# 4. [MEASURING SAFETY PERFORMANCE WITH ACTIVE SAFETY LEADING INDICATORS (RS284-1)](https://www.construction-institute.org/measuring-safety-performance-with-active-safety-leading-indicators-version-1-1)

**Report Summary:** Many ﬁrms with world-class safety records have been frustrated by the inability to make step-change improvements in construction safety. The traditional monitoring of lagging indicators of safety performance has not achieved the desired step-change of improvement in construction safety. Many safety professionals believe that the careful selection and implementation of safety leading indicators will yield signiﬁcant improvements in safety practices and performance. This study investigated the potential of these critical project metrics and divided the leading indicators into two types:

1. Passive safety strategies that are implemented before construction begins to set up the project for success.
2. Active safety-related practices or observations that can be measured during the construction phase and can trigger positive responses.

The results conﬁrm a strong correlation between the implementation of 10 key passive safety leading indicators and a reduction in the project’s total recordable incident rate (TRIR). The study further identiﬁed 14 promising active safety metrics and offers a process for the successful implementation of an active safety indicator program.

Ten key passive safety leading indicators are:

1. Owner review and approval of CM’s and GC’s project safety plan
2. Participation of all contractors and subcontractors in safety meetings
3. Site-specific safety orientation for all managers
4. 100-percent steel-toed boots policy
5. Medical facilities on site
6. First aid log maintained
7. Minimum ratio of safety professionals to workers
8. Worker-to-worker observation program
9. Worker involvement in perception surveys
10. Foremen involved in policy creation and implementation

**Key Takeaways:**

## (1) Implement passive safety strategies before construction begins to set up the project for success.

## (Project Phase: Detailed Design and Procurement)

* Develop a pre-construction safety plan.
* Conduct thorough risk assessments for the project site.
* Implement site-specific safety protocols.
* Provide comprehensive safety training for all workers.
* Establish clear communication channels for safety concerns.
* Ensure availability and proper use of personal protective equipment (PPE).
* Regularly inspect and maintain safety equipment and facilities.

## (2) Implement active safety-related practices that can be measured during the construction phase and can trigger positive responses.

## (Project Phase: Construction)

* Establish a robust system for monitoring leading safety indicators.
* Regularly review safety performance metrics and reports.
* Implement incentives for achieving safety targets.
* Provide resources for immediate corrective actions.
* Encourage open communication channels for safety-related feedback.
* Conduct periodic safety assessments and adjust strategies accordingly.

## [(3) Tool: Implementing Active Leading Indicators, Version 1.1 (define leading indicators, establish performance monitoring, enable continuous improvement)](https://www.construction-institute.org/implementing-active-leading-indicators-version-1-1)

## (Project Phase: Construction through Operate Facility)

* Define leading indicators as proactive metrics that can lead to safety outcomes, and contrast these leading indicators with lagging indicators that are focused on past incidents.
* Outline a continuous improvement program for active leading indicators that emphasizes steps such as selection, metric definition, implementation, and performance evaluation.
* Emphasize the importance of engaging responsible parties, particularly champions, for the successful adoption and consistent implementation of safety programs.
* Stress the need for timely data analysis and recommend prompt action in response to deviations to maintain effective safety monitoring.
* Advocate publicizing performance metrics to reinforce a safety culture and celebrate success to encourage ongoing engagement.