**LAB Book partners up with Practical Tableau Book: Used for Tableau Desktop Level 2**

**This Lab book is Part 3 of 5 Parts. Part 1 of the LAB BOOK has been designed for anyone who wants to prepare for Parts 2-5.**

**If you did not take the Tableau Desktop Level 1 class, you should work your way through this Part 1 Lab Book, to be sure you understand the concepts taught in that class.**

**Desktop Level 1 Skillset is expected for success in this Desktop Level 2 Class**

**\*\*Please note that the Exercises used in this Part2 Lab Book are created from scratch. However, there is a “PartTwo.twbx” file in the Workbooks folder which contains all the solutions.**

**\*\*Also note that the chapters in Part 2 will use the Marks card, in order to create charts without the “Show Me” wizard.**

**For more help and information about Practical Tableau, please visit www.ryansleeper.com**

Part 2 – Chart Types - ADVANCED

Chapter 33 - Exercise (Sequential Path) - 3 Minutes – Book Page: 195-198

1. Get a new Sheet and name it “Sequential Path”. Color the sheet tab if desired.
2. Open a new Data Source (Click on Data Menu, choose new Data Source) (Page 197 in the book shows you how to create this data source in excel up at the top. For the purpose of time, this excel sheet has been created for you)
3. Choose Excel and choose the “StopStart.xlsx file located in the Lab Files under “Part 2”.
4. Right click the “Stop” Measure and choose “Convert to Dimension”
5. Drag YOUR Longitude field onto the Columns shelf (not the generated longitude field)
6. Drag YOUR Latitude field onto the Rows shelf (not the generated latitude field)
7. In the “Automatic” chart type section, choose “Line” as your type – this will add a “Path” card to the Marks shelf
8. Drag your Stop Dimension into the new Path card on the Marks shelf
9. Compare your chart to page 198

Chapter 34 - Exercise (Custom Background) – 5-15 Minutes (depending on your choice below) – Book Page: 201-206 - \*\*\*\*Amazing Lab

1. Get a new Sheet and name it “Back Image”. Color the sheet tab if desired.
2. There are TWO Data Sets for this Exercise. One is the “cords.xlsx” data set and the second is the “cords\_complete.xlxs”. You can choose to do this using either from scratch and create with completed dataset. PLEASE OPEN BOTH to look at them and see the difference. One is nearly empty and the other is complete. Below find both ways to complete Exercise:

FROM SCRATCH:

* 1. Add the “cords.xlsx” data source (from PartTwo\_Advanced folder)
  2. Add a background image to your view:
     + Click on Map, Background Images (see the cords dataset and click it)
     + Browse to Baseball Diamond Image in Desktop Level 2 Images Folder.
     + The Pop up box needs to be completed as follows: (be sure that there is both and X and a Y entry by using dropdown)
       - X Position: 0 Left, 500 Right
       - Y Position: ) Bottom, 500 Top
  3. Open the Data Source in Microsoft Excel – keep it open in the background
  4. Drag the X Measure to the Columns shelf
  5. Drag the Y Measure to the Rows shelf
  6. See your image on the view.
  7. We will “find” the positions for each player on the field by using the “Annotation” pointer:
     + Right click the view and choose “Annotate” and then “Point”.
     + By default you will see the pop up with X and Y points.
     + Click OK and go back to your View
  8. Drag the Position Dimension onto the Detail card on the Marks shelf.
     + You will see your background picture.
     + Use the “Point” and drag it around to each “position” on your image. Record these points in your Excel (cords) Spreadsheet.
     + Right click the cords data source and choose “Refresh”
     + See each point with the coordinates
     + Delete the Annotation

Create with COMPLETE Data Source:

1. Add the cords\_complete.xlsx data source (from PartTwo\_Advanced folder)
2. Add a background image to your view:
   1. Click on Map, Background Images (see the cords\_complete dataset and click it)
   2. The Pop up box needs to be completed as follows: (be sure that there is both and X and a Y entry by using dropdown)
      1. X Position: 0 Left, 500 Right
      2. Y Position: ) Bottom, 500 Top
3. Drag the X Measure to the Columns shelf
4. Drag the Y Measure to the Rows shelf
5. Drag the Position Dimension onto the Detail card on the Marks shelf.

\*\*\*\*Either way you complete it, do this final format:

Drag the Y field into the COLOR card on the Marks shelf, choose a palette (something with red would be good) – compare your chart with page 206 in the book. In addition, you can also drag the Position Dimension onto the Text card on the Marks shelf to see the positions labeled.

Chapter 35 - Exercise (Custom Polygon) –

This exercise should be skipped as we have seen much of same previously. If the students want to complete it, they should follow the directions on pages 207-210. However, they will need to create a custom data set in excel for the purposes of this lab.

Chapter 36 - Exercise (Gantt) – 10 Minutes – Book Pages: 213-215

1. Get a new Sheet and name it “Gantt”. Color the sheet tab if desired.
2. Add a new Data Source called “PROJECTS” – you can find this in the PartTwo\_Advanced Folder
3. Drag Start Date Dimension to the Column shelf – Click the arrow pointing down on this pill and choose “DAY” (Continuous)
4. Drag Project Dimension to the Row shelf and Person Dimension next to it on the Row shelf
5. Create a new Calculated Field called “Days” Type in this calculation (or use SOLUTION “PartTwo\_Advanced.twbx” and copy. Here is the calculation:

[Start Date] – [End Date]

1. Drag the new Days calculation to the Size card on the Marks shelf.
2. Drag Person Dimension to Color card on the Marks shelf.
3. Right Click on x-Axis, Add a Reference Line. Choose these options from the pop up:
   1. Type: Line
   2. Scope: Entire Table
   3. Value: Change to “Constant” in the dropdown, then type this into the text box: 6/1/2018 12:00:00 AM
   4. Change line color to RED
4. Drag Percentage Complete Measure into the Text Card on the Marks shelf – Click on the Label Card and change alignment to CENTER
5. FORMAT the PANE for Percent Complete and change the number format to PERCENT with NO Decimal places. Also make the font a bit bigger and bold.
6. This chart will look a bit different from the book because of a bit of different data. But the overall chart should resemble page 215 in your book.

Chapter 37 - Exercise (Waterfall) – 5 Minutes – Book Pages: 218-221

1. Get a new Sheet and name it “Waterfall”. Color the sheet tab if desired.
2. Drag the Profit Measure to the Rows shelf
3. Drag the sub-category Dimension to the Columns shelf
4. RIGHT CLICK the Bottom Axis and choose “FORMAT”, Under the HEADER Tab, choose ALIGNMENT in the DEFAULT section. Choose the middle “A” to turn the Axis data to “Vertical”
5. Change the chart type to “Gantt” from the Automatic Chart Type on Marks shelf
6. Create a calculated field called “Negative Profit” This is a simple calculation: -[Profit]
7. Drag the new calculation to the Size card on the Marks shelf.
8. Change the SUM(Profit) to a Table Calculation of “Running Total”.
9. Check your Waterfall chart with page 221 in your book.

Chapter 38 - Exercise (Slope) – 5 Minutes – Book Pages: 218-221

1. Get a new Sheet and name it “Slope”. Color the sheet tab if desired.
2. Get a new data source. It is called “Slope.xlsx” in the Data Sources Folder
3. Drag the Year Dimension to the Column shelf
4. Drag the “Measure” Measure to the Rows shelf
5. Drag the Category Dimension to the Detail card on the Marks shelf
6. Drag Category Dimension and Measure to the TEXT card on the Marks shelf
7. Format the labels by clicking on the TEXT card. Click on LINE ENDS and click all three boxes to show line ends on both sides.
8. Check your chart with page 226/

Add a Dual-Axis to slope concept (5 Minutes) – 226-230

1. Get a new Sheet and name it “Slope Dual”. Color the sheet tab if desired.
2. Get a new data source. It is called “DualSlope.xlsx” in the Data Source Folder
3. Drag Social Network to Column shelf
4. Drag Company to Column shelf next to Social Network
5. Drag Audience to Row shelf
6. Change the chart type to LINE on the Marks shelf
7. Click the Color card on the Marks shelf and choose the middle “Markers”
8. Drag a Second Audience to Row Shelf, change the chart type to circle. You now have two charts.
9. Click on the SECOND Audience pill and choose “Dual Axis off the list” – both charts are combined
10. Drag the Company Dimension to Color card on the Mark shelf
11. Check your chart with page 230 to compare.

Chapter 39 - Exercise (Donut) – 10 Minutes – Book Pages: 232-237

1. Get a new Sheet and name it “Donut”. Color the sheet tab if desired.
2. Create a new calculation called “Sales Goals – Actual Sales”: 8000000 – sum([Sales])
3. Change the Chart type to “Pie” on the Marks shelf
4. Create a calculated field called “Placeholder”, Calculation: Min(0)
5. Drag TWO copies of this to the ROWS shelf
6. Click the arrow pointing down on the second placeholder and choose “Dual Axis”
7. Change the second placeholder chart type to Circle. Play with the size to make it smaller and change the color to “white”
8. Drag Measure Names to Color card on Marks shelf
9. Drag Measure Values to the “Angle” card (which was created when you changed chart type to pie) on the marks shelf
10. Put a filter on Measure names. ONLY include Sales and Sales Goals – Actual Sales Measures
11. Format the Chart by making it bigger, adding a border and change the colors that you like for Sales and Sales – Actual Sales
12. Check your chart with page 236 to compare.

Chapter 40 Exercise (Funnel) – 5 Minutes – Book Pages: 240-246

1. Get a new Sheet and name it “Funnel”. Color the sheet tab if desired.
2. Get a new Data Source called Players.xlsx – find this in the Data Sources Folder
3. Drag the “Step” Measure into the “Dimensions” area to convert it to a Dimension
4. Drag the Step Dimension to the Rows shelf
5. Drag the Players Measure to the Columns shelf
6. Change the chart type to Area on the Marks shelf
7. Change VIEW to “Entire View”
8. Create a calculated field called “Negative Players” , the calculation is: -[Players]
9. Drag the new Negative Players Measure to the Columns shelf (Place to the LEFT of the Players Measure)
10. Compare picture to page 243 of your book.
11. There are optional exercises on pages 244-246. You can continue if desired, however this will involve a change to the data source. To keep it simple for class, we will leave it here.

Chapter 40 Exercise (Pace) – 15 Minutes – Book Pages: 248-255

1. Get a new Sheet and name it “Pace”. Color the sheet tab if desired.
2. Get a new Data Source called “Pace.xlsx”. Find this in the Data Sources folder
3. Create a new Calculation named “% of Goal” : sum([Current]) / sum([Goal])
4. Drag this new measure to the Column shelf
5. Drag the “Measure” Dimension to the Row shelf
6. Change the view to “Fit Height”
7. Go to the Analytics Menu and Add a Reference Line (to the TABLE) - Change the Value to: Sum of Pace : Minimum, Put in a “Custom” Label and type in PACE, Create a red line, slightly fatter.
8. Go back to the Analytics Menu and Add a second Reference Line (to the TABLE) – Change the Value to AGG of GOAL: Maximum, Put in a “Custom” Label and type in GOAL, Create a red line, slightly fatter.
9. Create one more Calculated field as follows:
   1. Name: Pace Score
   2. Calculation:

IF [% of Goal] / [Pace] >= 1 THEN "On Pace"

ELSEIF [% of Goal] / [Pace] >= .9 THEN "Slightly Behind Pace"

ELSE "Behind Pace"

END

1. Drag the new calculation to the Color Card.
2. Check your work with page 253
3. There is a variation on Pages 254-255 if you wish to continue on. This will require changing the Data Source

Chapter 41 Exercise (Pareto) – 10 Minutes – Book Pages: 259-263

1. Get a new Sheet and name it “Pareto”. Color the sheet tab if desired.
2. Use the Orders Sample Superstore BUT go to the Data Source Tab and be sure that both the ORDERS table and the RETURNS table are dragged into the data area. Then, change the JOIN type to LEFT JOIN (the second option)
3. Go to the Pareto sheet (notice the “Returns” section is now part of the Dimensions area.
4. Create a calculated field called “Returns”. Type in this calculation: COUNT([Returned] = “Yes”)
5. Drag the Sub-Category Dimension to the Column shelf
6. Drag the new Returns Measure to the Row shelf – change the chart type to BAR on the Marks shelf
7. Drag a SECOND Returns Measure to the Rows shelf –Change the chart type to LINE on the Marks shelf
8. Click the SECOND Returns pill on the Rows shelf, then click the arrow in the pill and choose “Dual Axis”. Both charts have become one.
9. Go to the SECOND Returns Pill and click the and click “Quick Table Calculation” – choose “Running Total”
10. Click the SECOND Returns Pill AGAIN and click “Edit Table Calculation”. Check the box at the bottom which says “Add Secondary Calculation”. Change the secondary calculation to “Percent of Total”. For a picture of this pop up and choices, see page 262 in your book.
11. Click the first SORT tool on the toolbar.
12. Check your chart with the picture on page 263 of your book.

Chapter 41 Exercise (Control) – 3 Minutes – Book Pages: 267-269

1. Get a new Sheet and name it “Control”. Color the sheet tab if desired.
2. Use the Excel Sample Superstore (Orders) Data Source
3. Drag the Order Date field to the Column shelf. Click the arrow pointing down on the pill and choose “Week Number” (Continuous)
4. Drag the Profit Ratio Measure to the Row shelf
5. Right click the Profit Ratio Axis and “Add Reference Line”
   1. Choose “Distribution” as the type
   2. For the Distribution Value, select Standard Deviation
   3. Change the factors to -3 and 3 (see page 268 in your book to confirm choices)
   4. Choose the Line option and choose RED for the color
6. Check page 269 in your book to compare your chart.

Chapters 44-46: The three remaining charts are variations of charts you have already created in this book. Feel free to re-visit anytime and use the directions provided in your text book to get through them. Since you have previous experience with all the options, the text book will be sufficient to get through.

44 – Dual Axis Bump

45 – Dumbbell

46 - Jitter