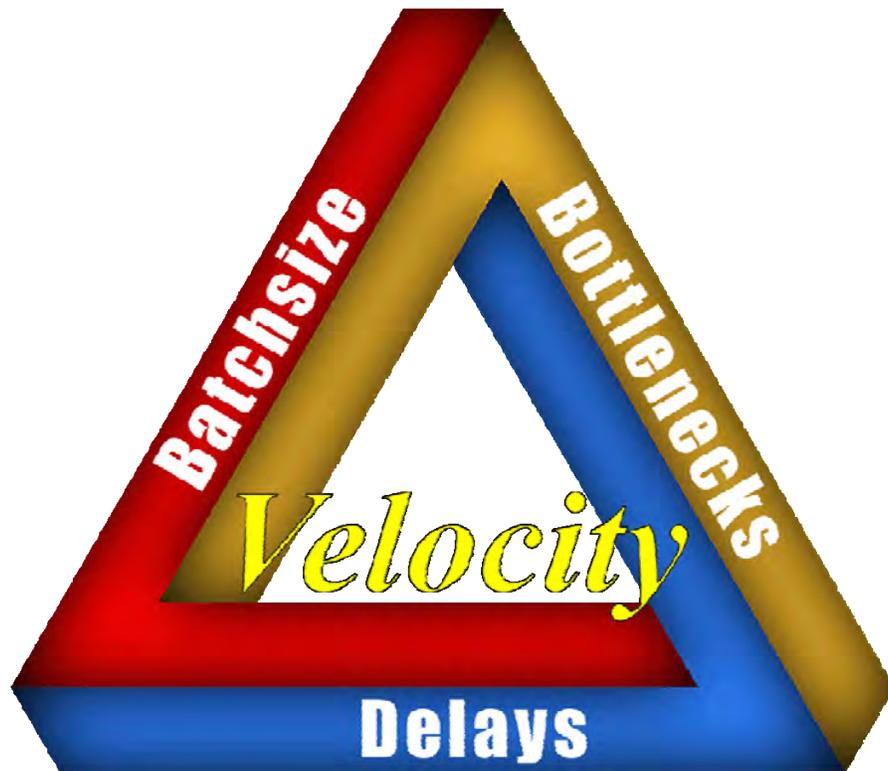


LEAN TRIANGLE — *Triple Constraints*



$$\textit{Velocity} = \textit{Batchsize} \times \textit{Bottlenecks} \times \textit{Delays}$$

Velocity slows as a process reaches its capacity • You can run faster with a lighter load, even though you can carry a heavy load • That is, you can get through the airport faster hands free (*although you have the capacity to carry, pull, or push many large items of heavy luggage*) • If there are many stage gates (TSA checkpoints), congestion, long lines, security incidents, people standing in the hallways, construction, slow moving people, and other DELAYS, that can also slow velocity, cycle time, and lead times (*in spite of your load*) • That's why you never want to load a process or team to maximum capacity (*or institute many delays, stage gates, or deliverables*) • When a highway is at full capacity it comes to a complete stop (*parking lot*) • Flashing lights like neon Amber alerts, construction warning signs, red lines on Google maps, a cop with flashing lights but no one pulled over, a person with emergency flashers, turns in the road, hills, bad weather, or other blind spots will also slow traffic • When the highway is at low capacity (*7 am on a Saturday or Sunday morning*) the cars speed along at a very high-velocity • Never load a person to full-capacity or utilization • Batchsize also plays a role • Large batchsizes, deliverables, or tasks have the effect of full utilization or capacity (*a double wide trailer, military convoy, or Space Shuttle being hauled to a museum going 25 MPH on the highway*) • A person can do many smaller administrative tasks at faster velocity (*however, too many administrative tasks have the effect of a large batchsize*) • If you do your wash in two loads (*colors on Saturday and whites on Sunday*), it divides batchsize into two pieces and speeds up velocity • Your velocity would be even faster if you do your wash in four smaller loads over the week • Some people do their wash daily • Of course, smaller batchsizes like this increase cost and larger batchsizes also increase cost • It will FREEZE your queue or increase it to infinity (*if you do your wash in one massive batch on a Sunday*) • So, there is a *sweet spot, goldilocks zone, strike zone, center of percussion, harmonic zone, optimal point, or golden triangle* (between small and large batchsizes, bottlenecks, and delays) • Maybe, that's the *New Flexible Triangle* of *Batchsize, Bottlenecks, and Delays* for Lean-Agile Thinking vs. the *Traditional Iron Triangle* of *Scope, Time, and Cost* (*falsely believed to increase economic predictability*) ...