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A Construction Productivity Symposium Abstract¹

“Identifying the Opportunities for Advancing the Competitiveness, Efficiency and Productivity of the Michigan Construction Industry”

The Engineering Society of Detroit Institute

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Background Statement

The issue of efficiency in the construction industry is seldom discussed or studied at the national or state level. Recent developments indicate a need to address the issue in a collaborative manner.

Construction Industry at the National Level

The United States construction industry produces all types of buildings and infrastructure including homes, office buildings, hospitals, airports, manufacturing buildings, universities, roads, bridges, and water and sewer systems in every location across the country. In 2007, the construction industry accounted for \$611 billion or 4.4 percent of the gross domestic product (GDP) of the United States. If the value of the installed equipment, furnishings, and

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other elements necessary to complete a building were included construction would account for 10 percent of the GDP. The construction industry is also a major generator of jobs with 11 million people or 8 percent of the total U.S workforce employed in construction per the Bureau of Labor Statistics. The U.S. is the largest single country market for construction projects and it is extremely important that a leadership position in the construction industry be maintained.

Industry analysts differ on whether construction industry productivity is improving or declining. Some analyses for the industry as a whole indicate that productivity has been declining for 30 years or more. Other studies document improved productivity for construction projects and construction tasks. One area of agreement is that there is significant room for improvement.

A CALL TO EXAMINATION & IMPLEMENTABLE ACTION

This Construction Productivity Symposium will focus on the core Mega Question:

“How can Michigan create consensus for a model comprehensive construction implementation standard that will serve the needs of the 21st Century?”

The Symposium workgroups will focus on the following workgroup questions:

“If you were creating a productive, efficient and competitive construction industry using technology and lean principles, what would it look like and how would you implement it?”

“If you were developing a construction workforce environment to increase productivity, efficiency and industry competitiveness, what would it look like and how would you implement it?”

“If you were applying prefabrication and modular build strategy to increase construction productivity, efficiency and industry competitiveness, what would it look like and how would you utilize them?”

“If you were establishing a commercial framework to foster an increase in productivity, efficiency and industry competitiveness, what would it look like and how would you implement it?”

Next steps include the identification of the diverse stakeholders groups that should be invited to the symposium. Stakeholder groups would represent these interests.

<ul style="list-style-type: none"> • Contractors and Sub-Contractors • Consumer Owners • Construction Companies and Associations • Government (all levels) • Architects and Designers 	<ul style="list-style-type: none"> • Labor and Building Trades • Legal • Financial • Academic • Legislators (all levels)
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Conclusion

While the issue of whether construction productivity is improving or declining is up for debate, what remains clear is that significant room for improvement exists and is essential to the continued success and competitiveness of the construction industry. While previous groups have looked at policy issues, they have not



reached actionable consensus. ESDI's approach provides a neutral forum where consensus-based actionable deliverables can be conceived.

References

"Reducing Construction Costs: Uses of Best Dispute Resolution Practices by Project Owners, Proceedings Report" Federal Facilities Council ([FFC](#)) Board on Infrastructure and the Constructed Environment ([BICE](#)) The National Academies Press, Washington, D.C. (2007)
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"Chinese workers build 15-story hotel in just six days" by Brett Michael Dykes, A hotel is built in China over the course of 6 days which is soundproof, thermal insulated and able to withstand a magnitude 9 earthquake.
(http://news.yahoo.com/s/yblog_upshot/20101112/bs_yblog_upshot/chinese-workers-build-15-story-hotel-in-just-six-days)

Video : (<http://www.youtube.com/watch?v=E76uIj744Do>)

About ESD and the ESD Institute

The Engineering Society of Detroit (ESD) is a 115 year old multidisciplinary nonprofit organization with a problem-solving mission. ESD's reach extends to over 65,000 engineering and scientific professionals consisting of over 6,500 individual members, 3,000



corporations, 52 unions, 154 construction companies, 86 technical societies, 38 higher education institutions, and 1,667 property owners and managers.

ESD formed its Institute (ESDI) in 2008 modeled in part upon the National Academy of Sciences. To state it simply, ESDI's Mission is consensus-building. Our goal is to provide an outcome neutral forum and process that encourages "problem solving" instead of "fault finding" through the application of inclusiveness and transparency. To achieve this goal, ESDI seeks to maintain neutrality with respect to the specific outcomes that result from our process. We are the "guardians" of the integrity of the process and not the "drivers" of any specific agenda or outcome that may result.

ESDI's Process

Over the past three years, the Institute has engaged in a facilitative and inclusive symposium process to bring diverse and often conflicting stakeholders together to identify implementable solutions that can benefit Michigan and serve as an example for application throughout the U.S. ESDI has modeled its work based upon the symposium process of the National Academy of Sciences (NAS) in Washington, D.C. ESDI, in collaboration with ESD Board Members and public and private sector representatives, crafts a mega question that is at the heart of the symposium deliberations. ESDI prepares an abstract or executive summary of the mega question to be considered and then identifies and invites a select group of diverse and often conflicting stakeholders to attend the formal symposium.

In addition, ESDI solicits presentations from leaders in the subject matter to set the stage for the work of the symposium. After the presentations are completed, attendees choose workgroups to generate breakthrough ideas utilizing proven facilitation and evaluation methods as described in the process methodologies contained on our website. ESDI then drafts its findings from the symposium and submits its draft report for peer review. Upon the conclusion of this step, ESDI publishes its final report of recommended solutions.

In a step beyond customary symposium practices, ESDI may, after ESD Board review, form implementation constituent workgroups made up of attendees and others to flush out the next



concrete steps to bring to realization the benefits of the unifiers and enablers generated during the formal symposium. These workgroups then craft specific action plans or programs such as business plans or other valuable deliverables and define the action steps which transform consensus-based ideas into real-world programs for Michigan's economic turnaround.

Previous ESDI symposia have included:

- **Prospectus Michigan and Green Enterprise Zones:** ESDI developed a new labor-management agreement and dispute resolution system and drafted enabling legislation (Michigan Investment Corporation Act) to create a virtual investment zone capable of maintaining and attracting sustainable investment in Michigan beyond the use of public funds or tax incentives.
(<http://www.esdinstitute.net/greenzone/index.htm>)
- **Blue Economic Development:** ESDI convened a Clean Water Steering Committee to build a policy consensus around the effective and sustainable use of water as key to Michigan's future job growth; ESDI volunteer engineers, working with the City of Detroit DSWD, developed a plan to correct long-term problems in the State's largest water and sewage system, independent of huge new infusions of public funding.
(<http://www.esdinstitute.net/water/index.htm>)
- **Right Sizing Local Government:** City and Township officials and residents in Davison Michigan adopted ESDI and its Partner's recommendations on leveling the millage, consolidating services, controlling legacy costs, marketing strategies and job training programs, that can serve as models for other municipalities.
(<http://www.esdinstitute.net/davison/index.htm>)
- **Future Detroit:** ESDI convened its first ever "youth symposium" gathering 107 Detroit middle school students and asking them to envision "Future Detroit." The symposium not only brought students together for a common goal, but unified leaders from the Detroit City Council, the Detroit School Board and the Mayor's Office, as



they all stood behind and supported this initiative to give young students a voice and a stake in their futures. (<http://esdinstitute.net/futuredetroit/index.htm>)

Participation in the symposium is by invitation only and is usually limited to 70 attendees. We are in the process of gathering a listing of potential invitees of differing minds and interests to engage in meaningful and creative problem solving.

This Abstract has been prepared as an informational piece. It is intended to start the process and not to limit it in any way. Our goal is to report new and achievable ideas that can be implemented to benefit all. The Construction Productivity Symposium would be conducted in accordance with the process and peer review procedures of the ESD Institute. More regarding the Institute is available at its website www.esdinstitute.net.

If you have any questions concerning our Construction Productivity Symposium, please do not hesitate to contact us at the Institute. We thank you for your consideration in expressing an interest to join us.

Respectfully submitted,

THE ENGINEERING SOCIETY OF DETROIT INSTITUTE