency by streamlining the reporting process, reducing redundancy across data systems, and helping identify potential data quality issues. The modular approach of data marts within a unified data layer increases scalability and flexibility, allowing us to integrate existing and new data for analysis as requirements change. By removing the technical barriers to data access, trust in the data is fostered through increased transparency. This approach also lends itself to creating more detailed dashboards for monitoring and reporting key performance indicators and leveraging the data for improved predictive analytics.

Committee Approach:

The technical team decided to focus on the data sets that will be required to build out the budget model with a focus on the current state of data vs. the desired/required data sets. Therefore, we did not focus on how to allocate revenues, incent behavior, or calculate

allocation pools. Rather, we focused on where the data resides in our current systems and have outlined the charters required to build the data marts needed to get the data in an easily accessible format to implement the decisions administrators settle on for the RCM Budget Model.

To help the Executive Committee understand the current situation of the data available vs. desired data, we have provided a matrix in excel format [high-level] outlining each of the 29 data elements in the Compendium of Budget Elements document provided by EAB. In the matrix we identified where the data points for allocation currently reside in our systems and if improvements need to be made for those data points. We also evaluated the data points needed to allocate each of the data elements. Example: General Administration [data element #17] is a cost that needs to be allocated via either an expense tax, faculty FTE, a revenue tax, as a shared expense, or by student FTE. Each allocation method also represents a data point in our systems to be evaluated.

Finally, we prepared this report to provide some discussion around the matrix to help the executive committee understand the various charters, other considerations, and questions we have around timelines and programming.

Report Format:

Attached to this report is the matrix. Use the Simple Table of Elements. The matrix is designed as follows:

- **Columns A-C:** list the type of data element, the # of the element and the name of the element.
- **Column D**: Element Symbol
- **Column E:** Highlights the current data set and or process for each data element as it functions now.
- **Column F:** Identifies if a new data mart is required. There is some repetition here since much of the information required to capture allocation cost resides in the same place.
- **Column G:** Identifies the EAB recommendations for possible allocation methods, each of which is another data point to be analyzed.
- **Column H:** is EAB's description of the mechanism.
- **Column I:** Highlights the current data set and or process for each data element as it functions now or what we will tap into as RCM is built out.
- **Column: J:** Identifies if a new data mart is required. Again, you will see some repetition in this column as allocation methods get repetitive.
- **Column K:** Notes

Below we have outlined the charters/data marts identified in the matrix and added additional thoughts or concerns around each data mart. We have also grouped them into

two large categories, data marts for the 29 data elements vs data marts for the data points in the allocation mechanisms. This is intended to eliminate the repetitive nature of the matrix and where a data mart may be associated with multiple data elements will only be discussed once in the summaries below. Finally, we are calling everything a charter [for IT] but once we have decisions to operate on, we may be able to consolidate some of these into fewer charters.

Charters/Data Mart Development in Relation to the 29 Cost Elements:

Revenue Allocation Pools: There are three main new data marts associated with the eleven revenue allocation pools listed in the matrix:

[1.] Charter Name: RCM Budget Model Data Mart:

- Will house all revenue/expenses in SAP for all university units within RCM budget model with unique identifiers populated. Will also include Budget details for all accounts.
- Data mart to be housed in a new unified data layer [warehouse] for RCM budget model.
- The charter for this data mart is already submitted with IT and we will begin work this fall.
- For the revenue/cost pools, this will allow for a unified and single source of data. Having the data in a unique data mart allows us to add key figures to the data so we can identify unique groupings which may be cross departmental, cross divisional, and across functional area. By having the key figures, we can then easily run analysis on the key figures to generate the revenue or cost pool information for allocation.
- For the revenue allocations this would be used for spreading appropriations potentially, auxiliary revenues, gifts, and endowments [very restricted].

[2.] Charter: Tuition & Fees Data Mart:

- Need a connection to and transfer of data from Banner to a new data mart housing all necessary data elements for reporting on tuition and fees. Data table will reside in the new data layer for the RCM Budget Model. Data may/will also be accessed for other state reporting needs to be consistent.
- This is the meat of the RCM model and takes our tuition and fees projected / collected and allocates them to the academic units based on executive committee's decisions around allocation strategies.
- This will require a new charter not yet submitted. Project team will be SBS and IT. We should submit this charter this fall and begin work soon.

[3.] Charter Name: ICR Data Mart:

- Indirect Cost Recovery is a revenue stream which can be allocated multiple ways. Currently ORSP has a program that does this type of allocation based on existing agreements.
- To move to RCM and have a consistent concept of pulling data from data marts out of the new unified data layer we need a charter to deal with ICR revenues and allocations.
- Data will potentially already be in the new RCM budget model data mart but will need additional key figures added to the data mart to uniquely deal with ICR allocations. If data is not in the main RCM data mart, then a unique data table will be required.
- Furthermore, we will ask to take ORSP's existing program which allocates ICR revenues to units, and update programming based on new parameters [if changing] and connect to the new data mart for RCM in the new data layer.
- Note this data mart would be used on both sides of the equation: ICR revenues generated would be housed here and the data needed to allocate those revenues via whatever mechanism is chosen [general fund, PI, VP, or Dean/Dept Chair].

Cost Allocation Pools: There are three main new data marts associated with the ten cost allocation pools listed in the matrix:

[1.] Charter Name: RCM Budget Model Data Mart:

- Same as [1.] above.

[2.] Charter Name: Debt Service Data Mart:

- Creating a process to transport, update, and maintain a data table housing all the debt service schedules which could then be accessed for RCM data modeling. Data mart to be housed in a new unified data layer [warehouse] for RCM budget model.
- As discussed in the matrix, we currently only charge debt service to those areas that incur it, with a large majority of it being funded centrally for E&G buildings. If any path is chosen that somehow allocates this cost at a more granular level out to academic units, then the debt service schedules need to move form excel into a data mart table where they can then be accessed and key figures applied for calculation purposes.
- If we continue to charge / fund debt service in the way we do now, we could potentially eliminate this data mart and continue to fund this from central funds or auxiliary funds.

[3.] Charter: Financial Aid Data Mart:

- Creating the financial aid specific data table to allow the flexibility to run different modeling scenarios for data modeling. Data mart to be housed in a new unified data layer [warehouse] for RCM budget model.
- Banner has a robust amount of data available for financial aid, however it needs to be moved to a data mart in the new data layer discussed above for more unified and easier analysis. Once we have all the data points identified it should be pretty easy to implement any of the allocation methods suggested by EAB.

- Charter required. Primary offices are Financial Aid, SBS, Budget and IT. Need to submit it this fall and start work on building out the requirements.

Performance Targets: There is one new data mart associated with the Performance Targets listed in the matrix:

[1.] Charter: Student Success Data Mart:

- Will include information on each student for 10 years, broken out by semester, starting from the student's first enrollment at a given student level as either a first-time or transfer student. Data points included will include student ID, enrollment/graduation status, semester credit hours attempted, semester credit hours earned, semester GPA, overall TXST GPA, overall GPA, and academic standing.
- This data mart can be used for both identifying student success targets based on current/historical trending to be applied to the budgets model, and it would provide the information for any allocation methods tied to student success metrics as well.
- Performance Target is Student Success.

Performance Targets Continued: The other two performance target types, unit margins and priority setting, are more process oriented and calculation driven. Therefore, new data marts were not identified. For those that are process driven there will need to be a way to roll existing processes into the RCM annual budgeting process. For those that are calculation driven the calculations will be implemented as the model is built and decision points are identified.

Strategic Funding Elements: Like the performance targets, most of the decision points around the strategic funding elements are process oriented and already have well defined processes, policies, and decision points built into them. Once costs are identified via current processes then the RCM budget model just needs a calculation developed and/or allocation method identified and implemented. The exception is academic subsidies which currently do not have fully flushed out process built around funding them. Subsidies are not transparent now but will become transparent via the RCM revenue/expense allocation process and then decisions on how to subsidize those units based on the suggested allocation methods will need to be incorporated into the model as well.

Charters/Data Mart Development in Relation to the 35 Allocation Mechanisms Available:

There are 35 different allocation mechanisms mentioned in the EAB guidance document. Below we have just identified the new data marts required for use in RCM. To see which allocation methods tie to which RCM Data elements refer to the matrix.

[1.] Charter Name: RCM Budget Model Data Mart:

- Same as [1.] above under Cost Allocation Elements:
- The same data used to identify cost/revenue pools to be allocated can be used on the allocation side of the equation where the model is again using key figures to aggregate data into allocation pools based on expenses or revenues to calculate a tax.
- Example: We have identified the total cost for General Administration to be allocated by using the key figure in this data mart where all departments identified as General Administration were labeled. The model now dictates we allocate/spread that total cost to units based on an expense tax. So, we can use the same data mart to pull expenses by units and then calculate their proportional share.

[2.] Charter Name: Tuition and Fee Data Mart:

- Same as data mart identified above under Revenue Allocation.
- This data mart is primarily for running the calculations for revenue/expense for the units.
- One allocation method is differential tuition which will also be in the tuition and fee data mart as well as any allocations based on a revenue tax.

[3.] Charter Name: ICR Data Mart:

- Same as data mart identified above under cost allocation pools.
- Note this data mart would be used on both sides of the equation: ICR revenues generated would be housed here and the data needed to allocate those revenues via whatever mechanism is chosen [general fund, PI, VP, or Dean/Dept Chair]. There is also a suggestion by EAB that you could use ICR shares to spread research expenses.

[4.] Charter: Financial Aid Data Mart:

- Same as data mart identified above under Cost Allocation Elements now being used as a mechanism to bill to units either as a direct expense or a shared expense.

[5.] Charter Name: Facilities Detail Data Mart:

- Creating a connection and data transfer from AiM to a facilities space allocation data mart table which will hold key fields required by RCM modeling. Data mart to be housed in a new unified data layer [warehouse] for RCM budget model.
- This data mart will provide building details required for calculations so we can allocate cost by NASF and QASF. Note, Bill -to -Unit as a direct cost will not be possible as we do not have each building/space uniquely metered to gather that data in that detail.
- Furthermore, we do not currently spread costs at the unit level, and everything is currently manually done via spreadsheets.

[6.] Charter Name: Employee Data Mart:

- The Employee data mart includes information on all university employees, including non-pay and student employees and is updated once a semester. Data

elements include name, id, netid, email, demographic information (e.g., gender, race/ethnicity, age, citizenship, etc.), highest degree level, highest degree, academic rank, tenure status, primary campus, employee status, total FTE, Faculty FTE, Staff FTE, Program Faculty FTE, CUPA reportability (for faculty), AAUP reportability (for faculty), department chair/school director indicator, salary, position title, EEOC category, employee group, SOCC category, IPEDS employee assignment, FLSA status, organizational unit, division, college/unit, office/department, benefit group, contract length, TXST employee category, THECB percent time breakouts (for instructors of record), and other relevant information.

- Note: this may be too much information for one data mart and may have to be broken out into smaller subsets to allow for efficient processing.
- **Charter Name Position Control:** Subset of data above also includes position #, salary, perm/temp positions, perm/temp funded, home costing, current costing and other data elements. May need to be broken out and pull in the budget pieces so we have the connection between personnel cost and budget.

[7.] Charter: Carry Forward Process:

- Carryforwards "gain sharing" are currently based on budgets as indicated by EAB. Current carryforwards represent a use of reserves on PFG currently. Budget Carry Forwards are easily identifiable, and we do them now for PFG only. Programs are developed. Rules are complex and manually controlled right now.
- The charter would be to automate some of the "rules" into the programming, clean up commitment item groups to improve process, and program for any new rules developed as part of RCM work/decision.
- The Budget office is pursuing this Fall of 2024 regardless of RCM to lessen the administrative burden for current processing.

[8.] Charter Name: Student Success Data Mart:

- Same as data mart identified above under Performance Targets.
- Tied to allocation methods of student completions, credit milestones, and unit goals.
- Currently under revision by DAIR.

[9.] Student Enrollment Data Mart:

- The Student Enrollment data mart includes the student type, student level, curriculum information (college, department, program, major, concentration, and minor) and demographic information (age, first-generation status, Pell eligibility, gender, race/ethnicity, etc.), housing status (University vs Non-University), total sch enrolled, enrollment status (full vs part-time), and other relevant information for all students enrolled in a given semester.
- Will be used for allocation by SCH and Student FTE.
- Currently under revision by DAIR.

[10.] Degrees Awarded Data Mart:

- The Degrees Awarded data mart which includes the student ID, semester/date awarded, degree, degree level, college, department, program, start term, and curriculum information (college, department, program, major, concentration, and minor).
- Desire to automate some of the "rules" and program for on incorporate any new rules developed as part of RCM work/decision.
- Currently under revision by DAIR.

[11.] Course Enrollment Data Mart

- The Course Enrollment data mart includes information on each course section offered every semester. The data elements include section term and CRN, Course prefix, course number, course title, section number, course type, course level, course location/campus, instructional modality, start time and days, credit hours (total, lower level, upper level, masters, doctoral, and professional), enrollment as of census, instructor of record, instructor rank, instructor degree level, college, department, Texas Funding Area, and other relevant information.
- Used for Program Enrollment allocations.
- Currently under revision by DAIR.

Other Allocation Mechanisms:

- Like the cost pools, there are a lot of different allocation mechanisms available that do not require us to create a new data mart. Therefore, for those mechanisms we have noted that either a process changes or a simple calculation is required within the RCM budget model. Two examples are:
    - Shared Expense Allocation Mechanism: Concept here is you take a cost like New Programs, and you spread the cost equally among units in the cost pool. So, a simple calculation of Cost/# of units in pool.
    - MOU: concept is that the cost allocation is MOU driven, so only those units effected by the MOU share the cost.
- As we make allocation decisions, we may decide we need some sort of table developed, but until we have software identified we are leaving this as a calculation issue not a full data mart driven situation.

A Note on Appropriations:

Decision Point 5: Allocate Unrestricted State Appropriations:

Guidance: Institutions can either allocate state funds along with tuition or hold centrally for subvention or strategic investments. Senior leaders must decide on which method to use early in the design process.

Current Status of Data Sets:

Appropriations are published in the GAA every two years for a biennium, therefore actual appropriations are only available in two-year increments. Estimates would be required if the model uses multi-year estimations involving future years. This can be volatile since appropriations are dependent on state finances and the political will of legislatures.

State appropriations are highly regulated, tracked, reported, and require justification for all expenditures. HR, Budget Office, Financial Reporting, HR Benefits, and Payroll all have unique reports they are required to provide to multiple state offices on an annual, quarterly, and biennial basis.

Considerations:
Processing state appropriations is very complex and requires the coordination of multiple back offices [FR, Budget, Payroll, SBS, and HR Benefits] to process through the various systems [SAP, USAS, Banner]. Current processing and tracking of state appropriations is a heavy lift for all departments involved because we spend most of our dollars on salaries which are subject to state and federal laws. In the last 5 years we have started spending more dollars in our non-formula support items on operating expenditures which has exponentially increased the processing volume for AP and other back offices who process purchase orders, contracts, invoices, and other transactions that process through USAS.

Suggestions:

As we move towards RCM it would be beneficial to take this opportunity to see if we could develop a spending strategy and processes that would lessen the administrative burden these funds put on our back offices. Non-formula support items must be spent within their strategies and provide less room for expenditure reallocation, but we could still make improvements within internal processes for back offices. Although we probably want to continue to spend most of our operations support on salary so we utilize the benefit appropriations, we could potentially look at less volatile personnel type than faculty salaries to spend the funds on. We move a lot of our back-office costs to non-appropriated funds, and we could flip that potentially. In addition, if we are making decisions that give control over positions and personnel cost to the academic units, we must ensure we still have budget control and central oversight on what they are doing. Unlike our other tuitions, appropriations are use it or lose it funding source, so we do not want to inadvertently incentivize processes that have units trying to hoard positions or dollars which do not spend down our appropriations within the fiscal year.

Technical Team Composition:

The original intent in assigning personnel to these teams was to have representation from each division. As we move toward development, we need a team heavy on IT people, database administrators, and budget office personnel with a few key people from the bigger divisions. When we move to the testing phase, we can pull back in some of the

divisional reps to help with testing. As team lead, I would like to propose a reassignment of personnel on this team as outlined below.

Keep these people:

- Tracy Ryan (Chair), Director for the Office of Budgeting and Financial Analysis,
- Marc Turner (Co-chair), Assistant Vice President for Data, Analytics, and Institutional Research,
- Cynthia Landeros, Assistant Director, Office of Budgeting and Financial Analysis
- Jenna Gross, Senior Budget Analyst, Office of Budgeting and Financial Analysis
- Lauren Clawson, Director of Information Technology Business Operations
- Nick Schellman, Administrative Financial Analyst [need a rep from research]
- Brendan Scott, Director of Academic Affairs Budget [need a rep from Academic Affairs]
- Dede Gonzales, Assistant VP, Financial Aid and Scholarships
- Donna Hoyland, Assistant Director Enterprise Systems. [SAP expert and Charter Control]

Add These People:

- Marcus Byrant, Associate Director, Systems Support [SBS-BANNER]
- SAP Basis: representative from basis.
- SAP Project Staff: dedicated IT professional to assist with programming support.

Release These People:

We can reach out and ask these folks if they would like to be in all meetings, be released from the team, or participate in key meetings and testing. Propose giving them the option to decide their level of participation.

- Shilpa Bakre, Director of University Communications
- Bryan Dean, Senior Associate Athletic Director
- Paula Slocombe, Administrative Financial Analyst, University Advancement
- Stacey Sanders, Director of Division of Student Services Business Operations
- Amy Wong, Executive Assistant, Round Rock Campus
- Eddie Piner, Chair, Physics [already on academic team]

Technical Team Questions:

As indicated by our report we have a lot of work to do to scrub our data, create all the data marts, and get them moved to a data layer that is easily accessible by the RCM software. Questions around that topic are:

- Is IT working to identify a unique server that will house our new data marts and allow for faster processing? Or a server with enough capacity to add our data layer

and allow for speedy processing. We currently cannot run many of the reports we use now in SAP because it bogs down and times out. We do not want this with our RCM Budget model.

- What software is currently being considered for RCM budget modeling? We cannot do this in excel and although we are researching Power BI, we are not convinced at the moment that it will allow for all the robust calculations we will need.
- Is administration prepared to hire and pay for consultants to help program and implement RCM budget model in new software.
- Are we going to be assigned IT personnel dedicated to RCM budget model programming and software assistance?
- Dashboards: Does the executive team envision these dashboards to be used only during budget development in the spring or are they anticipating a robust scenario forecasting type dashboard that must be maintained and available on demand. This decision will definitely take programming and the dashboards on two different paths for implementation.

Final Thoughts:

We hope this report and the associated matrix gives the executive team an understanding of the breadth and depth of the amount of work that needs to be done to prepare and move our current data into new data layers dedicated to RCM and other reporting as required by the Data Governance Committee who are also working on data warehousing. Although we can start working on a few of the data marts outlined above, others are dependent on the decisions the committee makes around how we will allocate funds, tax funds, and budget for them. Therefore, we do not anticipate working on much of this until the spring after we have been given the answers to the 13 decision points. Once we have the vision, we can move forward with the necessary charters and begin work on moving the data and prepping it for RCM. Having said that, there is a concern that the timeline for rolling out the RCM budget model in the fall of 2025 is fairly aggressive and we would like to know if there is going to be any room for adjustments on the timelines. In addition, the budget office has been given one position [Jenna Gross] to help build out the technical model, and we have been approved for another new position in the spring to help ramp up training. Although we are appreciative, our office is currently extremely busy implementing all the changes occurring at this university, and finding time to work on this project is proving to be changeling. Therefore, as indicated by our questions around personnel above, we anticipate we will be asking for additional resources to either backfill or assist with the RCM budget model as we move into the implementation phase. And finally, we look forward to learning about the software solutions being explored and are eager to have that decision made so we can start working with the team on building out the data marts with an eye towards software limitations and or solutions. With the

right resources in place, we are confident that we can implement a new budget model that will help the Texas State community and their budgeting requirements.

Please let us know if you have any questions,

Sincerely,

Technical Team.