Monitoring and Adjustment

U.S. Department of Transportation
Federal Highway Administration

Monitoring and Adjustment is a set of processes to track and evaluate actions taken and outcomes achieved, thereby establishing a feedback loop to refine planning, programming, and target setting decisions. It involves using performance data to obtain key insights into the effectiveness of decisions and identifying where adjustments need to be made in order to improve performance.

What it Takes

Through monitoring and adjustment practices, an agency can answer, "Are we getting the results we anticipated"? as well as, "If not, why not"? **The ongoing review of observed results helps agencies identify, diagnose, and act upon program delivery issues.** This process also identifies where data gaps exist and highlights where additional information would be beneficial. As an agency's understanding of the relationship between actions taken and performance results improves, so will an agency's ability to make necessary midstream adjustments, select future projects and programs to achieve desired outcomes, and explain performance results to stakeholders. **Monitoring and adjustment help agencies move past simply answering "how did we do" and obtain an understanding of "why."** Given that TPM practices evolve, monitoring and adjustment provides valuable material on which to build. An effective monitoring and adjustment process must look at both output and outcomes to create a strong connection between investment decisions and results.

Implementation Steps

Monitoring and Adjustment is broken down into two nested subcomponents:

- **System Level Monitoring and Adjustment**: Establishment of a well-defined performance monitoring process to understand performance outcomes and the impact of influencing factors to enable adjustment of future planning and programming decisions.
- **Program/Project Level Monitoring and Adjustment:** Establishment of a process for tracking the program and project outputs, and their effects on performance outcomes. This subcomponent is contained within System Level Monitoring and Adjustment.

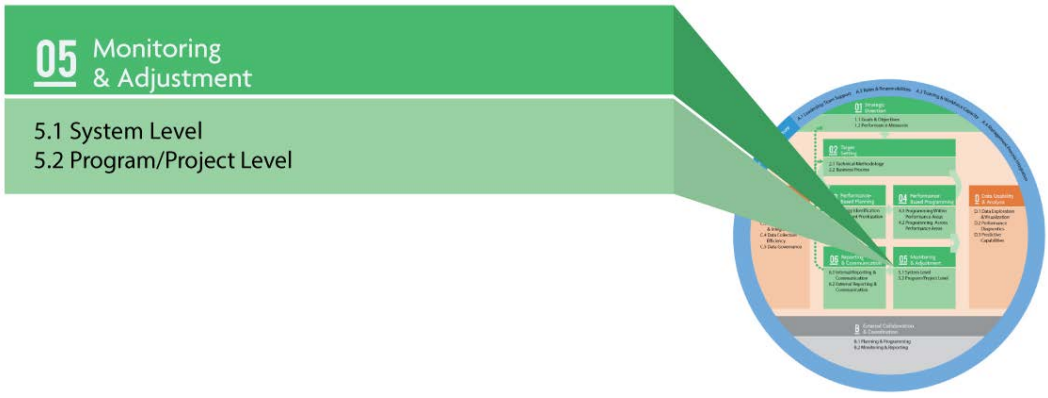
For the two subcomponents within the Monitoring and Adjustment component, implementation steps are the same:

System Level and Program/Project Level
1. Determine monitoring framework
2. Regularly assess monitoring results
3. Use monitoring information to make adjustments
4. Establish an ongoing feedback loop to targets, measures, goals, and future planning and programming decisions
5. Document the process

Making the Connection

Monitoring and Adjustment processes (Component 05) create a feedback loop to connect performance results to agency strategies to inform adjustments to targets, measures, goals, and planning and programming decisions. Adjustment based on monitoring information is what moves an agency from performance measurement to performance management.

Monitoring and Adjustment and the TPM Framework



For more information on monitoring and adjustment and the other components of the TPM Framework visit: www.tpmtools.org

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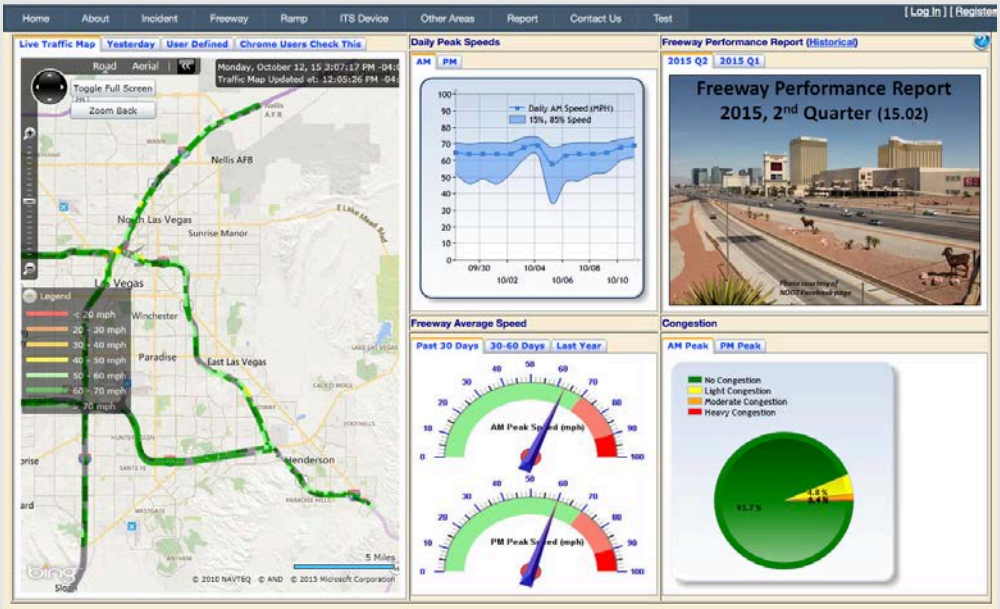
Case Study: Implementation Step 5.2.1

Comprehensive monitoring system: Regional Transportation Commission of Southern Nevada

The FAST system (Freeway and Arterial System of Transportation) is a monitoring effort that develops, implements, and maintains an Intelligent Transportation System (ITS) administered by the Regional Transportation Commission of Southern Nevada (RTC) in conjunction with the Nevada Department of Transportation (NDOT). Nevada's ITS includes coordinated traffic monitoring cameras, signal timing, and a portfolio of projects such as ramp metering and informative signage aimed at reducing congestion and improving user experience. Using FAST to monitor Southern Nevada's major corridors, RTC can devise mobility improvements without relying solely on system expansion, and can better prioritize the most impactful programs and projects based on performance measures. FAST helps RTC define and track progress towards meeting performance targets, which ultimately defines specific project needs.

The FAST real-time monitoring dashboard (shown below) enables detailed analysis on request. This interface is monitored by RTC staff to develop quarterly reports on congestion events and understand historic patterns. The system archives thousands of screen shots of traffic camera feeds every few seconds, allowing staff to immediately perform analysis to understand the impacts of a particular event. A live map is available on the left side; average speeds analysis for the past 30 days is displayed in the middle; and the latest quarterly reports and a peak congestion index appears at the right. By signing in, users can perform historic analysis to determine what the impacts of a particular event or project might be, whether it is a parade, construction, or a serious crash.



Source: Nevada Department of Transportation - RTC FAST Dashboard. March 2, 2016. http://bugatti.nvfast.org/Default.aspx. Regional Transportation Commission of Southern Nevada. (2012). Regional Transportation Plan. 2013-2035

Perspectives

"Embrace the power of "why"—focusing on the why clearly communicates that performance management intends to understand the results and identify improvements, not to punish."

— "Moving from Reactive to Strategic Decisions Making" TR News 293 July-Aug 2014

"The purpose of PBPP is to ensure that results of previous investments and policies inform future decision-making so that transportation agencies can better understand approaches that works best given constraints and conditions."

— FHWA, Performance Based Planning and Programming Guidebook

"A performance-based approach shifts the focus off of "can we deliver the project on budget" to "are we doing the right set of projects. Monitoring and adjustment processes are key to picking the right set of projects year after year."

— Greg Slater, Maryland State Highway Administration

Connect Online to Learn More

Visit the TPM Toolbox online to learn more about monitoring and adjustment and to take your own TPM Capability Maturity Self-Assessment: **www.tpmtools.org**