

The Maligned Measured Mile

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The Measured Mile is an industry and court-recognized method of quantifying loss of productivity claims. The method's reputation as a solid quantification method has unfortunately caused the term measured mile to be one of the most misapplied labels.

Over the years, we've seen the method misapplied, misinterpreted and, to put it bluntly, abused. The intent of this article is to set a general framework of what it takes to call an approach that is intended to calculate loss of productivity, the Measured Mile Method.

The article will avoid addressing the purity of the measured mile, which pertains to the argument of unimpacted vs least impacted. In practice, the vast majority of circumstances deal with least impacted.

In its simplest form a measured mile is a segment of performed work of a given contractual (as-intended) operation which yields the typical *overall* productivity of that contractual operation. The Measured Mile Method then takes that Measured Mile's productivity and compares it to the productivity of impacted segments. The difference is the loss (or gain) of productivity.

A frequent example to illustrate the method is a paving operation. If there were nine miles of roadway with three miles performed as-intended, and six under impacted conditions, then the loss of productivity is generally the productivity differential, applied to the impacted six miles.

There are, however, many issues that must be addressed in order for the method to yield its intended result, which is a close quantification of allocated damages. In the example above, the following questions must be asked:

- Were the six impacted miles all impacted by the same thing, and to the same degree?
- Was the character of work on each of the nine miles the same (soil conditions, cross-section thickness and composition, intersections, curves, super-elevations, etc.)?
- Was work on each of the nine miles performed by the same crew, utilizing the same equipment, with the same anticipated disruption patterns, and under the same weather conditions?
- Was material composition and delivery consistent for all nine miles?
- Was travel time uniform for all nine miles?
- Was all the work performed with the same proportions of straight time to premium time work?
- Was work on each of the nine miles planned and supervised by the same team?
- Was it planned to the same level of detail?
- Was the quality of the work uniform for each of the nine miles?
- Was work on any of the nine miles any less safe than the others?
- Were the time performance requirements uniform for all segments?

Other assumptions, that must be validated and/or be accounted for, may include same physical location, same contractual requirements and enforcement, accuracy and detail sufficiency of job cost distribution per period, and accuracy of completed quantities per period.

The underpinning of the method is the assertion that because of a given impact(s), and all else being the same, there was a loss of productivity. The party responsible for that given impact(s) would be the party responsible for the damages.

That very underpinning is the reason all other factors that might affect productivity must be held constant or, in the very least, be identified and quantified. To be clear, in order to ascertain the effect of a given issue on an operation, that issue must be the only unknown. Having additional unidentified and unquantified issues makes it impossible to attribute and allocate the damages to one over the other. **The Measured Mile Method fails without fully identifying and quantifying all issues other than the issue under evaluation.**

As such, the party utilizing the measured mile approach to quantify its damages related to an issue has the burden to convincingly meet and address **each and every one** of the following:

- Demonstrate that it identified all the discrete segments of similar work and validate the assertion of sameness or similarity against possible variances, such as:
 - Sameness or similarity of project
 - Sameness or similarity of contractual requirements
 - Sameness or similarity of geography
 - Similarity of character of work
 - Sameness or similarity of crew and crew composition (skill, availability, freshness, certification level, etc.)
 - Similarity of labor time composition and work week length (straight time, overtime, and double time)
 - Similarity of equipment utilized
 - Similarity of material composition, delivery, and stockpiling
 - Similarity of disruption patterns, such as holiday frequency or scheduled events
 - Similarity of travel time to/from and within the operation
 - Similarity of weather conditions and vectors such as precipitation, temperature, humidity and wind, as applicable
 - Sameness or similarity of supervision team
 - Sameness or similarity of planning level of detail
 - Similarity of quality of work
 - Similarity of safety conditions and safety outcome
 - Similarity of time schedule requirements
 - Similarity of available other required enterprise-level resources

It is rare for any measured mile analysis to directly meet each and every one of the above-listed conditions. Nevertheless, each and every condition needs to be accounted for with some supported

adjustment factor, if it is not exact. The number and significance of subjective adjustments can weaken the analysis and the credibility of the results.

- Demonstrate that its job costing structure for the specific project meets the following criteria:
 - Has sufficient detail to accurately identify cost for the various components of the project
 - Is under adequate project controls that reasonably insure accurate allocation of such costs
 - Has sufficient detail to accurately identify and track cost related to issues other than the issue being evaluated

- Demonstrate that its field quantity system for the specific project meets the following criteria:
 - Has sufficient detail to segregate quantities for the various components of the project
 - Is under adequate project controls that reasonably insure accurate reporting of such quantities
 - Has sufficient detail to accurately identify and track quantities related to issues other than the issue being evaluated

- Provide supported explanation of the reason(s) it chose the measured mile segment(s) it utilized.

- Provide supported explanation of the reasons(s) it asserts impact for each of the chosen impacted segments

- Provide supported explanation of the reason(s) it asserts sufficiency of the ratio of the measured mile to the impacted segment size (quantity, length, etc.)

Any approach that does not take into consideration the discrete elements detailed above cannot be called a measured mile approach or a variant thereof. Furthermore, an approach that does not directly consider productivity of discrete elements of the work is generally a form of modified total cost approach.

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