

PPMRN Newsletter Content

TIB Dashboard

Background

The Washington State Transportation Improvement Board (TIB) awards about \$80 million per year in competitive grants to city and county street projects, and currently manages an inventory of about 400 active grants. Progress billings are paid throughout the design and construction process. In March 2001, the Chief Financial Officer told the new Executive Director that the agency would not be able to pay its local government customers until the start of the new fiscal biennium, in five months. The previous administration had awarded about twice the number of projects the revenue could cover. The agency had \$655 million in obligations, seven years worth of gas tax income. Too many projects were under construction and it was time for a new plan.

The reasons this problem occurred have become obvious over time. Good reasons exist to cautiously over-allocate a capital improvement program, but careful control and strong information feedback must be in place. TIB lacked meaningful performance monitoring and managed projects with a passive “wait until they call” approach. Agencies that own infrastructure may use over-programming to keep money working even if some projects progress more slowly than others. They have one advantage over TIB; they can slow or speed their projects to construction depending upon available funds. TIB’s main control for cash demand is to deny approval to go to construction. This approach stops projects right when the customer is ready to build.

Establishing a High-performance Approach

A new Balanced Scorecard strategic plan in 2002 set the course for change. Allocating the right amount of money to each program would stabilize demand for funds. In the meantime, such a large amount of over-programming would create excessive cash demands until the total commitments of the agency could be contained to a sustainable level. The next few years required careful management with quality data.

Performance management became an imperative, both to inform the needed recovery and give Board members transparent information to guide policy decisions. TIB's performance management effort started with clipboards and spreadsheets, but evolved to a data dashboard by 2004. The agency presented its Intranet data dashboard at the first PPMRN conference in 2007. Recently, they migrated the dashboard to the Internet at www.tib.wa.gov/performance.

Successful performance management requires leaders who believe. Soon after her election in 2004, Governor Gregoire directed all state executive branch agencies to report results under the Government Management Accountability and Performance (GMAP) program. The Governor dedicates time from her packed schedule to personally preside over accountability forums. Four years later many state agencies are making significant strides in reporting and using performance data. TIB has given detailed demonstrations to most Washington State agencies, and some are working on their own dashboards. Most significantly, the Governor's GMAP office is working on a statewide dashboard project called Dataview. Dataview will be used for the first time at a Public Safety accountability forum in June 2008.

Performance management was a struggle before the dashboard. Weekly and monthly progress reports were generated in Excel spreadsheets. It took several days to produce the most obvious metrics; the number of active projects and total amount of financial obligation. Tracking of performance data by individual staff was difficult to control for compliance and quality. TIB's performance management effort was sputtering along. Dashboards had been successful in the private sector and TIB resolved to build one of its own. Interestingly, dashboards provide transparency but are more prevalent in the private sector, where business information is closely guarded. Dashboards are uncommon in government where information belongs to everyone.

Dashboard Development

TIB developed the first generation of its dashboard in 2003. The initial dashboard took one skilled programmer about four months to develop. Acquisition of hardware and

software plus training and programming time cost about \$40,000, a nominal startup cost. The cost does not include the months spent by a staff team working out performance measures, an effort required even without a dashboard project. Current dashboard staffing includes a portion of the time from the Chief Administrative Officer, the IT manager and a full time statistical technician. A performance management team of agency managers and staff meets periodically to monitor dashboard development and data integrity.

Performance management starts with data, so a data readiness assessment is a good first step. A data readiness assessment consists of an inventory of existing data sources, format, location, quality, and completeness. In most cases, needed data reside in different physical locations and formats. TIB had to modify data collection and storage to prepare for a dashboard.

The original purpose of the dashboard was to offer transparent financial and project reports to the agency's Board. Responsibility for developing performance measures is appropriately put in the hands of accountants and statisticians, but the Executive Director wanted easily understood charts and graphs so the board could interpret the data for themselves. Performance data loses much of its potential effectiveness if it is formatted in a way that requires a technician to explain it to decision makers.

TIB's dashboard was programmed in-house using two off the shelf software applications; Cold Fusion for web development and Xcelsius for data management. The dashboard employs an automated data feed, like RSS news feeds, that taps into a project management database in SQL. TIB engineers manage their grant projects in the database and the dashboard mines the data. Conveniently, staff does not have to count their activity or calculate measures; the dashboard extracts what it needs.

Dashboards can acquire data from spreadsheets, databases and user interfaces, inputting data directly into the dashboard through a user portal. TIB uses all three data sources. Most information comes directly from the SQL database, but state accounting data cannot

be accessed directly by an external program, so it's transferred to the dashboard using Excel. User interfaces are customized data entry pages programmed directly into the dashboard.

TIB is a small agency and enterprise level dashboards would certainly be more costly to develop. In effect, a dashboard needs to be developed for each organizational unit and then rolled up to an executive-level dashboard. Dashboards can help large agencies synthesize massive amounts of data, so the added complexity should not put off the effort.

Benefits and Lessons Learned

The dashboard puts data at the fingertips of the people who implement policy and serve customers. TIB accomplished its main impetus for the dashboard, to brief board members and enable them to make informed policy decisions. Beyond that, the enormous communications value of the dashboard has been a surprise bonus. TIB uses the system for briefing legislative committees and individual legislators. The dashboard adds a dimension of flexibility and detail that goes way beyond PowerPoint. Dashboard presentations have helped TIB earn a reputation as a performance trailblazer and placed the agency low in priority for probes under Washington's sweeping performance audit law.

Many process improvements, policy revisions and some significant program changes now come out of data analysis and healthy debates about its meaning. Early performance data about the rating scores of unfunded project applications showed that the grant programs targeted to small cities were significantly under-funded. The Board set increasing the funding to small cities as its top priority. Cash flow recovered from retired bonds allowed the agency to double the size of the small city program in 2005. Performance data also showed that many tiny grants given to large urban agencies were relatively ineffective at helping projects reach construction. Seattle could do without \$50,000 grants, but \$5 million could help a project reach construction. The Board

stopped giving hundreds of tiny grants in order to be more of a catalyst for project completion.

The “Red Towns” initiative is the agency’s best example of performance-based budgeting. TIB provides street maintenance assistance to cities and towns with population under 5,000. Staff collected the pavement condition data for 1,600 miles of eligible streets and loaded the data into a new set of dashboard pages. Immediately upon reviewing the data, staff noted nine towns that were outliers at the bottom of the average pavement condition spectrum. The dashboard marks the cities with a red indicator light when their pavement condition is far below the statewide average, hence “Red Towns.” The usual maintenance grants of \$100,000 or less would not be effective at restoring the dismal street condition of the nine red towns. The Red Towns initiative became a separate grant line item beginning with the 2008 annual list of awarded projects. Seven of the nine towns are receiving major maintenance projects in summer 2008.

Several of the geographical interfaces in the dashboard use Google mashups to integrate the project database with Google maps. Google provides a license to users in order to encourage innovation. Preparing the data proved more labor intensive than programming the display on Google maps. GPS points collected in the field with handheld receivers did not follow the same geographical projection as Google maps, so many projects ended up in the wrong place on the map. The first idea for a fix was to drag each line to the proper location and trap the positioning tags from Google’s projection. This effort took some time, but it illuminated a much better approach for the second mashup. A user screen was developed in TIB’s SQL database so the project engineers could select the data points on Google maps in the first place, instead of traveling the state to gather GPS points.

The two most common fears when implementing a performance management program come from concerns over use of the data to punish staff and that the data might open the agency to criticism. Both of these issues have turned up to some extent for TIB, but never developed into significant pitfalls. Staff can point to some cases where having so

much information helped reveal where data shortfalls existed. Requests for additional data often generated useful new dashboard pages. Initial nervousness about data being used against staff in performance assessments rarely turned up in those reviews. The many advancements in the agency's programs outstripped concerns about the data being used against individuals.

Results

TIB's highest order goals have been met. TIB met performance targets for minimum account balance and payment turn-around time in July 2007 after six years of clearing out the excess inventory from over-programming. Delayed projects dropped 70 percent from 2002 to 2008 because of performance tracking in the dashboard and customer contacts triggered by missed date benchmarks. Payment turnaround time has dropped from five months to an average of 17 days. Most convincingly, the dashboard helped restore legislative confidence; TIB received a new allocation of permanent ongoing funding in 2005 and a new program.