

Practical Implications by Stakeholder Audience

This document translates the findings from Volume 1 of *Multiskilling in the U.S. Construction Industry* into practical implications for five stakeholder groups: individual workers; taxpayers, communities, and end users; policymakers; contractors and construction companies; and owners and buyers of construction services.

The guidance was developed by synthesizing recurring findings across the series' field observations, controlled trials, project-record analyses, employer capability-system research, literature review, and safety context, and then considering the decisions and actions available to each audience.

THE CENTRAL MESSAGE

Across all stakeholders, the central message is that multiskilling is a workforce strategy that can create value when appropriate work is selected, capability is deliberately developed and verified, qualified workers are deployed in response to actual project needs, and increased capability creates meaningful opportunities for workers. Its use should always preserve licensing, credentialing, safety, quality, supervision, specialist expertise, and other required controls.

The sections that follow identify practical ways each stakeholder can support qualified workforce flexibility, stronger worker opportunity, and more effective project and public outcomes.

Shared Principles Across All Stakeholders

- 1 Target the right work.** Evaluate the scope, assembly, work sequence, and daily work needs for the opportunity to benefit from multiskilling on each project.
- 2 Develop capability before expecting flexibility.** Broader deployment begins with defined standards, learning, practice, demonstration, verification, authorization, and supervision.
- 3 Plan the interfaces between traditional trades.** Trade handoffs, waiting, work-area access, small adjacent tasks, and changing daily capacity needs are practical workforce-planning issues.
- 4 Preserve specialization.** Deep specialist capability and selected multiskilling can and should operate together.
- 5 Connect development to actual work.** Training becomes useful when it leads to readiness, assignment, refresh, recognition, and advancement.
- 6 Create value for workers.** Increased capability should create clearer opportunities for hours, earning, recognition, and careers.
- 7 Focus on outcomes that matter.** Consider worker, crew, project, employer, and public outcomes.
- 8 Preserve safety, quality, qualifications, and required controls.** Multiskilling should expand the ways qualified workers can contribute without weakening licensing, credentialing, safety, quality, supervision, or specialist requirements.

Individual Workers

MORE HOURS. LONGER PROJECT ASSIGNMENTS.
GREATER EARNING POTENTIAL.
MORE PROJECTS THE WORKER CAN PARTICIPATE ON.
MORE CAREER PATHS AVAILABLE.

Greater worker capability also creates value for the employer. Workers should also understand how their increased capability can create value for them through pay, hours, assignment opportunities, recognition, advancement, career choice, and greater fulfillment.

1. Opportunities to work more hours during the year.

Additional capability can enable workers to participate during more phases of a project, remain useful when primary-trade work slows, move to another scope, work on more projects, reduce time between assignments, stay employed during seasonal or workload changes, or qualify for additional available work.

2. Use complementary skills to remain on a project longer.

Consider capabilities that are needed during different phases of the same project, such as the ability to:

- Be eligible for assignment during earlier phases of the project
- Move between appropriate related scopes
- Remain with the same team longer
- Continue contributing into later project phases
- Support adjacent work that is integrated with the worker's primary trade
- Remain productive when demand for one trade temporarily declines

3. Increased capability can improve earning potential, advancement opportunities, and fulfillment.

Demonstrated additional capability can lead to higher hourly pay, skill-based wage progression, additional work opportunities, upward mobility, more overtime opportunity, more annual hours, promotion, and formal recognition.

Workers should ask how increased capability could lead to deeper craft mastery, selected additional skills, equipment operation, fabrication, quality or safety responsibilities, lead-worker assignments, superintendent roles, coaching, assessment, instruction, advanced leadership, or ownership opportunities.

4. Increased capability can expand the range of projects a worker can participate on.

Additional capability is often needed across more project types, more work packages, more phases, more locations, more seasons, more clients, or more types of equipment and systems. A useful capability should expand the scopes where a worker can realistically be assigned.

5. Choose additional capabilities that create real work opportunities.

Workers can strategically consider each additional capability based on whether the company regularly needs it, whether it appears on the projects the worker wants to participate on, whether it complements the worker's current trade(s), whether they will have a chance to use it, whether it will help them earn more hours or qualify for more work, and whether it will lead to compensation, recognition, or advancement.

Workers and employers can plan ahead for what projects, scopes, systems, equipment, and workforce needs are coming next. Then discuss how the worker's individual career interests and increased capability can fit the employer's backlog and future opportunities.

6. Deepen the value of a primary trade.

Multiskilling does not require giving up trade identity nor technical depth. Workers may choose to deepen their primary craft, add complementary capability, add equipment qualifications, prepare for leadership, or combine specialization and broader capability over time.

7. Ensure qualifications and achievements are documented.

Workers should ensure both they and their employer keep track of practical assessments, credentials, certifications, qualifications, task authorizations, relevant project experience, and renewal or expiration dates. Employer records should accurately reflect the capabilities each worker has demonstrated.

Current documentation helps supervisors understand what each is trained and qualified to do and can support future assignments and advancement.

8. Keep less regularly used capabilities current.

A capability used less regularly may require refresher instruction, additional practice, reassessment, credential renewal, updated equipment training, or supervised re-entry into the work. Workers should seek to understand their company's ability to support such learning avenues.

9. Know the boundaries of your current qualification and authorization.

Understand which activities each worker is currently qualified to perform, which tasks require supervision, which credentials or licenses apply, which equipment they are authorized to operate, when additional preparation is needed, and how to use stop-work authority when the assignment or conditions are unclear.

SECTION 2

Taxpayers, Communities, and End Users

Taxpayers and communities should expect public construction investments to deliver safe, high-quality infrastructure while making effective use of available workforce capacity and public dollars.

1. Expect multiskilling to be part of the delivery of construction to maximize productivity and get the biggest “bang for the tax dollar” across a wide range of project types.

The taxpayer should expect to leverage the most effective workforce strategies as part of the delivery of publicly funded construction projects. This research has shown multiskilling to bring productivity advantages for a wide variety of project types and documented the sophisticated workforce development and training systems which ensure multiskilled workers are competent, safe, quality-focused, and productive.

2. Expect public construction investment to create value for both workers and taxpayers.

A successful investment should help workers build skilled, durable careers while expanding the qualified capacity available to deliver public work.

- **Worker Value:** useful skills, career opportunities, hours, earnings, advancement, and leadership
- **Public Value:** productive capacity, reliable delivery, reduced disruption, and effective use of infrastructure dollars.

3. Expect workforce investments to create meaningful outcomes for workers.

Taxpayers and communities should expect workforce investments to contribute to meaningful worker outcomes, such as employment opportunities, hours, earnings, advancement, and continued participation in the industry.

4. Support pathways that connect education to real employment.

Community members can support pathways that connect high-school exposure, college or apprenticeship education, recognized credentials, employer participation, and work-based learning to actual employment opportunities and career advancement.

5. Expect public construction and workforce approaches to support fair competition and open contractor participation.

Public construction and workforce approaches should support contractors of different types and sizes to be fairly, openly, and transparently competed for public project opportunities. Open contractor participation can expand opportunities for workers while allowing effective approaches, including multiskilling, to emerge where they make sense and are naturally most efficient for each project that is being constructed.

6. Expect public owners to consider workforce strategies that improve delivery and reduce public disruption.

Many public projects have substantial opportunity to benefit from a multiskilled labor strategy, especially projects which depend on tight schedule deadline and reliable closure timeframes. Public owners should examine the extent to which their projects contain closely sequenced work scopes which could benefit from multiskilled labor strategies to achieve fewer interruptions between trade-to-trade handoffs and potentially faster completion of the overall work sequence.

SECTION 3

Policymakers at the Local, State, and Federal Levels

This research did not evaluate specific laws, regulations, or public workforce policies. However, the findings suggest several high-level considerations for policymakers seeking to strengthen construction workforce opportunity, infrastructure delivery, and value for taxpayers.

1. Create a policy environment that welcomes and encourages multiskilling to contribute where appropriate.

Policymakers should recognize that multiskilling can provide worker, workforce, and project-delivery benefits across a wide range of construction project types. Public policy should enable, and where appropriate encourage, public owners, contractors, and workers to use these approaches where they can be applied safely, competently, and appropriately. In short, public owners and taxpayers should be able to benefit from appropriate workforce innovations available to the broader construction market.

2. Consider whether existing or future policies unintentionally restrict qualified multiskilling.

When developing or reviewing policy, policymakers should consider whether requirements unintentionally prevent qualified workers or contractors from using appropriate multiskilled approaches. The objective is to avoid unnecessary barriers that prevent otherwise qualified workforce strategies from being used. Policies to be considered include workforce development and training program investments, public procurement and bidding rules, and more.

3. Support competition and broad contractor participation.

Policies and public programs should make it practical for qualified contractors of different sizes and types to participate. Contractor participation creates real employment and development opportunities for workers and allows innovative workforce approaches to emerge from the organizations that perform the work. Meaningful worker opportunity depends on employers having real work and participating in the workforce system.

4. Support competency-based workforce development to build verified complementary capabilities.

Workforce policy should recognize competency-based approaches that allow workers to deepen their primary trade while adding verified complementary capabilities over time. Training and credentialing approaches that recognize demonstrated competence can allow workers to build or stack additional capabilities around their primary trade while supporting both worker development and workforce flexibility. Such approaches should continue to preserve applicable licensing, credentialing, safety, quality, and supervision requirements.

5. Consider worker, employer, project, and taxpayer outcomes when shaping policy.

Policymakers should consider whether workforce and construction policies create meaningful value for workers, employers, public owners, and taxpayers. Relevant considerations may include access to real work, usable capability, career opportunity, contractor participation, workforce capacity, project delivery, productivity, safety, and effective use of public infrastructure dollars.

The appropriate methods for evaluating these outcomes may vary by program and jurisdiction; the implication of this research is to consider the outcomes, not to prescribe a particular reporting mechanism.

SECTION 4

Contractors and Construction Companies

Multiskilling creates value when contractors build, verify, deploy, recognize, and continually improve worker capability in direct response to the work ahead.

1. Forecast the work and the capabilities it will require.

Use backlog and project forecasts to identify required trades, changing labor needs, major work packages, specialized systems, equipment needs, owner-specific requirements, high-risk or high-consequence work, and leadership and supervision needs. Begin preparation early enough to recruit, train, assess, refresh, or reorganize the workforce.

2. Identify high-opportunity scopes and assemblies.

Look first for work where qualified multiskilling could improve workflow.

- Frequent trade handoffs
- Workers waiting for small adjacent tasks
- Shared or constrained work areas
- Limited closure or turnover windows
- Several short, interdependent activities
- Changing trade needs
- Recurring bottlenecks
- Work that must repeatedly stop and restart

3. Select skill combinations that solve a real work problem.

Help workers develop additional capability because it addresses a recurring interface, a handoff, a labor mismatch, a bottleneck, a changing project need, a worker-development goal, or a recurring equipment or support need. The objective is not simply to maximize the number of skills each worker holds, but rather to improve the quality, competence, safety awareness, and skillsets that the workforce possesses to perform work within the contractor's existing portfolio and upcoming backlog.

4. Assign clear responsibility for the capability system.

Identify the person or coordinated team responsible for connecting work forecasts, recruitment, development, assessment, records, assignment, refresh, compensation, advancement, and project feedback. Responsibility may be linked with a training leader, workforce-development leader, superintendent, operations leader, human resources professional, craft leader, or coordinated group.

5. Define what field-ready capability means.

For each task, role, or equipment assignment, define the technical expectations, safety requirements, quality standards, productive-performance expectations, credentials or licenses, demonstration requirements, conditions of authorization, and supervision requirements.

6. Rehearse critical work before mobilization.

Use actual-team rehearsals, mock-ups, test assemblies, equipment practice, or simulated work to refine the sequence, tools, safety, quality, work assignments, communication, handoffs, and production expectations.

7. Build capability through blended learning.

Combine methods based on what the worker must learn.

- Structured instruction
- Coached practice
- Simulation
- Mock-ups
- Field experience
- Demonstration
- Repetition
- Fabrication
- Equipment practice
- Feedback

8. Prepare coaches, instructors, and assessors.

Experienced practitioners should receive clear standards, preparation time, teaching or coaching support, assessment criteria, documentation procedures, and recognition for the responsibility. Being an expert practitioner does not automatically make someone a consistent instructor or assessor.

9. Verify, document, and authorize capability.

Create a clear evidence chain showing what the worker learned, what was practiced, what was demonstrated, who assessed it, which standard was met, which credentials are current, which work is authorized, and which supervision or conditions apply.

10. Put capability records into field use.

Make current assessment results, credentials, authorizations, relevant experience, and renewal dates available to project and field leaders in a form they can use for mobilization, assignment, equipment authorization, supervision, project-specific preparation, and refresh decisions.

11. Plan by trade and workday, not total headcount alone.

Examine whether the crew has the right qualified capacity for the trade requirement occurring on each workday. A project can have enough people overall and still lack usable capacity for a particular trade, task, or work package at the time it is needed.

12. Deploy verified capability as requirements change.

Match workers to the actual work, the workday, the work area, the sequence, the equipment, the owner's conditions, and the applicable supervision plan. Multiskilling creates operating value when qualified capability can move to the work that needs it.

13. Refresh capability before it is needed again.

Use focused review, practice, reassessment, or renewal when a capability is used less regularly, equipment changes, standards change, the project introduces unfamiliar conditions, a credential approaches expiration, or the consequences of error are high.

14. Preserve specialist capability and required controls.

Use multitasking alongside specialized workers and crews. Maintain applicable licensing, credentials, wage requirements, craft depth, quality accountability, safety planning, authorization, supervision, and local work rules.

15. Connect added capability to worker value.

Broader capability creates value for the employer. Workers should understand how additional work, flexibility, and responsibility will be reflected in more available hours, longer assignments, compensation, wage progression, assignment opportunity, recognition, promotion, leadership, and teaching or coaching opportunities.

16. Build the workforce pipeline rather than only recruiting from it.

Work with high schools, colleges, apprenticeship programs, associations, community organizations, other employers, and local businesses. Connect education and early exposure to clear employment and career opportunities.

17. Include workers in selecting and improving capability pathways.

Ask workers which additional capabilities are useful, which work they want to pursue, what support they need, whether preparation matched the assignment, what created uncertainty, and what should be changed before the next deployment.

18. Measure performance and return the lessons to the system.

Track relevant measures at the crew and work-package levels and use the results to update curricula, assessment, deployment, coaching, and future workforce planning.

- Direct, support, and idle time
- Staffing distributions
- Quality and rework
- Worker hours and earnings progression
- Worker and supervisor feedback
- Handoff duration and waiting
- Capability gaps
- Safety observations
- Advancement and retention

SECTION 5

Owners and Buyers of Construction Services

Owners can create the conditions for contractors to prepare and deploy qualified multiskilled workers.

The most important owner decisions occur before the workforce arrives on site.

1. Assess each project for potential multiskilling opportunities.

Review the project type and the specific scopes and assemblies within the project to determine where a multiskilled labor approach may improve crew-level productivity and accelerate the work.

- Frequent trade-to-trade handoffs
- Several short activities performed in close sequence
- Shared or constrained work areas
- Small tasks that can stop the next activity
- Work that repeatedly waits for another trade or crew
- Limited shutdown, closure, renovation, or turnover windows
- Trade requirements that change substantially from one workday to another

2. Ask bidding or proposing contractors where they would use multiskilled labor.

Ask contractors to explain where and how the strategy would be used on the specific project.

- The scopes or assemblies where they see an opportunity
- The trades or capabilities that would be combined
- The handoffs, waiting, or staffing pressure they expect to reduce
- The workers or crews that would perform the work
- The result they expect to improve
- How the result will be measured

3. Ask how competing contractors verify worker capability.

Ask contractors to explain what a worker must know and demonstrate, how technical, safety, quality, and productive-performance expectations are assessed, who conducts the assessment, how the result is documented, who authorizes the worker, what supervision or conditions apply, and how the contractor keeps the capability current. The central question for owners is how the contractor knows the proposed worker or crew is ready for the defined work.

4. Give contractors early visibility into the work ahead.

Share upcoming project types, major scopes, schedules, specialized systems, owner requirements, shutdowns, operating constraints, turnover dates, and anticipated workforce needs early enough for contractors to recruit, develop, assess, refresh, and prepare workers. This may begin during capital planning and continue through procurement, preconstruction, and project planning.

5. Review contract requirements that affect the flexibility with which a qualified multiskilled workforce can execute the work.

Determine whether specifications, work-assignment provisions, inspection procedures, subcontracting arrangements, owner rules, or other contract terms unintentionally prevent qualified workers from completing appropriate adjacent tasks.

- Licensing
- Work role classifications
- Safety requirements
- Contractual obligations
- Credentialing
- Apprenticeship requirements
- Quality requirements
- Supervision requirements

6. Include workforce strategy in preconstruction planning.

Integrate workforce planning with schedule, logistics, safety, quality, procurement, and work-package planning.

- Major trade handoffs
- Scopes vulnerable to waiting for another trade
- Peak staffing periods
- Specialized work that should remain with dedicated specialists
- Daily changes in required trade capacity
- Areas where multiple crews will share a workforce
- Small tasks that may interrupt larger activities
- Selected work that qualified multiskilled workers could perform

7. Support project-specific preparation before mobilization.

For critical, unfamiliar, high-consequence, or owner-specific work, provide sufficient time for focused refreshers, mock-ups, equipment practice, actual-team rehearsals, sequence review, owner safety and quality requirements, and confirmation of qualifications and authorizations.

8. Measure results on the selected scopes.

For work packages where multiskilling is used, measure the scope where the strategy was applied rather than relying only on whole-project averages.

- Elapsed production time
- Number and duration of handoffs
- Crew size or worker-presence requirements
- Quality and rework
- Worker and supervisor feedback
- Waiting between trades
- Direct, support, and idle work time
- Milestone completion
- Safety observations, near misses, or good catches

9. Carry the lessons into the next project.

At project closeout, identify which scopes benefited, which skill combinations were useful, which handoffs remained difficult, where preparation was insufficient, which capabilities should be refreshed or expanded, and what should be prepared earlier on the next project.

About the Series

This document is based on the six reports in Volume 1 of *Multiskilling in the U.S. Construction Industry: A Multi-Year Nationwide Research Series*. It summarizes findings across those reports. The full reports contain the methods, sample details, and limitations behind every result shown here.

Volume 1 includes the largest field-collected dataset assembled to date on multiskilling as practiced on active U.S. construction projects, along with controlled field trials, detailed project records, evidence on employer workforce capability systems, a review of peer-reviewed literature, and contractor safety context. The research was conducted by the Simplar Foundation with researchers at the University of Kansas, the University of North Carolina at Charlotte, and Arizona State University.

All reports and related resources: simplarfoundation.org/multiskilling

REPORTS IN VOLUME 1

- 01** Work-Time Utilization and Staffing Level Impacts in Construction Crews
- 02** Productivity in Multi-Trade Construction Workflows
- 03** Schedule Duration and Labor-Curve Outcomes
- 04** How Construction Employers Develop, Verify, and Sustain Workforce Capability
- 05** A Comprehensive Review of Prior Evidence
- 06** Contractor Safety Context

