

*Seeing with New Eyes*



**AN INTELLIGENT APPROACH  
TO LEANBUILDING™**

Paul Hoernschemeyer & Scott Sedam

*The voyage of discovery  
is not in seeking new landscapes  
but in having new eyes.  
Marcel Proust*



**TrueNorth Development, Inc.** is North America's *Lean Methods* expert in residential homebuilding. In the last three years, our LeanBuilding Blitz™ has helped builders identify over \$100 million in savings opportunities, averaging \$8,000+ per unit in just 5 days. Nearly 900 suppliers & trades have participated in the LeanBlitz, voluntarily showing builders where and how to reduce or eliminate wasteful practices that contribute to unnecessary costs in both product and process. Using a positive structure that enhances relationships among the builder, his suppliers, and his trades, the LeanBuilding Blitz is a practical tool that establishes a solid basis for the recovery. The underlying premise is simple: cost cutting leads to cutting corners, whereas cutting waste leads to greater savings and a better product.

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**Our guarantee:** the LeanBuilding Blitz will reveal at least 10 to 1 in waste or the client does not pay.

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For more information on this transformative process, call **248-348-6011** or write **info@truen.com**.



# Seeing with New Eyes

## AN INTELLIGENT APPROACH TO LEANBUILDING

You may have heard the expression “Lean,” as in “Lean Thinking,” “Lean Methods,” or “Lean Operations,” and understand that it is not just another term for running a bare-bones operation, as some believe. Even if the term “*Lean*” is completely new to you, it is not new to the rest of the world. Lean methods have revolutionized a diverse range of companies, yet homebuilding has largely missed the Lean train. Builders could be criticized for that, but after all, from the early 1990’s until 2006, the industry enjoyed a continual run of increased sales and profits. Lean is about running the most efficient possible operation and efficiency was not the name of the game during the boom years. Virtually everything we built had a buyer waiting. Homebuilding’s escalating profits came from price inflation, volume growth and land appreciation, not because we lowered the cost of operations.

Those days are gone and due to changes in the finance and mortgage markets, may never come again, at least not to previous levels. Today, improving margin is increasingly dependent upon lowering the *total* cost of operations, from the customers’ and suppliers’ viewpoints as well as the business owner’s, a critical distinction. The past two years have seen a steady diet of slashed overheads and rebid after rebid, squeezing the last dime from suppliers and trades. Tough times call for tough measures, but these strategies are now spent. With overheads at a minimum and suppliers and trades operating on slim to no margins themselves, where do we turn next? The answer is Lean.

Because you are reading this, you are obviously curious about what Lean is and how it can apply to residential homebuilding and your own company, in particular. Perhaps you believe you are already well down the Lean path to waste reduction and margin improvement? No matter where you are on the learning curve for Lean, whether you are a builder, supplier, trade or financier, you will find this crash review of the basics helpful, at the very least. You may even find it leads you to a new vision – a vision of a truly great operator – a company with minimal waste and efficient process, building homes that customers love.

### SOMETHING TO THINK ABOUT

- GM has spent the last 30 years moving factories *out* of the US, claiming they can't make money paying American wages and benefits.
- Last year GM again racked up multi-billion dollar losses. Now it is cutting deeply into its white collar and management workforces.
- Toyota has spent the last 30 years building plants *inside* the United States because they have found it profitable.
- Last year Toyota made multi-billion dollar profits. Toyota has now surpassed GM as the largest automobile producer in the world ... Toyota on the way up, GM on the way down.

### TOYOTA’S SUCCESS

Toyota is the “poster child” for Lean Operations. A few minutes understanding Toyota will help illustrate why Lean Operating Methods can and will succeed in homebuilding.

Ironically, the United States had a role in the development of the Toyota Production System, the forerunner of Lean. First, Japanese industrial capacity was totally devastated in



World War II, leaving them with so few resources during the 50's and 60's that they could afford to waste nothing. Second, many of America's best production and logistics gurus, who had been quietly instrumental in America's war efforts, could not find work in the U.S. – largely because everything built in America had a buyer waiting. The name of the game here was *quantity*: just get it built! Little attention was paid to efficiency. Given the expanding business, waste was not an issue. (Does this sound familiar?)

The gurus did find work in Japan, however, where desperation motivated Toyota and others to try new methods. To be sure, plenty of Japanese companies remained mired in pre-war methods, making little progress. Toyota in particular, though, had leadership committed to finding a new path. The result was that by the late 60's, Toyota was entering world markets, poised to take share from everyone. Predictably, not until the late 1980's and early 1990's did American and European automakers take Toyota seriously.

Some insist on believing that Toyota succeeds because of Japanese culture, which cannot be duplicated in North America and *certainly* not in the United States where individualism and personal freedoms are sacred. Those people are wrong. Witness two simple facts:

1. Toyota succeeds with American workers in American plants on American soil, building top quality vehicles in plants in Indiana, Kentucky, Texas and California.
2. Most other Japanese automakers with Japanese workers in Japanese plants on Japanese soil, are not as successful as Toyota in its own Japanese plants.

Toyota is remarkably open about their processes, because they know that few competitors will make the company culture changes required to support Lean process. Those that eventually commit to change, such as Ford and GM's recent efforts, need years and perhaps decades to catch up, by which time Toyota will have reinvented itself yet again. Toyota knows that tools and techniques can be copied, but copying an organizational culture is a much different matter.

Toyota outcompetes. Their cost to produce is lower. Their overhead is lower. Their management structure is flatter. Their designs are easier to build, easier to maintain, and easier to repair or replace. They have fewer mistakes in the procurement, manufacturing and administrative processes, and when defects do occur, they address more than simply the defect; they go all the way back to the *root cause* of the defect – a critical difference. Over time, Toyota realized that Lean is far from a production-centered operating strategy, it covers all departments, all functions, all of which must work together to reach the highest levels of efficiency. As competitors and those in other industries observed Toyota's success, Lean began to spread to other companies and took on a life of its own.

So what does this all boil down to? Lean is a non-industry-specific, non-company-specific model evolved from the Toyota Production System. It was inspired by sheer desperation, but grew because it provided the means to lead the world. The Lean phenomenon has transformed businesses throughout the world, from manufacturing of all kinds to healthcare, insurance, transportation, hospitality and a myriad of other industries.

Now Lean has come to residential homebuilding. It *will* affect you, either as a changed company, or as the competitor of a changed company. Trust us on this one: you want to be the company that is transformed, not facing a competitor who is.

You can be Toyota, or you can be GM.





## WHAT IS LEAN?

We all want to beat the competition. We all want to win. We all want to find a way through the current building industry crisis and isn't that the job of management? Isn't that what we believe we're doing? Isn't that why you are reading this booklet? The next few pages, together with the reprinted columns on Lean thinking and Lean operations that follow, address aspects homebuilders must consider as they think about becoming Lean. Scott Sedam, TrueNorth's founder, when asked to describe Lean in its simplest form, replies:

*“Lean is the relentless pursuit, identification and destruction of waste...  
in all forms of product and process.”*

Lean is not merely cost control or cost reduction. Lean is not simply slashing overhead, cutting staff or decreasing specifications and features on product, rendering it hard to sell. Lean is not one more round of rebids forced upon your suppliers and trades. These approaches mean pain for everyone. *Lean is the systematic destruction of waste in product and process.* It is eminently simple; its fundamental logic is inarguable.

**LEAN IS** a set of guiding principles and analytical tools focused on what customers need and are willing to pay for. If the customer won't pay for it, eliminate it. If you cannot eliminate it, reduce it. The goal may sound familiar, but Lean process is markedly different than the methods builders have used in the past.

**LEAN IS** a culture of continual waste reduction. No sacred cows graze here. Improvement ideas are expected *from* all quarters – management, front line workers, contractors, and suppliers – all who touch our process or product. Lean applies *to* all functions – land development, design, engineering, sales, construction, finance, accounting, purchasing, warranty service and administration.

**LEAN IS** objective. Truth and fact are paramount. Opinion, gut instinct, intuition, habit and tradition must all stand up to factual, measureable scrutiny. Most traditions and even most habits began for good reason and serve a purpose. But whereas times change, habits don't, so it's safe to presume old assumptions need updating.

**LEAN IS** transformational. Lean enables us to see our world with new eyes. Much of what we believe to be business as usual, or things we may sense as waste but believe are simply unavoidable, can no longer be overlooked. You will be taken aback at what you uncover, and you will be surprised at what you are compelled to change. Recently, Scott Sedam was at the Lake City, Minnesota operations for Hearth Technologies, the only homebuilding industry company to win the Shingo Prize – the “Academy Award” for Lean. Lake City's plant manager asked Scott to sum up what made this group different from others. Scott replied, *“You have created a culture of 350 obsessed people with an eye for – and a total intolerance for – waste of any kind.”*

Imagine the impact if you could say that about your people. Imagine if your suppliers & trades joined you in this effort. But later, Scott added an important caveat to his answer. *“... and you have a management team that fully supports all efforts to remove it.”* Do you?

## WHAT DOES LEAN DO?

Eradicating waste through Lean improves *everything*. Designs improve. Schedules improve. Production improves. Quality Improves. Sales improve. Supplier and trade relations improve. Margins improve. Morale improves. Management effectiveness improves.





**LEAN cuts waste** and thereby reduces cost. Everyone has waste in their product and process; what's difficult is to recognize it when you see it. This lies at the heart of Lean. *Everyone believes they know how to recognize waste.* You will quickly learn that is not true. Because of our habits, practices, traditions and processes – because of how we are raised and trained – most of us have very limited vision in this regard. The good news is that waste is not difficult to spot once you lean to see with new eyes – *Lean eyes*.<sup>1</sup>

**LEAN shrinks cycle time.** A key tenet of Lean is “*flow*” – how to dramatically smooth the production process. The old saying “time is money” was never more true. But what the saying does not tell you is how *much* money. What does an extra day in your schedule cost you? Do you really know? Here's a hint; the interest charges you obsess about are only a small fraction of the total cost. Lean Thinking will show you the real answer.<sup>2</sup>

**LEAN improves process.** With Lean, “Best Practices” become “Best Known Methods.” Standardizing processes makes variation visible, more controllable, and easier to improve. Lean uses *Five Whys* to drill down to root causes; first time quality goes up and rework goes down. Think about all the “fixes” you have in place, originally intended to temporarily correct errors when there was little time to permanently resolve them. Have yesterday's temporary fixes become today's SOP? Lean Thinking forces such fixes to the surface.

**LEAN leverages workers.** When Lean is adopted, no one holds back, including the suppliers & trades who know more about the products and processes than any of us. Our best information on what really goes on comes from those who are actually doing the work, whether pouring concrete or processing invoices. Is a superintendent in a better position to improve a framing plan than a crew leader? While this can be scary for managers because undesired information may surface, *that's exactly what you want to happen!* One caution, however: don't kill the messengers. If someone who exposes waste in your company is chastised for bringing it to light, or someone is punished for having allowed the condition to exist, you'll turn off the tap and destroy the process.

**LEAN challenges management.** Lean has little respect for the status quo, and it expects challenges to the status quo be carefully considered. Senior managers especially must learn to not only accept, but *welcome* those who would “*mess with my world*” – provided the motivation is improved product and process. Lean challenges systems, processes, methods, materials, procedures, habits, structures and assumptions. Everything is fair game.

## NEED TO SUCCEED

Every Lean practitioner has his or her own list of what is necessary to succeed with Lean. There are hundreds of books, websites, articles and columns available for your education<sup>3</sup>. However, in the interest of keeping things short, sweet and *lean*, here are the basics:

1. **Embrace change.** Fear of maintaining status quo must exceed the fear of change, or change will not happen. Most businesses that launch into Lean are those confronted with serious problems threatening their livelihood. Coincidence? Not at all. Fear is a potent driver. The current housing downturn is powerful motivation for most builders. Just as important, it also drives your employees, suppliers and trade contractors to change.

<sup>1</sup> TrueNorth has helped numerous builders identify over \$73 million in waste, averaging \$7,500/house. See “The Last Word on Lean” in the collection of Scott Sedam columns at the end of this booklet.

<sup>2</sup> If you don't know the answer to this question, ask for the TrueNorth **Saved Day Calculator** for homebuilders.

<sup>3</sup> An excellent resource on all things Lean can be found at [www.lean.org](http://www.lean.org)





2. **Believe that Lean is the *right* change.** Lean is just one of many business models, but one that industries around the world have turned to with undeniably positive results. You may find marginal gains by playing at the edges, picking and choosing, but you will reap vast compounded rewards by fully committing and jumping in with both feet.
3. **Understand Lean principles.** Know what you're getting into and what is required. This is the purpose of this white paper. It's not rocket science, but it is an undeniable change in paradigm. Lean is truly, "*Learning to see with new eyes.*"
4. **Think Lean.** Lean practitioners have learned the hard way that *lean thinking* needs to come before *lean tools* (see page 7 for how this has affected other builders). There is an entire chest of tools available – 5S, Five Whys, Heijunka, Kaizen, Takt Time, One Piece Flow, Just In Time, Poka Yoke, Pull, Kanban, etc. – each of which has a purpose. Some tools you can employ independently and they just make good sense. But if you learn to *think Lean* first, the tools come together in an order right for you and produce results.
5. **Find an experienced guide.** Nothing is more important than street-level experience leading the way. It's like having a guide through the wilderness: you might have a map but that doesn't mean you can find your way and avoid the pitfalls. A smart person (or company) learns from his or her mistakes. A really smart person (or company) learns from the mistakes of others. Be the latter. It will save you time and money.
6. **Seek incremental change.** Although you can realize gains quickly, you cannot get from here to there in one leap. You need a leader who can see over the horizon in order to know what small steps are needed today to have you in the right place for tomorrow.
7. **Be flexible.** Lean represents more than 50 years of evolution, but it is far more than the sum of its parts. While many Lean gurus decry any variation whatsoever from their personal version of Lean process, at times you may need to deviate from Lean dogma. Remember: Toyota started the Toyota Production System to work for Toyota; they did not start something generic called "Lean."
8. **Engage the *entire* workforce.** Once your finances are secured, your workers and your contractors hold the keys to your company's success or failure in this market. Tap that resource. Talk with them, consult with them, listen to them – *leverage them* – and they will reward you. Ignore them, dictate to them, and try to work in spite of them and they will punish you.<sup>4</sup> This is where a proven, structured process is invaluable.
9. **Manage middle management.** The role of middle management is so often overlooked, yet they can make or break lean implementation. Middle managers are heavily vested in their careers. They may fear anything that gives younger employees an edge ... like learning something new. On the other hand, when middle management buys in, progress moves quickly. This is so important that we've given it special treatment in *Paralyzing Practices* below.
10. **Reject bureaucracy.** Bureaucracy is the enemy. Lean has little respect for artificial bureaucratic barriers. If you have bureaucrats invested in a safe yet marginally productive status quo, you will have a fight on your hands. Caution: if you yield to the bureaucrats in your organization and keep inefficient systems in place, the message you send is "some waste and non-performance is OK". Translated by your workforce it will mean, "Other people have to change, but not me." You're sunk.

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<sup>4</sup> See "Mail Call" in the collection of articles by Scott Sedam at the back of this booklet.





11. **Respect your workforce.** Workers willing to grow and change are a manager's dream; workers afraid of layoffs try to insulate themselves. Change should make things better and provide opportunity. Change that leads to layoffs? Do everything you can to avoid it. Change that allows more production from fewer resources, or change that simply frees resources to do important things you could never get around to before? *Very good.*
12. **Collaborate.** Good ideas are good ideas no matter where they originate. Lean thrives on management that sets guiding principles to encourage continual improvement, that expects subordinates to behave accordingly and contribute regularly, and that holds everyone accountable.<sup>5</sup>
13. **Care for the customer.** It begins with a person who wants your product. Value Stream Mapping, for instance, starts with the customer's expectations when the order is first placed, and ends with the customer's experience in using your product. If you have people who don't care for your customer, in whatever capacity they are in, you lose. Even paper handlers play a role. (Look around your offices and count how many in boxes, out boxes, and paperwork batches you have. Batches and handling represent waste and cost, neither of which your customer wants to pay for. Neither should you.)
14. **Reinforce yourself.** Any change to your company needs repetition and reinforcement; without reinforcement, people revert to comfortable and ineffective habits. Whenever you have the chance, ask about progress. Drill the culture. Make it an important part of every meeting, every memo, every project, and every personnel evaluation. Leave no doubt that participation is not an option. This is about survival, now and in the future.
15. **Face the brutal facts.** A hallmark of an effective management team is the ability to accept uncomfortable, even bruising feedback without recriminations and punishment. No more protecting sacred cows. A sacred cow subject to honest evolution either survives and becomes a valuable part of your system, or is eliminated for good.
16. **Be resolute.** Lean is a genuine culture shift, so take it deep and make it stick. Don't accept a shallow, surface change, or, to paraphrase a frustrated coworker, *"They're rearranging the deck chairs on the Titanic."* Same furniture, different look, identical results.
17. **The Learning Organization.** Albert Einstein said, *"Insanity is doing the same things over and over again, and expecting different results"*. You'll never get better this way. Doing things differently requires genuine, focused learning. If you or those in your company are afraid to learn – or if they will not admit they *need* to learn – you will fail.

## PARALYZING PRACTICES

As you launch into any significant business change initiative, you will encounter formidable obstacles. Here we review just three of many, but three from our experience that are dangerous killers. Fortunately, antidotes are available with a committed and *learning* management team.

***NODDING HEAD SYNDROME*** *Killer One* is a deceiving mix of public consent and private denial. The Nodding Head Syndrome is most visible when change is announced publicly before adequate understanding and buy-in from the management ranks. You have seen them, the heads nodding in agreement around a conference table, yet those nodding heads don't *really* understand their roles and responsibilities and what this initiative means to their day-

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<sup>5</sup> "Not Invented Here" thinking thwarts change. The LeanBuilding Blitz turns *"Not Invented Here"* into *"Our Idea!"*





by-day work. You are headed for a quagmire. You thought you were on the path to success but now you are losing momentum. Interest wanes and daily emergencies take the wind out of your sails. It's avoidable if you gain buy-in ahead of time and know how to identify the signs and how to respond when you see them.

**VETO OF INACTION** Active subversion is not the only way to block an initiative. Simply *not* acting can be just as deadly. *Killer Two* has the advantage of being stealthy, and therefore reduces the risk for anyone who chooses to not participate. If caught, non-participants will offer logical reasons why they couldn't comply. There are telltale signs if your organization suffers from this malady, though you may not be aware of its impact until too late. The key and the cure is a system for genuine management accountability.

**NOT ME FIRST** This is perhaps the most insidious of the *Killer Three* because it is often raised by an otherwise willing participant. *Not Me First* will have several well-founded reasons to withhold their personal investment in the success of an initiative. There may be too many other critically important issues on his or her plate. Maybe the risk is too high until success has been demonstrated elsewhere. Maybe it's too visible to the client, the customer, the suppliers, other managers, the employees, whomever, should we *not* succeed. You've heard the arguments and maybe even used them yourself.

Everyone must become vested in the success of Lean. When someone withholds support from common cause, others fear comparison and will worry about protecting themselves, quietly watching for key moments when they, too, can back off.

## SPECIFICALLY FOR HOMEBUILDERS

Lean is new to residential homebuilding. Lean advocates with experience from other industries rarely grasp the unique nature of the builder-contractor relationship, the distinctive role that land positions play, the critical relationships with community authorities and the impact of schedule and inventory. There are few businesses in the world where 98% of the actual work is done by contractors, outside, in the elements, in full view of the customer. If you are considering a Lean implementation, here are key things to look for.

1. **Industry Knowledge.** The builder-contractor and contractor-labor relationships present unique challenges to anyone not highly experienced in homebuilding. Workers are not internal, not always available, not exclusively dedicated to one work site, and often not dedicated exclusively to a single builder. The workers change weekly, even daily, and the "factory" moves every day. This significantly impacts both Lean strategy and tactics.
2. **Lean Know-how and Know-when.** Many companies launch Lean, become enamored of the Lean toolset, and leap into training and implementation. When asked what major mistakes they made, leaders of these companies repeatedly say, "We put *Lean Tools* ahead of *Lean Thinking*."<sup>6</sup> This critical distinction in Lean implementation strategy can make or break the required organization culture change.
3. **Prompt New Thinking.** Getting people to think outside the box is not automatic. Insightful questions can challenge conventional thinking to shed light on hidden and forgotten assumptions.<sup>7</sup> "We think the way we think" for a reason, therefore we need good reasons to think differently... or it won't happen.

<sup>6</sup> TrueNorth leads associates into Lean Thinking with enough tools to make significant, near-term improvements to "show them the money." This gets employees excited and eager to get serious about tackling more Lean Tools.

<sup>7</sup> TrueNorth provides suppliers and trades more than 50 questions to jump start thinking in new ways as part of the supplier/trade orientation to the LeanBuilding Blitz™.





4. **Walk the talk.** Consultants and Facilitators with specific homebuilding industry experience gain immediate respect from your staff, suppliers, and trades. Their words are credible. From an outsider with no homebuilding experience? Your staff, suppliers, and trades find themselves in a constant reality check, “Does this really apply to us?” Sometimes the answer is “yes”, sometimes “no”, but in either case, part of the message is lost as listeners decide which side of the fence it falls on.
5. **Be practical.** Some people love to talk conceptually, but homebuilding is populated with practical people: does it work or not? If you are the latter, find someone who drags blue sky conjecture back down to earth; who captures conversation succinctly and express it in builder language and terms. If it doesn't lend itself to practical application grasped by all interested parties, it won't be well implemented.<sup>8</sup>
6. **Be thorough.** Your consultant/facilitator must provide you with notes and materials that speak both languages – Lean and Homebuilding – and build bridges between the two. Don't settle for half the package unless you are willing (and able) to do the translation work. The tools for documenting improved processes and tracking changes (or not) are essential and must be understood by all.
7. **Have a plan and a timetable.** Apply the same rigor to selecting someone to help you with Lean implementation as you do to building a house. Have a plan. Qualify your contractors. Have a schedule. Know the costs. Know your desired outcome. Know when each element begins and ends. Now go find the help.
8. **Find the right Lean practitioners.** Lean practitioners in the building industry are scarce today, but most of them know each other and are eager to help you find the right fit with the right people. They will save you time and money while giving you a better, more consistently reliable product.

## CONCLUSION

Lean has only recently come to homebuilding. There is no question that it will improve our industry, just as it has improved others, but not be without sacrifice and hard work. Early adopters will benefit greatly, late adopters will fall behind and non-adopters could be out of the game. In a slumping industry where any advantage must be aggressively pursued, the well-documented success and financial results of Lean are hard to ignore.



There are many books about Lean Process, but only a few people have the knowledge, experience and skills to teach and facilitate it. Fewer still can facilitate Lean from the *homebuilder* perspective. TrueNorth is the leader in introducing Lean to homebuilding with a track record to prove it. Talk to us about how we can help your firm.

To set up a free phone consultation on how you can try Lean on for size, write [info@truen.com](mailto:info@truen.com), or call Scott Sedam or Paul Hoernschemeyer at 248-348-6011. We look forward to showing you how your company can learn to “see with new eyes.”

*Note: An additional white paper entitled, “Lean is Green” documenting the surprisingly positive impact of Lean Operations on the environment will be available shortly. Contact us for a free copy.*

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<sup>8</sup> Notes & spreadsheets from the LeanBuilding Blitz are regularly cited as exceptionally thorough, concise & useful.

