The journey that takes you home.

IFE
Injury-Free Environment
17 years in the construction industry
Poll

So what do you think is the most common cause of accidents?

A. Unsafe conditions
B. Worker(s) lack of training and awareness
C. Lack of clear policies or procedures
D. Human Factors (e.g. complacency, habits, rushing)
Safety Performance Model

- **People**
  - Leadership
  - Beliefs
  - Perceptions
  - Norms
  - Social pressures
  - Recognition
  - Stress/fatigue
  - Team work
  - Credibility/trust

- **Job Factors**
  - Equipment
  - Materials
  - Tools

- **Organizational Factors**
  - Management Systems
  - Policy/procedures
  - Hiring
  - Orientation and training
  - Supervision
  - Compliance
  - Leadership
  - Resources
  - Design/planning

Safe behavior
Poll

Where do you believe the greatest amount of legislated effort is devoted to accident prevention?

A. Job Factors
B. Organizational Factors
C. Human Factors
Factors for Incident Prevention (root causes)

Leading Metrics

1. Culture, Perceptions, Beliefs
   - Perception Surveys
   - Employee Surveys
   - Cultural GAP Analysis

   Metric: Relative Culture Scores

2. Systems
   - 18001 Management System
   - Site Safety Plan
   - Training (IFE, tool box, OSHA 10 & 30, etc.)

   Metric: Internal/External Audits Non-conformances

3. Physical Conditions
   - Regulatory compliance
   - Audits/Inspections
   - OSHA Inspections
   - OSHA citations

   Metric: Audit Scores

4. Behavior (Action)
   - Observations
   - Executive Site Safety Visits
   - Pre-Task Plans

   Metric: Number of Observations versus Goal

Outcomes

Lagging Metrics

- Incident

   Metric:

   - Recordable Rate
   - Restricted Duty Rate
   - Loss Time Accident Rate
   - Severity Rate

Trailing Indicators
The collection of individual and collective beliefs, norms, attitudes, and processes concerned with the minimization of risks and exposure to workers in the construction environment.
Next Steps

- Key Facts
  - No real opportunity for incremental improvement.
  - Doing more of the same would not yield improvement.
  - Knowledge sharing globally impaired as maturity and experience was variable across business units.
  - No process existed to evaluate maturity.
  - To achieve improvement a transformational process needs to occur.

- Development of the Safety Road Map
Five focus areas and four stages

The Safety Road Map focuses on
- Culture
- Competency
- Communication
- Controls
- Contractors

Four stages of safety development and provides guidance, practical advice and good practice examples for each stage
- Non-compliant
- Compliant
- Good Practice
- Best in Class
## Culture – Summary

<table>
<thead>
<tr>
<th>Culture</th>
<th>Non-Compliant</th>
<th>Compliant</th>
<th>Good Practice</th>
<th>Best in Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Minimum engagement by leaders</td>
<td>Leaders are aware of responsibility but delegating authority to others</td>
<td>Safety is championed by senior leadership and worksite leadership is visible</td>
<td>Leaders demonstrate commitment and are visible and transparent with regard to safety</td>
</tr>
<tr>
<td>Responsibility/Accountability</td>
<td>Safety specialists are without authority</td>
<td>Safety specialists have limited authority</td>
<td>Safety specialists become advisors and safety is enforced by line managers</td>
<td>Safety professionals are trusted advisors and safety is enforced by peers</td>
</tr>
<tr>
<td>Attitudes/Beliefs</td>
<td>People believe injuries are a part of the business and there is no personal benefit to safety</td>
<td>Employees know safety requirements but believe the intent is for the companies benefit</td>
<td>Employees strive to comply with the company safety requirements</td>
<td>Employees expect to be Injury Free and are only satisfied when we are injury free, accident prevention is personal</td>
</tr>
<tr>
<td>Value</td>
<td>Safety improvement enforced by punitive action</td>
<td>Safety seen to have some benefits but not worth the cost</td>
<td>Safety is viewed as an investment</td>
<td>Safety is seen to add value to the way they do business</td>
</tr>
<tr>
<td>Training</td>
<td>Limited to safety specialist</td>
<td>Limited for line managers to minimum legal requirements</td>
<td>Training emphasizes that most accidents can be prevented</td>
<td>Emphasis that all accidents are preventable and safety is championed by every employee</td>
</tr>
<tr>
<td>Safety Metrics</td>
<td>Only use those metrics required by authorities</td>
<td>Lagging indicators used and communicated to workers</td>
<td>Leading indictors are used and communicated to everyone</td>
<td>Continue to measure results and measure engagement.</td>
</tr>
</tbody>
</table>
# Competency – Summary

<table>
<thead>
<tr>
<th>Competency</th>
<th>Non-Compliant</th>
<th>Compliant</th>
<th>Good Practice</th>
<th>Best in Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Specialists</td>
<td>Safety specialists skills and knowledge are limited to legal requirements</td>
<td>Safety specialist skills &amp; knowledge enhanced beyond legal minimum</td>
<td>Skills of safety specialist developed beyond technical</td>
<td>Specialists have demonstrated expertise in technical and leadership skills</td>
</tr>
<tr>
<td>Training</td>
<td>Training is ad hoc or reactive to incidents</td>
<td>Training is tactical and reactive to incidents</td>
<td>Training is tactical and strategic using competency matrix</td>
<td>Training is strategic and fully aligned with competency matrix</td>
</tr>
<tr>
<td>Line</td>
<td>Line Managers receive little or no safety training</td>
<td>Minimum competency for line/staff and craft workers created</td>
<td>Development of line includes technical and leadership skills</td>
<td>Line and craft have developed strong safety skills and are equally engaged</td>
</tr>
<tr>
<td>Resources</td>
<td>Site level safety resources are minimal</td>
<td>Site has technically competent safety resource</td>
<td>Resources meets strategic objectives</td>
<td>Resources is distributive between line/staff and safety specialist</td>
</tr>
<tr>
<td>Risk</td>
<td>Knowledge of safety risk management system is restricted to safety specialists</td>
<td>Understanding of safety risk management system extends to line managers</td>
<td>Risk management is understood and used by line and specialists</td>
<td>Risk management lead by line with specialist support</td>
</tr>
<tr>
<td>Communication</td>
<td>Non-Compliant</td>
<td>Compliant</td>
<td>Good Practice</td>
<td>Best in Class</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
<td>-----------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Vision and goal</td>
<td>No safety vision, goals or messages communicated through the organization</td>
<td>Safety goals, messages and vision written but not communicated</td>
<td>Safety goals, messages and vision are communicated out to all</td>
<td>Safety goals, messages and vision are shared, embraced and acted upon by all</td>
</tr>
<tr>
<td>Dialog</td>
<td>No face to face safety dialog at worksite</td>
<td>Face to Face dialog about safety for “serious events” only</td>
<td>Face to face dialog on safety issues is occasional</td>
<td>Face to face two-way dialogue about safety issues occurs daily</td>
</tr>
<tr>
<td>Internal Communication</td>
<td>No safety communication at all in any communications channel</td>
<td>Safety communication – generally top down – one way communication, more about information</td>
<td>Safety communication – mostly top down and less bottom up</td>
<td>Two-way safety communication in relevant communication channels</td>
</tr>
<tr>
<td>External Communication</td>
<td>Safety vision, goal and performance is not communicated externally</td>
<td>Safety vision, goal and performance is re-actively communicated externally</td>
<td>Safety vision, goal and performance is pro-actively communicated externally in order to strengthen the perception of safety brand</td>
<td>Safety vision, goal and performance is pro-actively communicated externally and we are perceived as the safety industry leader with a strong safety brand</td>
</tr>
<tr>
<td>Accidents</td>
<td>Accident investigated, but not communicated to management</td>
<td>Accidents, are investigated to determine cause and communicated to management</td>
<td>Accidents, near misses are investigated to identify opportunity and communicated to management, line and staff</td>
<td>Accidents, near misses are investigated to identify opportunity and through discussion resulting in changes in behavior</td>
</tr>
</tbody>
</table>
## Controls – Summary

<table>
<thead>
<tr>
<th>Controls</th>
<th>Non-Compliant</th>
<th>Compliant</th>
<th>Good Practice</th>
<th>Best in Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems</td>
<td>Organizations controls only aspire to be compliant with the law</td>
<td>Controls aspire to be compliant with laws and Skanska standards</td>
<td>Controls are defined by safety management system requirements</td>
<td>Performance driven beyond management system requirements</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Policies and standards are minimal and use is considered optional</td>
<td>Policies and standards exist but enforcement is ad hoc</td>
<td>All policies and Skanska standards are enforced</td>
<td>Polices and standards serve to define minimum expectations</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Monitoring is reactive and only follows serious incidents at worksite</td>
<td>Monitoring is limited to legal requirements.</td>
<td>Monitoring is limited to safety systems requirements</td>
<td>Monitoring and assessment is beyond system requirements</td>
</tr>
<tr>
<td>Deployment</td>
<td>Application of standards is inconsistent from worksite to worksite</td>
<td>All worksites are aware of standards yet inconsistent in application for tasks</td>
<td>All worksites show consistent deployment of safety requirements</td>
<td>Worksites show innovation and continuous improvement</td>
</tr>
<tr>
<td>Employees</td>
<td>Employees generally unaware of safety controls at worksite</td>
<td>Employees made aware of controls when they violate the requirements</td>
<td>Employees aware of controls and comply</td>
<td>Employees aware of controls and engage in prevention strategies at worksite</td>
</tr>
<tr>
<td>Sub-contractors</td>
<td>Little or no control of subcontractors</td>
<td>Subcontractors are controlled but not fully enrolled in safety program</td>
<td>Subcontractors enrolled in safety programs</td>
<td>Supply chain fully engaged in safety programs</td>
</tr>
</tbody>
</table>
## Contractors – Summary

<table>
<thead>
<tr>
<th>Contractors</th>
<th>Non-Compliant</th>
<th>Compliant</th>
<th>Good Practice</th>
<th>Best in Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirations</td>
<td>Subcontractors only aspire to meet minimum legal requirements</td>
<td>Subcontractors aspire to comply with the law plus Skanska standards</td>
<td>Safety management systems drive subcontractors accident prevention actions</td>
<td>Subcontractors work beyond systems requirements and offer continuous improvement options</td>
</tr>
<tr>
<td>Pre-start</td>
<td>No pre-start meetings take place</td>
<td>Pre- start meetings infrequent</td>
<td>Pre-start meetings are frequent</td>
<td>Pre-start meetings are standard</td>
</tr>
<tr>
<td>Relations</td>
<td>Each worksite decides what is best for itself</td>
<td>Repeat business with key sub-contractors locally</td>
<td>Strategic relations with some key sub-contractors</td>
<td>Established strategic relations with all subcontractors</td>
</tr>
<tr>
<td>Competence</td>
<td>No safety competency requirements for subcontractors</td>
<td>Safety competencies of subcontractors only meet legal requirements</td>
<td>Competency requirements for subcontractor employees in safety critical roles</td>
<td>Competency requirements for all subcontractor craft workers</td>
</tr>
<tr>
<td>Supervision</td>
<td>No Skanska monitoring of subcontractors at work site</td>
<td>Skanska monitoring of safety performance is minimal and focuses on accident rate</td>
<td>Measurement of subcontractors safety performance using leading indicators</td>
<td>Assessment of all contractors performance when on site</td>
</tr>
<tr>
<td>Orientation</td>
<td>No work site orientation</td>
<td>Orientation happening on all work sites</td>
<td>Comprehensive one day orientation going beyond Skanska requirements</td>
<td>Orientation becomes a two-way learning experience</td>
</tr>
<tr>
<td>Engagement</td>
<td>Subcontractors generally unaware of Skanska requirements</td>
<td>Some engagement with subcontractors on Skanska safety programs</td>
<td>Subcontractors engaged in safety programs</td>
<td>Subcontractors fully engaged in safety program and share innovations</td>
</tr>
<tr>
<td>Pre-qualification</td>
<td>Award of contracts is on price only without pre-qualification</td>
<td>Pre-qualification process focuses on accident rates</td>
<td>Pre-qualification focuses on safety systems</td>
<td>Pre-qualification focuses on behaviors and learning</td>
</tr>
</tbody>
</table>
Conclusions and Discussion

- The SRM is being deployed across Skanska Globally
  - Clear aspiration is to be injury free

- Advancing farther along the Safety Road Map contributes to Lean project delivery (functional excellence)