

Building Trust & Ownership

Through Dynamic Billing Dashboards

CATEGORY

Data Management, Analytics & Visualization

START DATE

July 2019

END DATE

July 2020



COLORADO
Governor's Office of
Information Technology

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Executive Summary

As the enterprise provider of information technology support and services, the Governor's Office of Information Technology (OIT) bills its customers, state agencies, for the Common Policy¹ services and resources they consume on a budget basis. Due to the 1/12th budget-billing with retroactive reconciliation, it was nearly impossible for customers to link the services received with the dollars spent or to understand costs associated with new IT business needs. It was time to reimagine IT Financial Management to build trust and enable agencies to take ownership of their utilization of IT services and bills. Enter the dynamic billing dashboards!

OIT's financial service team created a website as a gateway into all utilization and billing information associated with OIT's Common Policy services. This tool was created as part of OIT's initiative to transform Common Policy billing from estimated and future true up billing to monthly billing based on actual, real time customer consumption. This customer portal provides access to the IT budget, utilization, expenditures, and much more. Customers can view budget and utilization trends from summaries to detailed levels, review current and past invoices, check on the status of disputes or corrections, learn about the latest service changes, become familiar with the Real-time Billing transformation project, plan for future year's utilization needs, and see what makes up a rate for each service - all in one spot. This website puts all the content at the customer's fingertips; building trust through transparency, and ownership through information sharing.

¹ In Colorado, Common Policy services are universal services offered from one state agency to another where the budget and spending authority sits with both the paying agency and OIT.



Idea

Background/Problem

The Governor’s Office of Information Technology (OIT) is the enterprise provider of information technology services to Colorado’s executive branch agencies. There are two main ways that customers pay for these IT services - Common Policy and direct billing. Common Policy services are billed based on each agency’s OIT budget with annual reconciliation reflected in the following budget cycle. This approach causes customer confusion as the billing never aligns with actual consumption; any increase or decrease in services is not realized for two years. For example, an agency with a \$5M budget in 2021 would be billed \$5M over the course of the budget year regardless of how much services were consumed. At year end, a reconciliation would be completed to see if \$5M was really utilized. If the agency consumed \$500k more than the \$5M, that amount would be added to the next budget cycle (in 2023), so the budget would be \$5.5M in 2023. This made it difficult for agencies to plan their budgets or understand their overall IT spend on Common Policy services. Adding to this difficulty, agency customers did not understand the individual service rates and whether they were competitive, because the rates were never solidified until the year end reconciliation after all services were completed.

Under the budget billing methodology, agencies would only receive monthly utilization reports to review. These were static PDF documents that provided no financial context and no way for customers to dispute usage. *To the right is a snapshot of the report showing forecasted and actual usage of various OIT services.*

OIT Service Monthly Utilization Data

Service Code	Service Name Utilization Criteria	Projected Monthly Utilization	July 2019 Act/Proxv	Aug 2019 Act/Proxv
AGRICULTURE				
2101	Mainframe Services Per Service Unit (in 1,000's)	422	573	579
2110	Mainframe Computing Per Defined Job Scheduled	3	3	3
2261	OIT-Owned Compute Per Server Instance per Month	32	41	41
2262	OIT-Owned Storage Per TB of Storage per Month	15	23	23

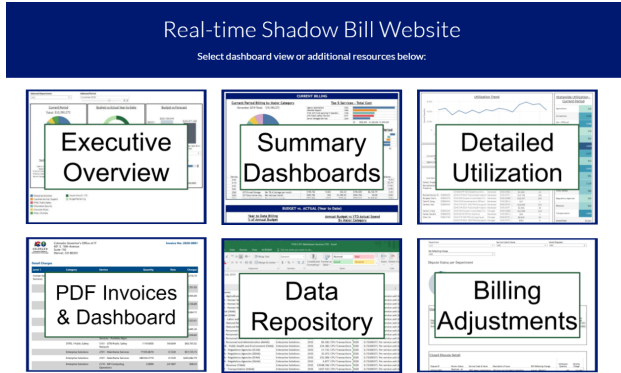
Solution

As a part of the state’s IT Transformation Program, the Budget Office is in the process of overhauling the Common Policy billing methodology from budget billing to monthly billing based on actual agency consumption of services. This project requires a multi-year, phased approach to fully transition. This nomination covers phase 1 - implementation of the Common Policy Real-time Billing (RtB) website. Creating the website has been a critical first step for agency customers to have a comprehensive view of their utilization details and it allows OIT to make any needed service adjustments now. This step prepares agencies for the next phase of receiving and processing monthly invoices starting July 1, 2021. It also has set the stage for rates and service transformation.



Implementation

To provide customers with a user-friendly, dynamic interface to review and understand their consumption of OIT Common Policy services, in July 2019, the Budget Office set forth to create a website with embedded dynamic dashboards. This “one-stop shop” provides budget/forecast, invoice, and utilization information as well as other background information related to the project, tutorials and guidance, and rate composition.

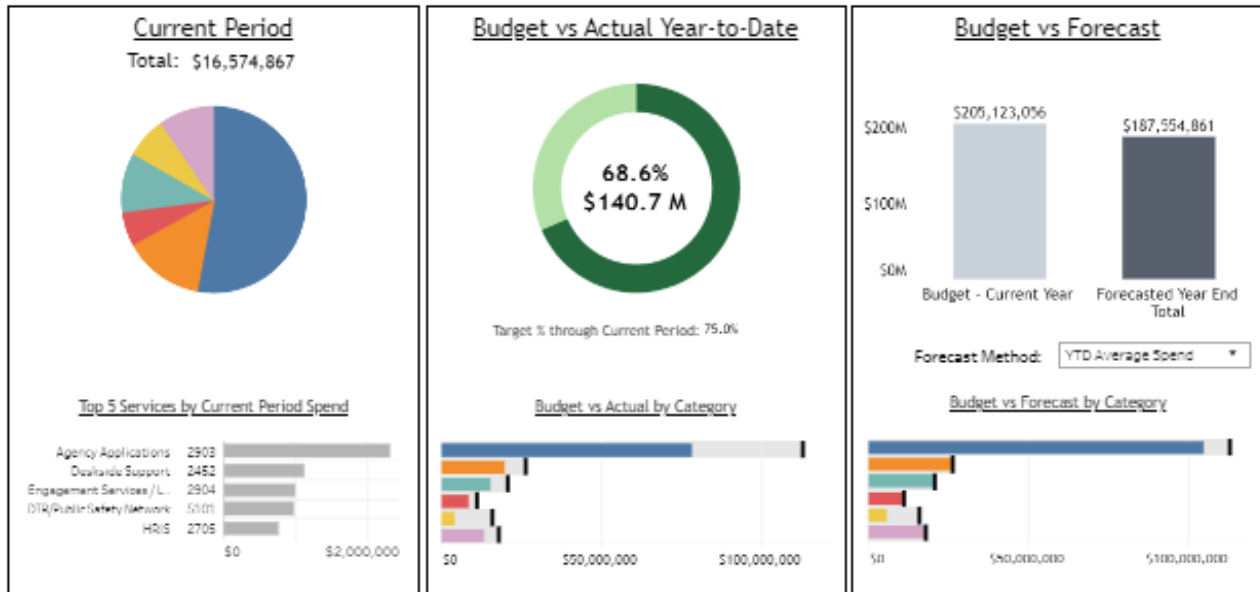


Overall Functions and Features

The interface is built on Google Sites using Tableau dashboards for an interactive user experience. Based on customer feedback, the homepage has six main sections for customers to navigate to: Executive Overview, Summary Dashboards, Detailed Utilization, PDF Invoices and Dashboard, Data Repository, and Billing Adjustments as shown in the screenshot.

Customers can navigate to any of the sections based on their needs.

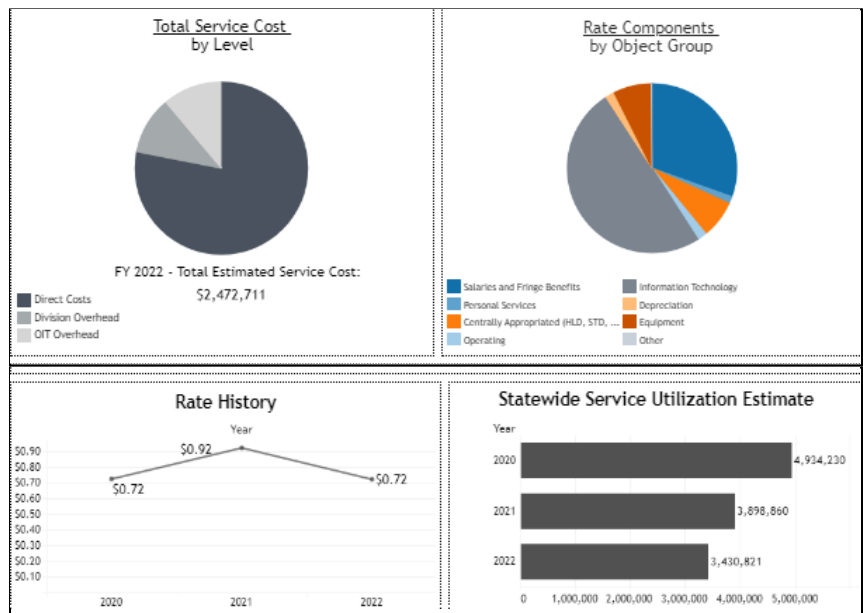
- Directors and other leadership can navigate to the *Executive Overview* to see a quick snapshot of the agency’s spending trends in relation to the budget.
- *Summary Dashboards* provide additional budget and expenditure detail to help pinpoint areas needing attention (over- or under-utilized services).
- *Detailed Utilization* dashboards provide the most granular level of customer consumption - providing technical details, project and division information, as well as a line chart showing budget versus actual for each specific service.



- The *PDF Invoices & Dashboard* section focuses on the accounting aspect of the services showing monthly billing totals broken down by service category and agency division. This section also includes the PDF version of the invoice that is attached to the payment transaction in the State’s accounting system (CORE).
- The *Data Repository* is simply where all the source data is housed as monthly utilization excel files. This allows customers to download the information and conduct additional analysis and linkages to other programmatic information.
- Lastly, *Billing Adjustments* shows all billing disputes or corrections submitted as well as the status of those in real time. Customers can see where their request is in the resolution process as well as what invoice the correction will be reflected in. The bottom of the home page includes a calendar of when monthly invoices will be posted and dashboards updated.

The website also has other pages accessed through the top navigation bar, including:

- *Tutorials and Guidance* - videos and guidance/process documents
- *Service Information* - current rate list with calculations
- *IT Rates and Services Board* - service change decisions and detailed rate information (snapshot shown on the right)
- *Utilization Planning* - details for budget planning and submission
- *About the Project* - highlights the billing transformation project with timeline



Security

The financial and utilization data provided in the website has sensitive information, so access to the Tableau dashboards is managed through a request process to the OIT Budget Office. There is a second access control mechanism for the raw data excel files limiting agency information to be accessed by only specific people using Google’s document and folder sharing functions. Google analytics also allows for reviewing user traffic, engagement, and user access.



Customer Involvement

Customer engagement and feedback has been at the heart of building the website. The Budget Office engaged with many different stakeholders including the IT Directors (OIT's senior liaisons between OIT and the agencies), the Agency Customer Users Group, RtB Working Group, Budget Directors, Controllers, and agency business technology teams. An iterative approach was used for the website development and continual improvement based on customer feedback to make it as useful and user-friendly as possible. Based on that feedback, many additions/modifications were made including:

- Displaying historical usage data going back to July 2018
- Updating the summary dashboard to highlight the top five services by cost and by recent change
- Updating individual service pages with historical trend, the ability to toggle between months and compare prior period or same period from the prior year, etc.
- Linking to a Google form to capture any customer questions/disputes
- Adding an invoices section with a link to reference the pdf shadow invoices
- Adding the YTD forecast in the summary dashboard
- Incorporating an Excel-based data repository
- Adding a payment/processing calendar
- Including detailed spreadsheets for Direct Spend services
- Enhancing search capabilities
- Incorporating agency division and technical detail to many services
- Adding and extending the detailed dashboard line chart to forecast the budget into next fiscal year

Evolution of the Detailed Utilization trend line



Right: Original with just utilization. Middle: Utilization with budget. Left: Forecasted budget added.

Evolution

With the multi-year billing transformation project, the website was built as a “shadow bill” platform. This means that while OIT is still billing customers using the old budget-billing method, this interface allows customers to see what costs will look like when we transition over to monthly real-time billing. All the utilization data is real and accurate, but the rates and amounts are estimates that will be updated once the annual reconciliation process occurs. Creating the website has been a critical first step for agency customers to have a comprehensive view of their utilization details and allow OIT to make any needed service adjustments now. Once we transition into the next phase on July 1, 2021 and bill monthly based on actual utilization, the dollars will be real amounts for customers to validate, track,

and analyze throughout the fiscal year. Although outside of the scope of this nomination, this work is also foundational to the transformation of the rates and service metrics used for billing and the development and implementation of a more easily understood Service Catalog.

Impact

This website has revolutionized OIT's budget and billing interface for external customers and internal OIT staff. Now agencies can quickly and easily see what IT services they are consuming and what they are being charged. The website and dashboards have been such a success, customers are asking for the same information for other non-Common Policy services.

"The RtB website has been such an amazing tool in helping my Agency truly understand our billings and transform their processes of allocating our services internally."
-Debbie, OIT IT Director

The website has created efficiencies for OIT and our customers. It is easy for internal staff to find information to answer customer questions regarding internal strategy and planning. *Gone are the days of emailing static PDF reports or separate spreadsheets for each service. Customers no longer have to ask OIT for more detail on a specific service - it is all on the website. They can look at historical data, filter, sort, search, download, model, forecast, and plan all from one interface.* New employees are directed to the Tutorials and Guidance section to get up to speed on how to use the website and dashboards.

"This looks really nice, great job!"
-Bob, OIT Service Owner

Prior to the site, customers never had a formal way to dispute a charge or request a correction. They would simply email someone at OIT that they thought could help them and wait to see if a resolution could be determined. The website has incorporated a path and process for submitting questions/disputes all in one place. There is a dashboard showing real-time status and when the adjustment will be reflected.

Customers have a sense of ownership over their IT spend like they never have before. By sharing and presenting the utilization and billing information in a user-friendly and dynamic way, customers can make conscious business decisions and understand the costs associated to budget accordingly. As the adage goes "...teach a man to fish, and you feed him for a lifetime."

"You and the Finance/Budget team at OIT have done a great job with the RtB implementation and initial roll-out. Appreciate the transparency and willingness to discuss a difficult topic with agencies on a regular basis."
-James, Agency Customer