

October 4 2014

EMPOWERING EDUCATIONAL TRANSFORMATION with LEAN

CEFPI Annual Conference in Portland

#cefpi2014

#cefpi2014Lean

@group2arch





Workshop Agenda

Pre game

- Introduction to Lean

First Half

- Workshop Part 1

Half time

- Putting it together

Second Half

- Workshop Exercise

Post game

- Team report outs
- Plus / Delta



Pre Game: Presenters

Craig Webber

- **REFP and Architect**
 - **Principal of Group2 Architecture Interior Design**
 - **Educational Leader on SK School Bundle**
- @CraigWebberArch**

Laura Plosz

- **Architect**
 - **Principal of Group2 Architecture Interior Design**
 - **Team Leader on SK School Bundle**
- @Lplosz**



Pre Game: Experts

Student

- **Cole Webber, CEFPI Award Winner**

Gov't of SK Ministry of Education

- **Phil Pearson, Project Director, SK School Bundle**
- **Delaine Clyne, Project Leader, SK School Bundle**

School Divisions

- **Greater Saskatoon Catholic School Division**
- **Prairie Spirit School Division**
- **Regina Catholic School Division**
- **Regina Public School Division**
- **Saskatoon Public School Division**



Pre Game: Objectives

To Learn About:

- **processes for improving educational delivery**
- **processes for gathering input from stakeholders**
- **processes for improving educational facility design**
- **how the Lean 3P process can fit within P3 procurement process**



Pre Game: Lean

History

- **Toyota Production System**
- **Healthcare**

Concepts

- **Lean 3P – Production Preparation Process**
- **The Student as The Customer**
- **Student First**
- **Focus on Value Added**
- **Eliminate Waste**



Pre Game: Lean

Exercises

- Value Stream Mapping
- Fishboning
- Paper dolling
- Try storming
- 7 Ways
- Choose by Advantage



Pre Game: SK School Bundle

By the Numbers

18

9

5

3

2

1

39 | P3

39 | P3

Challenge & Opportunity



Lean Value Stream Mapping

- *Defines* how to measure success

Lean 3P

- Production Preparation Process
- *Describes* the facility characteristics required for success

P3 Documentation

- Public Private Partnership
- *Prescribes* the characteristics required for success
- Encourages *innovation* by the Proponents

Schedule

- timeline aggressive to achieve shovels in the ground
- requires stakeholder commitment and buy-in

Community & Other Partner Participation

- opportunities to enhance outcomes
- need to be identified quickly

Student Engagement

- focusing on the Student as the Customer
- appropriately engaging



First Half: Workshop Part 1

Group A

- **Value Stream Mapping**
- **teams of 4**

Group B

- **7 Ways Shell Development**
- **teams of 4**

Group C

- **7 Ways Interior Development**
- **teams of 4**



First Half: Workshop Part 1

Group A – Value Stream Mapping

- **Identify process with steps and times**
- **Current State**
- **Value Added**
- **Non Value Added**



First Half: Workshop Part 1

Group A – Value Stream Mapping

- **Objective: engage stakeholders to improve the physical learning and teaching environment**
- **3 Strategies:**
 1. **Remove barriers to advancements in instruction and learning**
 2. **Improve student access to range of programs to improve learning outcomes and enhance student engagement**
 3. **Improve efficiency of physical design to reduce non-learning/non-instructional time**



First Half: Workshop Part 1

Group A – Value Stream Mapping

- **Outcomes:**
 - **Improved access to resources**
 - **Improved relationships**
 - **Improved relevance of learning**
 - **Reduce low value tasks**

What do you want me to do NOW?"

Alice Smoot
Jenn Orsak
Bonnie Dueck
Beth Vachon
(Gord Harris)

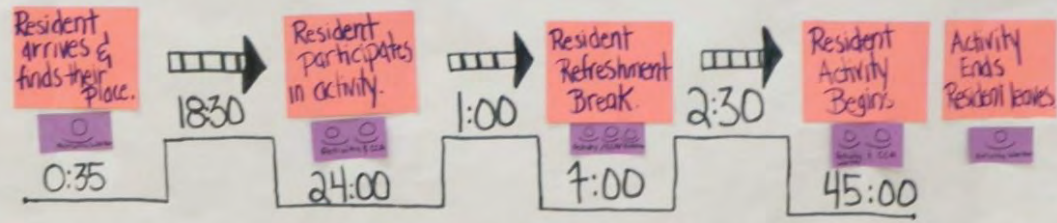
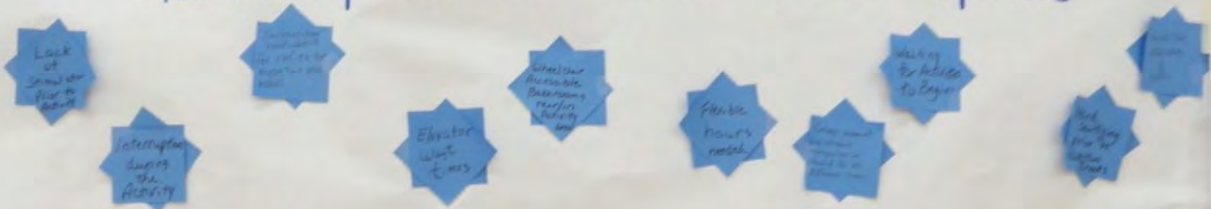
Activities

Activities: Current State Map Measures captured from resident arrival to departure

Report out: June 14/1

Process

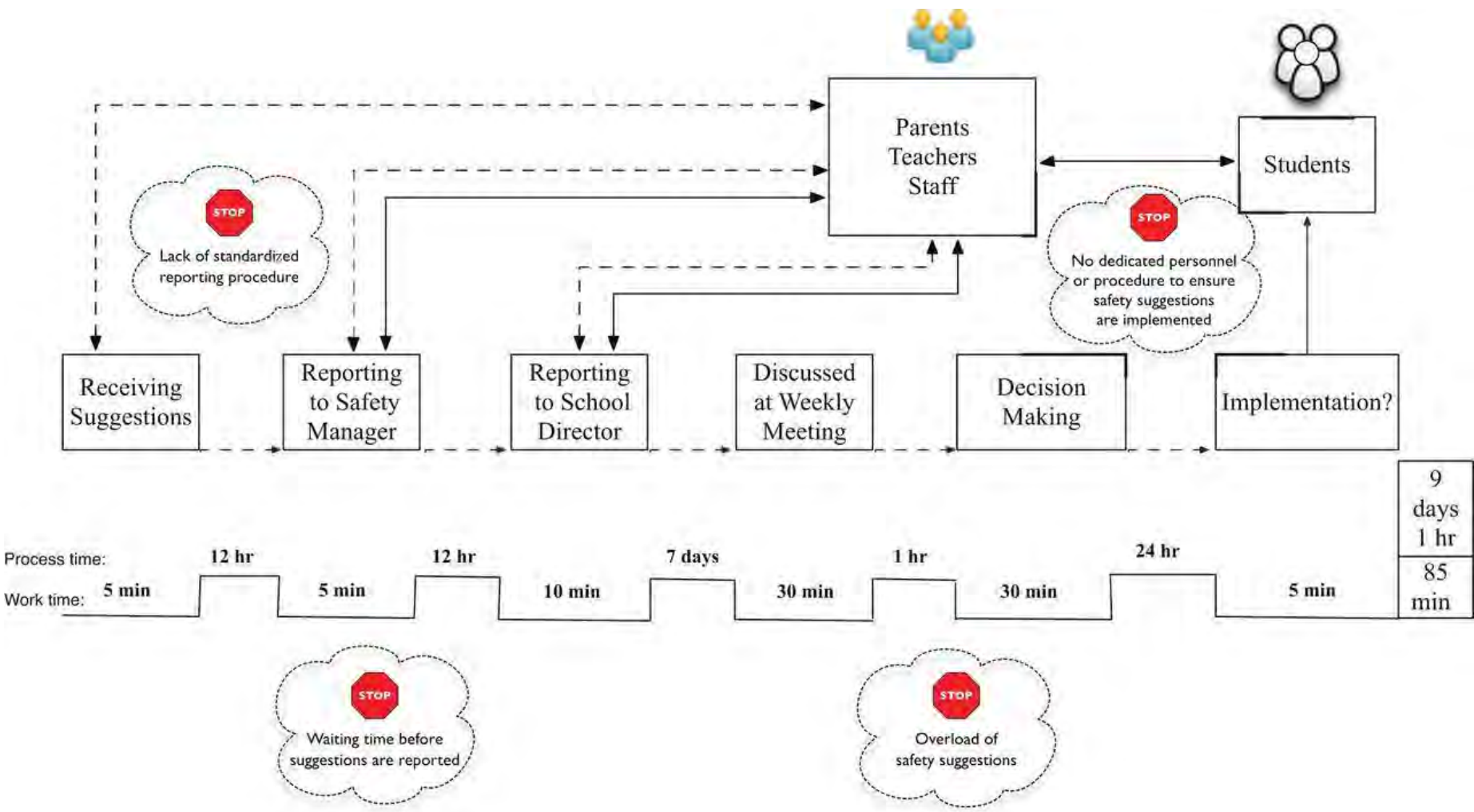
- Resident arrives
- Resident sits in chair
- Resident waits
- Activity begins
- Resident goes to bathroom
- Resident returns to chair
- Resident participates in activity
- Resident returns to chair
- Resident waits for another turn
- Resident sits up in chair
- Resident waits
- Resident leaves



98:35

VA = 76:35 L/T = 98:35
NVA = 22:00 CIT = 76:35
VA% = 78%
NVA% = 22%

Examples of Facility Relationship with Value Streams





First Half: Workshop Part 1

Group B – 7 Ways Shell Development

- **7 ways to solve 1 problem**
- **Provided first 3 solutions**
- **Develop 4 more**



First Half: Workshop Part 1

Group C – 7 Ways Interior Concept

- **7 ways to solve 1 problem**
- **Provided first 3 solutions**
- **Develop 4 more**
- **Fit within 'Shell'**





First Half: Workshop Part 1

Get started

- **Go to your Group's area**
- **Find your teammates (colour & number)**
- **Get supplies from Group Leader**
- **Grab a table**
- **Reference examples as needed**
- **30 min**



Half Time:

Group Insight

- Common issues/understandings

Connections

- Results from other processes
- Relating the exercises

Next Steps

- Group A – Future State
- Group B – Choose by Advantage & Quality Metrics
- Group C – Choose by Advantage & Quality Metrics



Half Time:

Group A – Value Stream Mapping

- **Video from SK School Bundle**

Examples of Value Streams



Dan Florizone
([@dandeputy](#))

[12/29/2013, 8:40 PM](#)

As a parent, value is measured by the time my children have with their teacher.
Anything that detracts is waste - and should be eliminated.







Second Half: Workshop Part 2

Group A

- **Future State**
- **Tally times**
- **Identify facility impacts**
- **Prep for Report Out**

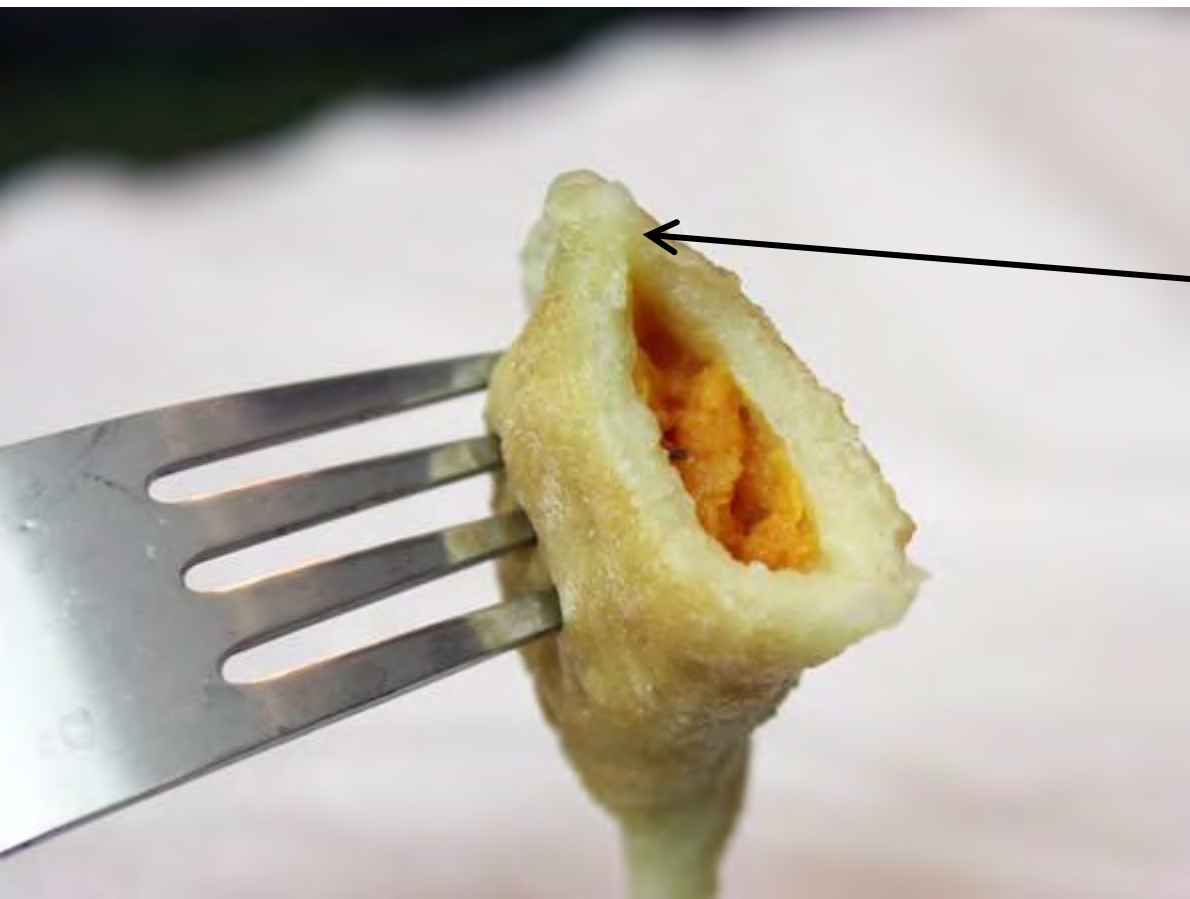


Second Half: Workshop Part 2

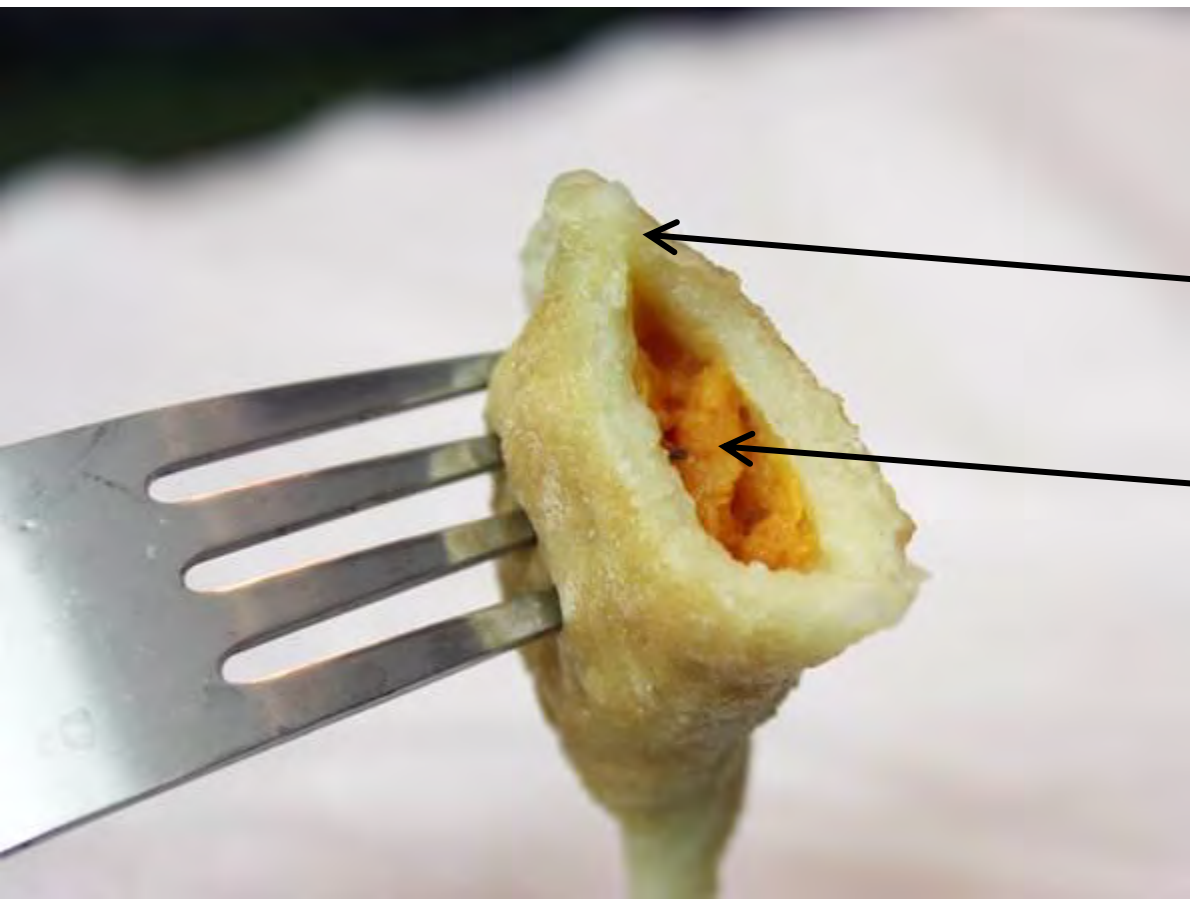
Group B – 7 Ways Shell Development

- **Video**





7 Ways



7 Ways

3P



Setting Parameters

- More than blue sky
- Bound by cost
- Bound by area and/or
- Bound timeframe
- Two-way purpose



WAY 1 - STEALTH BOMBER



WAY 2 - BIG BOX



WAY 3 - POD



WAY 4 - WRAPPER

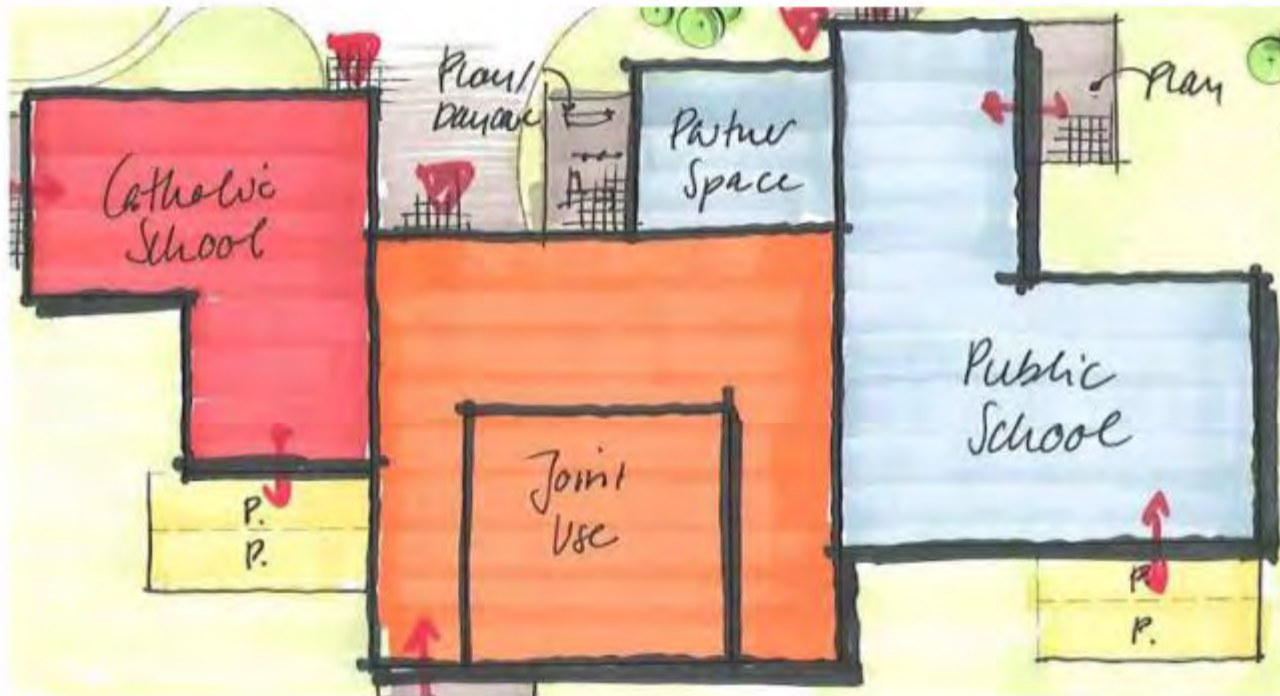


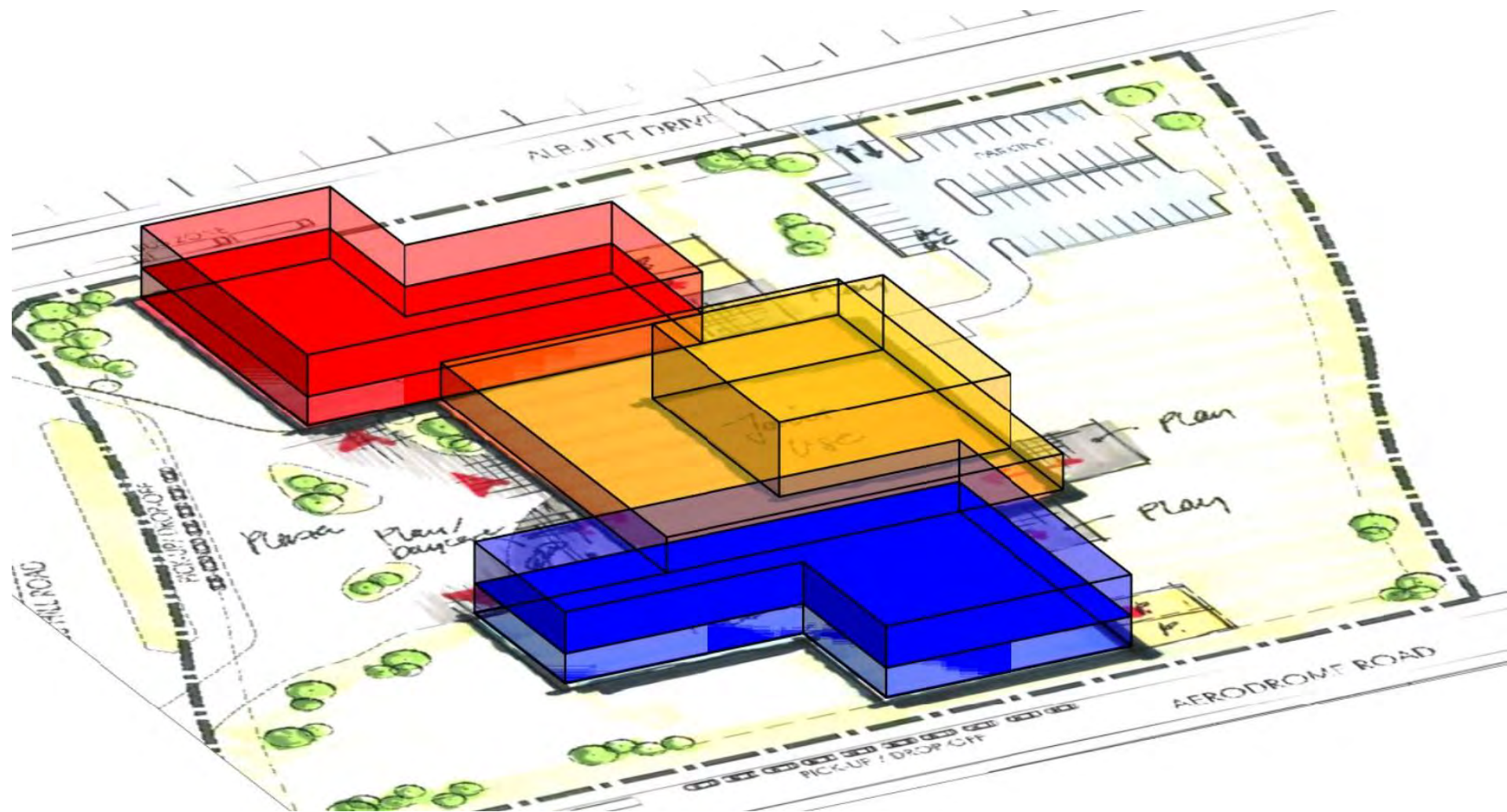
WAY 5 - THREE STOREY



WAY 6 - TWIST TIE

WAY 7 - TETRIS





7 Tetris Massing

Way 6 Twist-tie - Advantages

- Linear distribution allows for future evolution
- Interconnection allows for enhanced sharing potential (sectional and zoned)
- Grouping by age internal and external
- Maximize use of shared functions
- Responsive to changing divisional distribution
- Exterior micro climates
- 2 schools vs 3 areas



Half Time:

Group C – 7 Ways Interior Concept

- Video



Second Half: Workshop Part 2

Choosing by Advantage

- **List the advantages of each 'Way'**
- **Develop list of criteria (4-6)**
- **Rate each 'Way'**



Second Half: Workshop Part 2

Choosing by Advantage - Example

- **Buying a bike**
- **Set criteria**
- **List advantages of each 'Way'**



Second Half: Workshop Part 2

Groups B & C – Next Steps

- **Choose by Advantage**
- **Develop criteria with group**
- **Rank each ‘way’**
- **Choose the best**
- **Develop Quality Metrics**
- **Prepare for report out**



Second Half: Workshop Part 2

Back to it

- **Go to your Group's area**
- **Get additional supplies (if needed)**
- **Reference examples as needed**
- **Prep for report out**
- **40 min**



Post Game

Group Report Outs

- A, B & C

Putting it together

- Lean 3P
- 30 & 60 Day Reviews

Using the Outputs

- Quality Metrics

Plus / Delta



Post Game: Group Report Outs

Process

Outcomes

Learnings



Post Game: Putting it Together

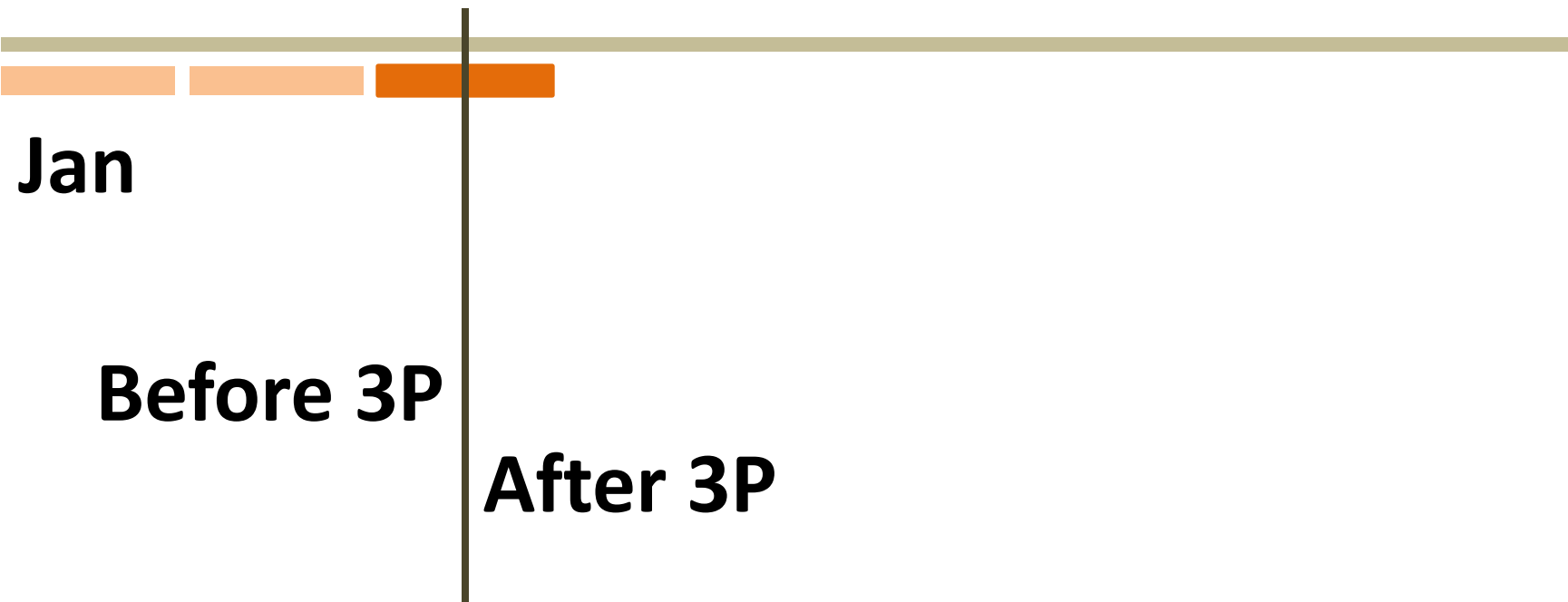
Lean 3P

- **Value Stream Mapping**
- **7 Ways Shell Development**
- **Fishboning**
- **7 Ways Interior Concept**
- **Scale models**
- **Full scale mock ups**

Mar







Jan

Before 3P

After 3P



Jan

Before 3P

- Site Investigations
- Partnering Workshop
- Value Stream Mapping
- Student, Teacher, & Parent Interviews
- 7 Ways Workshop - Shell

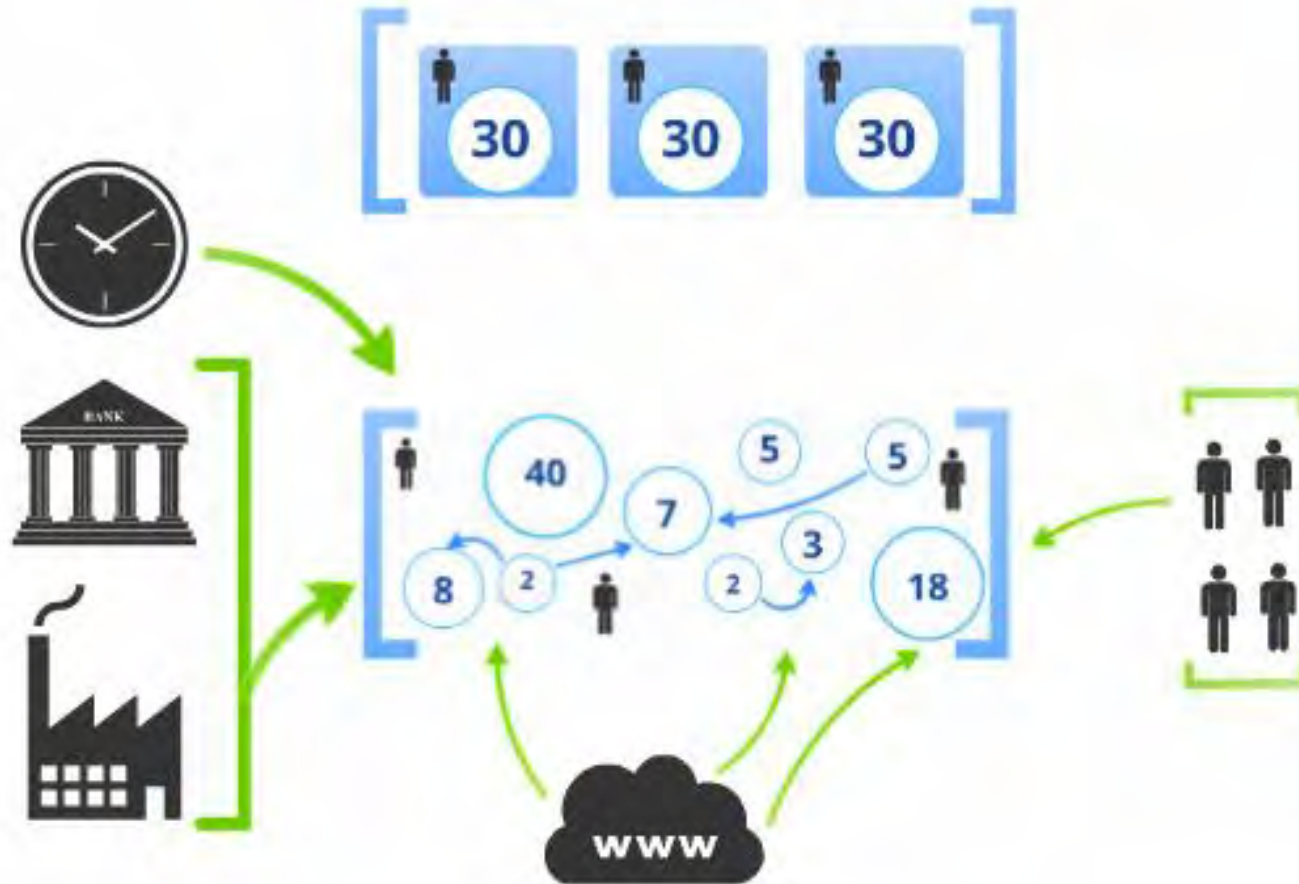
Jan

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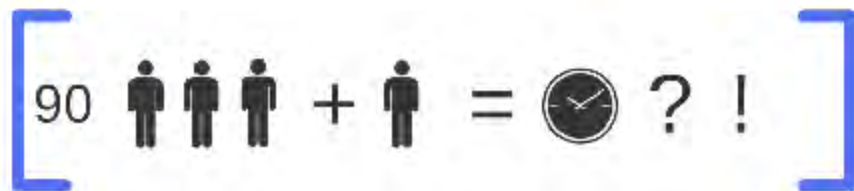
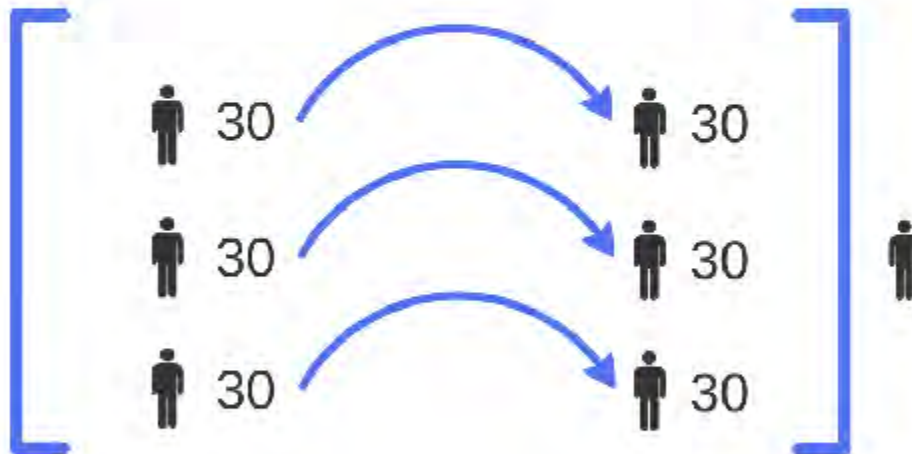
Examples of Facility Relationship with Value Streams



Examples of Facility Relationship with Value Streams

[http://www.youtube.com/watch?v=9aGuLuipT
wg&feature=player_detailpage](http://www.youtube.com/watch?v=9aGuLuipT
wg&feature=player_detailpage)

Examples of Facility Relationship with Value Streams



The Participants

Up to 100 participants for the Lean 3P event:

- require a broad cross section of perspectives
- require a majority of 'front line' voices (students, teachers)
- need ability to commit to full participation
- **MUST** commit to all 5 days





Lean 3P Process



Model B

Main Level



Model B

Second Level





30 Day Review



30 Day Review





Post Game: Using the Outputs

Quality Metrics

- **Yard stick for design evolution**

30 & 60 Day Reviews

- **Consistent Voice**
- **Evaluating design progression**

P3 Procurement

- **Scored Elements**

3P Lean Quality Metrics

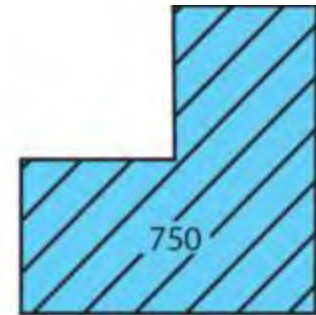
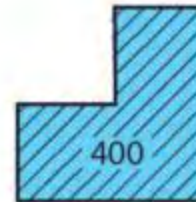
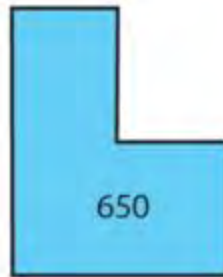
- **Based on input gathered from:**
 - **Partnering Session**
 - **Student, Parent and Teacher Interviews**
 - **Lean 3P Best Educational System**
 - **Lean 3P Preliminary Report Out & Discussion**
- **Common Themes, Ranked**
 - **Compiles commonalities**
 - **Indicates sources and (some) weightings**
 - **Review sheet**

Lean 3P Process

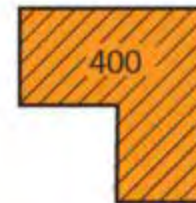
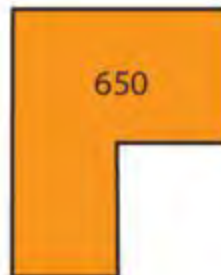
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Kit of Parts

MORE
TRADITIONAL



LESS
TRADITIONAL

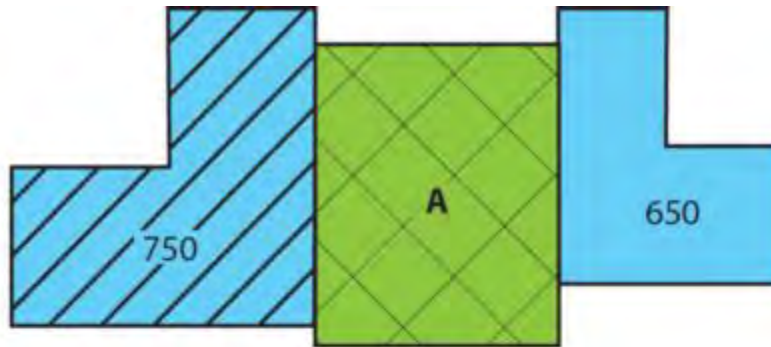


JOINT USE

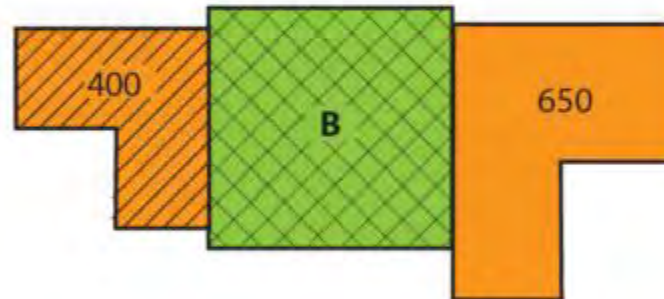


Kit of Parts

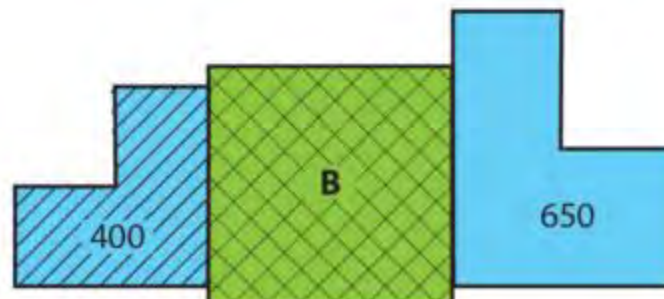
MODEL **A**
<SASKATOON>



MODEL **B**
<REGINA>



MODEL **B**
<MARTENSVILLE>
<WARMAN>



The 30 Day Review

Two Tasks:

1. Were any major themes missed?
2. Do the architectural layouts respond to the metrics?

The 30 Day Review

Step 1: Review of the common themes

Step 2: Review of the architectural layouts
in relation to metrics

Step 3: Group discussion over large scale
layouts

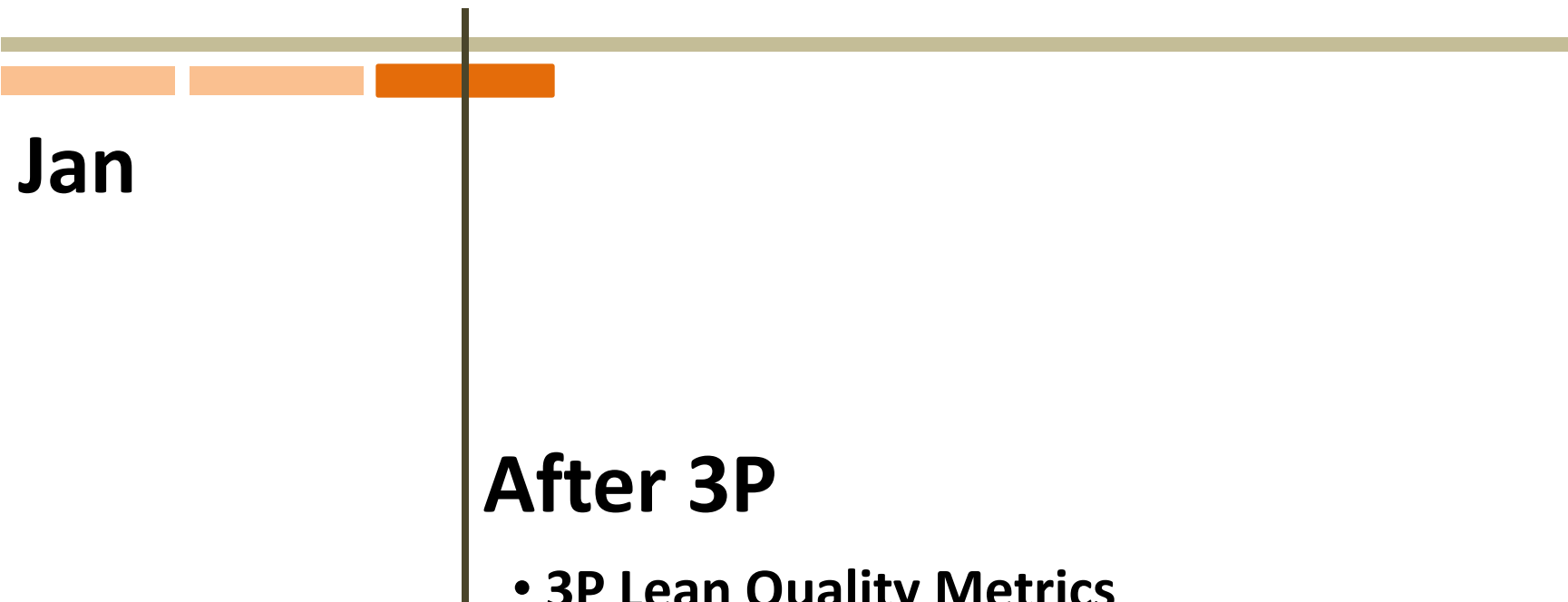
Step 4: Feedback from the groups

30 Day Review



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STANDARD SCHOOL DESIGN - 2nd FLOOR PLAN
APRIL 8 2014



Jan

After 3P

- **3P Lean Quality Metrics**
- **Evolution: Standard Design to Kit of Parts**
- **3P Lean Architectural Layouts**
- **3P Lean 30 Day Review**



Apr - May

- **Phase 1 Report**
- **Modify 'Standard' School Designs for:**
 - **Sites**
 - **Pedagogy/Programs**
- **Develop documents describing each joint use school**
- **Phase 2 Report**



June – Sep

- **Develop documents for procurement of:**
 - **full design services (Design)**
 - **construction (Build)**
 - **financing (Finance)**
 - **maintenance (Maintain)**

- 
- **Develop documents for procurement of:**
 - **full design services (Design)**
 - **construction (Build)**
 - **financing (Finance)**
 - **maintenance (Maintain)**

Construction Start Summer 2015
Open Fall 2017

Examples of Value Streams



Dan Florizone
([@dandeputy](#))

[1/9/2014, 8:32 PM](#)

[@rubrecht73](#) We should never allow a person/student be seen only as a number/statistic. Every child by name, by strength, and by need.



Post Game: Plus/Delta

What was useful/interesting?

What could be improved?

Video links can be found at
group2.ca

