

# NCAA Indoor Track Facility Indexing Conversion Summary



A Study commissioned by:  
The NCAA Men's and Women's Track and Field Committees

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The configuration of an outdoor track and field running facility has been standardized in the size (overall circumference) of the oval for a long time, with very little departure from this standard. While there is a standard for the size of an indoor track and field running facility, many indoor running facilities were designed to fit into existing buildings; therefore, there are many variations of sizes for indoor track facilities. Varying facility configurations produces inequalities in performances, which affects the goal of valid comparisons among event performances. These inequalities are the reason why conversion differentials, dependent on facility configuration, were developed for qualifying standards.

The methods used over the years to determine the conversion differentials have been based on limited personal experience, real-time conversion results and a limited amount of data. The conversions, based mainly on conjecture, were adjusted yearly within each divisional NCAA track and field committee, independent from one another. Recognizing the shortcomings of the current process, a subcommittee was formed to evaluate available data to hopefully find a more consistent and analytical approach to track indexing. The main goals of the project were for all three divisions to have the same track type categories, both in number and type, and the same method of applying a facility conversion.

In 2007, the collection of results from NCAA indoor track competitions became more automated to allow performances for an entire season to be analyzed. The mandatory reporting of results starting in 2010 provided the opportunity to expand the analysis. The committee used the available data to analyze performances from indoor track facilities of different configurations by the same individual during the last five NCAA indoor track and field seasons.

The analysis produced several results as follows:

- A definite linear relationship between facility types does exist.
- There were two different data sets tested. One was the full set of data and the second set excluded performances from early and late in the season. The results did not produce substantial variation.
- Evidence supports equivalence between a banked and an oversized facility with regard to qualifying performance.
- A formula can be used in converting performances between different configurations of indoor track facilities. The new formula ratios are highly accurate and based solely on thousands of objective race performances collected through TFRRS. An immense amount of study was used to focus the results on performance differences due solely to facility variations.
- The new ratios apply to the full range of race performances (times) so that they may be utilized for NCAA Championships, as well as conference championships, in all divisions.
- The 1000 meter conversion is included as a courtesy. Conversions for the 500 and 600 meter events can be easily established for use within conferences.

Based on the data analysis, the NCAA track and field committees voted to implement a formula-based approach to converting times between varying track configurations, effective for the 2012-13 indoor track and field season. The charts below outline the formulas that will be used. To compute conversions using the charts, actual times in seconds should be multiplied by the number in the chart for that event and track type to the desired track type, and then converted back from seconds if applicable. A converter calculator is also available online at <http://www.rtspt.com/ncaa/altitude.exe> (log into NCAA.org, Championships, Indoor Track and Field). Each year the times on the performance lists will be converted to the track type that will be used for that year's national championship for each respective division. Performances submitted to the Track and Field Results Reporting System (TFRRS) will be automatically converted to the appropriate track type. Please contact Bob Podkaminer ([rpodkam@aol.com](mailto:rpodkam@aol.com)) for any questions regarding indoor track indexing.

## Conversion Charts

<b>Men's Events</b>	<b>Undersized to Flat</b>	<b>Banked/Oversized to Flat</b>
200 Meters	0.9872	1.0179
400 Meters	0.9901	1.0160
800 Meters	0.9923	1.0143
1000 Meters	0.9929	1.0138
Mile	0.9941	1.0128
3000 Meters	0.9953	1.0116
5000 Meters	0.9961	1.0107
4x400 Meter Relay	0.9901	1.0160
Distance Medley Relay	0.9931	1.0136

<b>Women's Events</b>	<b>Undersized to Flat</b>	<b>Banked/Oversized to Flat</b>
200 Meters	0.9900	1.0155
400 Meters	0.9929	1.0133
800 Meters	0.9951	1.0115
Mile	0.9969	1.0099
3000 Meters	0.9981	1.0086
5000 Meters	0.9989	1.0077
4x400 Meter Relay	0.9929	1.0133
Distance Medley Relay	0.9959	1.0107

<b>Men's Event</b>	<b>Undersized to Banked/Oversized</b>	<b>Flat to Banked/Oversized</b>
200 Meters	0.9698	0.9824
400 Meters	0.9746	0.9843
800 Meters	0.9783	0.9859
1000 Meters	0.9794	0.9864
Mile	0.9816	0.9874
3000 Meters	0.9839	0.9885
5000 Meters	0.9855	0.9894
4x400 Meter Relay	0.9746	0.9843
Distance Medley Relay	0.9798	0.9866

<b>Women's Events</b>	<b>Undersized to Banked/Oversized</b>	<b>Flat to Banked/Oversized</b>
200 Meters	0.9749	0.9847
400 Meters	0.9799	0.9869
800 Meters	0.9838	0.9886
Mile	0.9871	0.9902
3000 Meters	0.9896	0.9915
5000 Meters	0.9913	0.9924
4x400 Meter Relay	0.9799	0.9869
Distance Medley Relay	0.9853	0.9894