**[location] Community of Practice**

The Lean Construction Institute of Canada (LCI-C) was founded to develop and disseminate knowledge regarding the management of work and projects. The practices flowing from this research often appear counterintuitive. They call for a new common sense, a shared understanding in the community—where else, how else could sense become common? LCI-C Communities of Practice (CoP) are places where these emerging communities meet and a new common sense is forged. CoPs provide a meeting ground where people can gather, share, learn, connect, and explore the ramifications of these ideas both for their own organizations and the larger industry.

Self-forming local CoPs have emerged as regional forums where people meet, share experience, learn and connect. The [location] CoP helps owners, architects and designers, engineers, contractors, labor, specialty contractors, and suppliers understand and find their way in this new world in [province] and Canada. The invitation is open to all project participants to meet together as local user groups to explore and develop these ideas as they work together.

We aim to extend to the construction industry the Lean production revolution started in manufacturing. This approach maximizes value delivered to the customer while minimizing waste. A set of introductory readings about Lean design and construction is now available on the [***What Is Lean Construction*** page on lcicanada.ca](http://www.lcicanada.ca/about-us/what-is-lean-construction/). We understand that defining, designing, and building is different from manufacturing, HOWEVER, the principles drawn from Lean Production Management can be applied through techniques tailored for application over the life of a project and a facility program. Taken together these principles and techniques create Three Opportunities and form the basis for a Lean Project Delivery System.™

**What is Lean Construction?**

Lean construction is a new way to define, design and build capital facilities. Lean theory, principles and techniques, taken together, provide the foundation for a new form of project management. From roots in production management, lean construction has produced significant improvements particularly on complex, uncertain and quick projects. Key differences between lean construction and other forms of project management include:

**Control** is redefined from “monitoring results” to “making things happen.” Planning system performance is measured and improved to assure reliable workflow and predictable project outcomes.

**Performance** is maximizing value and minimizing waste at the project level. Current practice attempts to optimize each activity and thus reduces total system performance.

**Project Delivery** is the simultaneous design of the facility and its production process. This is concurrent engineering. Current practice, even with constructability reviews, is a sequential process unable to prevent wasteful iterations.

**Value** to the customer is defined, created and delivered throughout the life of the project. In current practice, the owner is expected to completely define requirements at the outset for delivery at the end, despite changing markets, technology and business practices.

**Coordinating action through pulling and continuous flow** as opposed to traditional schedule driven push with its over-reliance on central authority and project schedules to manage resources and coordinate work.

**Decentralizing** decision making through transparency and empowerment. This means providing project participants with information on the state of the production systems and empowering them to take action.

Lean design and construction is a production management based project delivery system emphasizing the reliable and speedy delivery of value. It challenges the generally accepted belief that there is always a trade-off between time, cost, and quality and safety.

**[location] Community of Practice**

**Formation Committee Members [year]**

**[name]**

[company]

[[email]](mailto:tplumb@kineticconstruction.com)

**[name]**

[company]

[[email]](mailto:tplumb@kineticconstruction.com)

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[company]

[[email]](mailto:tplumb@kineticconstruction.com)

**[name]**

[company]

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**Glossary of Terms**

**5S** – A process to ensure work areas are systematically kept clean & organized, ensuring employees safety & providing the foundation on which to build a Lean culture. Sort, shine, set-in order, standardize & sustain.

**5 Why Analysis** – A method of arriving at the root cause of a problem. Ask a friendly “why” 5 times.

**A3** – One-page report that summarizes the A3 problem solving process.

**Andon** – An indicator or signal to alert of a problem or failure.

**Building Information Modeling (BIM)** – 3D, 4D, or 5D virtual design and construction simulation.

**Countermeasure** – The short-& long-term trial actions taken to isolate and eventually eliminate the root cause(s) of the problem.

**Flow** – Smooth movement of materials, information and work.

**Integrated Form of Agreement (IFOA)** – Contract that links all parties to shared reward and shared risk.

**Integrated Project Delivery (IPD)** – A delivery system that seek to align interests, objectives and practices, even in a single business, through a team-based approach. The team’s primary members would include the architect, key technical consultants as well as a general contractor and key subcontractors. It creates an organization able to apply the principles and practices of the Lean project delivery system.

**Just-in-Time (JIT)** – Synonymous with continuous flow. Supplying the right product or service in the right amount at the right time.

**Kaizen** – Japanese for continuous improvement.

**Kanban** – Card or visual indicator to an upstream suppler for resupply.

**Last Planner SystemTM (LPS)** – delivering a project on a Lean basis by improving coordination by producing predictable workflow and rapid learning.

**Last PlannerTM** – The last person or group that makes assignments to direct workers. ‘Squad boss’ and ‘discipline lead’ are common titles for last planners in design processes. ‘Superintendent’ or ‘foreman’ are common titles for last planners in construction processes.

**Leveling** – Balancing the work by volume & variety amongst the workers during a period of time.

**Muda** – Japanese for waste, essential focus to identify and eliminate or reduce.

**Plan Do Check Act (PDCA)** – systematic problem-solving process – core of “continuous improvement”.

**Percent Plan Complete (PPC)** – The number of actual tasks completed on the days promised in a week’s work plan divided by the total number of tasks planned to be completed in that week multiplied by 100 to get a percentage. It is a measure of a team’s reliability and predictability in planning work and executing to the work plan. Usually refers to activities on a Weekly Work Plan in the Last Planner System TM used in all phases of a project.

**Process Mapping** – The visual representation of a sequence of operations (tasks) consisting of people, work duties, & transactions that occur for the design & delivery of a product or service.

**Pull** – A system in which nothing is produced by an upstream supplier until downstream customer signals the need for it.

**Push** – Work is pushed along regardless of need or request.

**Pull Planning** – Scheduling a project or process using milestones, working backwards from the completion of the project to the start of the project.

**Root Cause** – The origin or source of a problem.

**Target Value Design (TVD)** – “A management practice that drives design to deliver customer values and develops design within project constraints.” – Glenn Ballard

**Value** – Defined by the customer, only what the customer is willing to pay for.

**Value Stream Mapping (VSM)** – The visual representation of the processes to meet a customer’s demand.

**Waste** – Anything that adds cost or time without adding value.

**Weekly Work Plan** – A list of assignments to be completed within the specified future week.