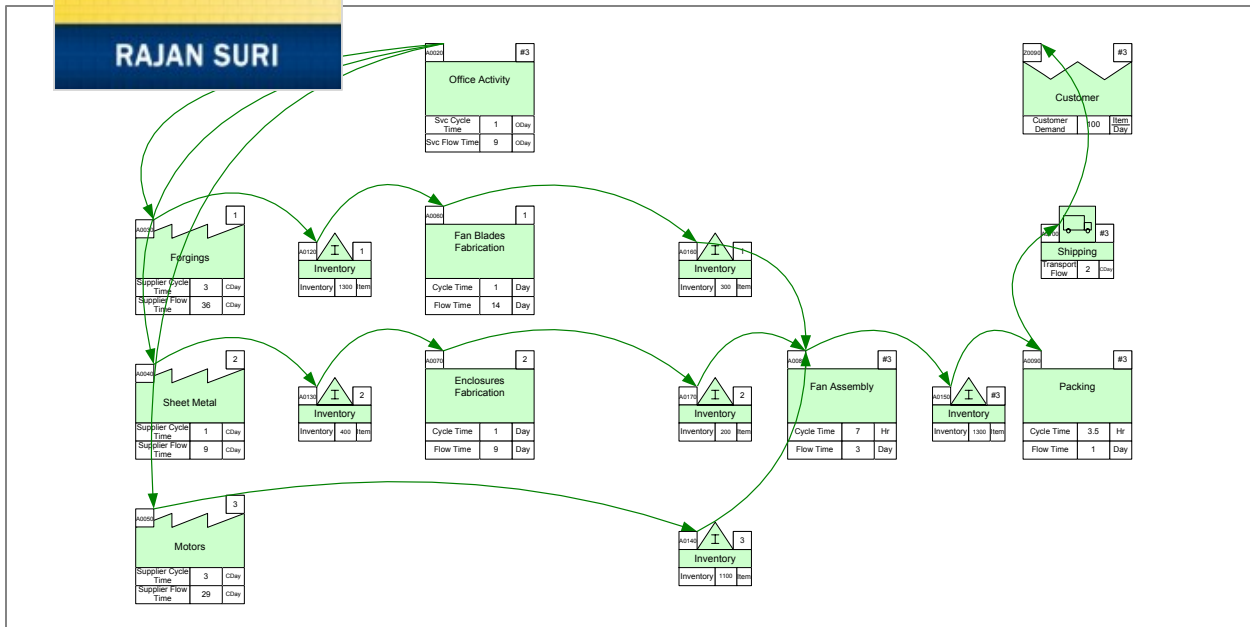


Quick MCT Tutorial

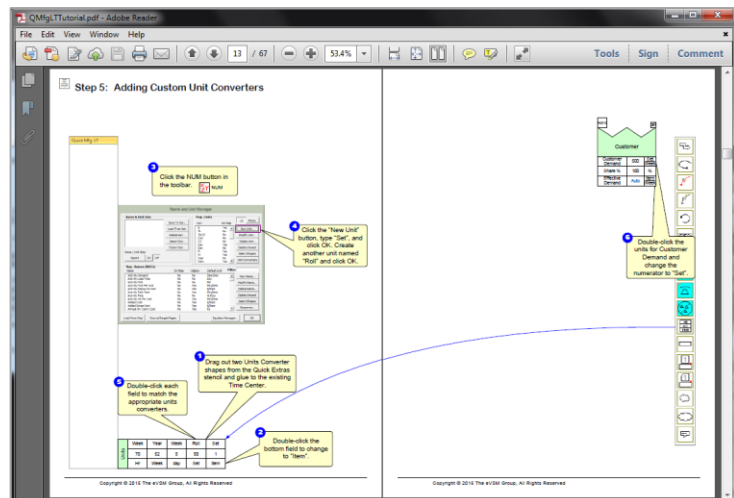
This tutorial will guide you through the steps to draw a simple map, perform common calculations, and plot charts using the Quick MCT stencil. Example adapted from the “MCT Quick Reference Guide” by Rajan Suri.



Viewing/printing eVSM Tutorial:

This tutorial is designed for two page layout. If printing, you will need double-sided print.

For on-screen viewing, save the PDF file to your PC and then open it in Acrobat Reader (not in a web browser). In the Acrobat menus, click “View>Page Display”, and make sure “Two Page View” and “Show Cover Page in Two Page View” are checked.



Step 1: Start eVSM

1 On your Desktop, double-click the “Start eVSM” icon.

2 If you see a message like this, you must “Enable” macros.

3 Click to enable macros.

4 Click “Trust all from publisher” to avoid the security notice in future.

Recycle Bin

Start eVSM

Microsoft Visio Security Notice

Microsoft Office has identified a potential security concern.

Note: The digital signature is valid, but the signature is from a publisher whom you have not yet chosen to trust.

File Path: C:\Program Files\eVSM\Setup\Solutions\eVSMIcons.vss

Macros have been disabled. Macros might contain viruses or other security hazards. Do not enable this content unless you trust the source of this file.


[More information](#)

[Show Signature Details](#)

Trust all from publisher Enable Macros Disable Macros

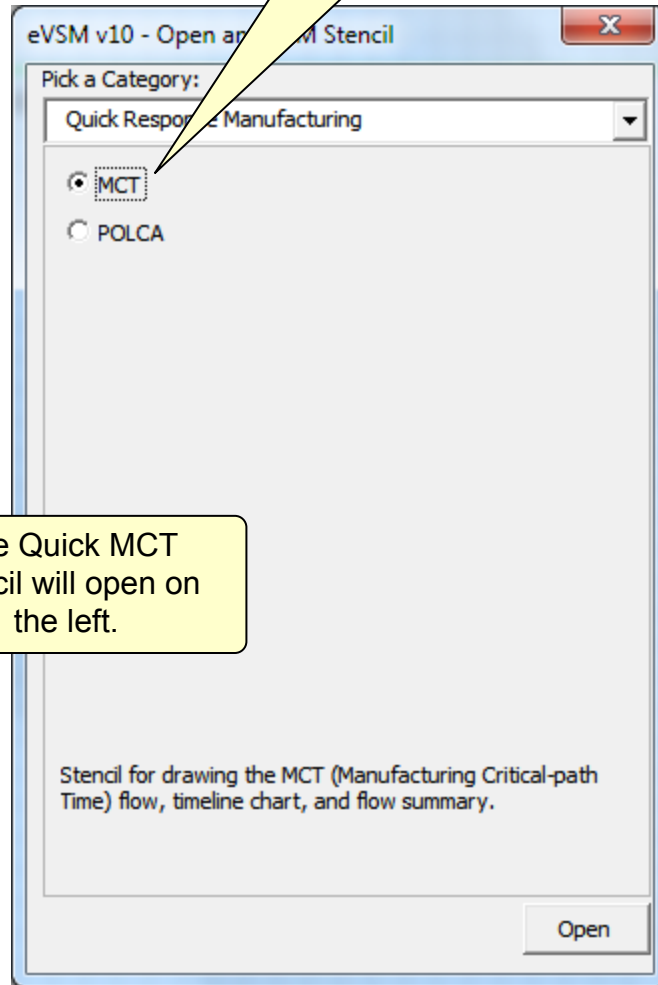
This area intentionally left blank

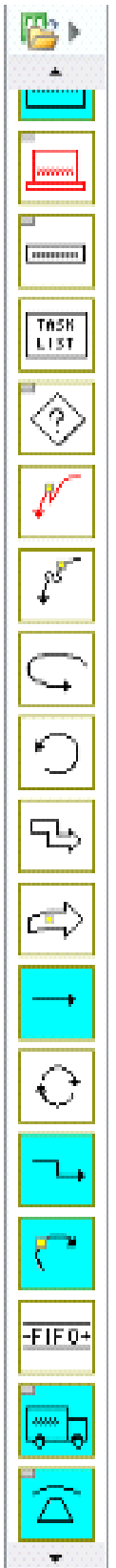
Step 2: Open the Quick MCT Stencil

1 Click the Open button in the eVSM toolbar if the form does not appear.  Open

2 Select MCT, and click Open.

3 The Quick MCT stencil will open on the left.



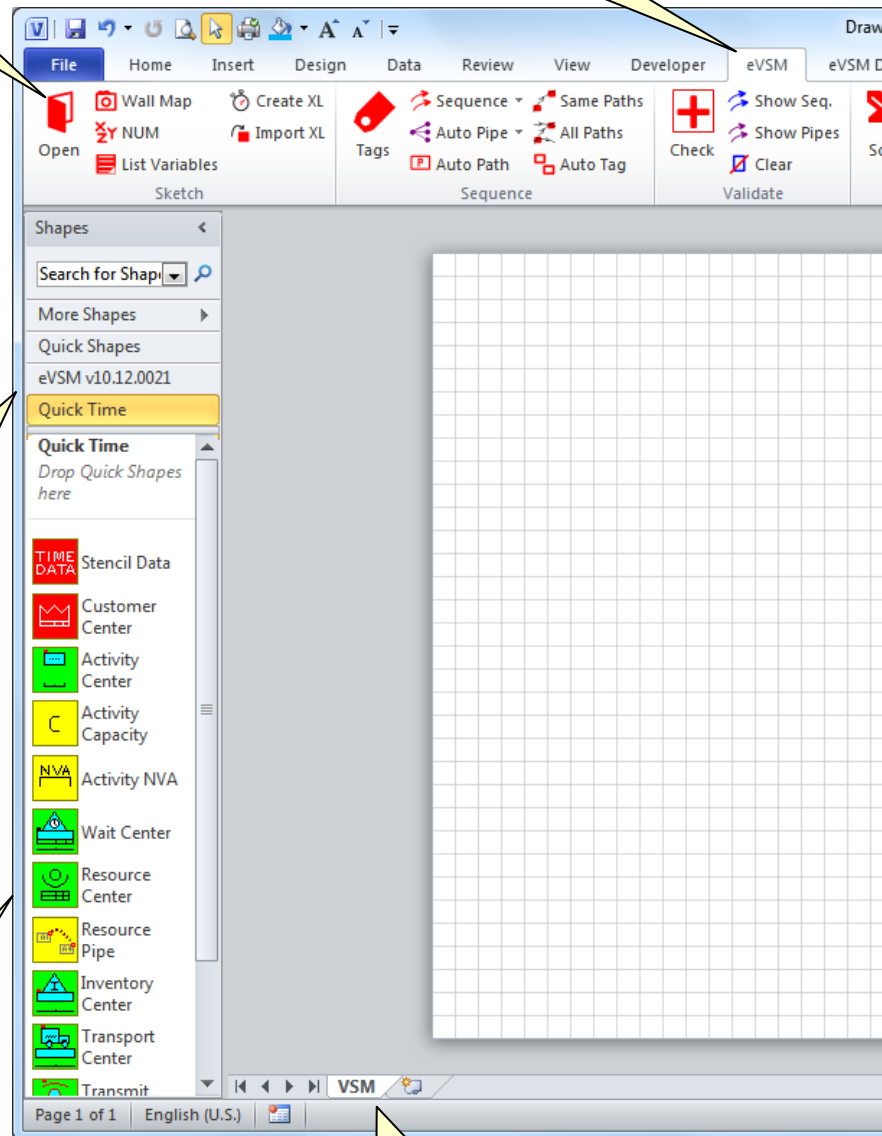


Step 3: Explore the eVSM Environment

A new map is initiated by selecting your application area from the "Open" button. Only the stencils required for your selected application area will open on the left side.

eVSM adds this toolbar to Visio as well as the stencils on the left and right. If the eVSM toolbar disconnects, click File>Save As and save the file, close the file, then re-open it. This tip can be used for other crashes in eVSM.

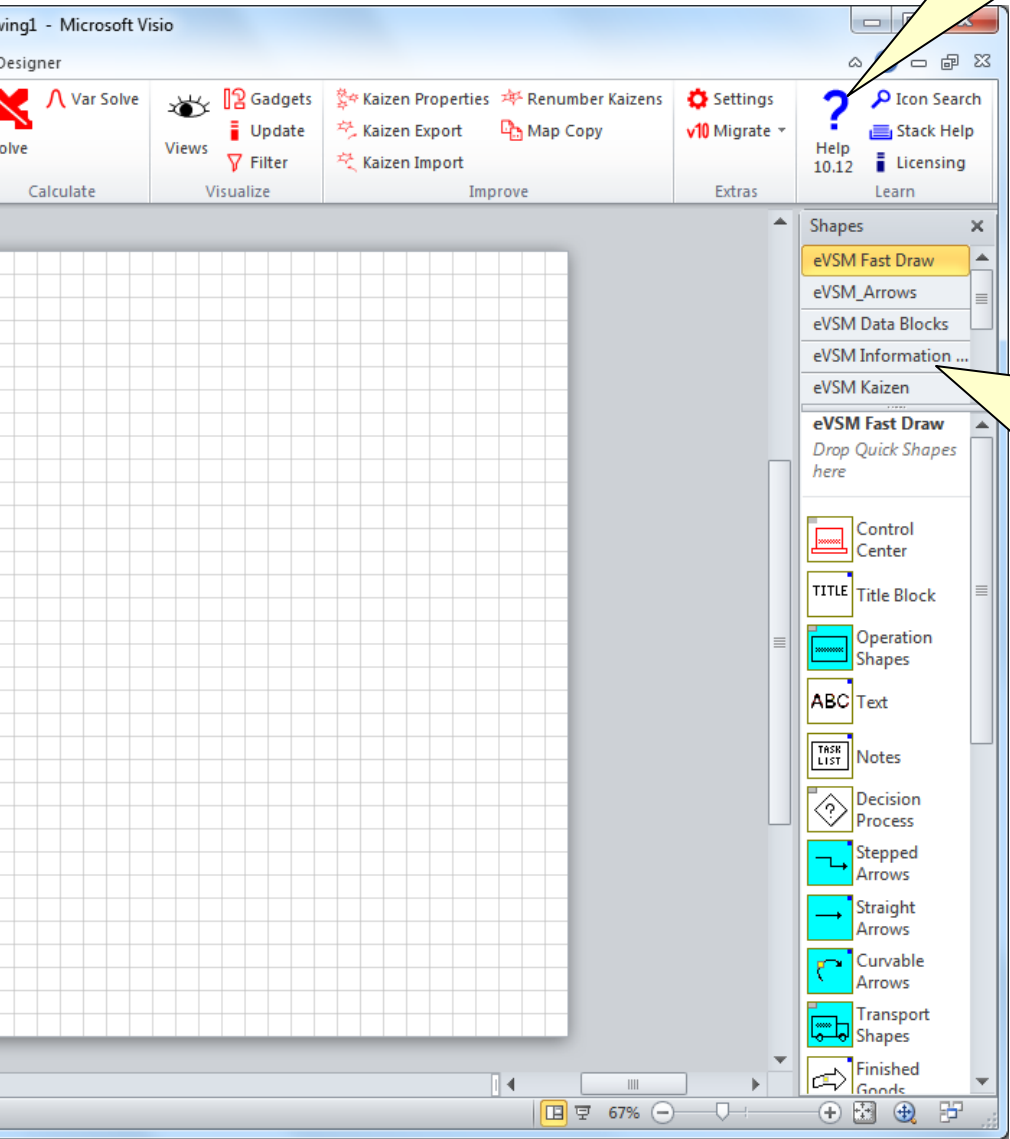
The left hand side has the Quick eVSM stencils which are optimized for specific application areas such as manufacturing vs office vs healthcare.



The Quick stencils contain macro shapes which are often collections of individual eVSM shapes with pre-built names, units, equations, and other properties.

A Visio file can have multiple pages which are accessed with these tabs. Each page gets locked to a chosen eVSM application and then not be used for other applications.

Hover over each button in the eVSM Toolbar to learn what it does. Detailed help and tutorials are available at the eVSM help site which can be accessed via this button.



The stencils on the right contain individual base eVSM icons. These are organized into separate stencils (arrows, data, etc.) to make it easier to find shapes.

Step 4: Learn Visio Basics

Quick MCT

1

Avoid re-sizing eVSM shapes. Instead grow the drawing page when needed. To resize the page, hold down the "Ctrl" key, and then drag any page edge to the required size. This method works on all four edges of the page.

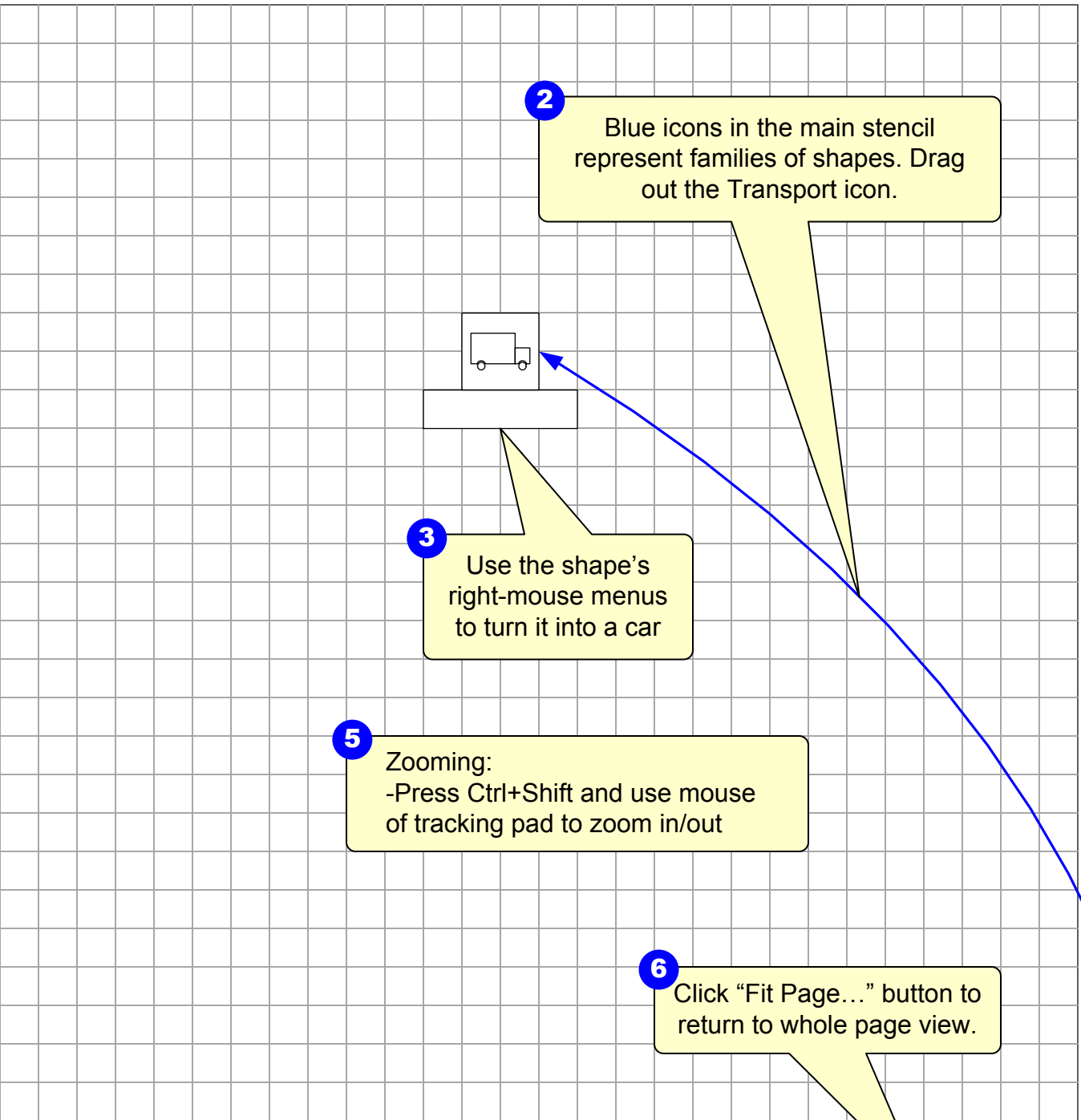


4

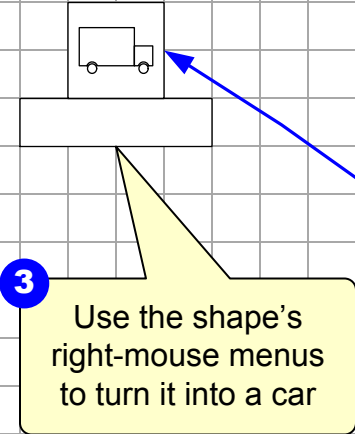
Save your Visio file and then insert a new page via the right-mouse menus on the page-tabs.

VSM

Quick_eVSM



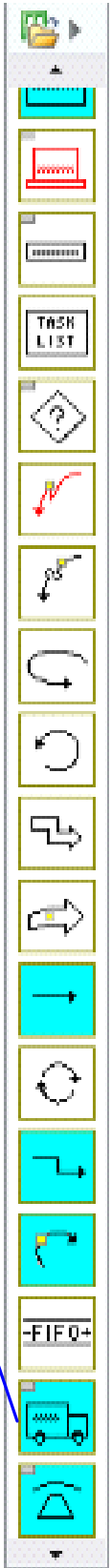
2 Blue icons in the main stencil represent families of shapes. Drag out the Transport icon.



3 Use the shape's right-mouse menus to turn it into a car

5 Zooming:
-Press Ctrl+Shift and use mouse of tracking pad to zoom in/out

6 Click "Fit Page..." button to return to whole page view.



Step 5: Initiate the map for Quick MCT

Quick MCT

MCT Data

MCT Time Center

1 Drag out the two red icons first. This is very important!

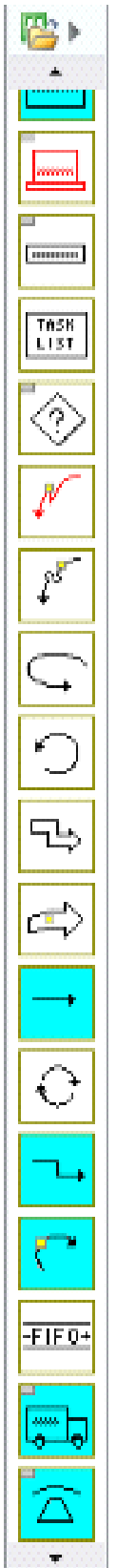
2 The Time Center allows you to specify the work hours.

- ODay, OHr, OMin are all units of Office time
- Day, Hr, Min are all units of Production time (used for manufacturing centers)

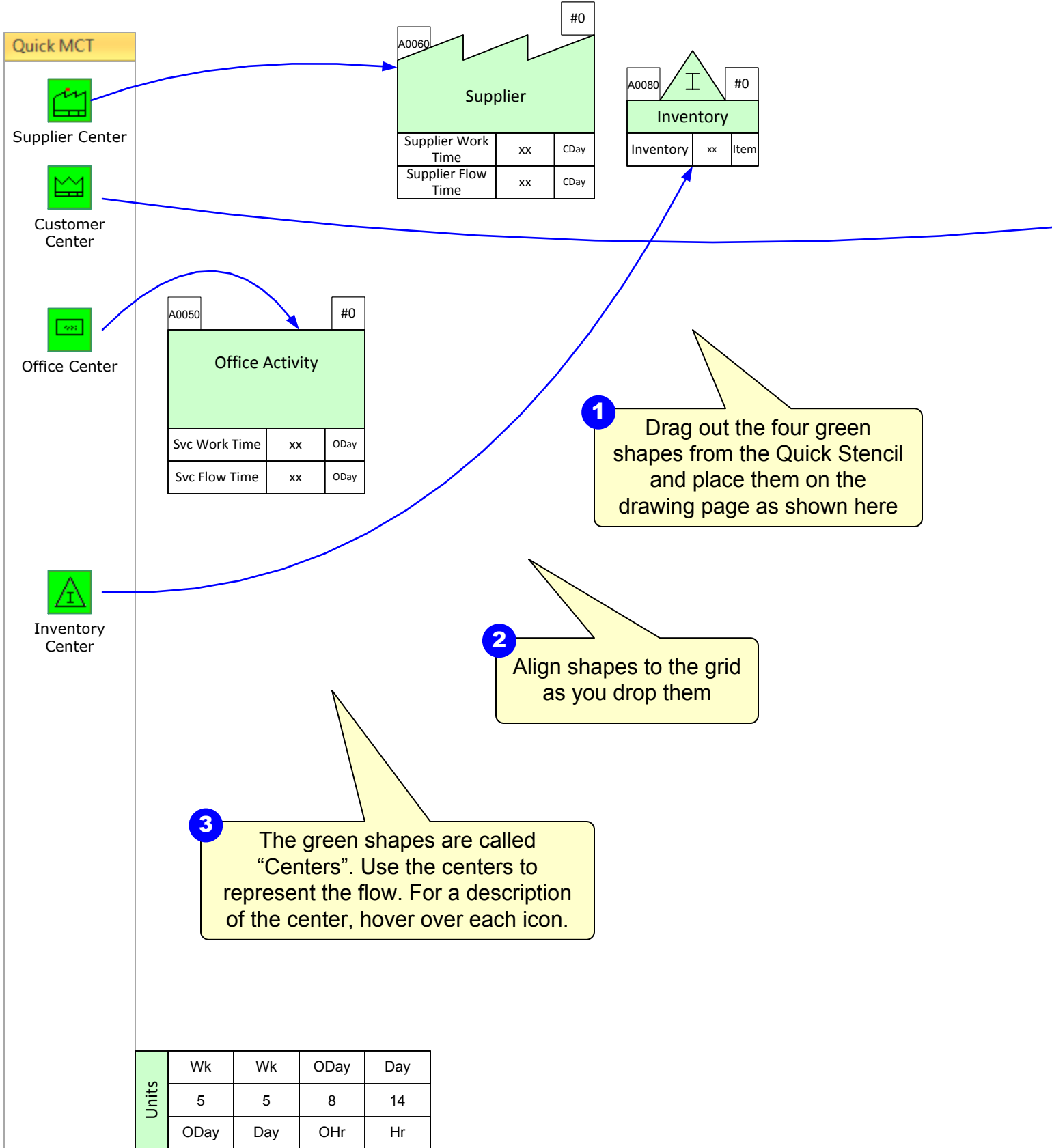
3 This converter means "A week has 5 office days".

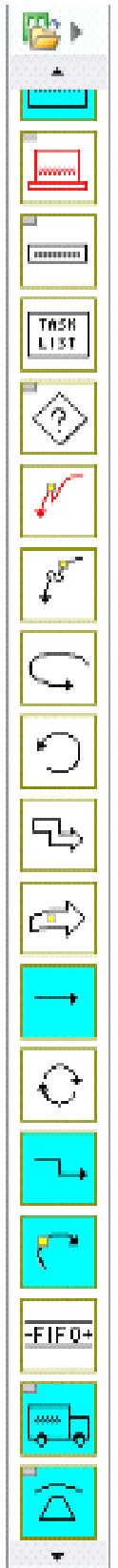
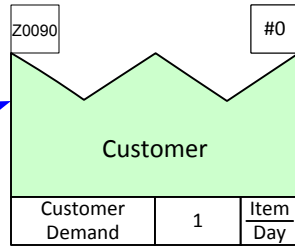
4 The "Wk" connects the different types of time (office time, production time, calendar time). The calendar time unit converters are implicit such that a Wk has 7 Cdays, each of which has 24 CHrs.

Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	OHr	Hr










Step 6: Start Drawing the Flow



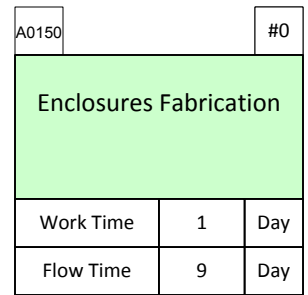
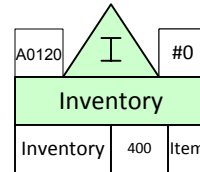
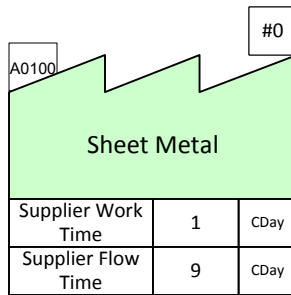
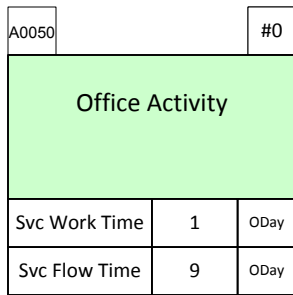
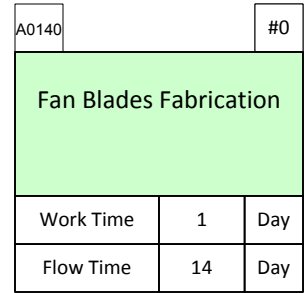
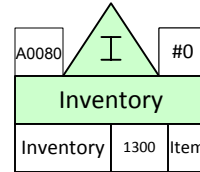
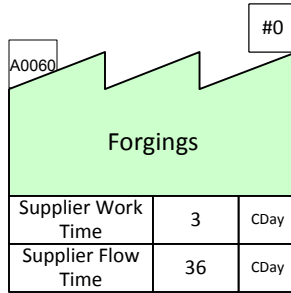


Step 7: Complete Drawing the Flow

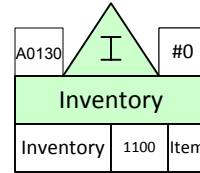
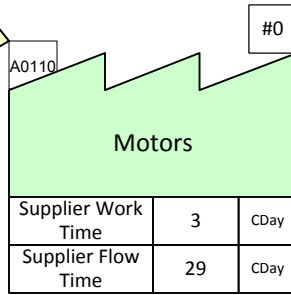
Quick MCT

-  Customer Center
-  Office Center
-  Supplier Center
-  Mfg Center
-  Inventory Center
-  Wait Center
-  Transport Center

Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr



4 Do not worry about matching these Operation Tag numbers. They will get regenerated automatically later

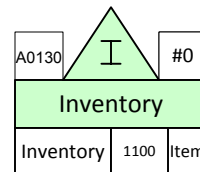
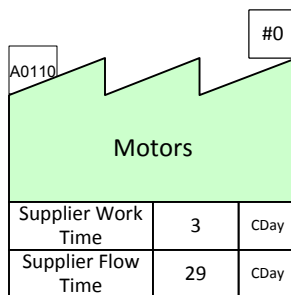
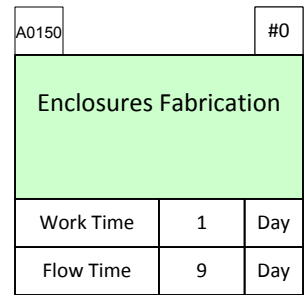
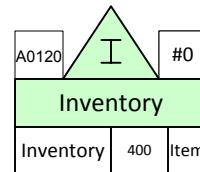
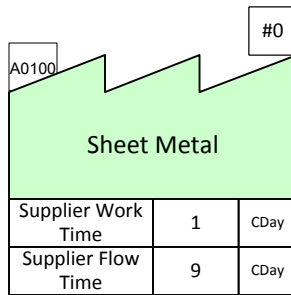
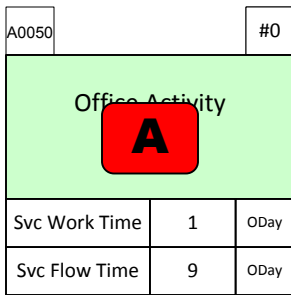
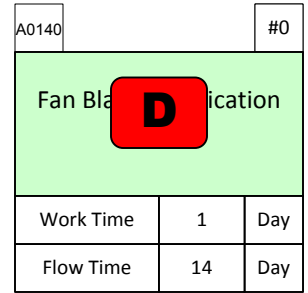
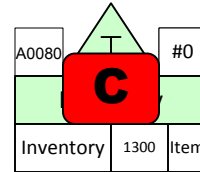
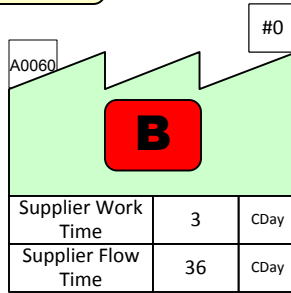


Step 8: Specify the Flow Sequence

1

Sequence arrows are needed for upstream and downstream calculations. To add them, hold down the SHIFT key and select the green shapes in the order shown here.

Quick



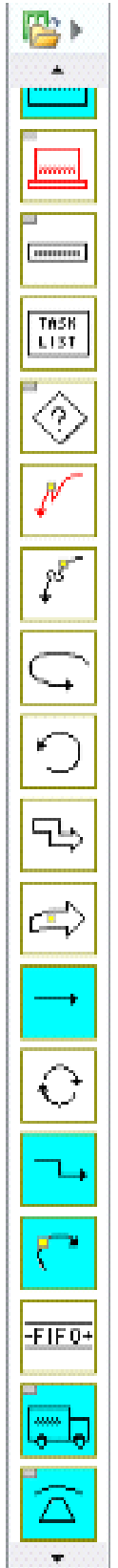
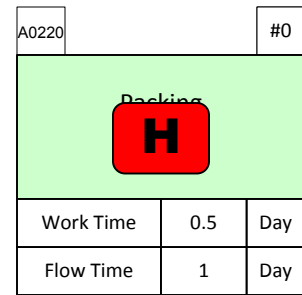
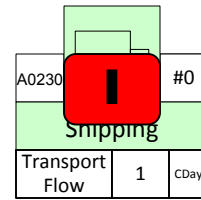
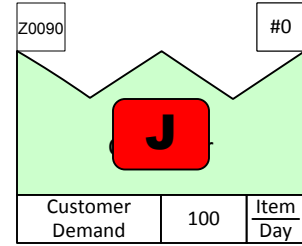
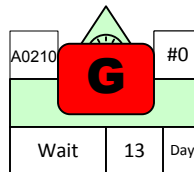
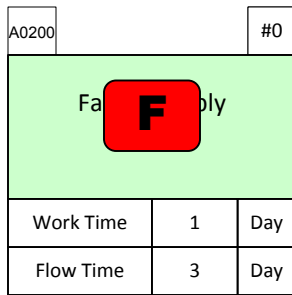
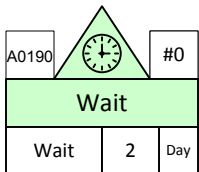
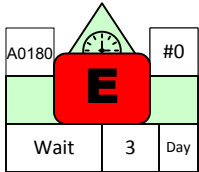
Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr

2

Click the Sequence button in the eVSM Toolbar.

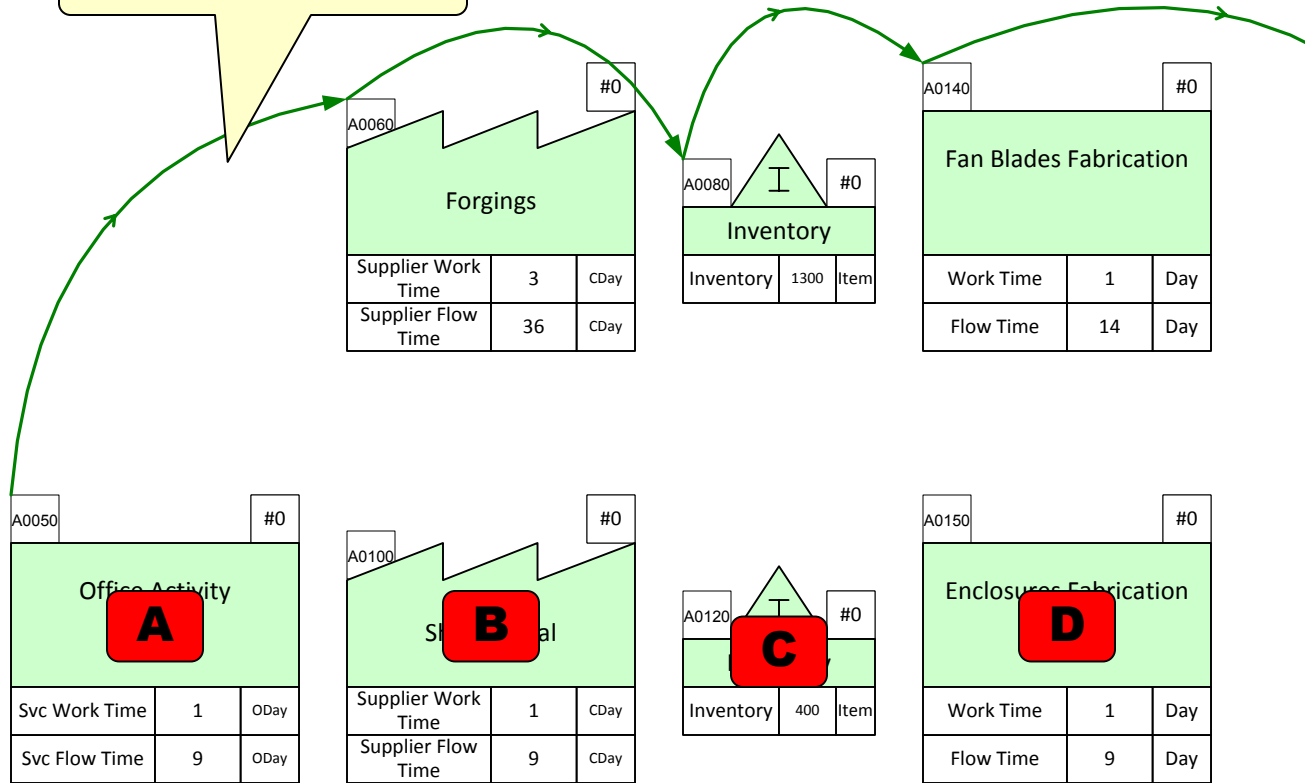


Sequence

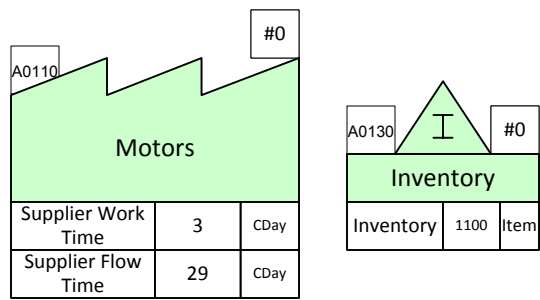


Step 9: Specify the Flow Sequence Path 2


1 Sequence arrows for path 1 are now connected.

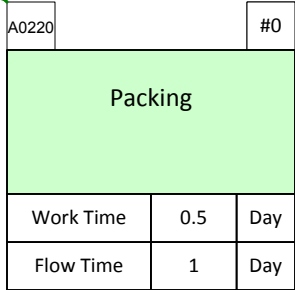
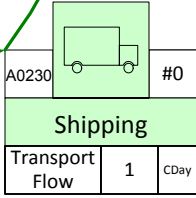
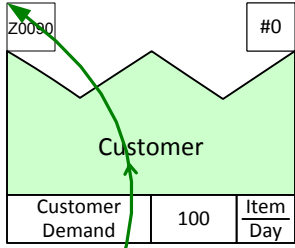
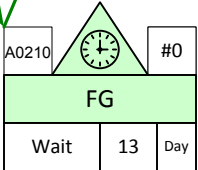
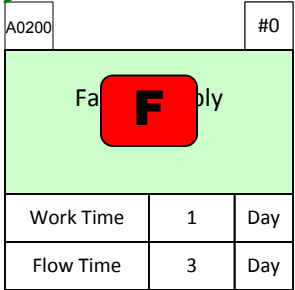
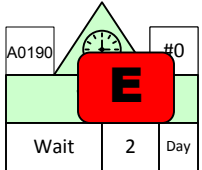
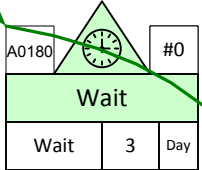


2 Hold the SHIFT key and follow the sequence for path 2.



Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr

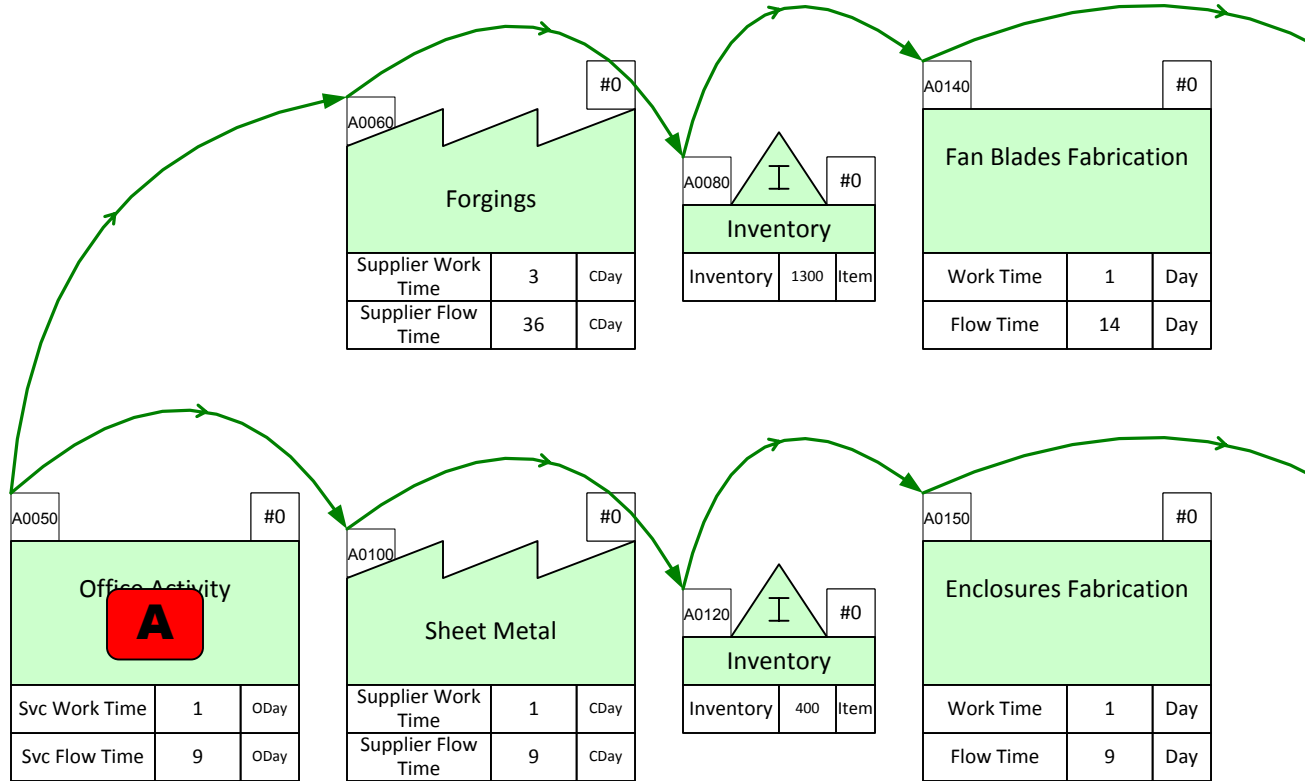
3 Click the Sequence button in the eVSM Toolbar.  Sequence



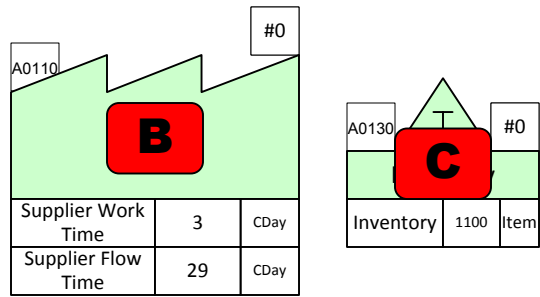
- Simulation Start/Stop
- Simulation Status
- Simulation Settings
- Simulation Data
- Simulation Results
- Simulation Analysis
- Simulation Tools
- Simulation Help
- Simulation Settings
- Simulation Data
- Simulation Results
- Simulation Analysis
- Simulation Tools
- Simulation Help
- Simulation Settings
- Simulation Data
- Simulation Results
- Simulation Analysis
- Simulation Tools
- Simulation Help

Step 10: Specify the Flow Sequence Path 3

Quick MCT



1 Hold the SHIFT key and follow the sequence for path 3.



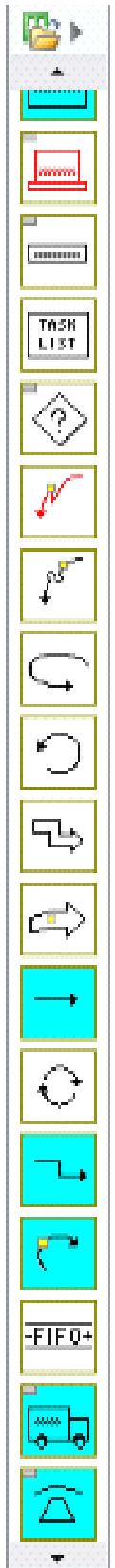
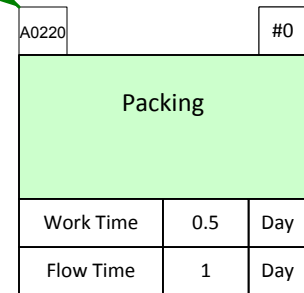
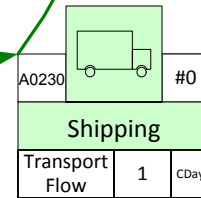
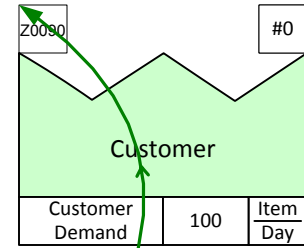
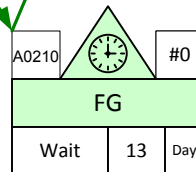
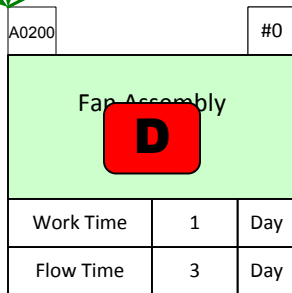
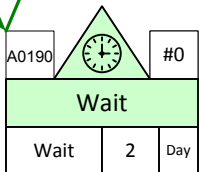
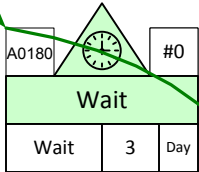
Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr

2

Click the Sequence button in the eVSM Toolbar.



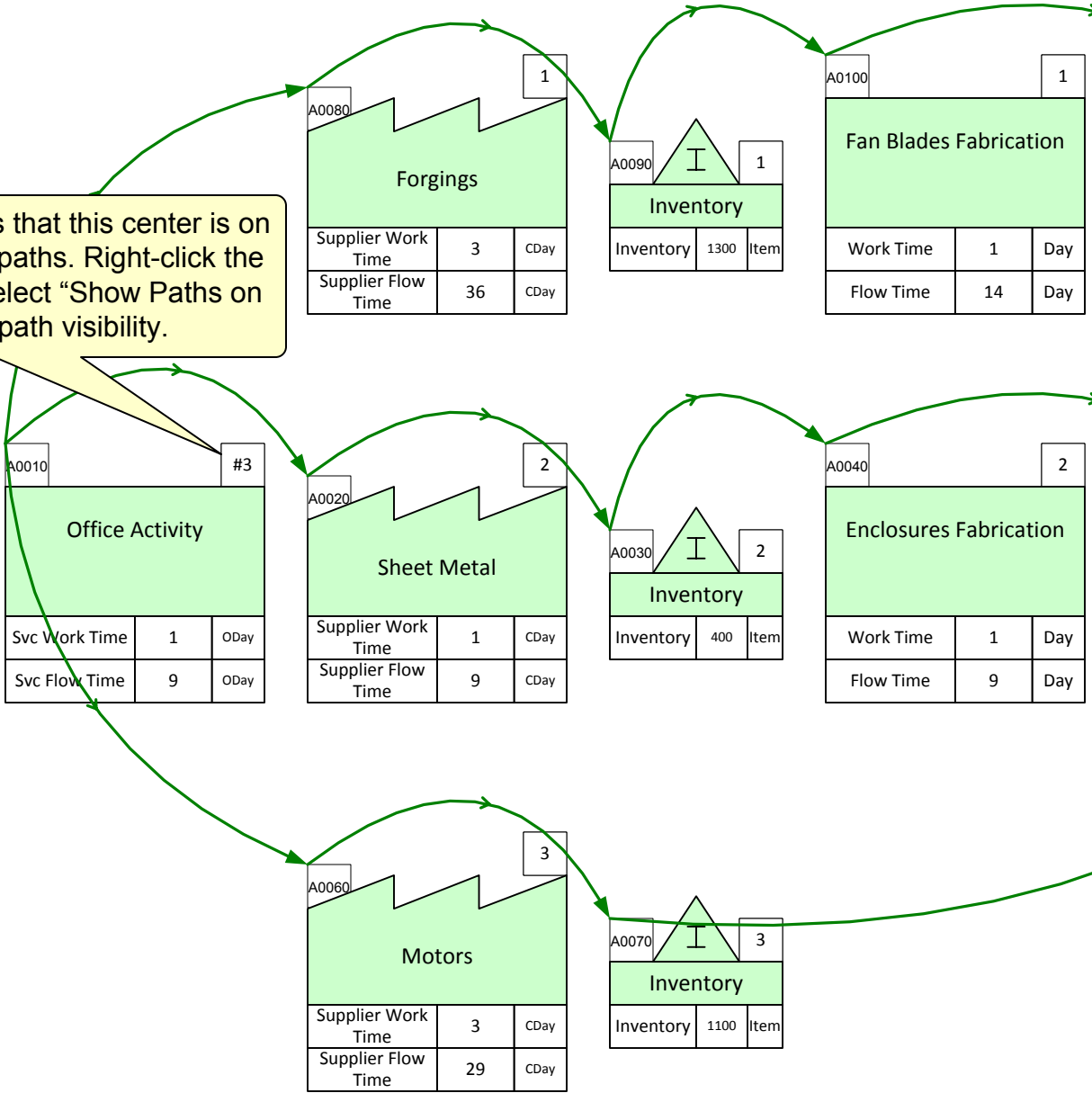
Sequence



Step 11: Auto Path and Auto Tag

Quick MCT

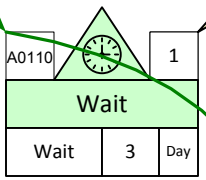
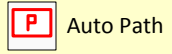
2 A "#3" indicates that this center is on three different paths. Right-click the path list and select "Show Paths on All" for path visibility.



Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr

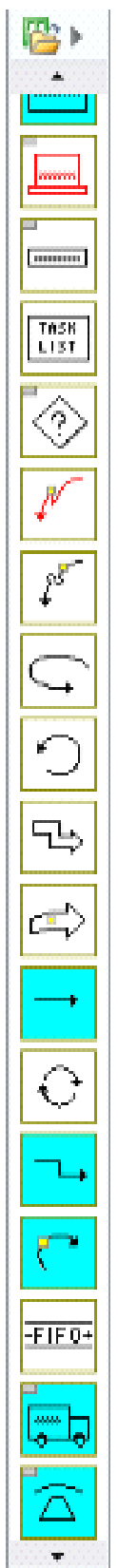
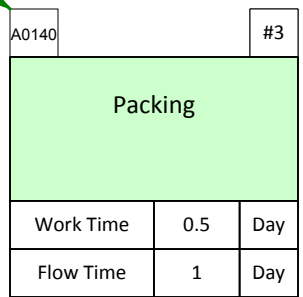
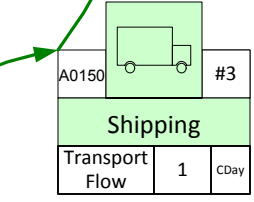
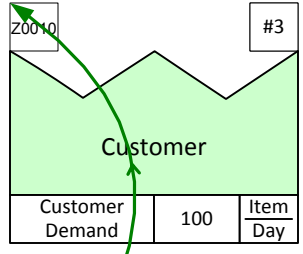
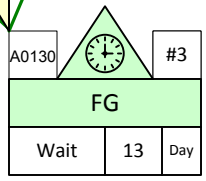
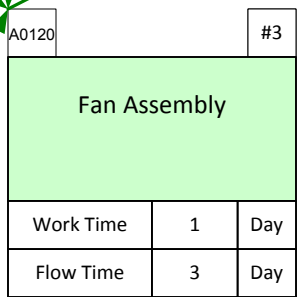
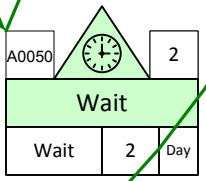
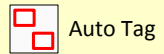
1

Click Auto Path to automatically generate Path numbers based on Sequence arrows. The path numbers on your map might not exactly match the ones on this example, and that is okay.

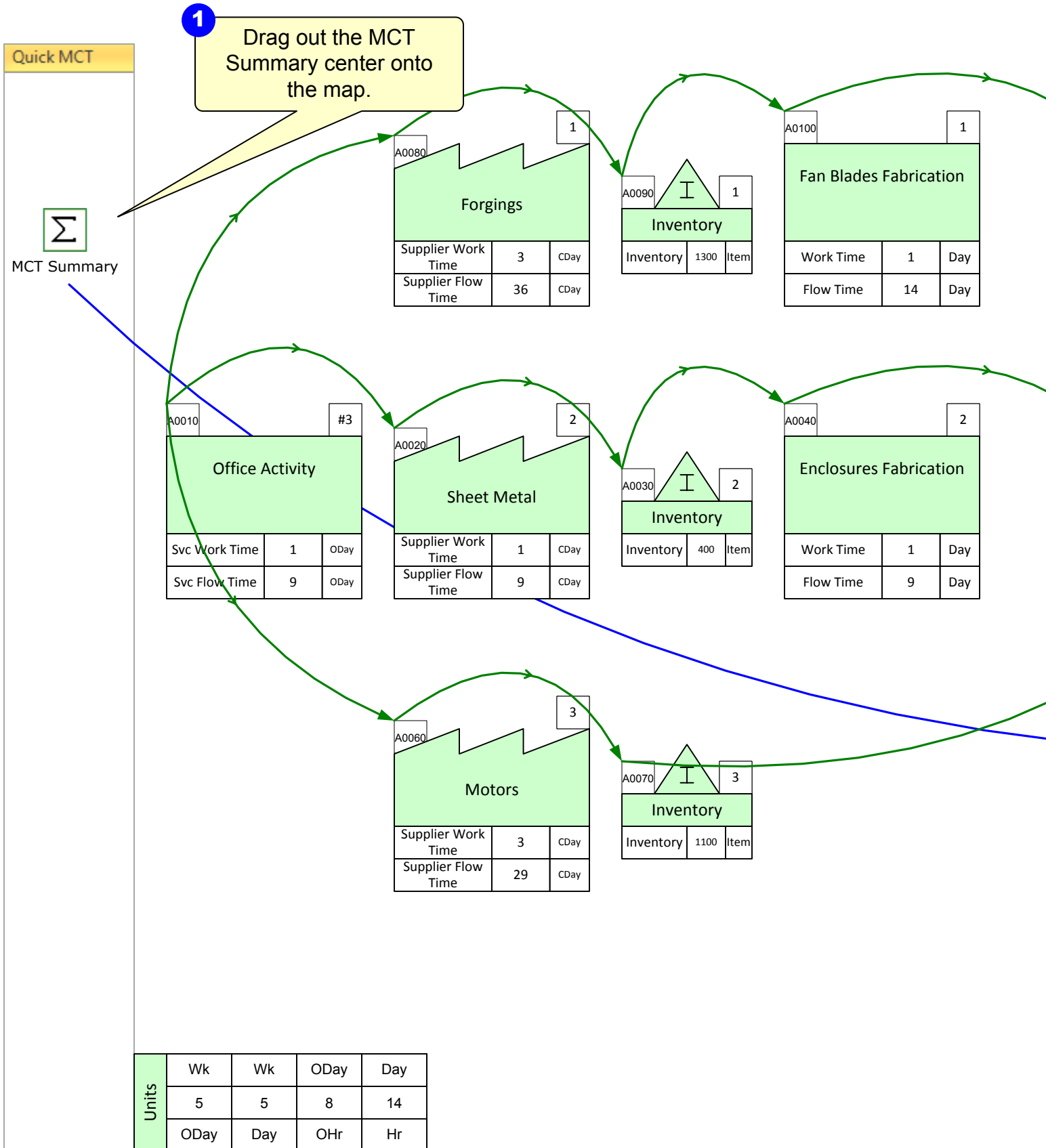


3


Click AutoTag to re-order the tags based on the new sequence arrows.

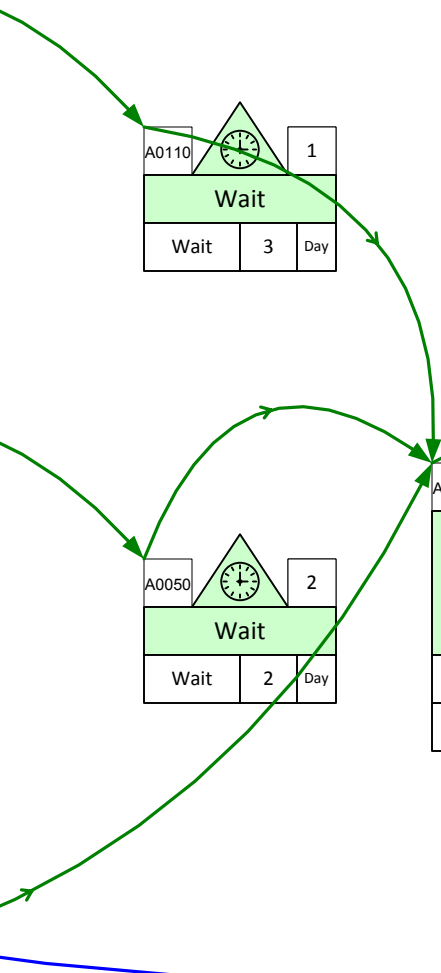



Step 12: Add a Time Summary and Calculate




2 Save the file. Then click the “Check” button and fix any errors flagged.


3 Click the “Solve” button to calculate.  Solve




A0110		1
Wait		
Wait	3	Day

A0050		2
Wait		
Wait	2	Day

A0120	#3	
Fan Assembly		
Work Time	1	Day
Flow Time	3	Day

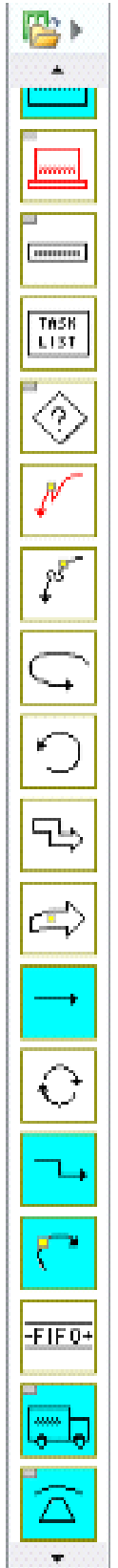
A0130		#3
FG		
Wait	13	Day

Z0010	#3	
Customer		
Customer Demand	100	Item Day

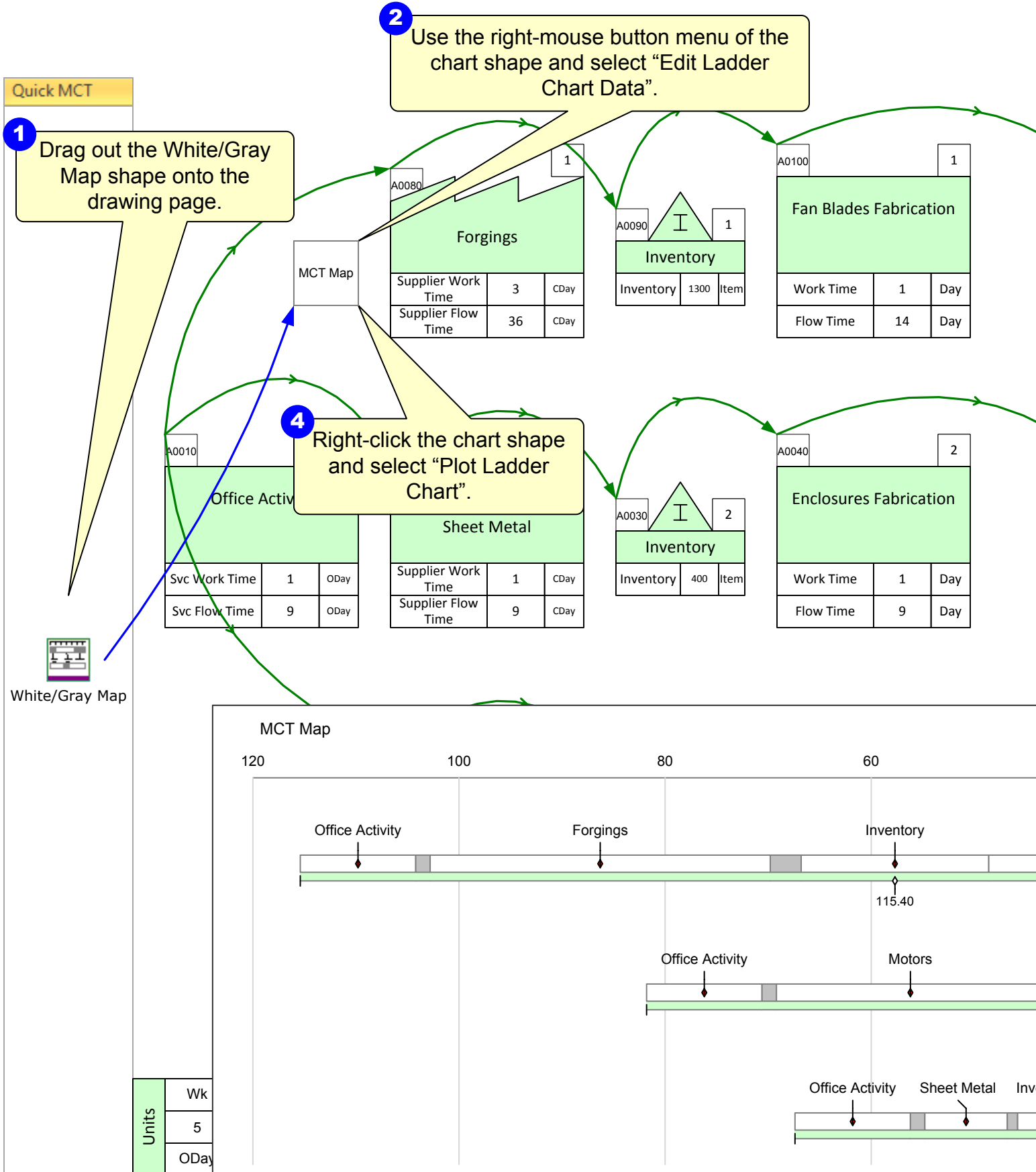
A0150		#3
Shipping		
Transport Flow	1	CDay

A0140	#3	
Packing		
Work Time	0.5	Day
Flow Time	1	Day

Z0160	P	
MCT Summary		
MCT Total	Auto	CDay
Total Gray Time	Auto	CDay
Total White Time	Auto	CDay
White Time %	Auto	%



Step 13: Add Timeline Chart to Summarize all Paths



Multi-Tag Multi-Var Chart Data

Tag Prefix

<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> N
<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> O
<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> P
<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> Q
<input checked="" type="checkbox"/> E	<input checked="" type="checkbox"/> R
<input checked="" type="checkbox"/> F	<input checked="" type="checkbox"/> S
<input checked="" type="checkbox"/> G	<input checked="" type="checkbox"/> T
<input checked="" type="checkbox"/> H	<input checked="" type="checkbox"/> U
<input checked="" type="checkbox"/> I	<input checked="" type="checkbox"/> V
<input checked="" type="checkbox"/> J	<input checked="" type="checkbox"/> W
<input checked="" type="checkbox"/> K	<input checked="" type="checkbox"/> X
<input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> Y
<input checked="" type="checkbox"/> M	<input type="checkbox"/> Z

Chart Title
MCT Map

Variables To Chart

Name	Display
White Space	NBAR
Gray Space	SBAR

X-Axis
Num. Unit: CDay, Denom. Unit: none

Path Plotting Options
 Combine Path Filters
 Separate Path Filters
 Connect Paths

Display Options
 Show Key
 Show Activity Colors
 Show Path Names

X-Axis Scale
 Auto Manual
 .08 Inches Per Unit

X-Axis Labels
 Ascending
 Descending

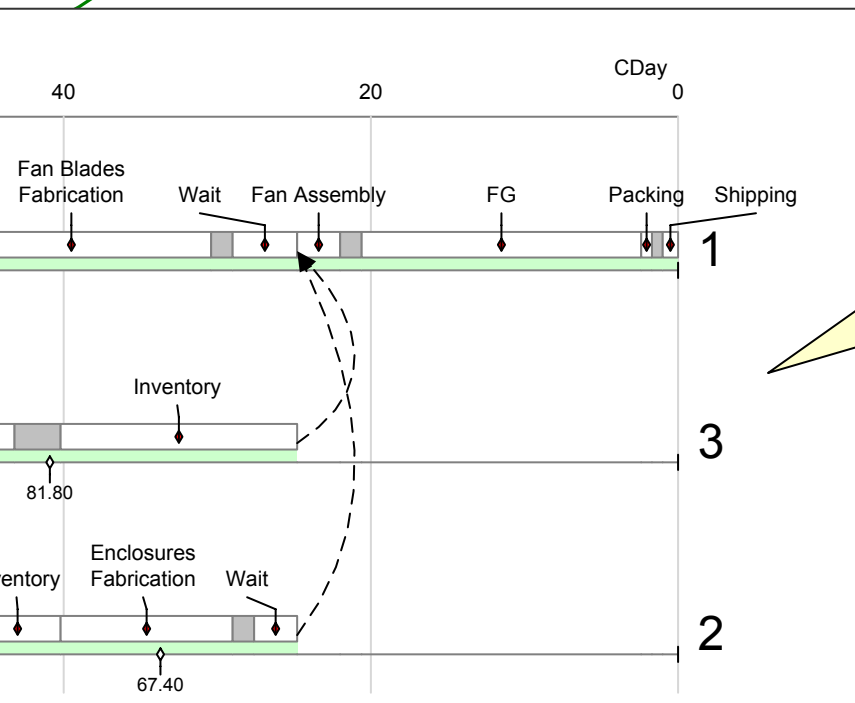
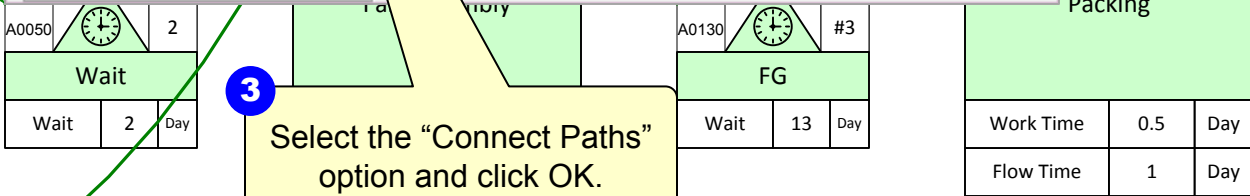
Tag Type
 Even No's
 Odd No's
 Color Tags
 White Tags

Chart Description
Chart Description

Individual Bar Labels
 Tags & Description
 Tags Only
 Description Only
 None

Plot Type
 Linear Polar / Round

Cancel OK



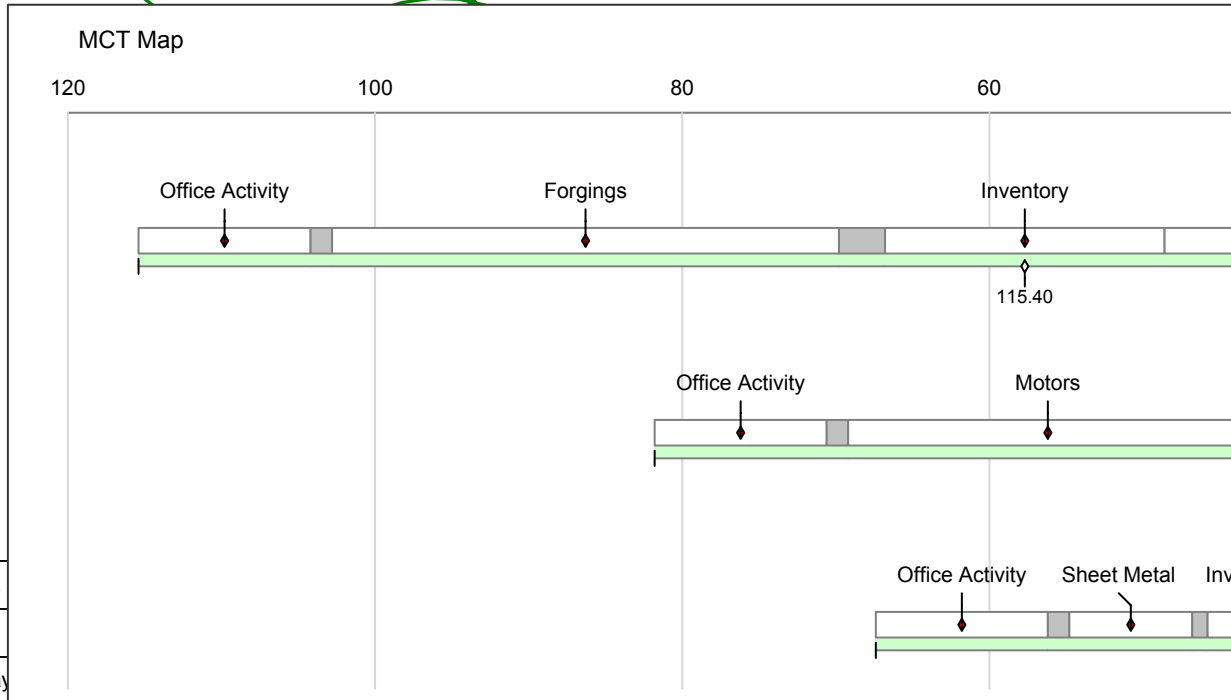
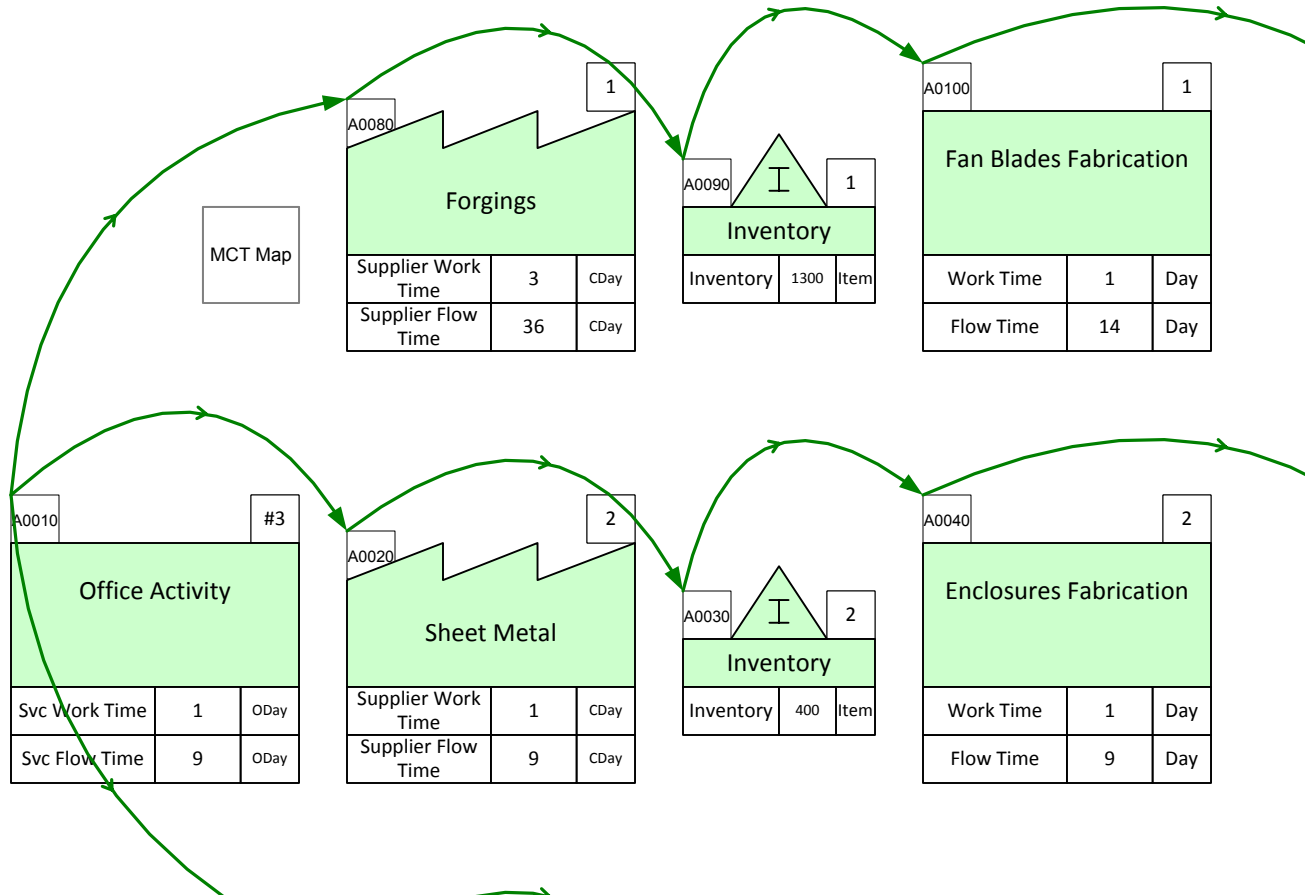
Vertical toolbar with icons for various functions:

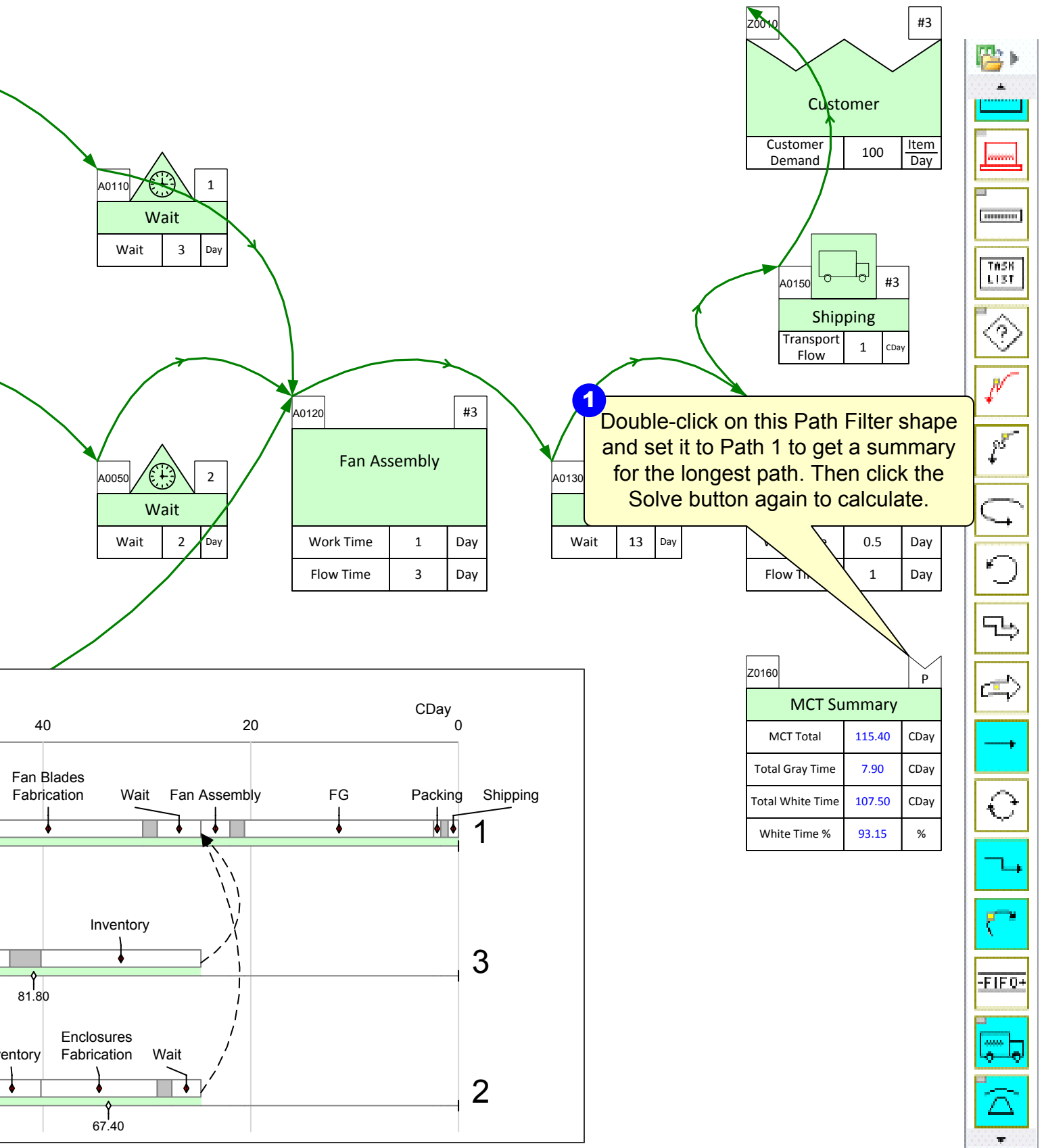
- Home
- Print
- Task List
- Help
- Refresh
- Undo
- Redo
- Copy
- Paste
- Zoom In
- Zoom Out
- Print
- Close

Step 14: Filter Summary by Longest Path

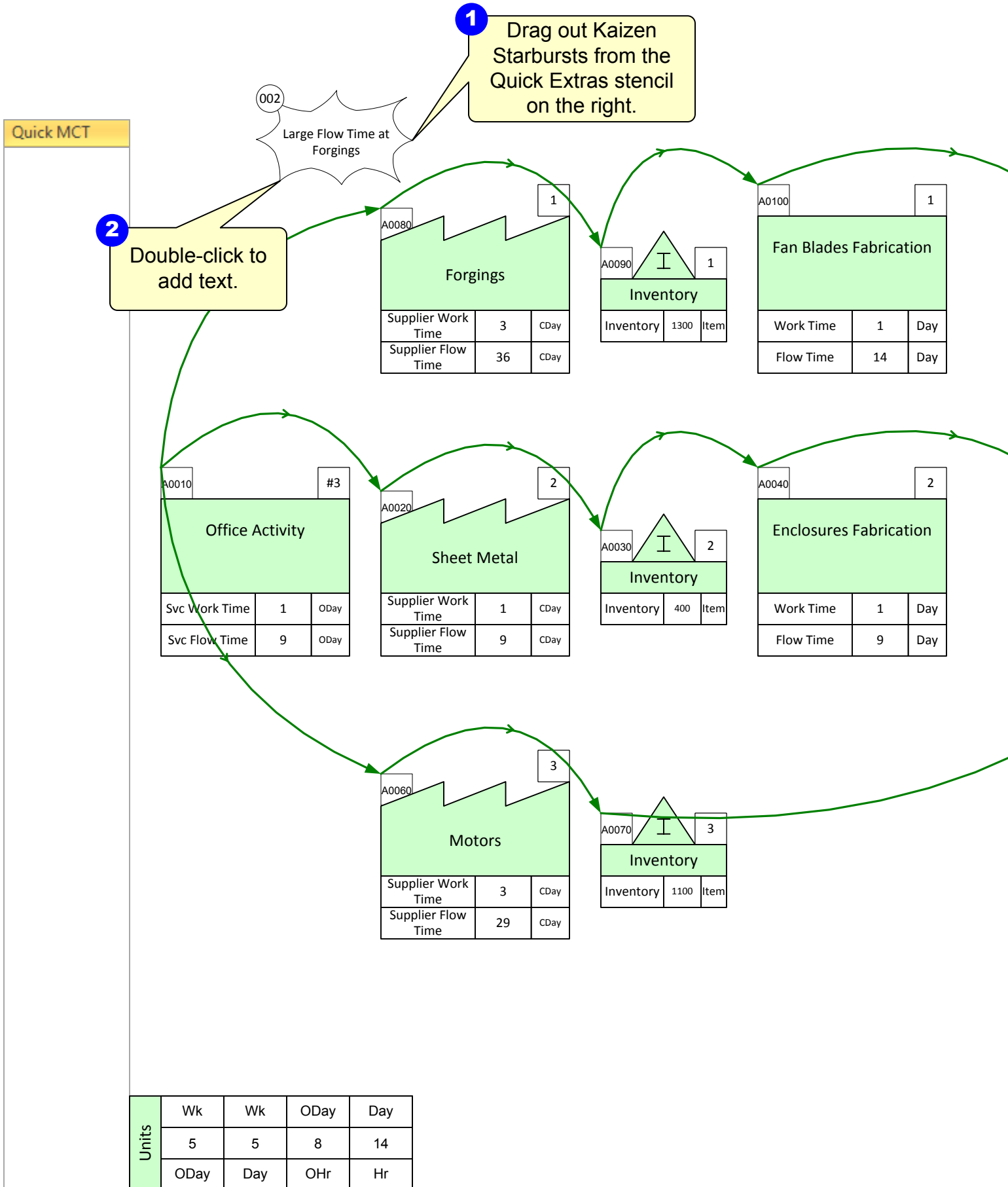
Quick MCT

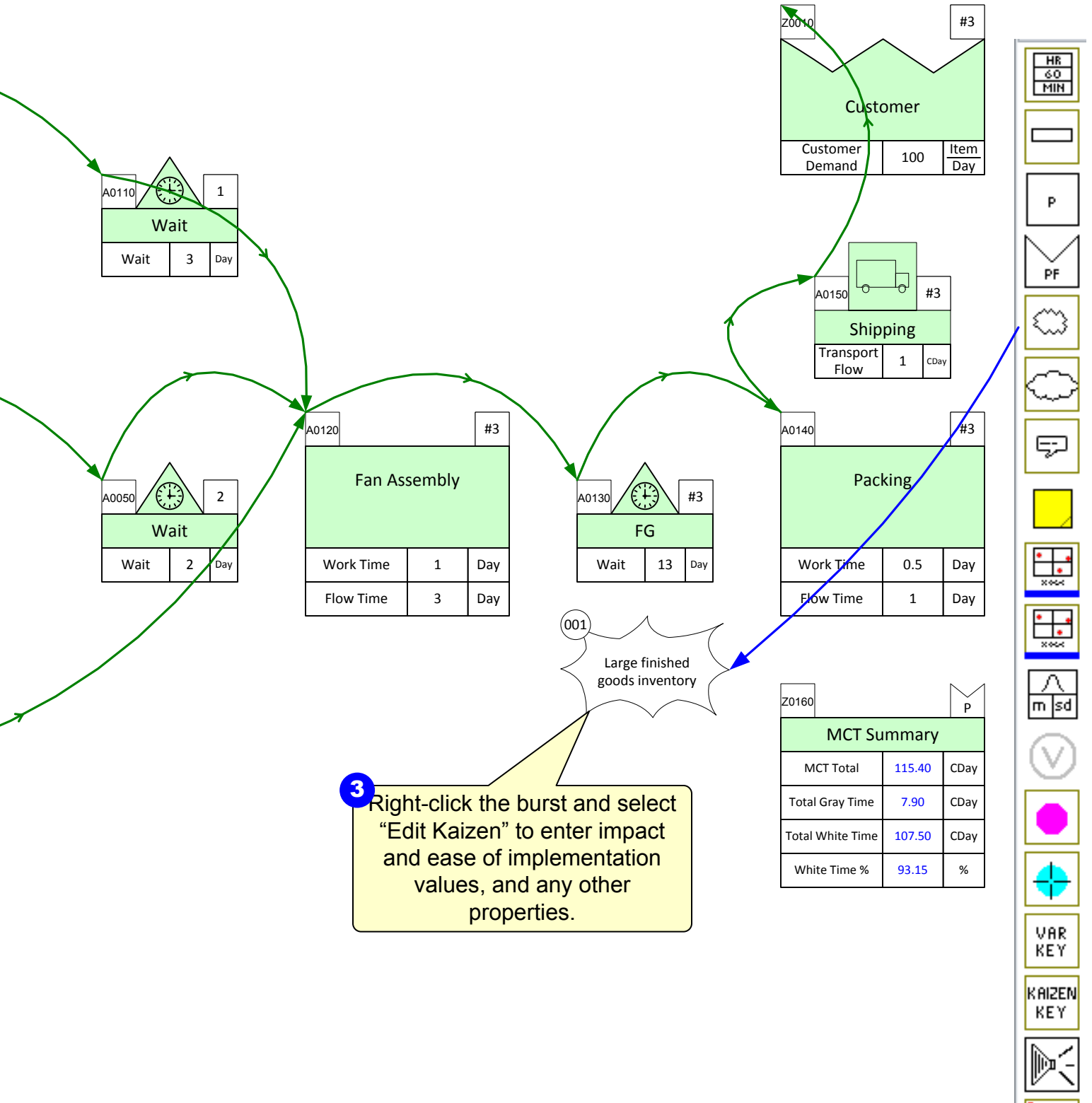
Units	Wk	
	5	
	ODay	





Step 15: Identify Improvement Ideas





Step 16: Kaizen Impact Matrix

Quick MCT

002
Large Flow Time at Forgings



A0080 1

Forgings			
Supplier Work Time	3	CDay	
Supplier Flow Time	36	CDay	

A0090 1

Inventory		
Inventory	1300	Item

A0100 1

Fan Blades Fabrication		
Work Time	1	Day
Flow Time	14	Day

A0010 #3

Office Activity		
Svc Work Time	1	ODay
Svc Flow Time	9	ODay

A0020 2

Sheet Metal			
Supplier Work Time	1	CDay	
Supplier Flow Time	9	CDay	

A0030 2

Inventory		
Inventory	400	Item

A0040 2

Enclosures Fabrication		
Work Time	1	Day
Flow Time	9	Day

A0060 3


Motors			
Supplier Work Time	3	CDay	
Supplier Flow Time	29	CDay	

A0070 3

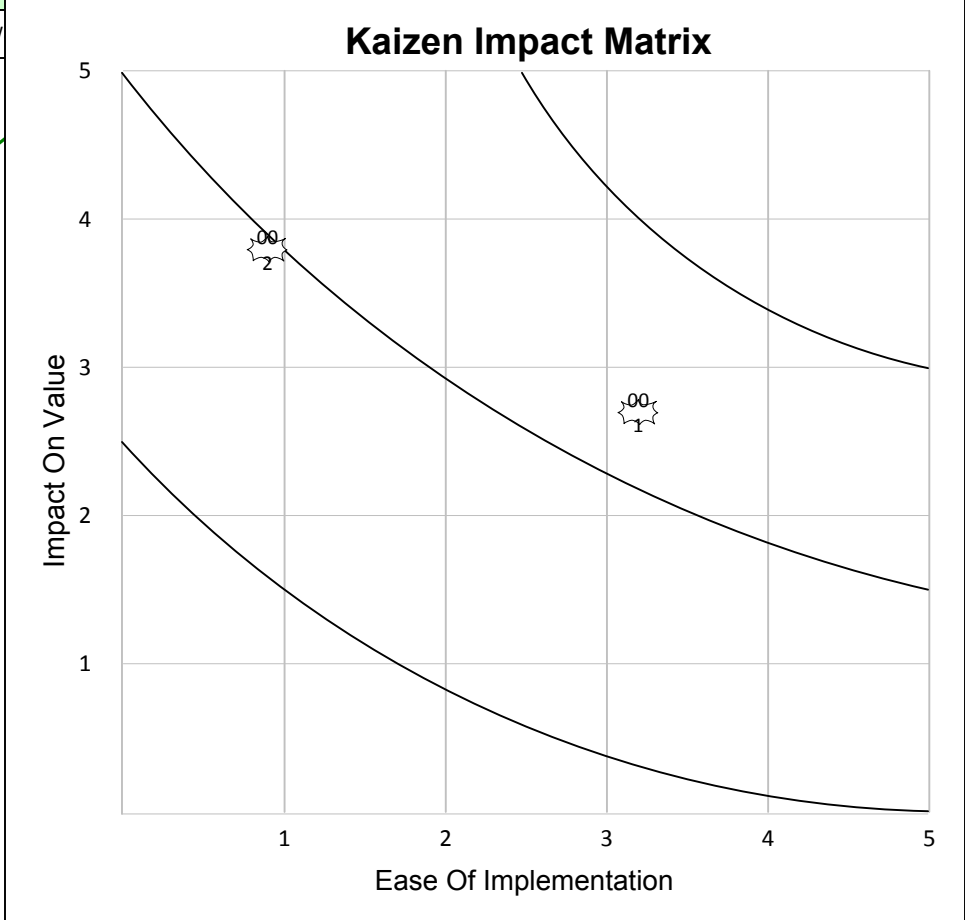
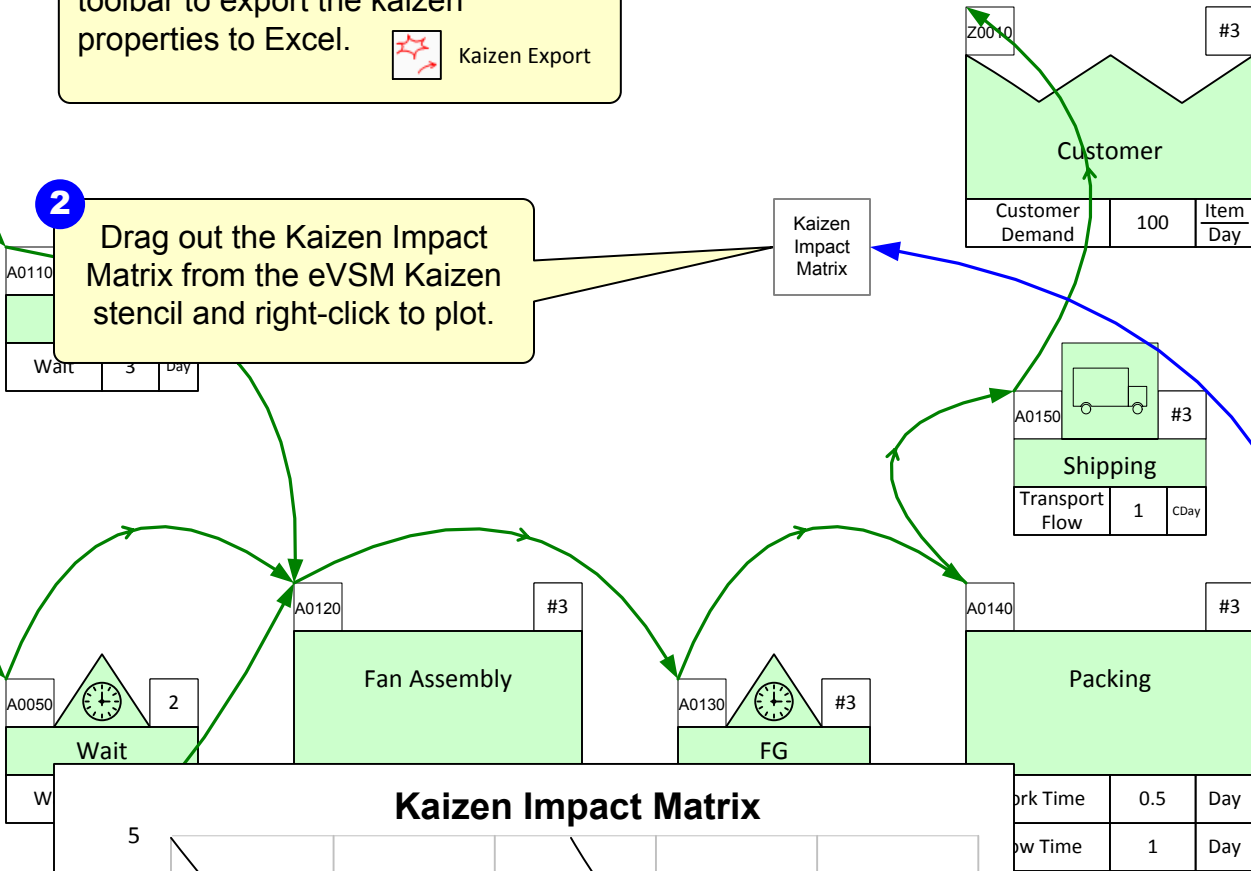
Inventory		
Inventory	1100	Item

Units	Wk	Wk	ODay	Day
	5	5	8	14
	ODay	Day	Ohr	Hr



1 Click the Kaizen Export button in the toolbar to export the kaizen properties to Excel.  Kaizen Export

2 Drag out the Kaizen Impact Matrix from the eVSM Kaizen stencil and right-click to plot.



Work Time	0.5	Day
Flow Time	1	Day
P		
MCT Summary		
CT Total	115.40	CDay
Gray Time	7.90	CDay
White Time	107.50	CDay
White Time %	93.15	%

The toolbar contains the following icons from top to bottom:

- HR 60 MIN
- Empty box
- P
- Envelope icon
- PF
- Cloud icon
- Cloud icon
- Speech bubble icon
- Yellow square
- Starburst icon
- Starburst icon
- m sd
- Down arrow icon
- Pink circle
- Blue crosshair
- VAR KEY
- KAIZEN KEY
- Speaker icon