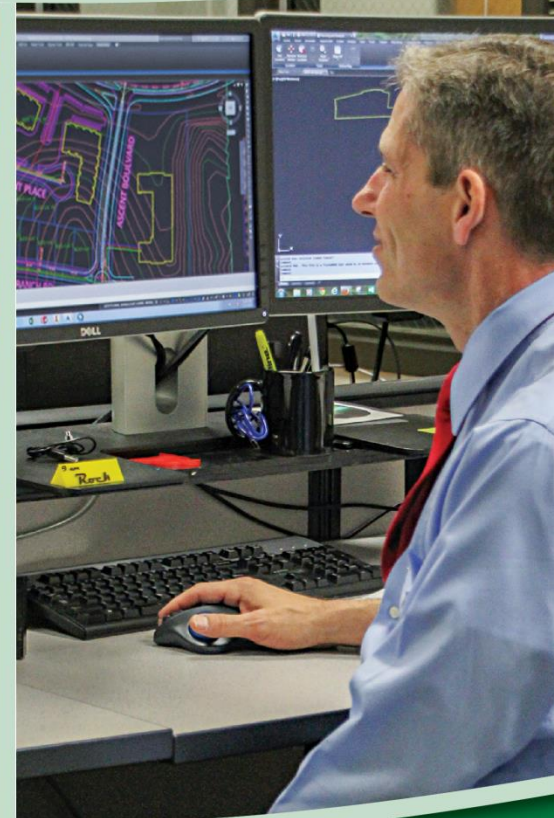


# **VR** Vocational Rehabilitation

Let's go to work



[scvrd.net](http://scvrd.net)

# **WIOA Performance Management Dashboards**

**Putting the Power in Power BI**

Margaret Alewine, MRC, CPM

Thursday, September 5, 2019

## **WIOA Performance Management Dashboards**

# **Introduction**

- Business Intelligence (BI): strategies and technologies used for data analysis of business information
- BI enables access to and analysis of information to improve and optimize decisions and performance

## **WIOA Performance Management Dashboards**

# **Business Intelligence**

- BI technologies provide historical, current and predictive views of business operations
- BI Systems have been implemented by an increasing number of organizations since its emergence in the 1990's and has become considered a standard business tool today

## **WIOA Performance Management Dashboards**

# **Types of BI**

- Spreadsheets
- Reporting and querying software
- Digital dashboards
- Data mining
- Business activity monitoring
- Data warehouse

## **WIOA Performance Management Dashboards**

# **Data Warehouse Definitions**

- Data Warehousing: Integrating various data sources into a single data store for more informed reporting and analysis
- Integrates data from multiple sources that support analytical reporting, structured and/or ad hoc queries, and decision making

## **The Journey to a Data Warehouse and Power BI Reporting**

### **Where we were...**

- Mostly self serve reporting in .NET applications
- Additional reporting manually compiled from ad hoc query results

## The Journey to a Data Warehouse and Power BI Reporting

### Where we were...

- STARS – Statistical Tool and Reporting System

The screenshot shows the 'CBJT100 - Statistical Tool and Reporting System (STARS) for Case Services' window. It features a 'Fields' tab with a list of fields for inquiry, including Client Number, Multi-Closure Code, Name, Suffix, Last Name, First Name, Middle Initial, Goes By, Address 1, Address 2, City, State, Zipcode, Mailing Address, Mailing City, Mailing State, Mailing Zip, County Code, E-mail, and Phone Number. To the right of the list, there is instructional text: 'Click on each item in the list on the left if you need to see that item in the data that will be returned. For instance, if you need to see the client's name and address, select those items. You may select as many items as you need. When you are finished, advance to the next tab to select the parameters that will limit the data retrieved. You may prefer to select one of the check boxes below. The "master data" refers to the clients name and address, voter's registration, current DOT code, caseload, orgcode, and clientstatus. The "RSA data" refers to all SSI, SSDI, earning, race, DOB, etc. required for RSA-911 reporting.' Below this text are three checkboxes: 'Case Count', 'All master data', and 'All RSA data'. At the bottom right are three buttons: 'Reset ALL', 'Export', and 'Next>>'. The window also has tabs for 'Parameters A', 'Parameters B', 'Parameters C', 'Parameters D', and 'Advanced'.



## The Journey to a Data Warehouse and Power BI Reporting

STARS: Users could build their own reports by selecting parameters – this program built SQL statements based on user selected data.

CBJT100 - Statistical Tool and Reporting System (STARS) for Case Services

Fields Parameters A Parameters B Parameters C Parameters D Advanced

Option 1

☐ Application date

07/01/2017 TO 06/30/2018

☐ AND ☐ OR

☐ Closure date

07/01/2017 TO 06/30/2018

Option 2

☐ AND ☐ OR

☐ Current Status ☐ Status Date

07/01/2017 TO 06/30/2018

AND

☐ Status 02 ☐ OR

☐ Status 06 ☐ OR

☐ Status 08 ☐ OR

☐ Status 10 ☐ OR

☐ Status 12 ☐ OR

☐ Status 20 ☐ OR

☐ Status 26 ☐ OR

☐ Status 28 ☐ OR

☐ Status 30 ☐ OR

☐ Status Other

Parameters will limit the number of clients returned. Rarely will you need to return data without parameters.

Start with "Option 1". Check the "Application date" box if you need to retrieve clients who applied during a particular date range. Then set the date range.

If these clients must also have been closed during a particular date range, select the "AND" option, check "Closure date" and set the date range for closure. This narrows or limits the search.

If either the application or the closure date must fall within a particular date range, select the "OR" option, check "Closure date" and set the date range. This widens the search.

Proceed to "Option 2".

Again, "AND" will limit your search while "OR" will expand your search. If you need data where client status falls within a particular range, check "Client status date" and select a date range. Then, select the status(es) desired. "OR" is assumed for statuses.

Reset A Export Next>>

## **The Journey to a Data Warehouse and Power BI Reporting**

# **Perils of Reporting Apps**

- New database fields must be refactored into existing applications (data structures, user interfaces, output reports)
- Build your own reports: dynamic query generation introduces potential for bugs and/or invalid data
- Aggregate queries executed against transactional database servers affect server performance (it slows the system down)

## **The Journey to a Data Warehouse and Power BI Reporting**

# **Perils of Reporting Apps**

- RSA Case Service Report (RSA-911)
  - PD 14-01: through FFY 2016
    - 200+ data elements
  - PD 16-04: PYs 2017 – 2019
    - 393 data elements
  - PD 19-03: PY 2020 – 2021
    - Modified/Deleted/Added New

## The Journey to a Data Warehouse and Power BI Reporting

# Tech savvy users needed more!

- Internal customers requesting modern dashboards to track various organizational metrics from one place
- Modern BI Tools allow for data visualizations that convey information more quickly than “just the numbers”
- Answers often lead to more questions...

## **The Journey to a Data Warehouse and Power BI Reporting**

### **The Team**

- Database Administrator – SQL Server installations, schema design, performance tuning, report development, technical lead
- Database Specialist – Development of ETL processes and end-user reports
- Analyst – Communication with administration, identification of data sources, data analysis, verification of report accuracy
- Program Evaluation – coordinate feedback, data visualizations

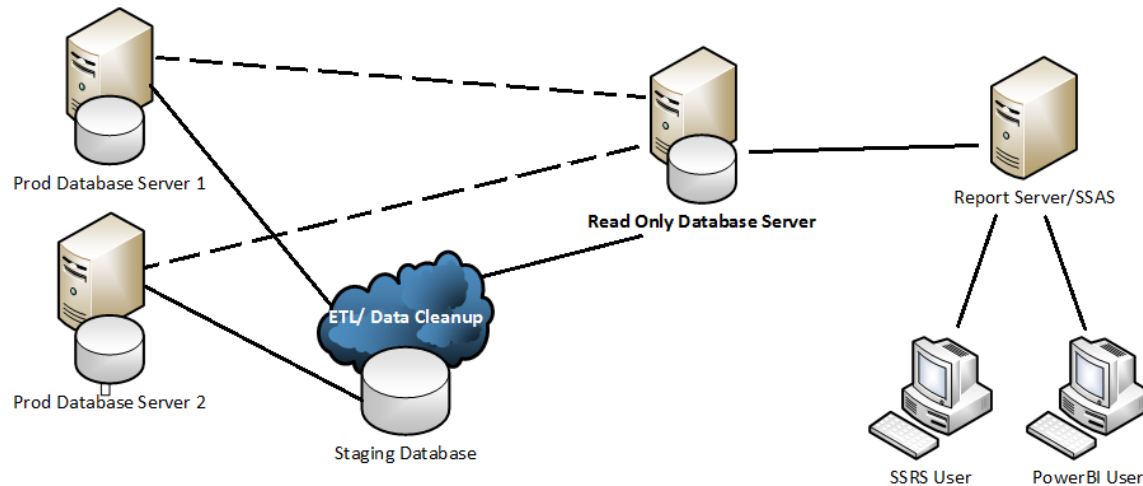
## **The Journey to a Data Warehouse and Power BI Reporting**

# **Research**

- Discussion of data warehouse implementation with other states
- Consultant input on data warehouse
- Independent research within team
- Microsoft Power BI Training

## The Journey to a Data Warehouse and Power BI Reporting

# BI Architecture Overview



## **The Journey to a Data Warehouse and Power BI Reporting**

# **Foundational Components**

- Report Database Server
  - Staging Database
  - Data Warehouse Database
- SQL Server Integration Services
- SQL Server Analysis Services
- Power BI Desktop for Report Server
- Power BI Report Server



## **The Journey to a Data Warehouse and Power BI Reporting**

# **Report Database Server**

- BI databases:
  - Staging Database
    - Temporary holding area, used to house data before cleaning (de-duplications, transformations) and loading into Data Warehouse
  - Data Warehouse Database
    - Houses fact and dimension tables used by reports (SSAS, Power BI, etc.)

## **The Journey to a Data Warehouse and Power BI Reporting**

# **ETL Processes**

- **E**xtract, **T**ransform, **L**oad – Responsible for transfer of data from production data sources to staging database or from staging database to data warehouse database
- Implemented using SQL Server Integration Services Packages

## **The Journey to a Data Warehouse and Power BI Reporting**

# **ETL Processes**

- Packages executed on a scheduled basis during intervals of minimal system use
- Any data cleanup occurs during this process (I.E. de-duplication, value conversions, etc.) before data reaches final destination in data warehouse

## **The Journey to a Data Warehouse and Power BI Reporting**

# **Power BI Desktop**

- Released by Microsoft in 2015
- Analytics tool used to create data models and develop reports with interactive visualizations
- Integrates with Power BI Report Server to allow publishing of reports to a portal

## **The Journey to a Data Warehouse and Power BI Reporting**

# **Power BI Report Server**

- On-premises report server capable of hosting Power BI Reports, PDF, and other MS Office File Formats
- Secure web portal can be accessed from any web browser
- Portal is customizable to your organization

## WIOA Performance Management Dashboards

# Change Management

- Don't just tell employees organizational changes are coming – explain why
  - Present a compelling vision for the future
  - Keep employees informed by providing regular communications
  - Empower leaders and managers to lead through change
  - Find creative ways to involve employees in the change
    - *Harvard Business Review – Morgan Galbraith; retrieved from [Change Management Harvard Business Review](#)*

## **WIOA Performance Management Dashboards**

# **Change Management**

- Clearly define the change and align it to business goals
- Determine impacts and those affected
- Develop a communication strategy
- Provide effective training
- Implement a support structure
- Measure the change process

Pulselearning.com

## **WIOA Performance Management Dashboards**

# **Change Management**

### Standards & Indicators

- 1.1 – 1.6




### WIOA Performance Measures

- Employment and earnings after exit
- Skills gains and credentials
- Employer services




# VR Reports Hub





 Home


Home


## FOLDERS (18)


 Closures - Outcomes ...


 Communications ...

 Fiscal Reporting ...


 My Reports ...


 Program Integrity ...


 Quality Assurance ...


 Referral Development ...


 Reports Hub Guide ...

 Service Delivery ...


 Specialty Areas ...

 Users Folders ...


 WIOA Common  
Performance Measures ...


 WIOA Unified State Plan  
and SCVRD  
Accountability Reports ...

## POWER BI REPORTS (1)

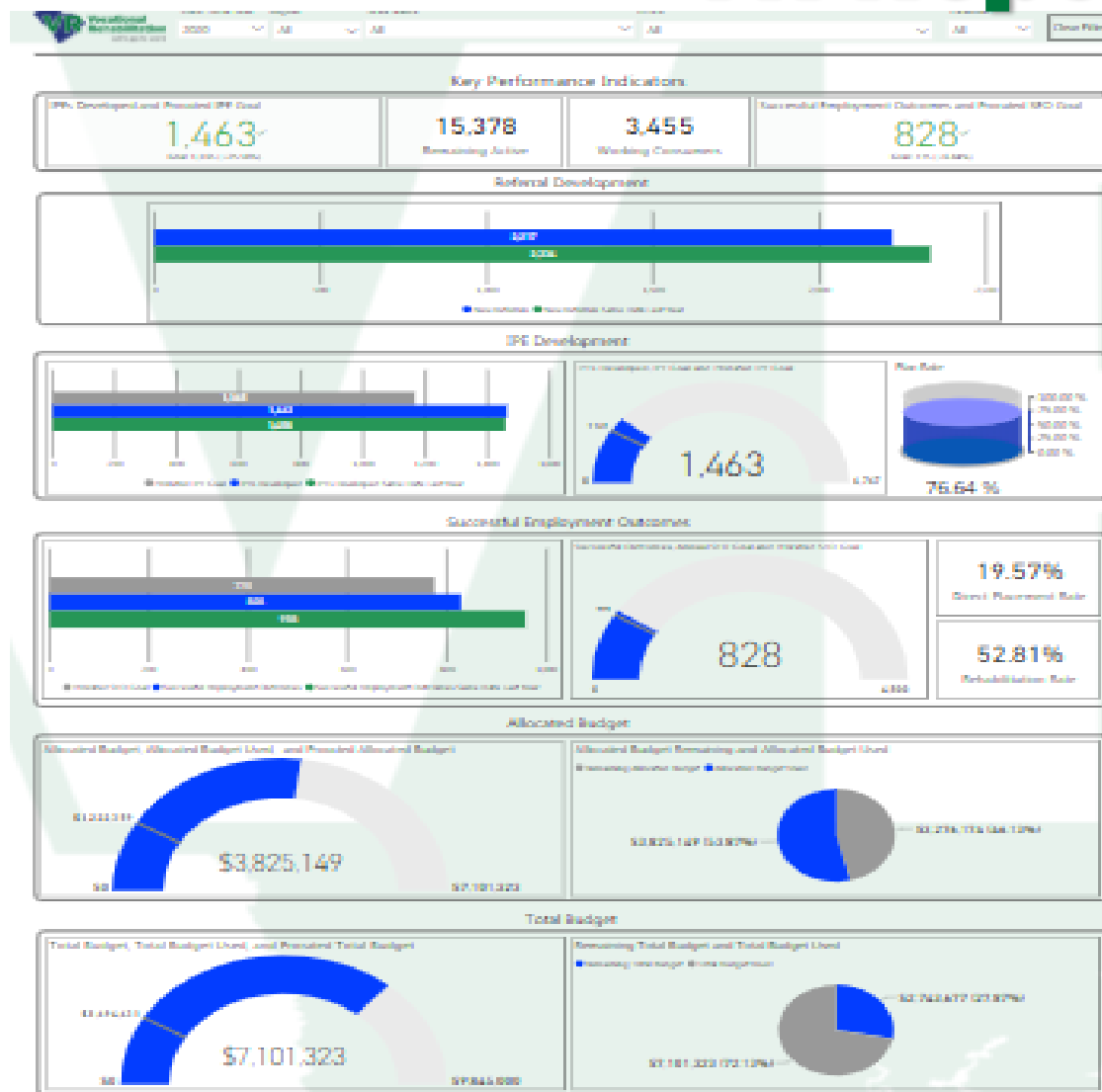
 Key Performance Indicators  
DEMO ...

## PAGINATED REPORTS (2)

 Employee Emails and  
Phone ...

 Kronos Consumer Labor ...

# VR Reports Hub



# VR Reports Hub

State Fiscal Year  
2018

Region  
All

Area Name  
All

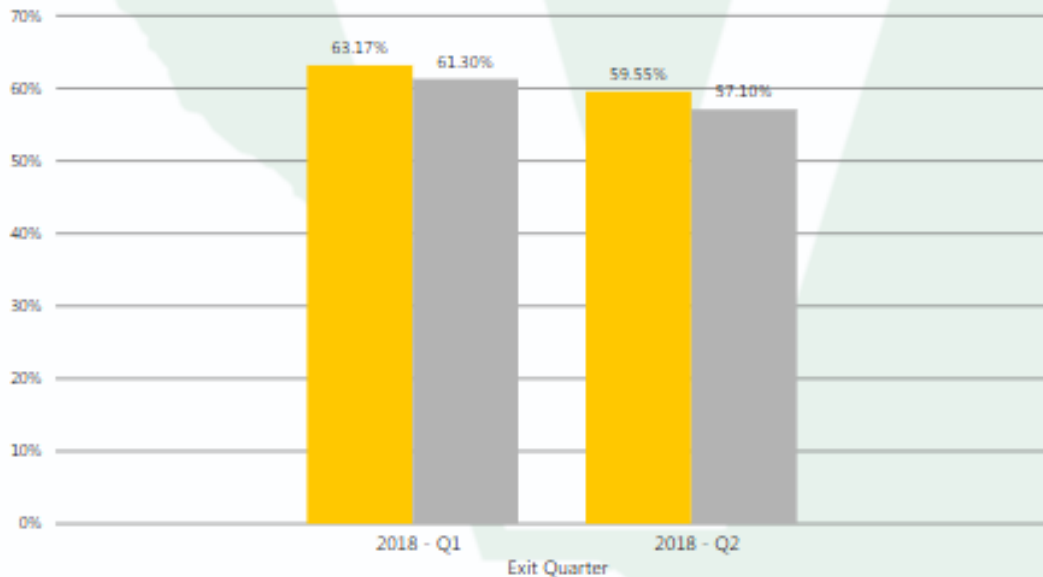
Office Name  
All

Caseload  
All

Clear

## State Fiscal Year 2018 Closures

● Employment Rate 2nd Quarter After Exit ● Employment Rate 4th Quarter After Exit



Supported Employment

All

Compare to Statewide Measures

61.25%

Employment Rate 2nd Quarter After Exit

59.07%

Employment Rate 4th Quarter After Exit

\*Statewide measures calculated for selected state fiscal year

61.25%

Employment Rate 2nd Quarter After Exit

59.07%

Employment Rate 4th Quarter After Exit

# VR Reports Hub

State Fiscal Year  
2017

Region  
All

Area Name  
All

Office Name  
All

Caseload  
All

Clear Filter

## State Fiscal Year 2017 Closures

Median Wage Q2 After Exit by Exit Quarter



**\$3,882**  
Median Wage Q2 After Exit

Supported Employment Status:

All

Compare to Statewide Measure

**\$3,882**

Median Wage Q2 After Exit

\*Statewide measures calculated for selected state fiscal year

# VR Reports Hub

State Fiscal Year

2018

Supported Employment Status:

All

## State Fiscal Year 2018 Closures

Percent with Earnings 2nd Qtr After Exit, By Area

Area Name	Employment Rate 2nd Quarter After Exit
ORANGEBURG AREA	83.18 %
GREENWOOD AREA	68.34 %
GREENVILLE AREA	67.78 %
SPARTANBURG AREA	66.38 %
BRYANT CENTER	66.22 %
LAURENS AREA	63.68 %
ANDERSON AREA	63.47 %
WILLIAMSBURG AREA	62.61 %
LEXINGTON AREA	61.95 %
MARLBORO AREA	61.26 %
CONWAY AREA	61.02 %
SUMTER AREA	60.53 %
RICHLAND AREA	60.19 %
GAFFNEY AREA	60.00 %
WALTERBORO AREA	59.62 %
ROCK HILL AREA	59.09 %
BEAUFORT AREA	58.77 %
OCONEE PICKENS AREA	58.06 %
FLORENCE AREA	57.19 %
AIKEN AREA	55.92 %
CAMDEN AREA	55.83 %
CHARLESTON AREA	54.40 %
BERKELEY/DORCHESTER AREA	53.69 %
LANCASTER AREA	52.33 %
<b>Total</b>	<b>61.25 %</b>

Percent with Earnings 4th Qtr After Exit, By Area

Area Name	Employment Rate 4th Quarter After Exit
ORANGEBURG AREA	72.90 %
GREENWOOD AREA	69.85 %
GAFFNEY AREA	66.32 %
GREENVILLE AREA	65.46 %
ANDERSON AREA	63.47 %
SPARTANBURG AREA	62.13 %
LEXINGTON AREA	61.95 %
BRYANT CENTER	61.49 %
SUMTER AREA	60.53 %
MARLBORO AREA	60.21 %
LAURENS AREA	59.70 %
OCONEE PICKENS AREA	59.35 %
CONWAY AREA	58.47 %
WALTERBORO AREA	57.69 %
WILLIAMSBURG AREA	56.52 %
AIKEN AREA	56.40 %
RICHLAND AREA	56.35 %
ROCK HILL AREA	55.56 %
FLORENCE AREA	54.79 %
CAMDEN AREA	54.17 %
CHARLESTON AREA	52.52 %
BEAUFORT AREA	51.75 %
BERKELEY/DORCHESTER AREA	51.72 %
LANCASTER AREA	46.51 %
<b>Total</b>	<b>59.07 %</b>

Median Earnings 2nd Qtr After Exit, By Area

Area Name	Median Wage Q2 After Exit
ORANGEBURG AREA	\$5,752.22
GREENVILLE AREA	\$5,162.94
LEXINGTON AREA	\$4,797.07
SPARTANBURG AREA	\$4,761.05
BRYANT CENTER	\$4,571.58
OCONEE PICKENS AREA	\$4,443.39
SUMTER AREA	\$4,384.33
ANDERSON AREA	\$4,252.87
GAFFNEY AREA	\$4,239.68
FLORENCE AREA	\$4,215.78
RICHLAND AREA	\$4,119.90
LAURENS AREA	\$4,099.59
GREENWOOD AREA	\$4,033.96
MARLBORO AREA	\$4,004.30
BERKELEY/DORCHESTER AREA	\$3,921.18
WALTERBORO AREA	\$3,765.91
WILLIAMSBURG AREA	\$3,765.25
CAMDEN AREA	\$3,715.00
CHARLESTON AREA	\$3,639.50
LANCASTER AREA	\$3,408.78
AIKEN AREA	\$3,321.51
BEAUFORT AREA	\$3,299.20
CONWAY AREA	\$3,270.18
ROCK HILL AREA	\$2,828.17
<b>Total</b>	<b>\$4,119.23</b>

# VR Reports Hub

## Skill Gains during PY2018 through program quarter 4, STATE WIDE

Skill Gain Type	Total Consumers With Element 85	Total Consumers Without Element 85	Total Consumers
Educational Functioning Level	146	63	209
Secondary Skill Gains	343	510	853
Postsecondary Transcript	429	24	453
Training Milestone	46	101	147
Skills Progression	113	70	183

# VR Reports Hub

Credential Attainment	Total Consumers With Element 84	Total Consumers Without Element 84	Total Consumers
Was enrolled in post secondary education or training leading to a credential (with Element #84)	4097	0	4097
Enrolled during Program Participation in an Education or Training Program Leading to a Recognized Postsecondary Credential and attained a credential	955	340	1295

Information as of 09/02/2019 at 4 am

# VR Reports Hub

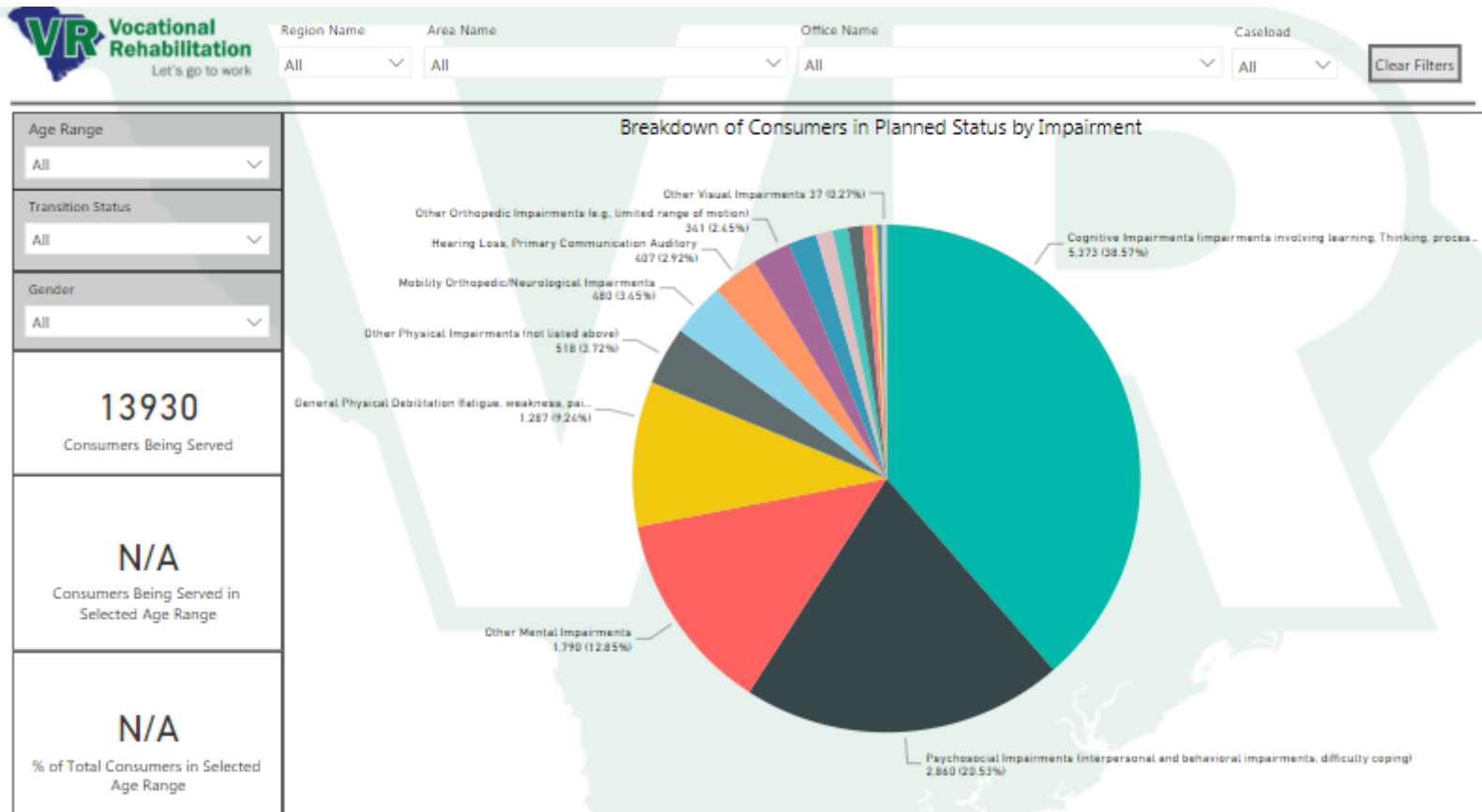
Select State/Fiscal Year...

2019 ▼

Consumer Status ▼	Instruction in Self Advocacy	Counseling on Enrollment Opps	Work Based Learning Experiences	Workplace Readiness Training	Job Exploration Counseling	Received at least one Pre-ETS Service
SCVRD Consumers	5600	5038	4616	4422	6204	7850
Potentially Eligible Students	753	166	49	899	1471	2711
<b>Total</b>	<b>6352</b>	<b>5203</b>	<b>4664</b>	<b>5320</b>	<b>7674</b>	<b>10560</b>



# VR Reports Hub



# VR Reports Hub

13,930

Consumer Count

3,976

Student Consumer Count

29 %

% of Student Participants

6,552

Youth Consumer Count

47.04%

% of Youth Participants

## **WIOA Performance Management Dashboards**

# **Special Thanks to:**

- Matt Tabor, IT Analyst
- Charles Brown, Database Specialist
- Dustin Karst, Database Administrator
- Mia Johnson, Systems Development Mgr.
- Jay Rolin, Chief Information Officer
- Jacob Chorey, Program Evaluation Coordinator

## **WIOA Performance Management Dashboards**

# **Contact Information**

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