

## Ensuring Project Performance and Adherence to Completion Dates

On-time highway construction project performance is an important goal at the Oregon Department of Transportation (ODOT). The Oregon Legislative Assembly monitors the statistical on-time performance of ODOT's construction projects, and trucking associations have expressed concern over traffic delays, especially on the I-5 corridor.

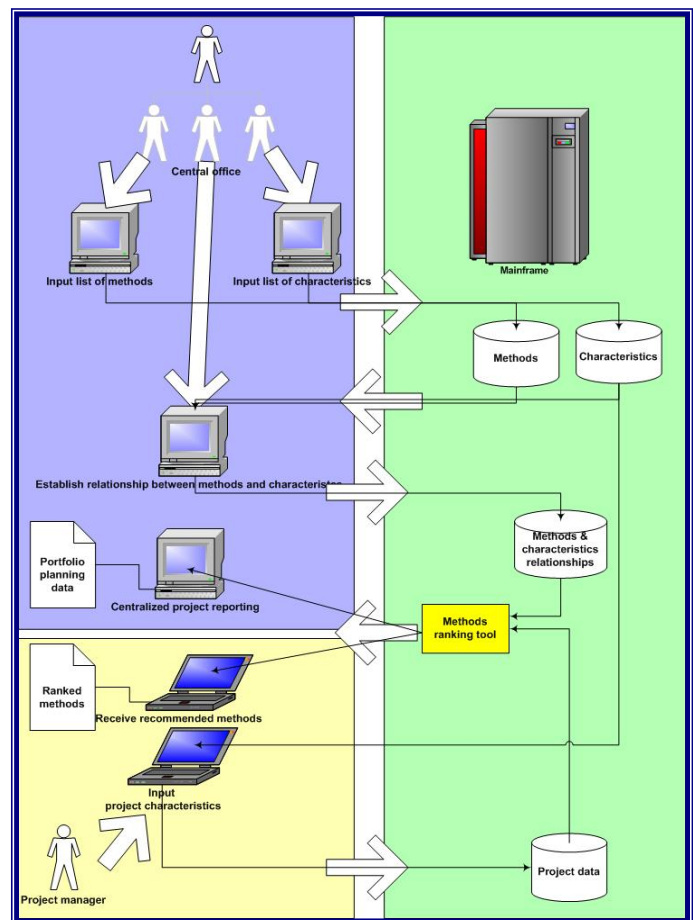
Currently less than 50% of ODOT projects are completed within their originally contracted time of performance. Further, project delay may cause uncertainty about exactly when traffic delays may occur on a given stretch of highway, making it difficult to alert the public to these delays in a reasonable time.

The primary method used to ensure on-time performance in standard ODOT contracting is *liquidated damages*: if a project exceeds its adjusted completion time a specified dollar amount is assessed, theoretically at an amount sufficient to compensate ODOT for the cost of the delay.

Liquidated damages have several limitations, though: they are assessed after a delay has occurred; they are only a disincentive, in that they focus on preventing delay instead of encouraging acceleration; and it is difficult to prove fault of delay on complex projects; hence they are rarely assessed.

A recently completed ODOT research project, led by David Sillars at Oregon State University, sought to identify alternative methods to liquidated damages for ODOT to encourage on-time project delivery and to develop a model to aid in selecting among those methods. ODOT construction projects vary considerably in their characteristics: some are small, some large; some are complicated, some simple; some are urban, some rural. The OSU study found that this wide variety of projects can exhibit varying results when subjected to different project delivery methods. The study created a model that considers various project conditions in determining

which delivery method would be most likely to encourage timely delivery under the project's unique characteristics.



*Model for selecting alternative methods to liquidated damages*

The results of this project will be implemented through providing solution options at the operating levels of ODOT and through upper management initiative to create awareness among operating personnel of the need to regularly evaluate the use of time-enhancing methods on schedule-critical projects.

The major products of this research were as follows:

- It updated the current ODOT inventory of time-based performance methods and established a common set of methods so that they may be compared among themselves;
- It created a model using multi-criteria selection techniques as the basis for a working contract method selection tool; and
- It established a relationship between project characteristics and contracting methods that will aid in contract method selection.

Potential benefits of this research include:

- Increased on-time project performance by contractors;
- More consistent project performance leading to a strengthened ability to manage delays and improve traffic mobility;
- More efficient use of design, contract, or project management tools for enhancing schedule performance; and
- Increased internal awareness of the importance of schedule performance.



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