

## Implementation, Utilization, Impact & Effectiveness

Michael Coplen  
Senior Evaluator  
Office of Railroad Development  
Human Factors R&D Program

*Safety Summit Meeting  
12 August 2008*

# Data driven evaluation to ensure RRP success

- Who are the primary stakeholders, what are their information needs, and how can we support key policy and decision making?
- How can we ensure effective implementation of RRP pilots?
- How do we determine program impact and effectiveness?
- How can we increase the likelihood that program products and processes will be used?
- We answer all these questions with *program evaluation*.

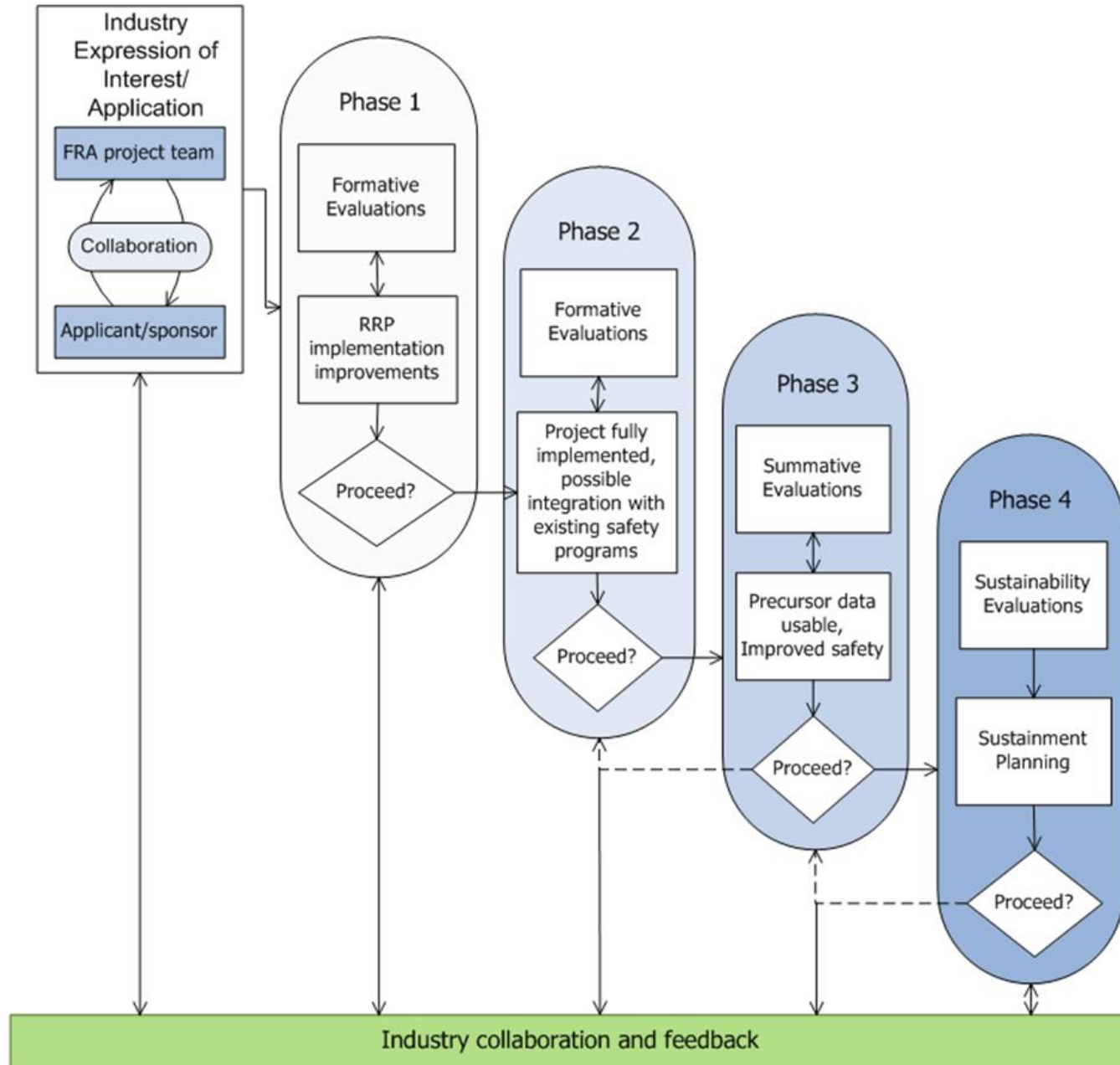
# What is Program Evaluation?

- Program evaluation systematically collects information about a program's stakeholders, implementation, outcomes & impacts.
- Knowledge about how to do **useful program evaluation** comes from a field of professional practice that has developed over the last 35 years and includes:
  - The American Evaluation Association & International Organization for Cooperation in Evaluation
  - Annual professional conferences, scholarly journals, standards, guidelines, training courses, & expertise
- Evaluation includes multiple methods to systematically assess program performance & effectiveness, paying special attention to distinguishing **formative evaluation** (learning for continuous improvement) from **summative evaluation** (overall judgments about merit & worth to inform decisions).

# Key Elements of Program Evaluation

- Logic Models
  - Show critical program elements and their relationships
  - Constructed in collaboration with stakeholders
  - Visually depicts implementation design, the program theory of change, and its intended outcomes
- Program Metrics
  - Include both quantitative and qualitative data
  - Helps determine implementation effectiveness
  - Highlight early indicators of success
- Methodology
  - Measure causal relationships among program elements, their intended and unintended outcomes, to determine program impacts
- Utilization and sustainment strategies
  - Provide timely and effective communication of program results throughout entire lifecycle
  - Build organizational commitment for short and long-term impacts

# RRP Implementation and Evaluation Model



# Individual Impact of Peer-to-Peer Observation and Feedback

*“Just the other day I had an old head, 30 years plus, and I was like, “hey man...you got off the van, [and only] when you were standing next to the locomotive you started putting on your glasses, you started putting in your plugs.” ...and I go “What were you thinking?” [And he said] “Well I know I gotta do it.” And I go “Well you GOTTA do it man....Do you have grand children?” And he goes “You know I always talk about so-and-so I always brag about [them]”. And I go “Exactly! Isn’t the best thing in the world you ever heard was ‘I love you dad’ or ‘I love you grandpa’ or anything like that?” [He says] “Yea.” [I say] “Well you ain’t gonna hear that if you don’t wear those plugs....You gotta realize it’s for your benefit. We’re [samplers] out here to make it safer for you.” And he was like, “Okay, yeah, I see where you’re coming from.” So, do I see him now? Yeah, he even has those little things where his glasses are hanging [around his neck] and stuff like that. And he’ll just wink at me like “I got em!” [Eng 16 yrs]*



## Individual Impacts of CAB Class: Internalization & Generalization

“I tell ya, the CAB class has made me start doing something that I never did before - I put safety glasses on when I weed eat or cut the grass. And, it's strictly just the CAB class that's done it. You know, and it doesn't have anything to do with the railroad but it's kinda the mindset that everybody's going to you know, I gotta think about what I'm doing before I do it. Period. It doesn't matter if it's at work or at home or you know driving down the road.” [Mgr 15 yrs]

# Impact of CAB Program

*“We don’t circle the wagons around a fellow employee anymore just to protect them. If they are behaving unsafely, we want them to change their behavior or we want them outta here, because they are putting the rest of us at risk.” [Eng 14 yrs]*