

POWER BI USER GROUP SESSION 5

JUNE 23, 2022

Facilitated by:

Steve Dunlop
Angus McLeod
Roy Vasher



Agenda

- Opening Remarks
- Introductions (new attendees)
- Recap of 1st Four Meetings' Presentations
- Power BI Drill Through Features, by Kyle Smith, Nucor
- Demand/Supply Dashboard, by Bob Bierwagen, Acuity Capital Group/ABC Metals
- Hierarchy in Power BI for Mapping by Steve Dunlop, DCMME
- Open discussion and next meeting

Introductions – New Members

- Name, company, position
- Power BI knowledge and experience
- What do you want to get out of user group?

No.	Type of User	Description
1	New	Never used, interested in learning how to use
2	Novice	Started to use but not created any business reports yet
3	Experienced User	Used for some time and developed business reports/dashboards
4	Power User	Expert user and/or IT Developer
5	Senior Manager	Interested in Capabilities for Business Reporting/Dashboards

Recap of Presentations To-Date

- **Session # 1: June 10, 2021**

- Power BI Capabilities and Cost – Tom Cunningham - Evonik
- Evonik Corporation Power BI Visual Management Solutions – Tom Cunningham - Evonik
- New Users: How to get started – Roy Vasher – Purdue/DCMME

- **Session # 2: September 16, 2021**

- Super User Development Cycle - Thomas Heltzel – Wabash National
- Getting Data to the People That Need it Most– Bob Bierwagen – MPI
- Import Analytics/EV Analytics – Steve Dunlop – Purdue/DCMME

Recap of Presentations To-Date

- **Session # 3: December 9, 2021**

- Date Dimensions in Power BI- Vienna Kraay– Oscar Winski
- Predictive Analytics and Power BI– John Dill– Wabash

- **Session # 4: March 24, 2022**

- Presentation by Dennis Rausch, VP Information Technology, Rea Magnet Wire Company - Enterprise Data Sources
- Presentation by Kyle Smith, IT Supervisor, Nucor - Connection to real-time data to display up-to-date information
- Presentation by DCMME, Student Project Team - Building Power BI Dashboard from a sketch

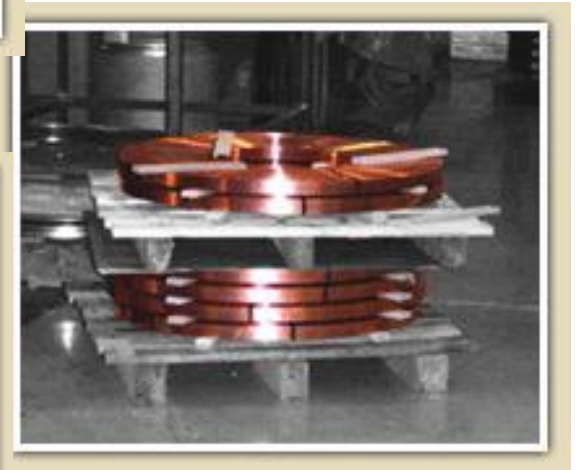
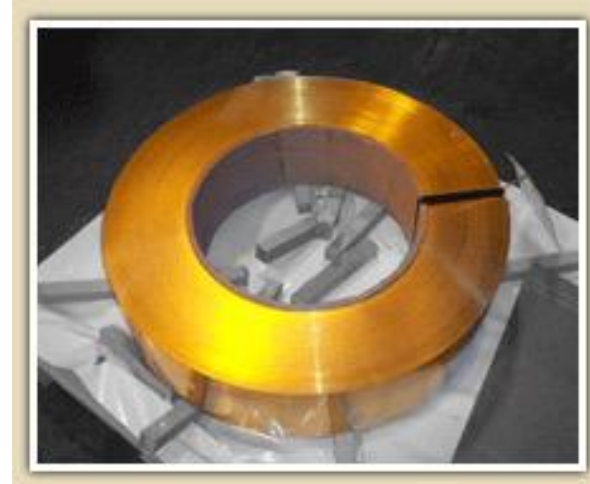


Demand/Supply Dashboard

Using Power BI for Supply Chain Analysis

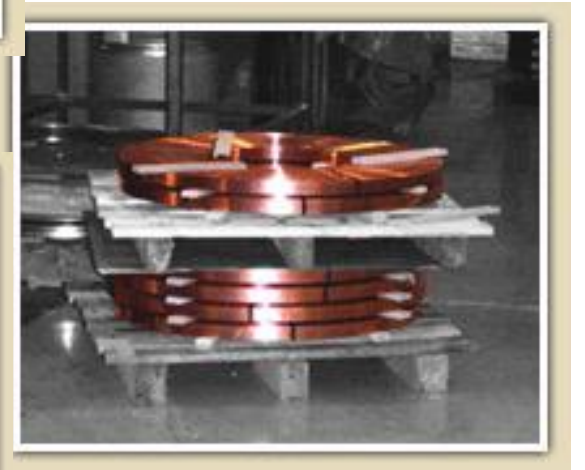
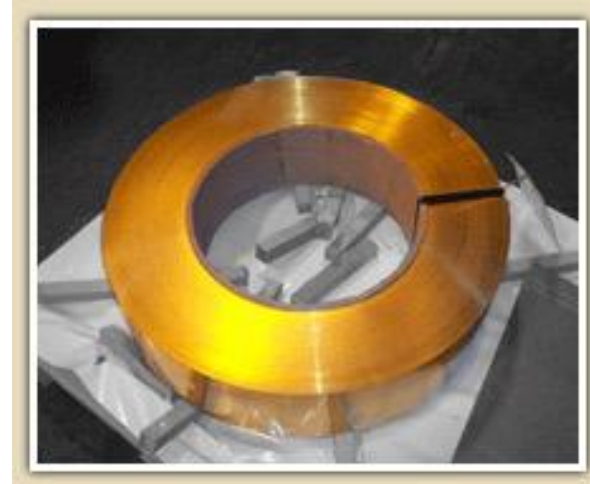
The Context

- ABC Metals Group consists of 4 plants
 - Logansport , IN
 - Indianapolis, IN
 - El Paso, TX
 - McAllen, TX
- ABC is the largest independent Red Metal Strip provider in North America
- We utilize The Plex Mfg Cloud as our ERP
- Products and services include:
 - Both slitting and cut to length products
 - Copper and copper alloys
 - Grey metals including Aluminum
 - Toll Processing & Plating
 - MX border crossing services
- We move ~ 60 MM pounds annually
- We have an inventory of ~ 10 MM pounds



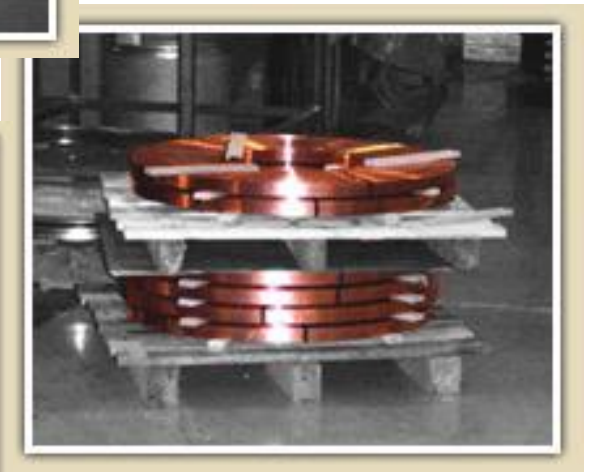
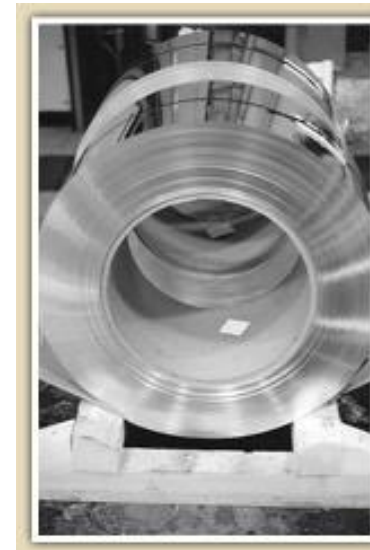
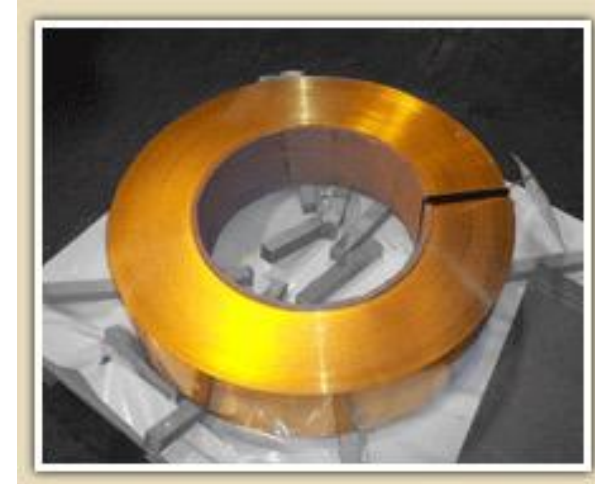
The Challenge

- Any Source for the Mill may meet multiple customer order specifications
- Customer order specifications may include over 100 variables (attributes) that has min/max ranges
 - These attributes describe the chemical, physical, and mechanical properties of metal
- Given current Supply Chain issues Mill lead times continue to expand and allocations continue to shrink
- Customer forecasts are fluid and changes in dates, volume, and pricing are a constant in our business
- As copper is a traded commodity, pricing options vary based on volume and customer commitments
- Our team is challenged daily to answer questions on availability, delivery schedules, current capacity for both our clients and sales teams




The Solution

- Development of a Power BI Dashboard updated every 4 hours for our operations and customer service teams
- The method
 - Aggregate data from all 4 plants into a single data set
 - Process and update operational data into MS Azure
 - Include data from Supplier PO's, Customer Orders, on hand and allocated inventory data, open jobs data
 - Provide data and slicing by aggregation by grade, gauge, and temper
 - Provide search capability by Customer Part # and ABC/Mill Part numbers
 - Publish the dashboard in MS Teams
 - Provide a Net Availability indicator by week for a four(4) week horizon
 - Allow the user to look at future supply/ demand if the timeframe is more than 4 weeks
 - Provide a filter to for ABC vs. Customer Owned metal



Dashboard Demo

Supply vs Demand



ABC Metals Group, LLC
NONFERROUS ALLOYS - PRECISION SLITTING

Site

All ▼

Red or Grey

Grey

Red

9.33M

Total Available

Overview

Inventory

Part Group Master	Container Status	Site	Total Inventory Amount	Committed	Available
☐ A91100-1250-RH14	OK	ABCE	205		205
☐ A93003-0160-RH14	OK	ABCE	2,758		2,758
☐ A95052-0590-RH32	OK	ABCI	6,452		6,452
☐ A95052-0630-RH34	OK	ABCE	21,021	10,769	10,252
☐ A95052-0787-RH32	OK	ABCI	3,262		3,262
☐ A95052-1250-RH32	OK	ABCE	10		10
☐ C10200-0100-RH02	OK	ABCL	13,296		13,296
☐ C10200-0307-RH01.B	OK	ABCL	5,046		5,046
☐ C10200-0391-RH02	OK	ABCL	2,370		2,370
☐ C10200-0394-RH02	OK	ABCI	2,274		2,274
☐ C10200-0600-RH01.A	OK	ABCI	2,134	2,180	254
Total		ABCE	6,122,543	1,268,370	4,854,173

Suppliers

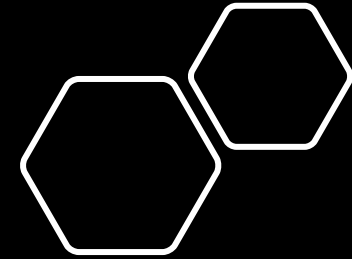
Supplier Name	Line	Due Date	Site	Order Quantity
☐ Aurubis Buffalo, Inc.	14	5/12/22	ABCE	161,000
☐ Aurubis Pori	9	6/10/22	ABCI	129,000
☐ Aviva Metals, Inc.	5	7/15/22	ABCL	80,000
☐ Chicago Extruded Metals	1	8/9/22	ABCP	1,000
☐ Eagle Metals, Inc	2	6/10/22	ABCL	320
☐ Heyco Metals Inc	1	12/1/22	ABCL	500
☐ Kemper AIP Metals, LLC	8	8/15/22	ABCI	107,100
☐ KME Germany GmbH	151	11/30/21	ABCE	2,644,140
☐ Libertas Copper LLC	14	5/31/22	ABCE	31,450
☐ Materion Brush, Inc.	5	10/28/22	ABCL	820
☐ Millard Wire	4	8/12/22	ABCL	3,250
☐ NCK Metals Corporation	2	7/15/22	ABCI	700
Total	307	11/30/21	ABCE	4,475,297

Customers

Name	Line No	Release No	Due Date	Part No	Site	Demand
☐ Adventec Manufacturing Inc.			5/30/22	C26000-0157-H03.A-4.130-EMAT-C-S-N-A1913	ABCL	29,380
☐ AirBorn			2/3/22	C65500-0450-H01.C-0.800-GENL-C-S-N-A1793	ABCI	56,328
☐ American Power Connection			4/13/22	C11000-0051-H02-3.230-ATMW-C-S-N-A1658	ABCL	19,500
☐ Apex Spring & Stamping			8/24/22	C26000-0151-H02-1.375-ATMW-C-S-N-A2044	ABCL	7,500
☐ ARaymond Manufacturing Center North America, Inc.			6/27/22	C11000-0400-H03-0.500-GENL-C-S-N-A2087	ABCL	13,305
☐ Auto-Kabel of North America			7/28/22	C11000-0099-H02.A-0.984-ATMW-C-S-N-A2001	ABCL	8,489
☐ Automatic Spring Products Corp.	2	2	1/7/22	C51900-0240-H02.B-2.287-GENL-C-S-N-A34	ABCI	27,816
☐ Bazz Houston International			6/20/22	C15500-0642-H02.B-0.375-EMAT-TW-S-N-A1941	ABCL	171,475
☐ Bel-Air Manufacturing Inc.			6/3/22	C26000-0243-H04-1.750-EBRT-C-S-N-A2027	ABCL	1,000
☐ Bradbury Burial Vault Company			3/24/22	C23000-0210-H02-32.000-BWPV-CTLx89.000-S-N-A1455	ABCI	397
☐ Cerro Flow Products LLC	1	1	9/14/22	C11000-0200-H02-0.750-GENL-C-S-N-A1324	ABCL	11,000
☐ Composidie, Inc.			6/15/22	C26000-0251-H02.B-1.000-HDMW-C-S-N-A2059	ABCL	20,000
Total			11/23/21	A91050-0394-H14-4.700-GENL-C-S-N-A408	ABCE	6,870,707



ABC Metals Group, LLC
NONFERROUS ALLOYS – PRECISION SLITTING



Robert Bierwagen – VP of IT
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Mobile: 317.513.6664

**POWER BI USER GROUP MEETING
WABASH HEARTLAND INNOVATION NETWORK
PURDUE UNIVERSITY**

DRILLTHROUGH FEATURES

June 23rd, 2022

NUCOR[®]



KYLE M. SMITH, PMP – IT SUPERVISOR



INTRODUCTION



NUCOR STEEL INDIANA
NUCOR CORPORATION (NUE)
CRAWFORDSVILLE, INDIANA



WHAT IS DRILLTHROUGH?

Capability in Power BI that allows the publisher to create action buttons or custom menu items that navigate the user to a specific, focused page in the BI file.

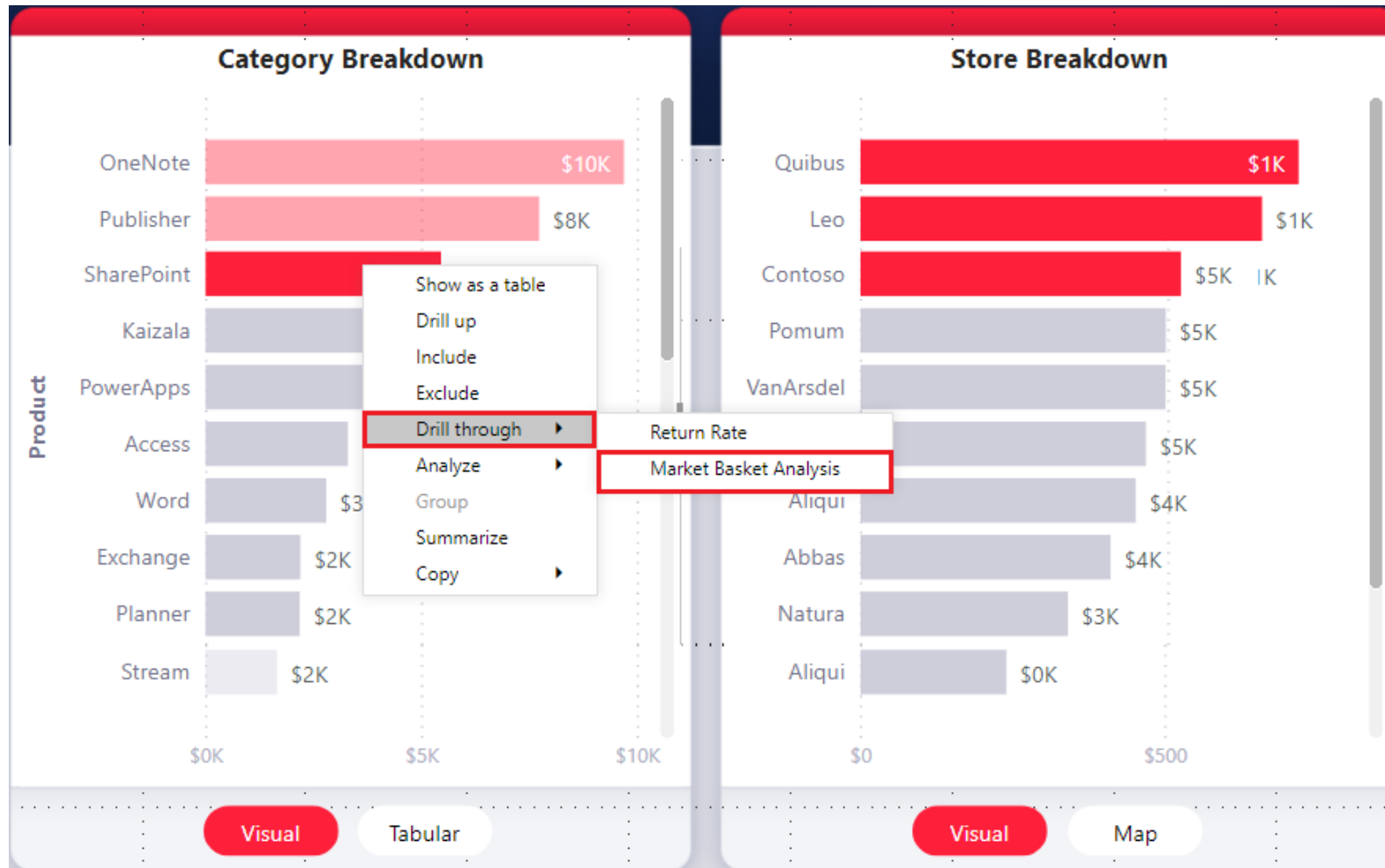


Photo credit: Microsoft
<https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-drillthrough>



“Want to go really fast? Slow down and focus.”

Tim Fargo, Author

WHY USE DRILLTHROUGH?

- Change our thinking
- Inspires enhancements
- Efficiencies



EXAMPLE 1- USING THE DRILLTHROUGH MENU

The screenshot displays a Power BI report titled "Checklist Report" with a green theme. The report includes several visualizations and a table:

- Checklist Crew Wise:** A bar chart showing counts for crews A (30), B (28), C (20), and D (24).
- Daily, Weekly and Monthly Template:** A pie chart showing 3 (2.94%) for Weekly Template and 94 (92.16%) for Daily Template.
- Checklist Count User Wise:** A table with columns "Created By" and "Checklist Count". A context menu is open over the table, showing options like "Show as a table", "Include", "Exclude", "Drill through", and "Copy". The "Drill through" option is highlighted, and a sub-menu "User Wise Details" is visible.
- Checklist Count with Status:** A combined bar and line chart showing counts over time for "Checklist Count", "Okay True Count", "NA True Count", and "NotOkay True Count".

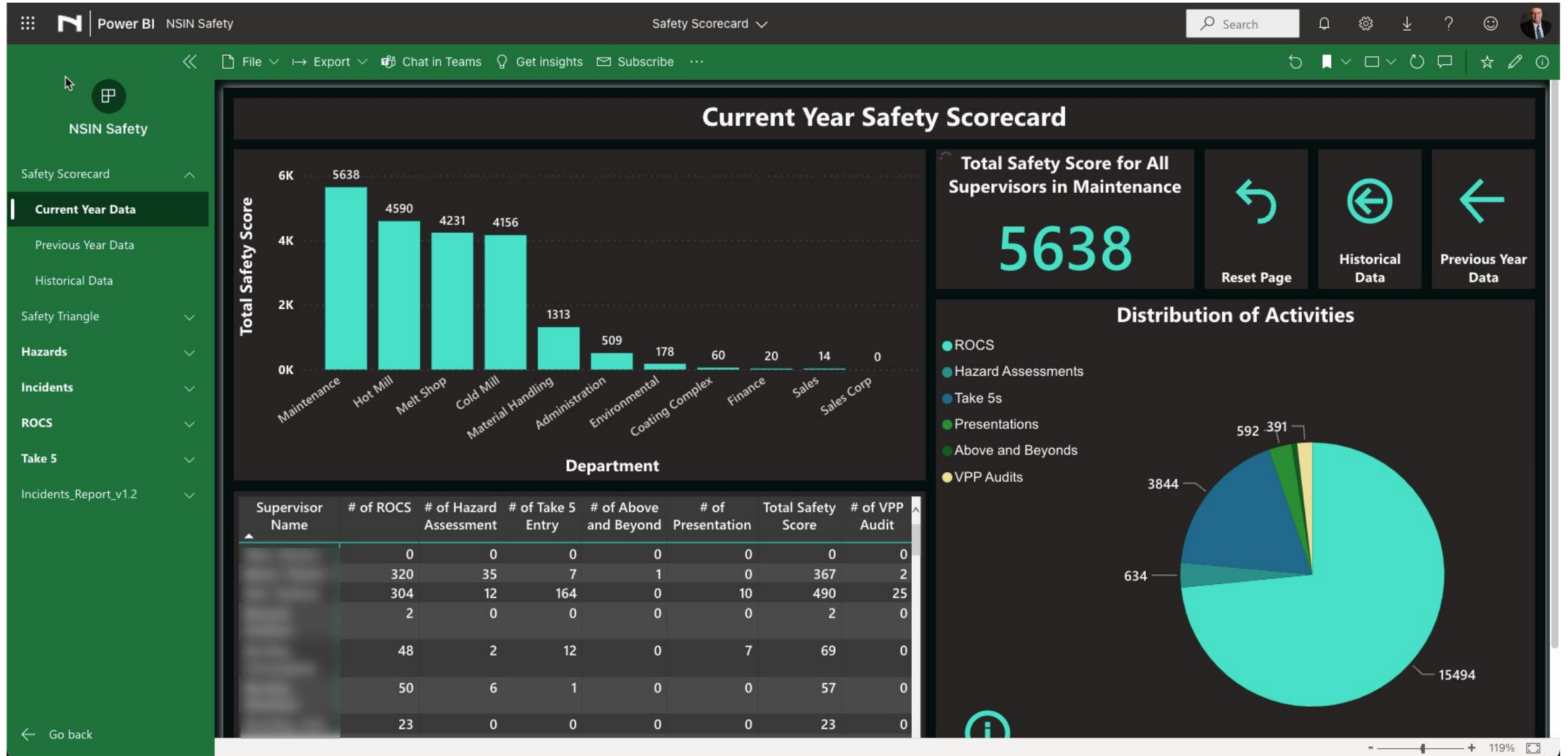
The report also features a top navigation bar with filters for "Created By" (All), "Crew" (All), and "Date" (6/16/2022 to 6/22/2022). The left sidebar shows the Power BI navigation pane with the "Checklist Details" page selected.

EXAMPLE 1- USING THE DRILLTHROUGH MENU

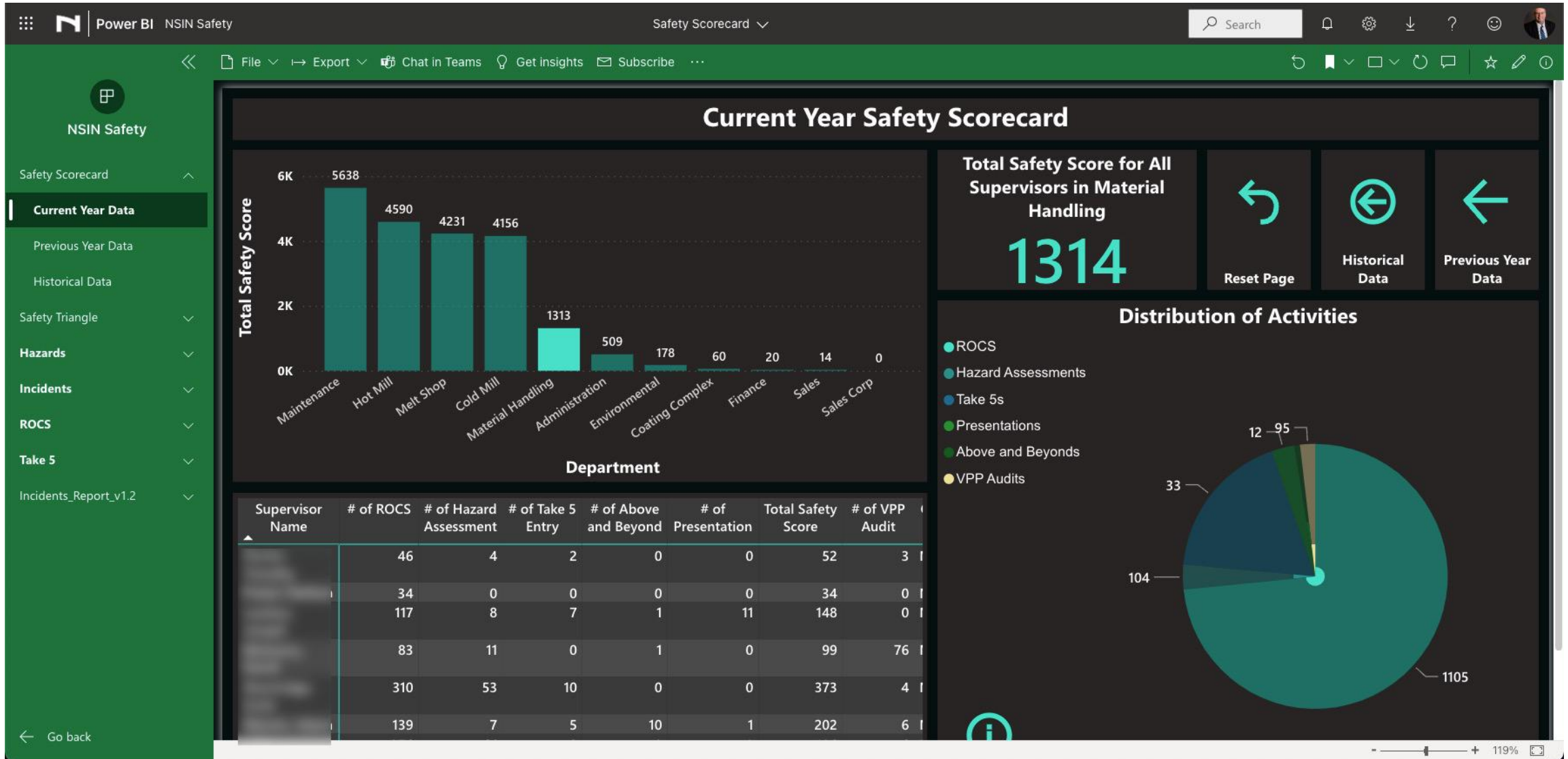
The screenshot shows a Power BI report in a Microsoft Edge browser. The report is titled "Checklist Report" and displays a table of "User Wise Details". The table has the following columns: Created By, Crew, Date, Job, Template Name, Template Type, Checklist Count, Okay True Count, NotOkay True Count, and NA True Count. The data rows show various checklist entries for "Tunnel Furnace Tech" from June 19th to 22nd, 2022, with a total of 7 checklist counts, 118 okay counts, 4 not okay counts, and 15 NA counts.

Created By	Crew	Date	Job	Template Name	Template Type	Checklist Count	Okay True Count	NotOkay True Count	NA True Count
[REDACTED]	D	19-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	17	0	3
[REDACTED]	D	19-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	0	1	0 15 sh
[REDACTED]	D	20-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	15	0	4
[REDACTED]	D	20-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	0	1	0 15
[REDACTED]	D	21-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	16	1	4
[REDACTED]	D	22-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	16	0	4
[REDACTED]	D	22-Jun-22	Tunnel Furnace Tech	12 HOUR (SHIFT) CHECK LIST	Daily Template	1	0	1	0 sh on off ne we
[REDACTED]	D	19-Jun-22	Tunnel Furnace Tech	furnace tech (4 day)	Weekly	1	27	0	0
Total						7	118	4	15

EXAMPLE 2- USING THE DRILLTHROUGH BY LEFT CLICK

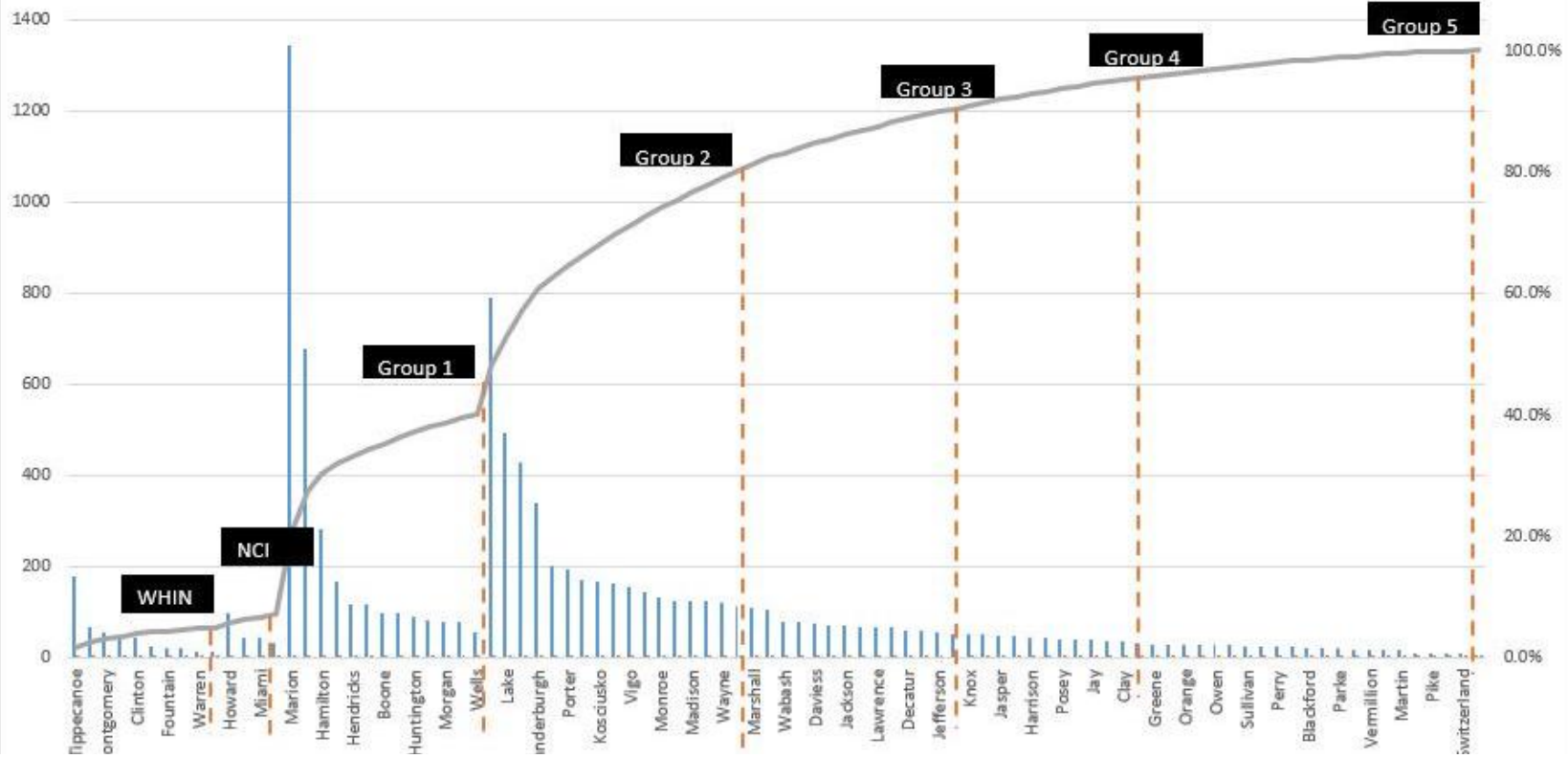


EXAMPLE 2- USING THE DRILLTHROUGH BY LEFT CLICK

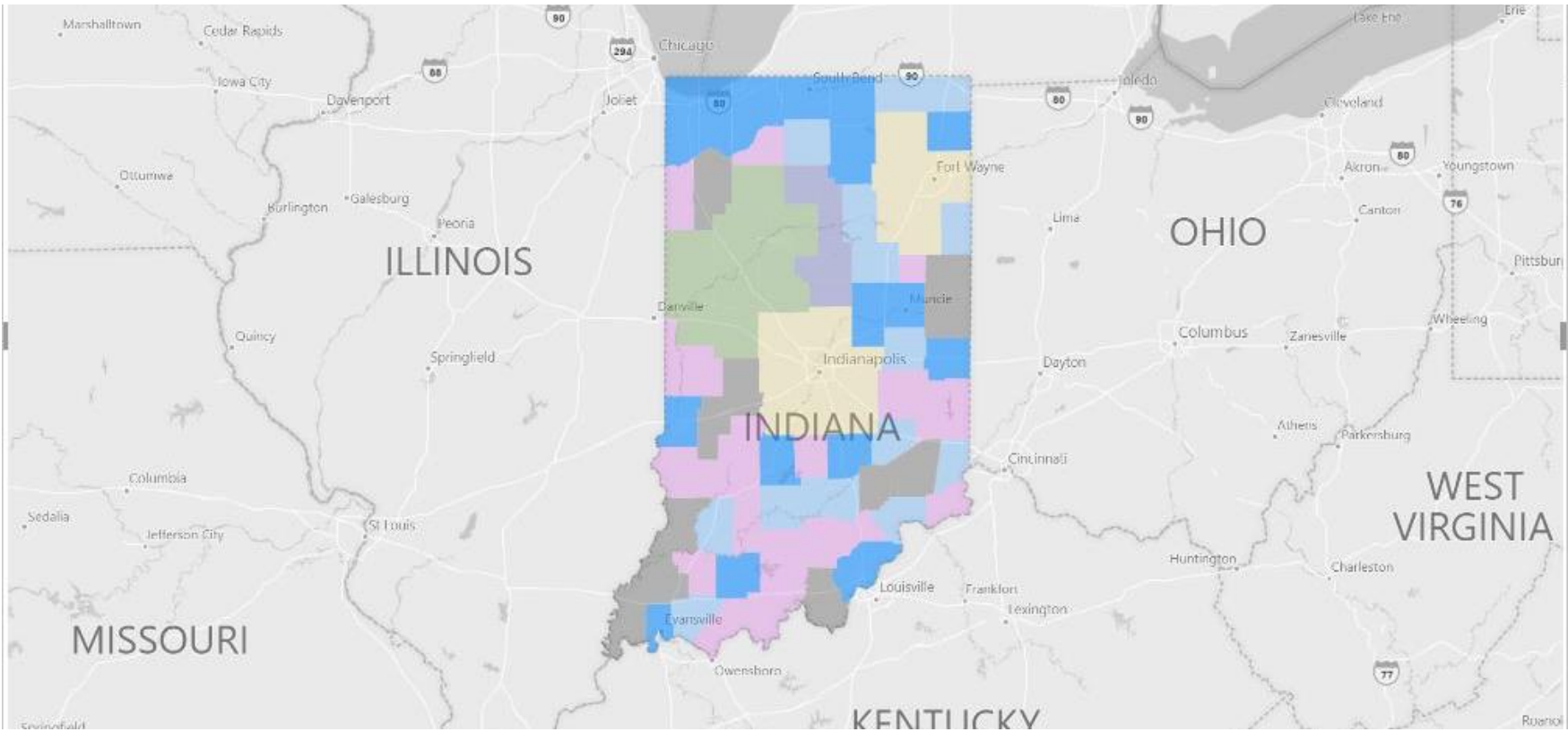


POWER B/I TIPS AND TRICKS

June 23,2022



Starting point



STATE MAP BY COUNTY



Filters on all pages ...

Add data fields here

Add data fields here

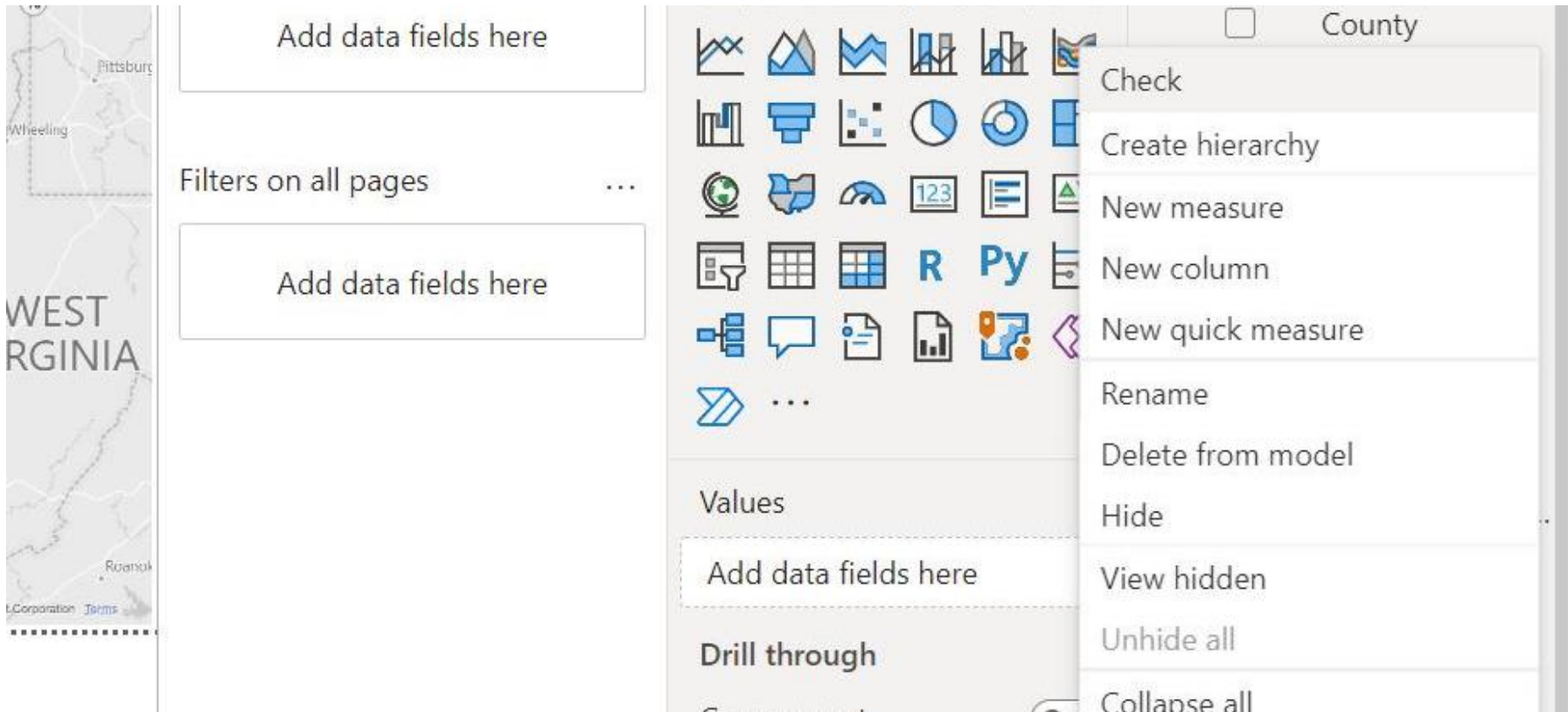
Values

Add data fields here

Drill through

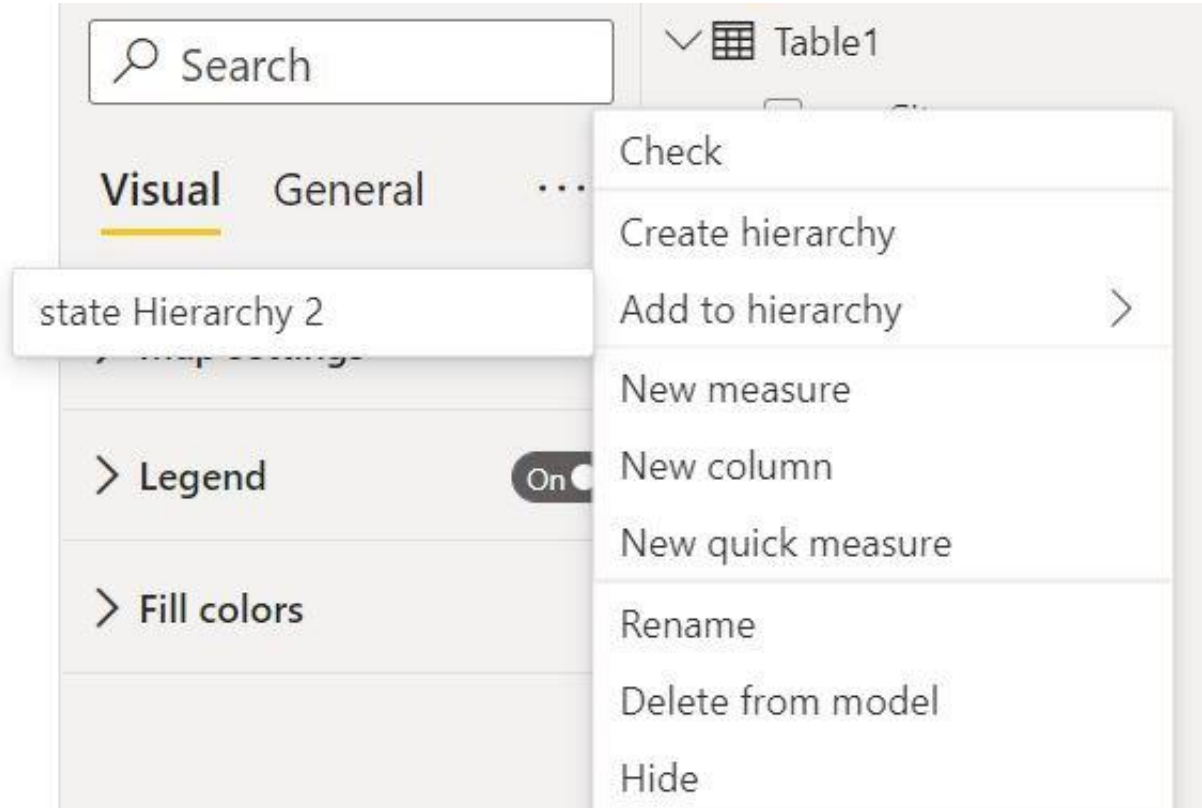
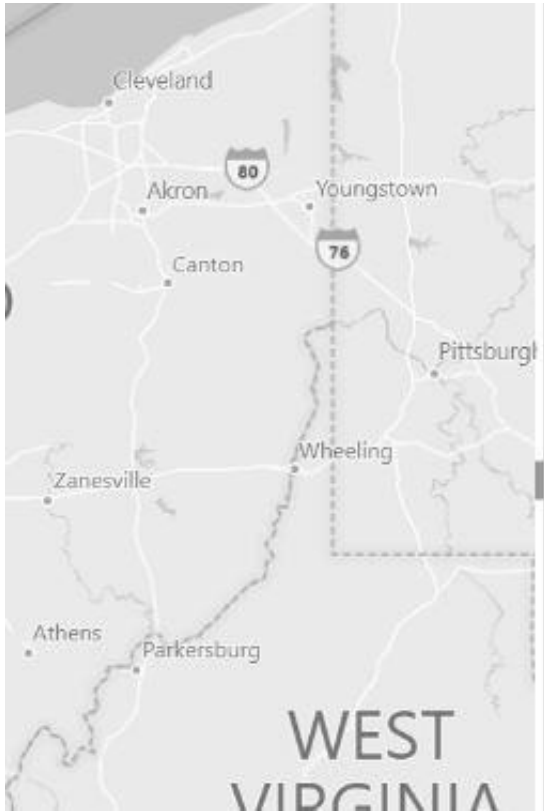
Cross-report Off

- Code
- County
- Σ Latitudes
- Σ Longitudes
- Σ Number of co...
- State
- State Hierarchy
 - State
 - County
 - Σ Number of c...
- Table1
 - City
 - Company
 - County



CREATION OF HIERARCHY RELATIONSHIPS

STEP ONE – CREATIONS OF CORE



CREATION OF HIERARCHY RELATIONSHIPS

STEP TWO – ADDING LAYERS




Visual General ...

> Map settings

> Legend **On**

✓ Fill colors

 ✓ Colors

- Company
- County
- Σ Latitude
- Σ Longitude
- Product
- state
- >  state Hierarchy
- Type



Add data fields here

Filters on all pages ...

Add data fields here

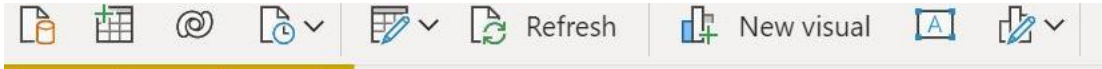
Values

Add data fields here

Drill through

Cross-report Off

- Code
- County
- Σ Latitudes
- Σ Longitudes
- Σ Number of co...
- State
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 - State
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 - Σ Number of c...
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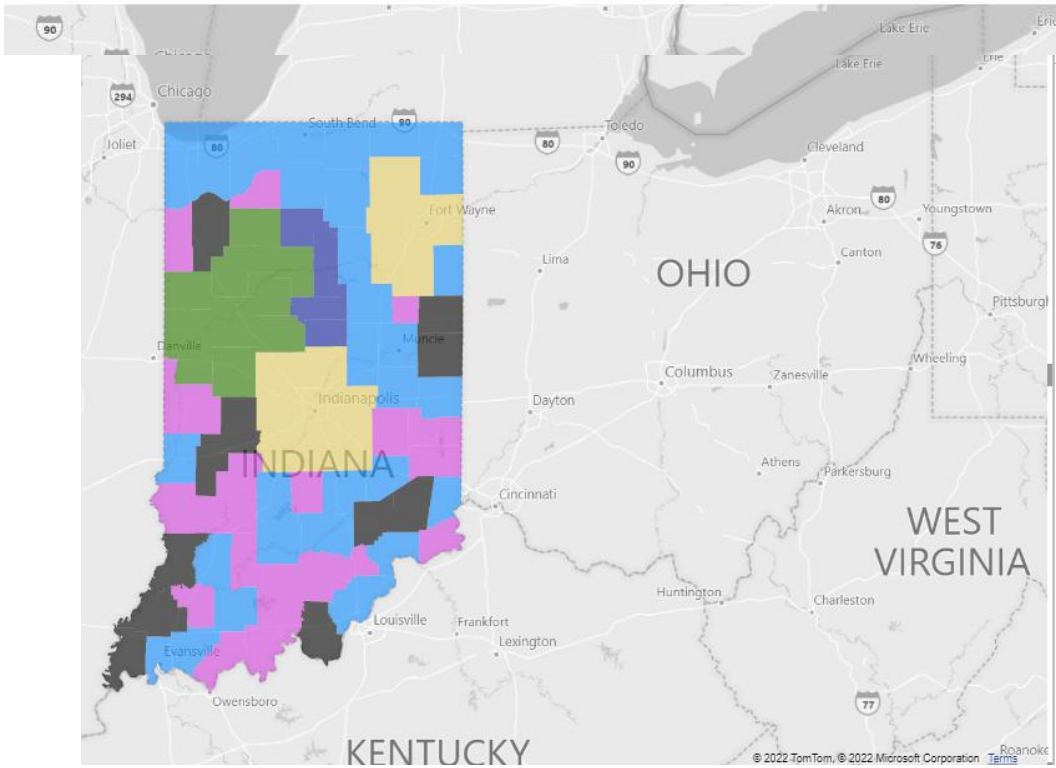


Group 5 NC WHIN



Companies by Groups and Counties

WHIN



Search

Filters on this visual

- Average of Latitudes is (All)
- Average of Longitudes is (All)
- Code is (All)
- County is (All)
- Number of compa... is (All)
- Number of compa... is (All)
- Number of companies

Visual **General**

> Properties

▼ Title

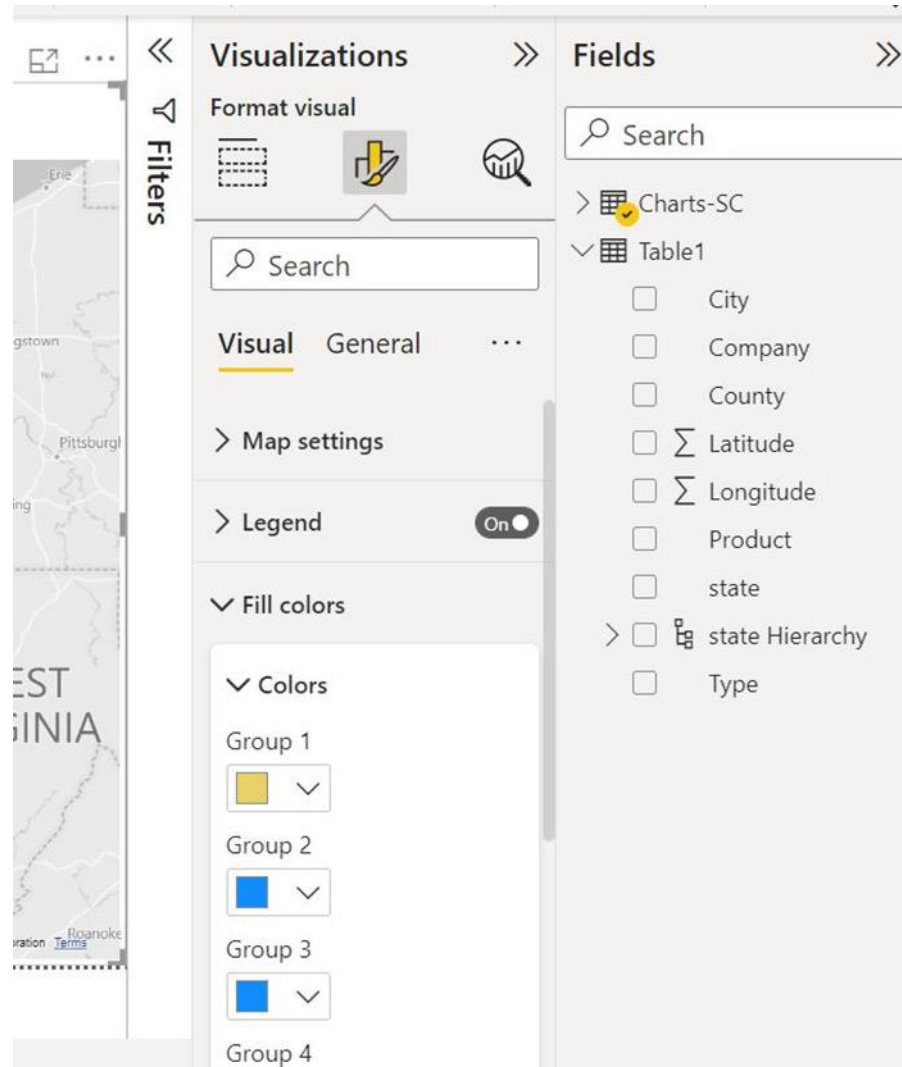
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Companies by Grou *fx*

Heading
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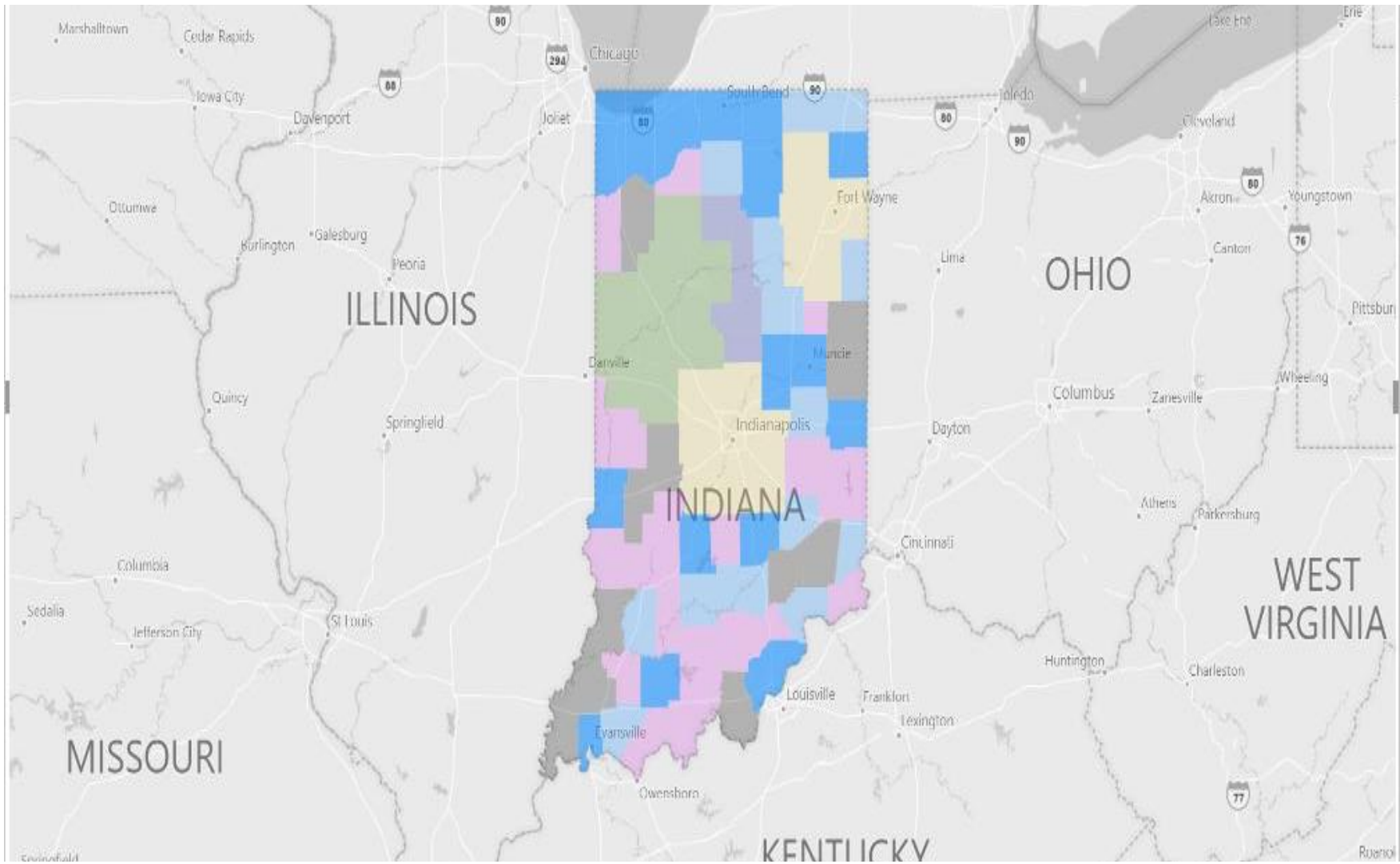
Font
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B *I* U

ADDING TITLES



Adding / changing colors



Filter

A is

A is

C is

C is

N

Thank You
dunlops@purdue.edu

Wrap Up

- Open Discussion
- Volunteers for Presenting at next meeting
- Next Meeting – Tentative September 22 at 3:00-4:30

POWER BI USER GROUP SESSION 5

JUNE 23, 2022

Facilitated by:

Steve Dunlop
Angus McLeod
Roy Vasher

