

# An Analysis of Teaching Conditions for Kentucky's D180 Schools

This research brief presents findings from analysis of results from the 2011, 2013, and 2015 Teaching, Empowering, Leading and Learning (TELL) Survey results for the District 180 Priority School (D180) Cohorts in Kentucky compared to those of Non-D180 Schools. Following an introduction that summarizes the state context, this brief is organized into three sections. The first section examines an overall composite average of TELL Kentucky Survey results to capture a holistic perspective of differences across groups. The second section examines each group by teaching condition area, or construct, average. The third section highlights select questions in the survey for which the gap between D180 cohort schools and Non-D180 schools has narrowed between 2011 and 2015. An Appendix is included that provides a variety of scatterplot graphics illustrating the growth of individual schools in each cohort over time at the overall and construct levels.

This summary was developed for review in conjunction with other research briefs and data reports of TELL Kentucky Survey data. The goal is to improve stakeholder understanding of the teaching conditions that influence the quality and capacity of Kentucky's educators and to inform state-, district-, and school-level school improvement planning. Additional materials and resources can be located online at [www.tellkentucky.org](http://www.tellkentucky.org).

## State Context

This research brief summarizes data that may be related to or have implications for several major policy initiatives underway in Kentucky to improve teaching and learning conditions in schools across the state.

## SIG Program Implementation

The first initiative is part of the state's broader process to revise standards and redesign its accountability and assessment system as authorized by Senate Bill 1, which was passed in early 2009. This legislation prioritized improving persistently low-achieving schools through the establishment of District 180 Priority Schools (D180). The focus on improvement for the D180 schools parallels the national priority on improving low-performing schools through the U.S. Department of Education (USDOE) School Improvement Grant (SIG) program. The Kentucky Department of Education (KDE) accessed the SIG program as a source of additional support for the D180 Schools program.

In the 2009–10 academic year, the KDE identified persistently low-performing schools for targeted interventions through the SIG program. SIG grants are awarded by the USDOE to state education agencies (SEA) under Section 1003(g) of the Elementary and Secondary Education Act (ESEA) of 1965, which was reauthorized by the No Child Left Behind (NCLB) Act in 2002. The SEAs award sub-grants to local educational agencies (LEA) or school districts for the purpose of supporting focused school improvement efforts. In 2009, the Obama administration and U.S. Secretary of Education Arne Duncan prioritized supporting the lowest achieving schools. Through the American Recovery and Reinvestment Act (ARRA) of 2009, the USDOE increased the funds provided to SEAs under section 1003(g). These funds also required SEAs to prioritize LEAs identifying their “persistently lowest achieving schools” for improvement through four intervention models:

- The “turnaround model” in which the LEA replaces the principal and rehires no more than 50 percent of the staff, gives the principal greater autonomy, and implements other prescribed and recommended strategies
- The “restart model” in which the LEA converts or closes and then reopens a school under a charter school operator, charter management organization, or education management organization

- The “school closure model” in which the LEA closes the school and enrolls the students in other schools in the LEA that are higher achieving
- The “transformation model” in which the LEA replaces the principal (except in specified situations), implements a rigorous staff evaluation and development system, institutes comprehensive instructional reforms, increases learning time and applies community-oriented school strategies, and provides greater operational flexibility and support for the school.

Through the SIG program, KDE identified the state’s persistently lowest achieving schools to participate as part of the District 180 Priority Schools program. Schools then selected which model to implement. Cohort 1 SIG recipients were identified as the highest priority schools and were the first to receive funding assistance from KDE in July 2010. Cohort 2 SIG recipients began receiving assistance in July 2011. In July 2014, Cohort 3 SIG recipients were identified but received significantly reduced funding and support compared to the first two cohorts. Thus, Cohort 1 and 2 schools received substantially more funding and had a longer period to implement restructuring models compared to Cohort 3 schools. Table 1 summarizes SIG implementation information and allocations.

TABLE 1. SIG IMPLEMENTATION DATA				
Cohort	Number of Schools	Start Date	End Date	Amount
1	10	July 2010	August 2013	\$26,245,482 each year
2	12	July 2011	August 2014	\$24,482,683 each year
3	19	July 2014	August 2017	\$7,089,951 all three years

Having a clear understanding of when additional resources were available to each cohort is a critical contextual component for interpreting what sort of impact they had on school improvement as measured by the TELL Kentucky Survey. Figure 1 provides a visual representation of the timeline of provided supports.

*Kentucky Teaching Conditions Standards*

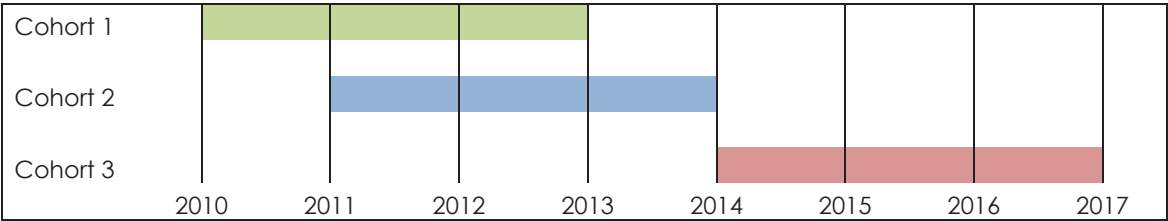
This analysis of TELL Kentucky survey data could also have importance for the state’s efforts to improve teaching conditions by implementing the Teaching Conditions Standards adopted by the Kentucky Board of Education in 2011 and promoting the use of teaching conditions survey data to drive school improvement efforts.

Based on national research that continues to show that a school’s teaching and learning conditions influence student achievement and teacher retention, a coalition of education stakeholders,<sup>1</sup> led by Governor Steve Beshear and Department of Education Commissioner Dr. Terry Holliday, partnered with the New Teacher Center (NTC) to create the TELL Kentucky Survey. The TELL Kentucky Survey assesses whether critical teaching and learning conditions are present in schools across the state. In March of 2011, the initial TELL Kentucky Survey was administered to all certified educators employed in the state’s 174 school districts.<sup>2</sup>

Since the release of the 2011 TELL Kentucky Survey results, the KDE and each of the TELL Kentucky partners have engaged in extensive outreach with stakeholders across the Commonwealth to promote the use of survey data for school improvement. The goal is to emphasize the importance of the TELL data and to provide guidance for using it in improvement planning. Several statewide projects advocating the use of TELL data have been implemented and are summarized below.

- KDE adopted the Kentucky Teaching Conditions Standards, which identify specific components of each condition and provide a continuum for assessing progress.
- The new Kentucky Professional Growth and Effectiveness System incorporates the use of TELL data as a required component of the evaluation tool being developed to assess administrator effectiveness.
- The Consolidated District Improvement Plan (CDIP) and the Consolidated School Improvement Plan (CSIP) require the use of TELL data.
- The Kentucky Learning Forward initiative used 2011 TELL data to examine policy recommendations impacting the use of teachers’ time and continued opportunities for teachers to collaborate.

FIGURE 1. SIG IMPLEMENTATION TIMELINE



1. The coalition of education stakeholders includes Governor Beshear, Commissioner Holliday, the Kentucky Department of Education, the Kentucky Association of School Superintendents, the Kentucky School Boards Association, the Kentucky Association of School Administrators, the Kentucky Education Association, The Education Professional Standards Board, the Kentucky Chamber, the Kentucky Association of School Councils, the Kentucky Council on Postsecondary Education, TELL Kentucky, and the Kentucky PTA.

2. This was the number of school districts at the time of survey implementation.

- The KDE requires each of its offices to incorporate the use of the 2011 TELL data into their discussions with respective stakeholder groups. All field staff, including technology partners, used the TELL data as a basis for conversations about how to improve teaching and learning conditions.
- As a key component of school improvement efforts, District 180 schools also participate in the TELL Kentucky Survey and utilize the results for school improvement planning.

## TELL Kentucky Survey Findings

This research brief analyzes survey data from the three cohorts of D180 Priority Schools that received SIG funding to assess how teaching conditions differ compared to other Non-D180 schools in Kentucky. For the purposes of this report, District 180 Schools (D180 schools) represent schools receiving SIG funds (Cohorts 1, 2, and 3). Non-D180 schools represent schools not receiving SIG funds.

## About the Survey

The TELL Kentucky Survey is a statistically valid and reliable instrument that assesses eight research-based teaching and learning conditions.<sup>3</sup> These eight constructs are empirically linked to student achievement and teacher retention and include: Time, Facilities and Resources, Community Support and Involvement, Managing Student Conduct, Teacher Leadership, School Leadership, Professional Development, and Instructional Practices and Support. See Table 2 for descriptions of each area. Additionally, the TELL Survey includes questions for both novice teachers (those in their first three years in the profession) to assess induction support and for principals to assess district-level supports. Response options for the positively oriented core questions use a Likert scale and range from strongly disagree to strongly agree. For this brief, results are summarized using a rate of agreement that combines the strongly agree and agree categories.

TABLE 2. TELL KENTUCKY SURVEY AREAS

<b>Time</b> —Available time to plan, collaborate, provide instruction, and eliminate barriers in order to maximize instructional time during the school day
<b>Facilities and Resources</b> —Availability of instructional, technology, office, communication, and school resources to teachers
<b>Community Support and Involvement</b> —Community and parent/guardian communication and influence in the school
<b>Managing Student Conduct</b> —Policies and practices to address student conduct issues and ensure a safe school environment
<b>Teacher Leadership</b> —Teacher involvement in decisions that impact classroom and school practices
<b>School Leadership</b> —The Ability of school leadership to create trusting, supportive environments and address teacher concerns
<b>Professional Development</b> —Availability and quality of learning opportunities for educators to enhance their teaching
<b>Instructional Practices and Support</b> —Data and support available to teachers to improve instruction and student learning

3. Swanlund, A. (2011). *Identifying working conditions that enhance teacher effectiveness: The psychometric evaluation of the Teacher Working Conditions Survey*. Chicago, IL: American Institutes for Research.

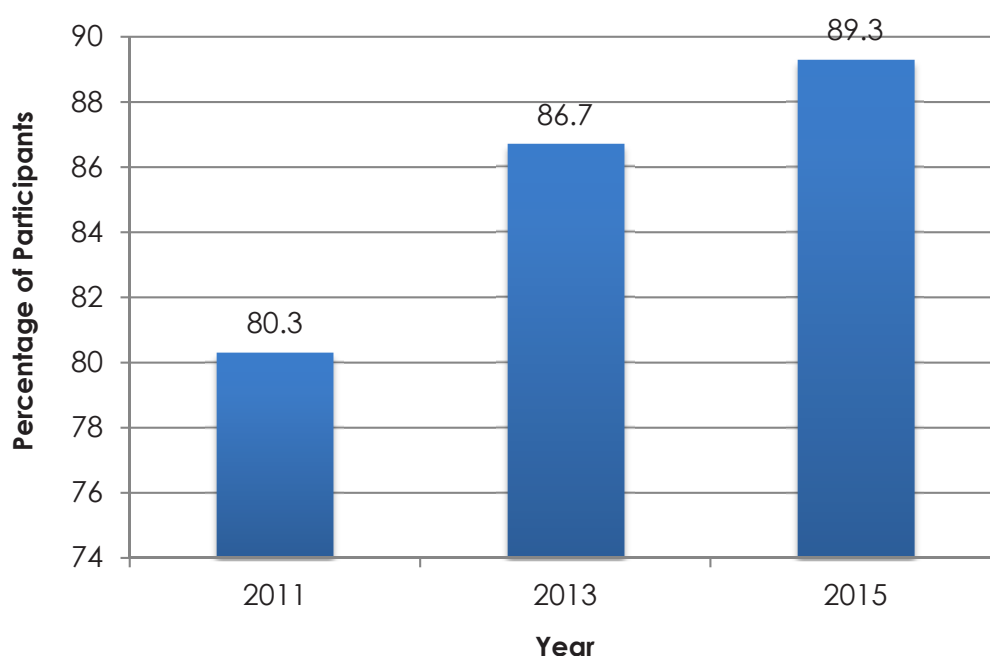
## Response Rates

Response rates are provided for the state overall, by educator role, and by school type to show patterns in participation. Additional response rate details are provided specifically for each D180 cohort and Non-D180 schools.

In 2011, more than 80 percent of Kentucky educators (42,025) shared their perceptions of teaching conditions through the TELL Kentucky Survey. Over 92 percent of

traditional public schools met the 50 percent response rate threshold required to receive an individual school-level data report. In 2013, participation increased, with over 43,700 educators (87 percent) in the state responding. Nearly 90 percent of schools met the response rate threshold in that year. In 2015, the participation rate increased again to nearly 44,933 educators (89 percent), with 95 percent of schools meeting the participation threshold. See Figure 2.

FIGURE 2. RESPONSE RATE BY YEAR



**IN 2015, THE SURVEY PARTICIPATION RATE INCREASED *again beyond 2011 and 2013 levels to nearly 44,933 educators (89 percent), with 95 percent of schools meeting the participation threshold.***

TELL Kentucky Survey respondent roles are similar across administrations. As Table 3 shows, about 89 percent of participants are teachers, about 4 percent are administrators, and about 7 percent are other licensed educators, such as librarians and school psychologists.

State response rates vary slightly by school type. Higher percentages of educators across all school levels participated with each survey administration (see Table 4).

TABLE 3. RESPONDENTS BY ROLE BY YEAR

Respondents	2011	2013	2015
Teachers	88.9%	88.3%	88.5%
Principals	2.5%	2.5%	2.2%
Assistant Principals	1.8%	2.0%	2.0%
Other*	6.8%	7.1%	7.2%
Total Response Rate	42,025 (80.3%)	43,761 (86.7%)	44,933 (89.3%)

\* Other includes school counselors, school psychologists, social workers, etc.

TABLE 4. RESPONSE RATE BY SCHOOL TYPE BY YEAR

School Type	2011			2013			2015		
	Headcount	Responded	Percent Responded	Headcount	Responded	Percent Responded	Headcount	Responded	Percent Responded
Elementary	25,622	22,129	86.4	25,407	22,880	90.1	25,040	22,995	91.8
Middle	10,082	8,071	80.1	9,548	8,189	85.8	9,115	8,159	89.5
High	14,713	10,341	70.3	13,826	11,408	82.5	13,449	11,510	85.6
Other	1,932	1,484	76.8	1,719	1,284	74.7	2,699	2,269	84.1

**TELL KENTUCKY SURVEY RESPONDENT ROLES** *are similar across administrations. About 89 percent of participants are teachers, about 4 percent are administrators, and about 7 percent are other licensed educators, such as librarians and school psychologists.*

Table 5 presents response rates by year and cohort for D180 and Non-D180 schools. While the percentage of Non-D180 school educators participating in the survey increased from 2011 to 2015, the same is not true of the D180 cohorts. For Cohort 1, the highest percentage of respondents was in 2011 (83%), with slight declines in the latter two administrations (77% in 2013 and 73% in 2015). Cohort 2's highest participation occurred in 2013 at 91 percent, up from 68 percent in 2011; the participation rate in 2015 was 78 percent. For Cohort 3, 95 percent of educators participated in 2013, up from 76 percent in 2011, and 92 percent participated in 2015.

*District 180 Priority School Cohorts Compared to Non-D180 Schools*

This brief compares the TELL Kentucky 2011, 2013, and 2015 survey results of D180 school cohorts to the state survey

results for Non-D180 schools. By the time of the TELL Kentucky Survey administration in the spring of 2015, all three cohorts had received the entirety of their support funds.

In analyzing the data between groups and between time points, there are a variety of approaches for presenting the comparisons. This brief will first show how D180 cohorts and Non-D180 schools compare overall, followed by an examination at the survey construct level and concluding with select findings at the item level. Scatterplots graphics in the Appendix illustrate school-level growth between 2011 and 2015.

TABLE 5. RESPONSE RATE FOR D180 COHORTS AND NON-D180 SCHOOLS BY YEAR									
Comparison	2011			2013			2015		
	Headcount	Responded	Percent Responded	Headcount	Responded	Percent Responded	Headcount	Responded	Percent Responded
Non-D180	49,828	40,147	80.6	48,240	41,726	86.5	48,056	43,056	89.6
Cohort 1	469	388	82.7	410	317	77.3	458	334	72.9
Cohort 2	865	590	68.2	833	754	90.5	744	577	77.6
Cohort 3	1,187	900	75.8	1,013	962	95.0	1,044	965	92.4

**WHILE THE PERCENTAGE OF NON-D180** *school educators participating in the survey increased from 2011 to 2015, the same is not true of the D180 cohorts.*

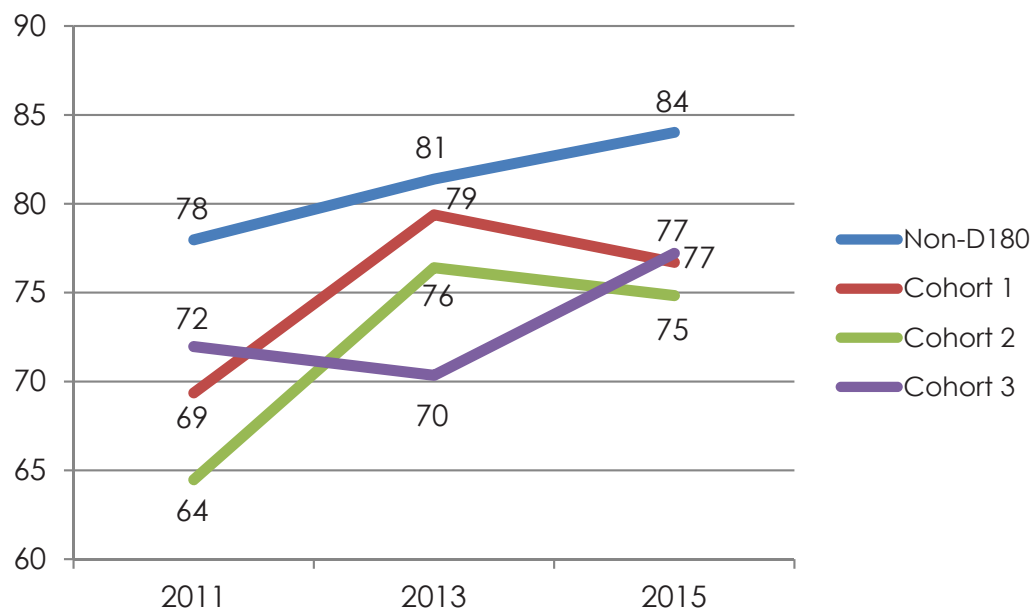


## Composite Level Comparison

The very broadest examination possible is at the overall composite level, which combines results across all eight constructs measured in the survey.<sup>4</sup> This calculation was conducted for each group for each survey administration (see Figure 3). Results of comparative analysis include the following:

- Analysis of all groups' data indicates educators are more positive about their teaching conditions overall in 2015 than they were in 2011.
- Non-D180 schools exhibit a 3-percentage-point increase in composite averages between 2011 and 2013 and again between 2013 and 2015.
- Sharp increases in composite averages for Cohort 1 (10 percentage points) and Cohort 2 (12 percentage points) from 2011 to 2013 and Cohort 3 (7 percentage points) from 2013 and 2015 coincide with the time frame each group received targeted supports from the state. Slight declines are indicated in Cohort 1 and 2 data from 2013 to 2015 (2-percentage-point declines for each), which is within the time frame that additional funding supports ceased.

FIGURE 3. OVERALL TEACHING CONDITIONS COMPOSITE AVERAGE FROM 2011 TO 2015



4. The overall composite is calculated by first averaging each respondent's answers for a given construct (there are eight constructs). Each construct is then averaged together to create the overall composite (the eight constructs added together and divided by 8). This calculation is done at the respondent level and then aggregated by identified group for analysis (i.e., school, district, state). This method of calculating the overall composite ensures each construct is weighted appropriately relative to all other constructs. Results are reported as percentages.



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## Construct Level

While the overall composite average provides a starting point to examine differences between groups, the construct averages offer more detail. Figure 4 illustrates results for each of the eight construct averages of Non-D180 schools and each of the identified D180 cohorts over all three survey administrations.

### *Non-D180 School Construct Averages*

Similar to the overall composite findings, each of the construct averages for Non-D180 schools exhibits a gradual and steady increase in agreement rates from 2011 to 2015. Educators in these schools are least positive about conditions related to the time they have to conduct their work and most positive about the instructional practices and supports they receive.

### *Cohort 1 D180 School Construct Averages*

In general, all constructs show an increase in rate of agreement for Cohort 1 between 2011 and 2013 followed by a slight decline between 2013 and 2015. This finding is in line with the timing of the supports schools in Cohort 1 received between 2010 and 2013. Managing Student Conduct exhibits the greatest variability in agreement rates of all the constructs for this group with a 13-percentage-point increase from 2011 (63%) to 2013 (76%), followed by a 6-percentage-point decline in 2015 (70%). Like Non-D180 Schools, Cohort 1 schools are least positive about issues of time.

### *Cohort 2 D180 School Construct Averages*

Educators in Cohort 2 report trends similar to those in Cohort 1. Most constructs demonstrate an improvement between 2011 and 2013 followed by a slight contraction in 2015. However, unlike the Non-D180 and Cohort 1 D180 school groups, issues of time are not reported as the most consistently challenging condition by Cohort 2 educators. Instead, this group reports that conditions related to Managing Student Conduct are the least favorable (63%) in 2015, followed by Community Support and Involvement (65%).

### *Cohort 3 D180 School Construct Averages*

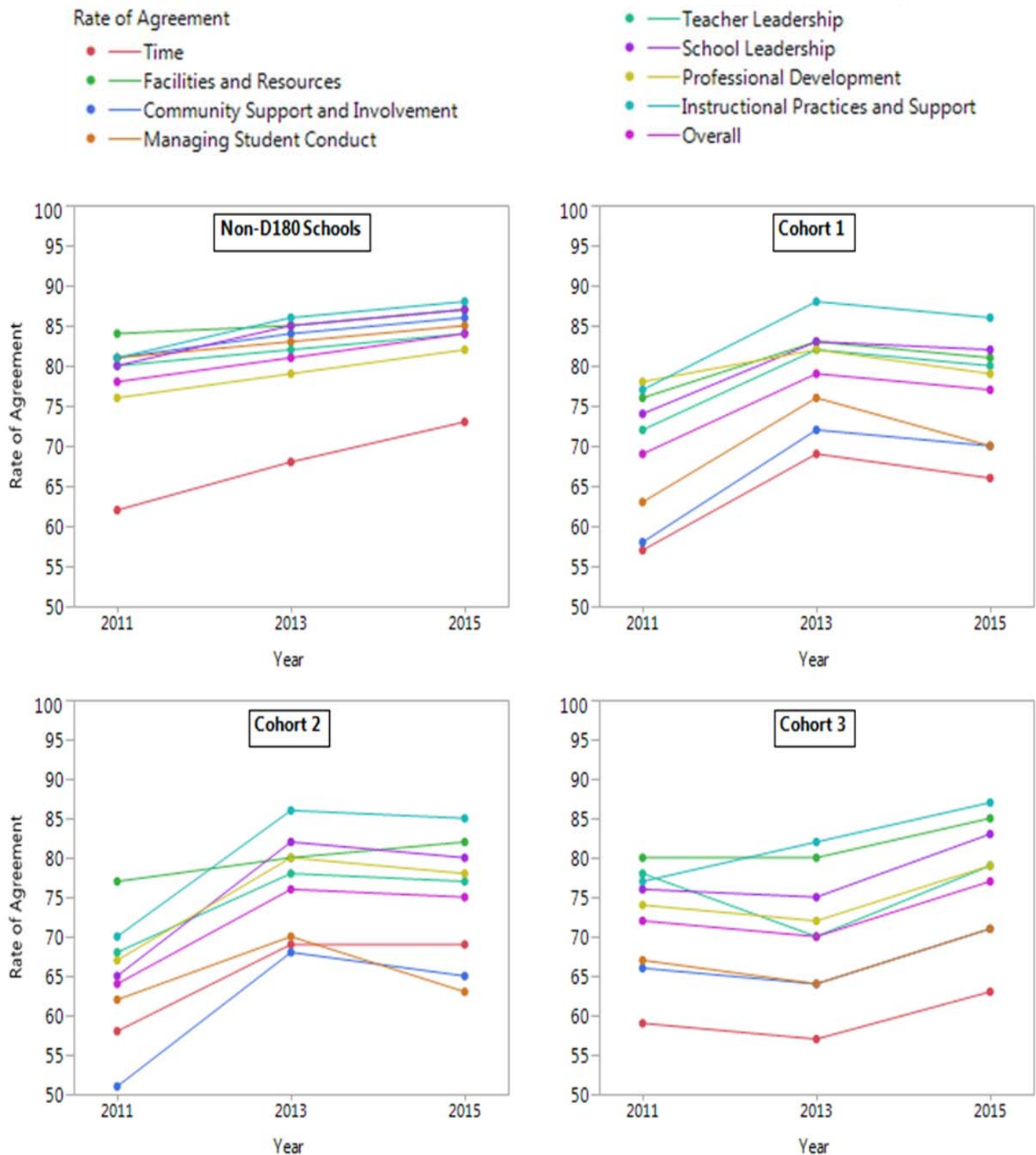
Again, in line with the timing of funding supports, Cohort 3 exhibits improvements across all constructs from 2013 to 2015. Instructional Practices and Support improved 5 percentage points from 2011 (77%) to 2013 (82 percent) and again in 2015 (87%) becoming the most positively viewed construct. Conditions related to the Teacher Leadership construct, which had exhibited an accelerated decline from 2011 (78%) to 2013 (70%), increase in 2015 in line with timing of school supports to 79 percent. Time is viewed as the least positive construct for this group consistently across all years.

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***SIMILAR TO THE OVERALL COMPOSITE FINDINGS, each of the construct averages for Non-D180 schools exhibits a gradual and steady increase in agreement rates from 2011 to 2015.***

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FIGURE 4. LONGITUDINAL CONSTRUCT COMPARISON OF NON-D180 SCHOOLS VS. D180 COHORTS



## Select Individual Survey Items

At the individual item level, there are a number of interesting findings when comparing results by group over time.

### *Community Support and Involvement*

Cohorts 1 and 2 of D180 schools both exhibit accelerated growth in this area between 2011 and 2015 compared to Non-D180 schools and effectively narrowed the gap between the two groups.

- Cohort 1 educator perceptions that parents/guardians are influential decision makers in their school outpaced growth in this area in Non-D180 schools from 2011 to 2015. Little more than one-quarter (27%) of Cohort 1 educators agreed in 2011, compared to 45 percent by 2015, an 18-percentage-point increase. Agreement rates for this item increased only 7 percentage points for Non-D180 schools during the same time period.
- Growth in agreement rates that parents/guardians support teachers, contributing to their success with students, for Cohort 1 schools also exceeded that of Non-D180 schools over this same time period. Cohort 1 exhibited a 20-percentage-point increase from 2011 to 2015, compared to a 9-percentage-point increase in Non-D180 schools. (Despite these gains, just over half (57%) of Cohort 1 educators agree that this condition is in place, compared to more than three-quarters (77% of Non-D180 school educators in 2015.)
- Both Cohorts 1 and 2 show gains of 10 percentage points or greater above Non-D180 school gains that community members support teachers, contributing to their success with students (10 percentage points above Non-D180 growth for Cohort 1 and 16 percentage points above Non-D180 growth for Cohort 2), and that the community they serve is supportive of this school (11 percentage points above Non-D180 school growth for both Cohorts 1 and 2).

## *Time*

Two item-level comparisons in the construct area of Time are worth noting here as the gap between Cohort 3 educators and Non-D180 schools widened.

- Fewer Cohort 3 educators are in agreement that efforts are made to minimize the amount of routine paperwork teachers are required to do in 2015 (47%) than they were in 2011 (51%). In conjunction with an increase in Non-D180 educator agreement (from 51% in 2011 to 62% in 2015), this decline in Cohort 3 agreement resulted in a 15-percentage-point difference between the two groups in 2015.
- While Cohort 3 agreement rates that teachers have sufficient instructional time to meet the needs of all students stayed relatively stable between 2011 (65%) to 2015 (68%), Non-D180 educators' perceptions of conditions in this area improved from 63 percent in 2011 to 75 percent in 2015.

### *Teacher Leadership*

Important gains associated with teacher empowerment are indicated in Cohort 1 and 2 results and as compared to Non-D180 schools, while the gap in this area between Non-D180 schools and Cohort 3 widened slightly from 2011 to 2015.

- Thirteen percent more Cohort 1 educators agree that teachers are recognized as educational experts in 2015 (from 72% in 2011 to 85% in 2015). Cohort 2 educators report a 15-percentage-point increase in this specific condition from 70 percent in 2011 to 85 percent in 2015. These gains exceeded the 6-percentage-point increase observed in Non-D180 schools during the same time period.

- More than eight out of 10 Cohort 1 educators (85%) and Cohort 2 educators (82%) agree in 2015 that teachers are trusted to make sound professional decisions about instruction compared to 70 percent and 68 percent in 2011 respectively. Cohort 1's 16-percentage-point increase and Cohort 2's 14-percentage-point increase, compared to Non-D180 schools' 6-percentage-point gain, narrowed the gap between the groups.
- Similar differences are also present on the question "teachers are relied upon to make decisions about educational issues." Cohorts 1 and 2 demonstrate 13-percentage-point increases from 2011 to 2015, compared to a 6-percentage-point gain reported in Non-D180 schools.
- Despite a small gain in Cohort 3, growth in Non-D180 schools outpaced Cohort 3 schools between 2011 and 2015 in some conditions related to teacher leadership. For example, in 2011, 81 percent of Non-D180 schools agreed that teachers were recognized as educational experts compared to 78 percent of Cohort 3 educators (a 3 percentage point gap). In 2015, 87 percent of Non-D180 school educators agree that this condition is in place, compared to 81 percent of Cohort 3 (a 6-percentage-point gap). This same trend can be seen on the question, "teachers are trusted to make sound professional decisions about instruction."
- and 17 percentage points for Cohort 2 far exceeded the 4-percentage-point increase for Non-D180 schools.
- The gap in reported conditions between Cohort 2 educators and Non-D180 educators narrowed by 13 percentage points from 2011 to 2015 on the question "the school improvement team provides effective leadership at this school." In 2011, six out of 10 Cohort 2 educators (60%) agreed this condition was in place, compared to eight out of 10 Non-D180 educators (80%). In 2015, 80 percent of Cohort 2 educators agree with this statement, compared to 87 percent of educators in Non-D180 schools.
- Two-thirds of Cohort 1 educators (66%) agreed in 2011 that teachers on the school council are representative of the faculty, compared to 79 percent in 2015. This increase narrowed the gap between Cohort 1 schools and Non-D180 schools by 9 percentage points.
- Between 2011 and 2015, Cohort 1 schools outpaced Non-D180 schools by 15 percentage points in agreement rates that parents on the school council are representative of the diversity within the school community. In 2011, 53 percent of Cohort 1 educators agreed with this condition compared to 80 percent of Non-D180 schools. In 2015, nearly three quarters of Cohort 1 educators (73%) agree, compared to nearly nine out of 10 (87%) Non-D180 school educators.

## School Leadership

Sizable increases in agreement rates are present for a number of school leadership questions, particularly for Cohorts 1 and 2. These are associated with teacher performance, school improvement, and school councils.

- In 2011, nearly eight out of 10 Cohort 1 educators (79%) agreed that teacher performance was assessed objectively, compared to more than nine out of 10 in 2015 (91%). In Cohort 2, about seven out of 10 (69%) agreed with this statement in 2011, compared to 86 percent in 2015. These increases of 12 percentage points for Cohort 1

## Instructional Practices and Support

More educators in both Cohort 1 and Cohort 2 report that teachers have autonomy to make decisions about instructional delivery, with agreement rates improving substantially between 2011 and 2015 (from 64% to 82% for Cohort 1 and 63% to 81% for Cohort 2). These increases narrowed the gap between Cohort 1 and Non-D180 schools by 10 percentage points and Cohort 2 and Non-D180 schools by 9 percentage points.

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## Conclusion

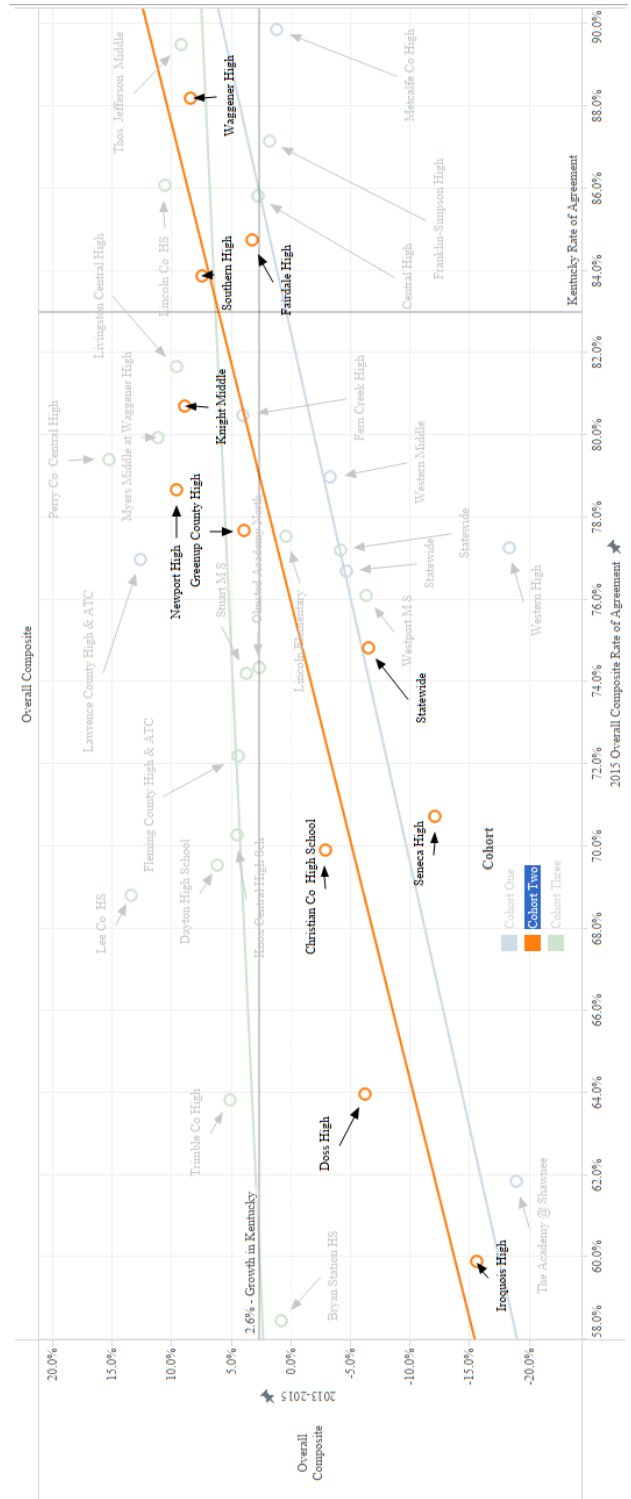
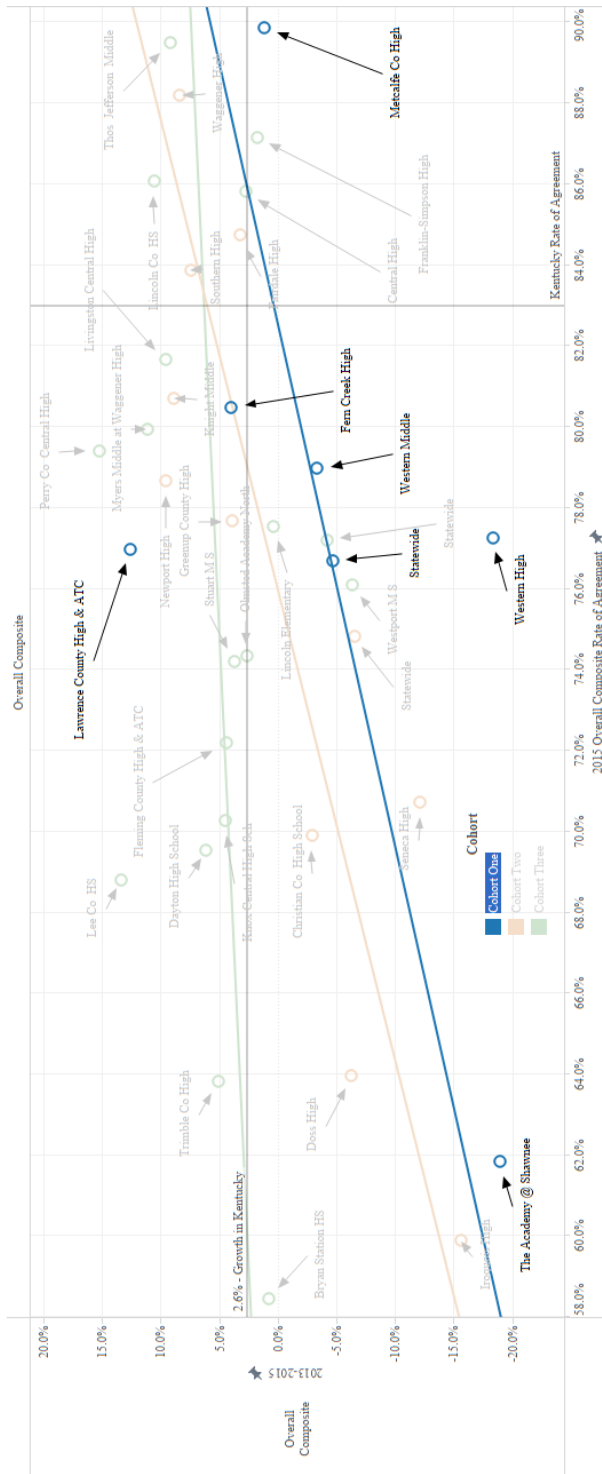
This careful examination of survey results for D180 school cohorts and Non-D180 schools finds ample evidence to suggest that improvements indicated in TELL Kentucky Survey results coincide with the timeline of state funding supports. Cohorts receiving D180 resources in years that the TELL Kentucky Survey was administered show growth in positive teaching conditions that exceeds the rate of growth for Non-D180 schools. The findings are more pronounced, however, in Cohorts 1 and 2 than in Cohort 3. Cohort 3 schools show general improvements overall in line with trends

seen for Cohorts 1 and 2 but do not demonstrate the same kinds of gains in comparison with Non-D180 schools in the item-level analysis. This is not surprising given that Cohort 3 did not receive as much funding as the other cohorts, and, more importantly, the 2015 survey administration coincided with grant implementation, perhaps limiting the amount of time for realizing change in some specific conditions associated with additional funding supports. Further investigation of the specific use of funds by cohort may help to further understand what supports had the most impact on improving teaching and learning conditions.

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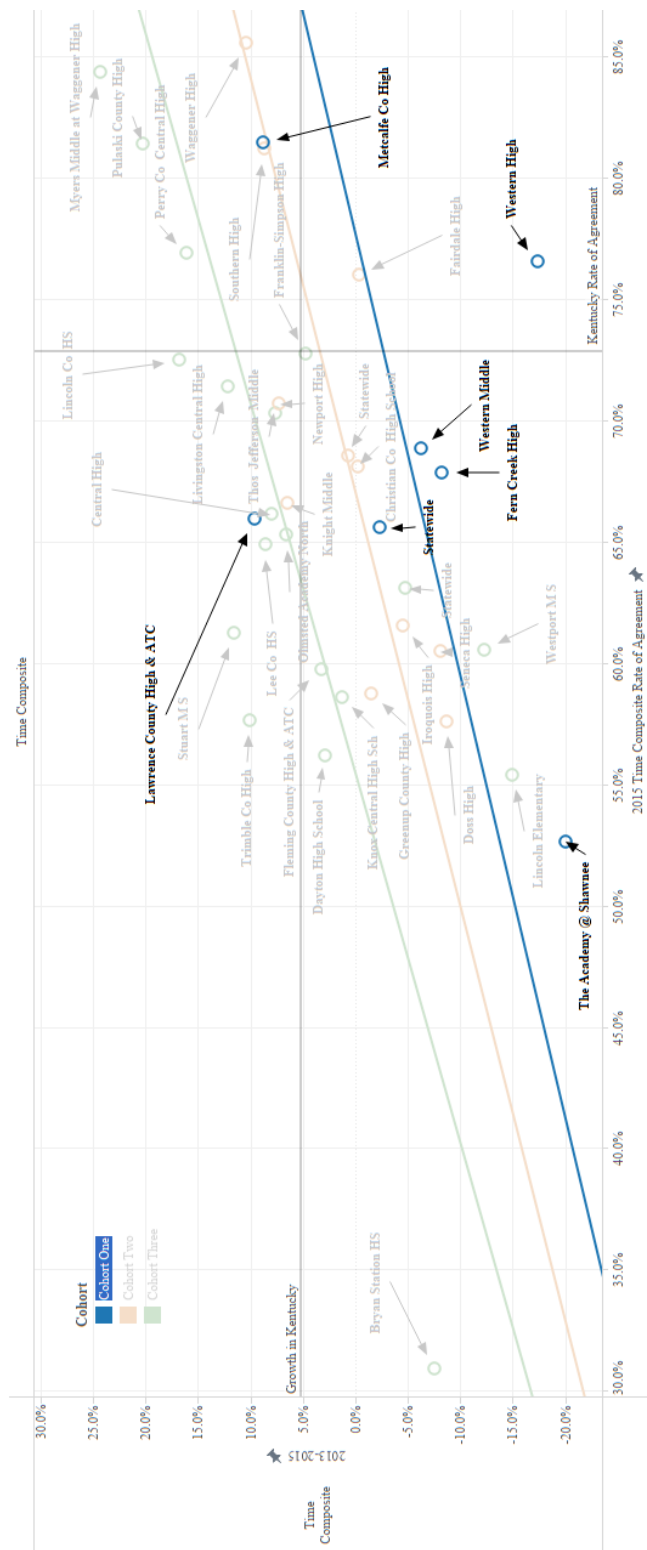
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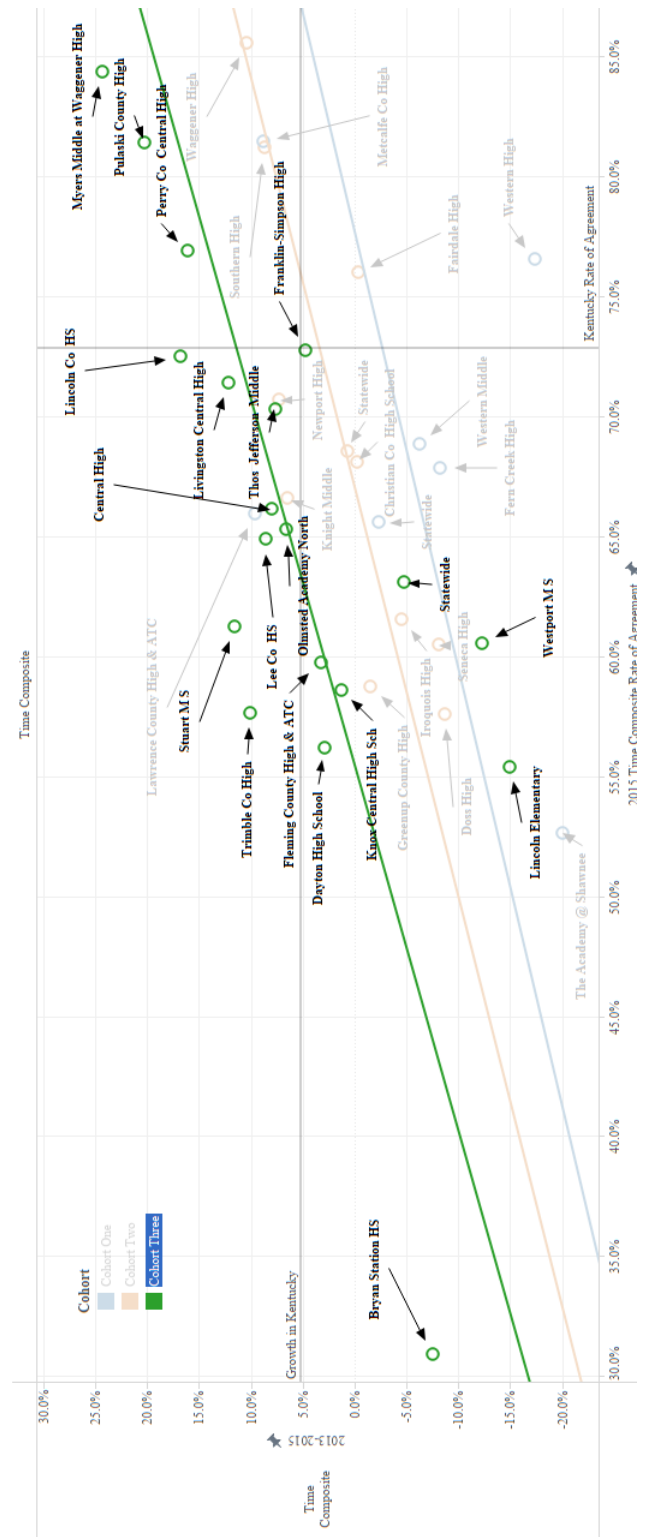
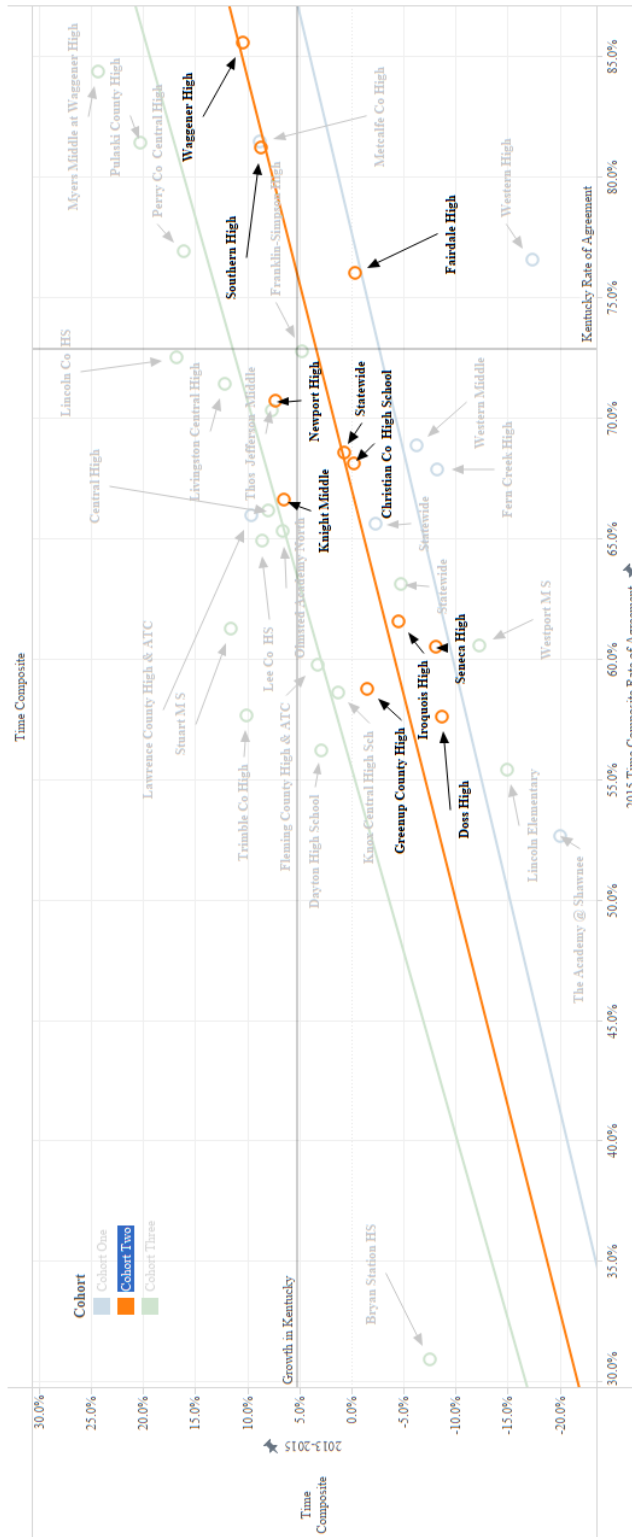


[www.newteachercenter.org](http://www.newteachercenter.org)

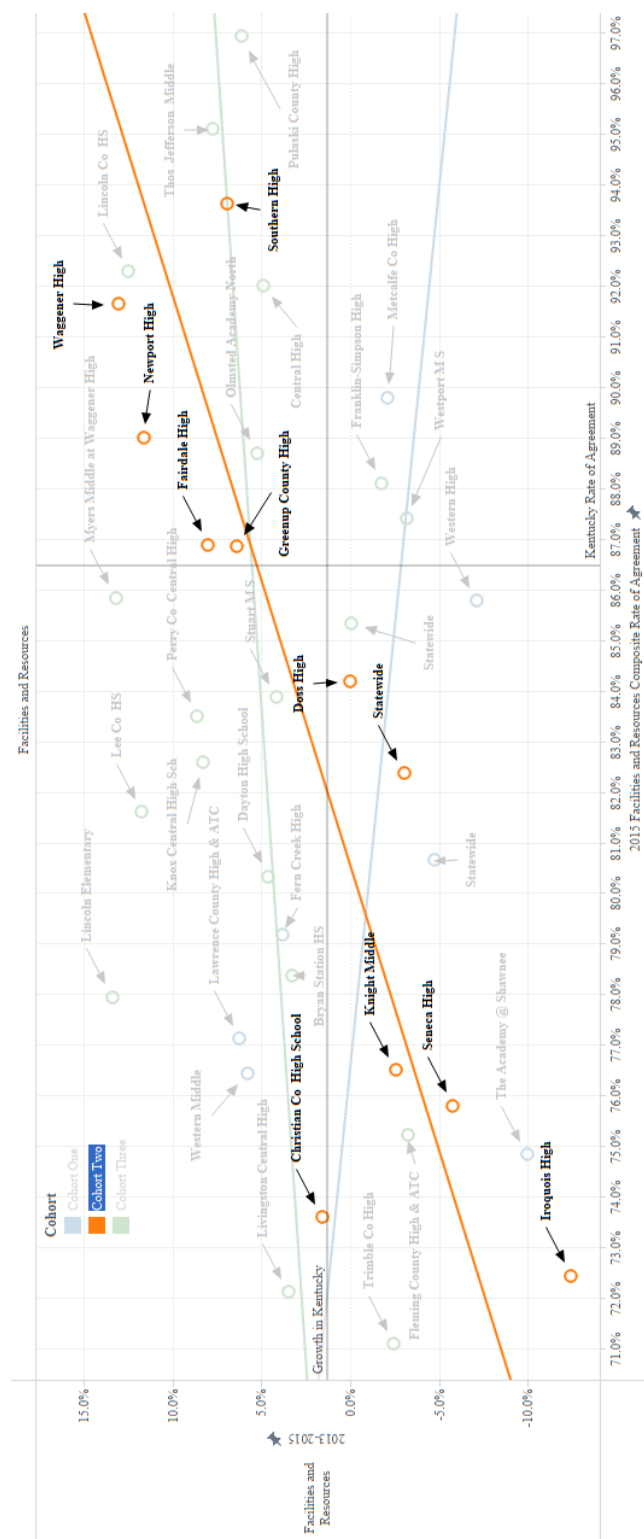
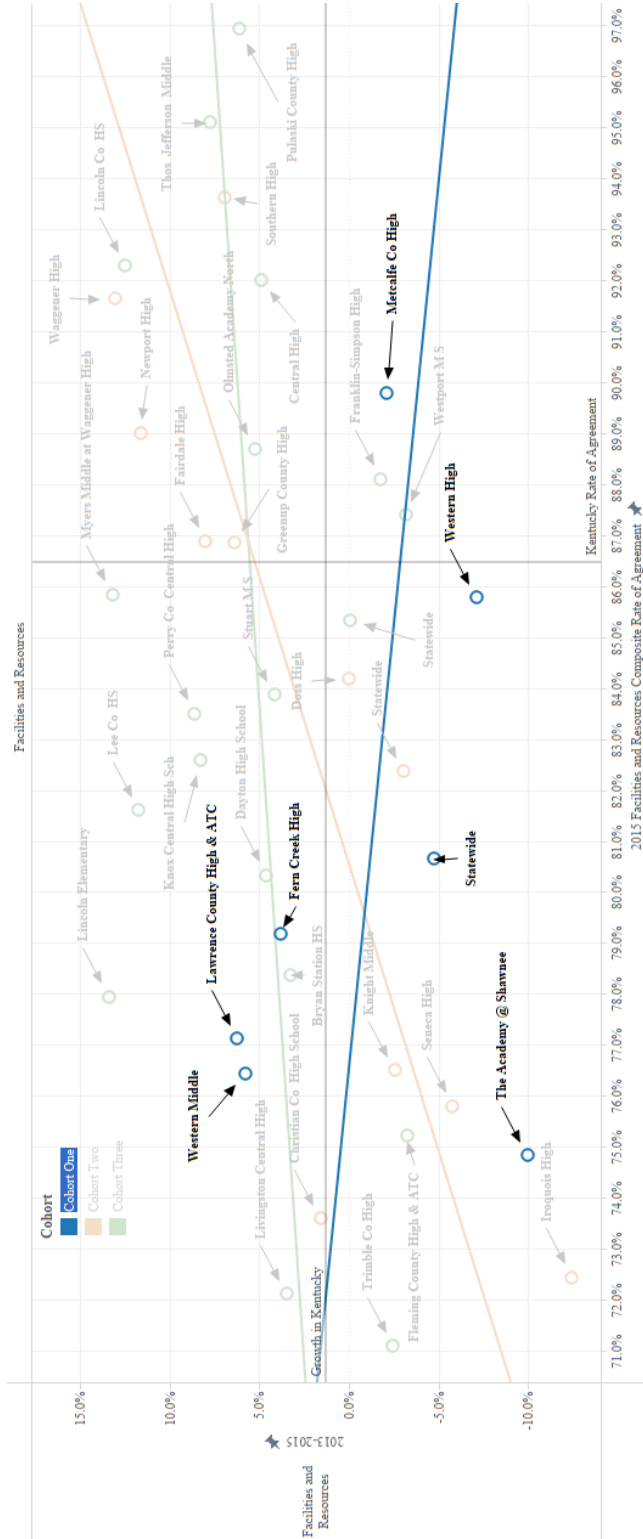




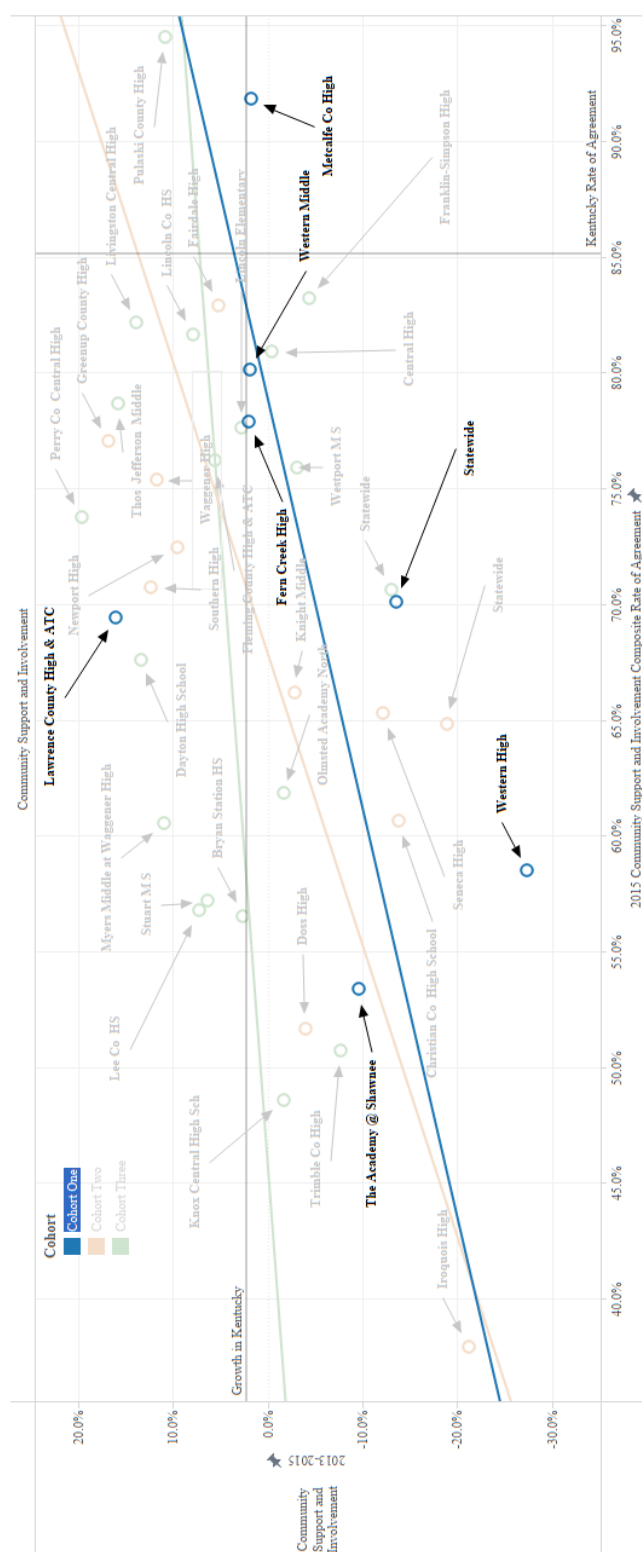
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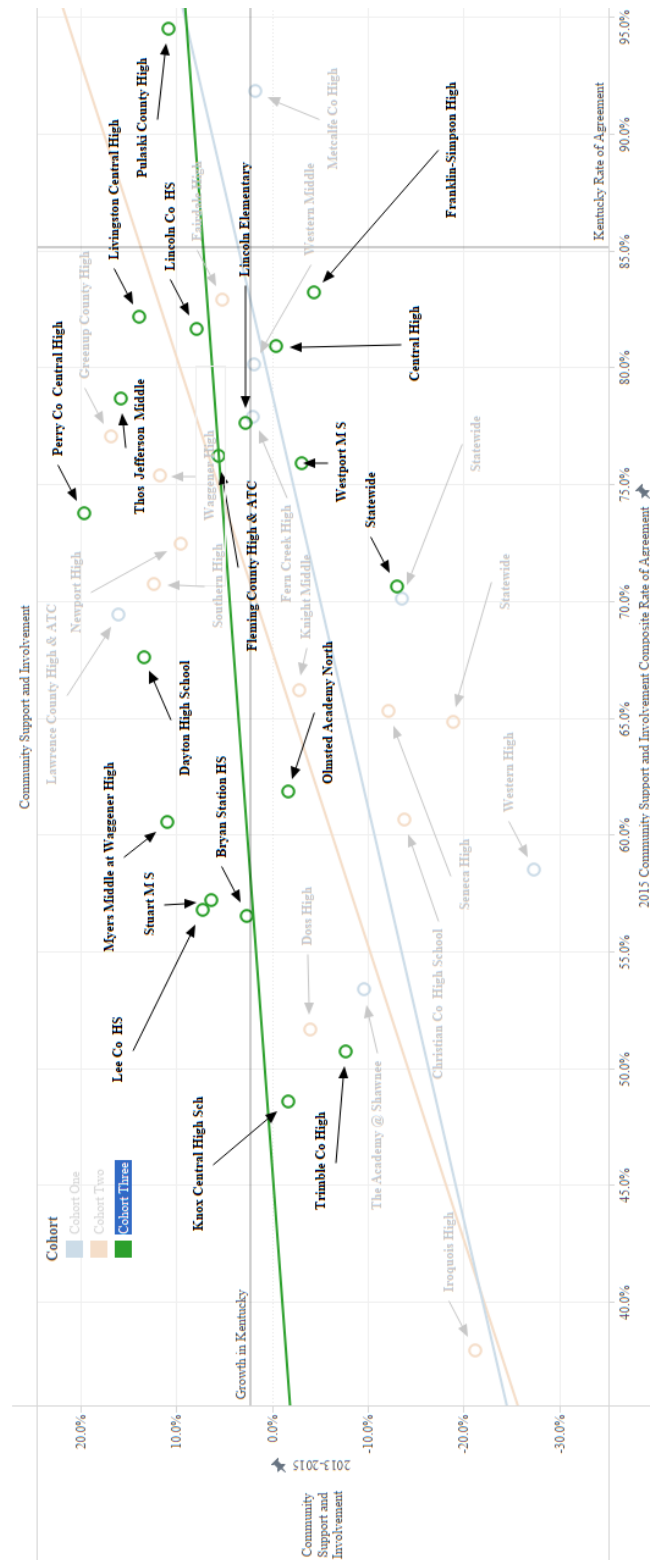
# Appendix. D180 Scatterplots (continued)



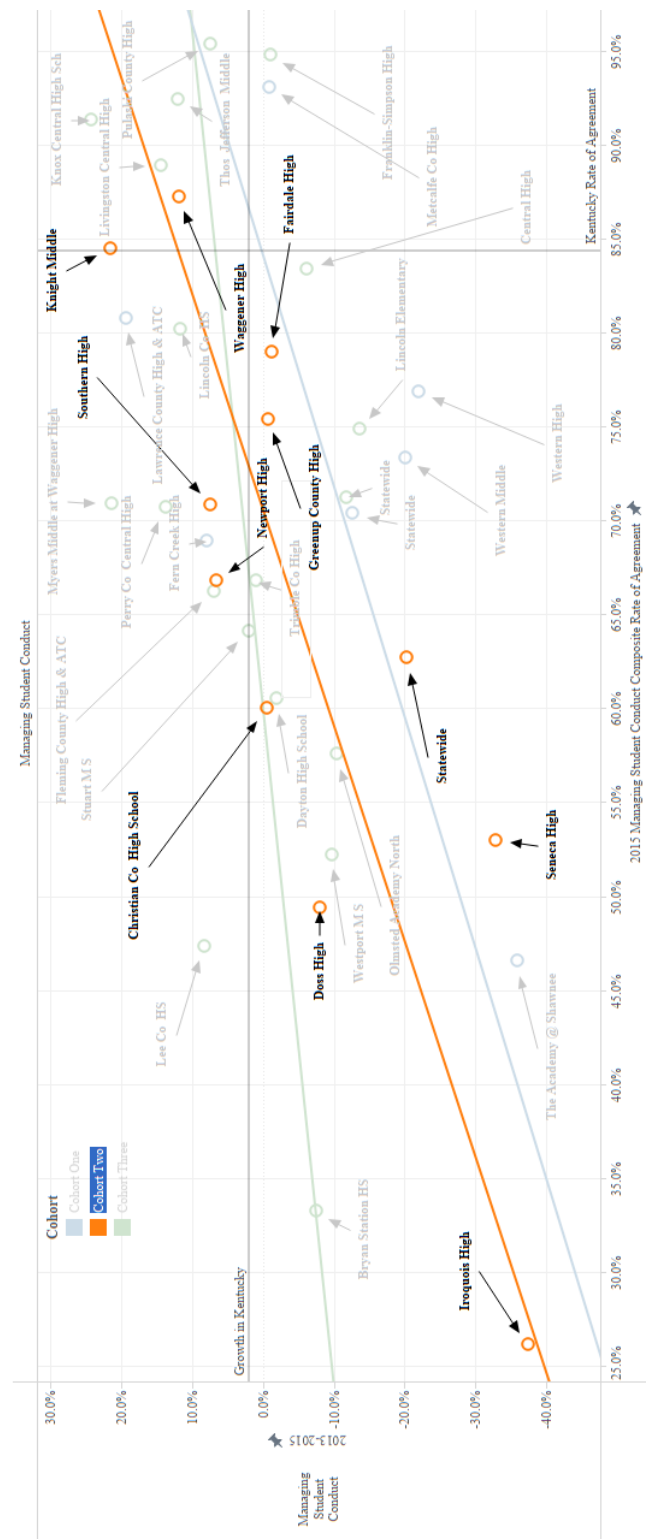
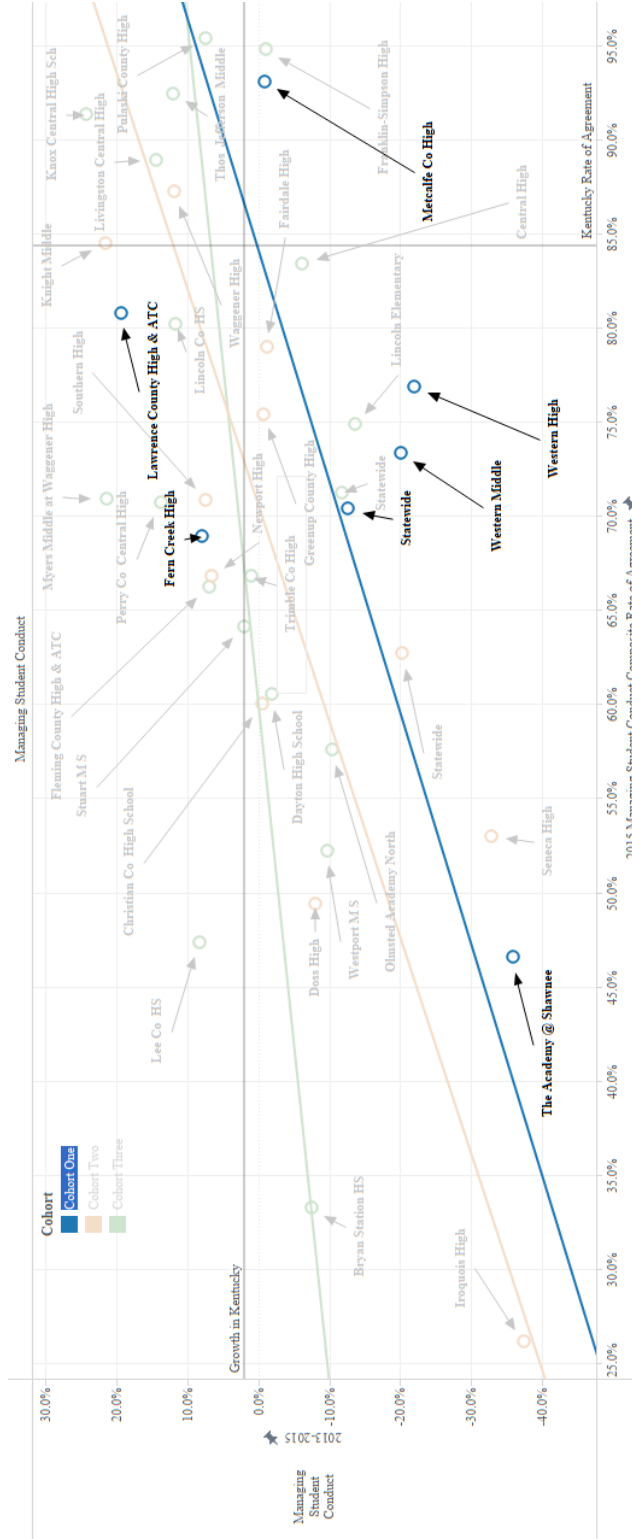
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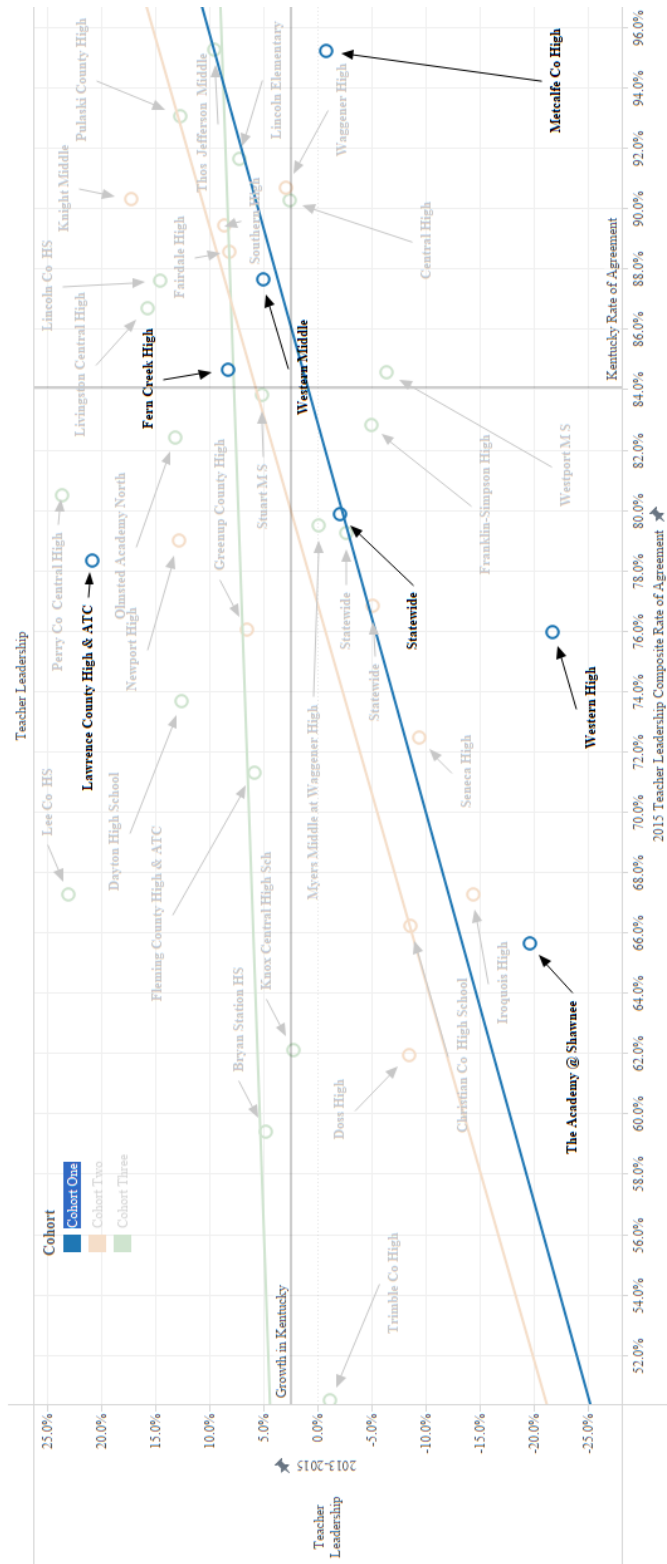
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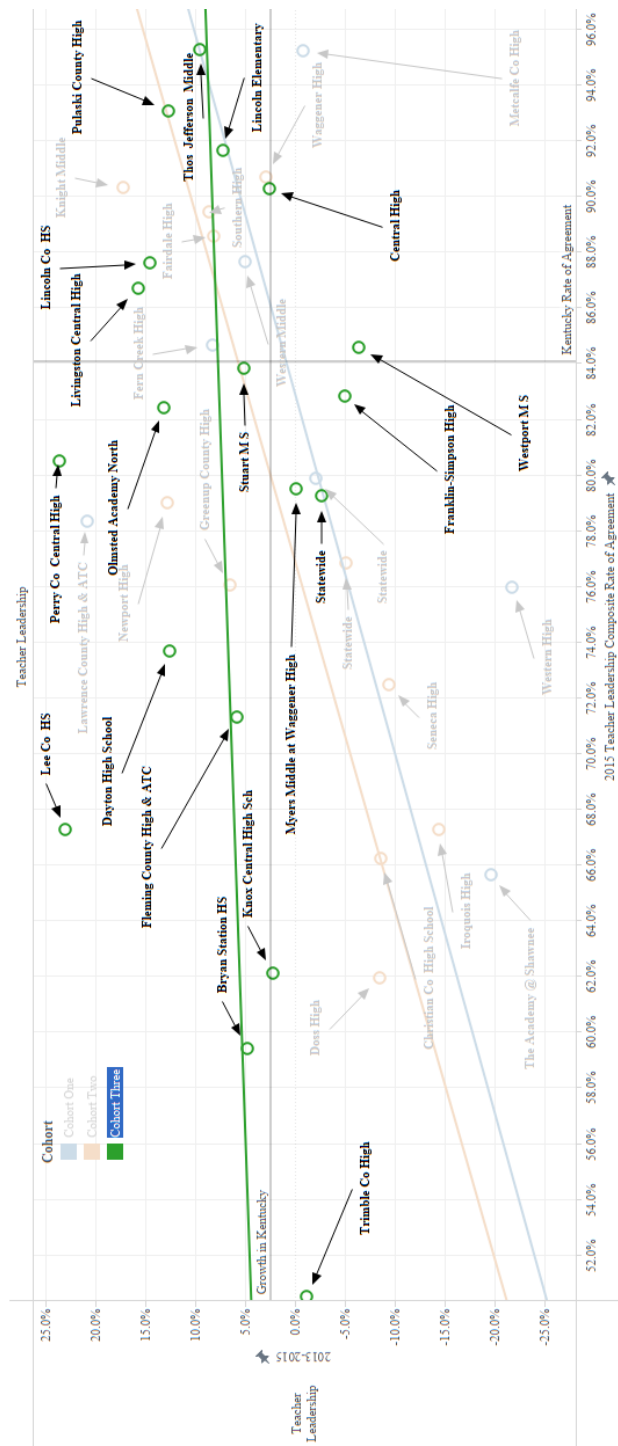
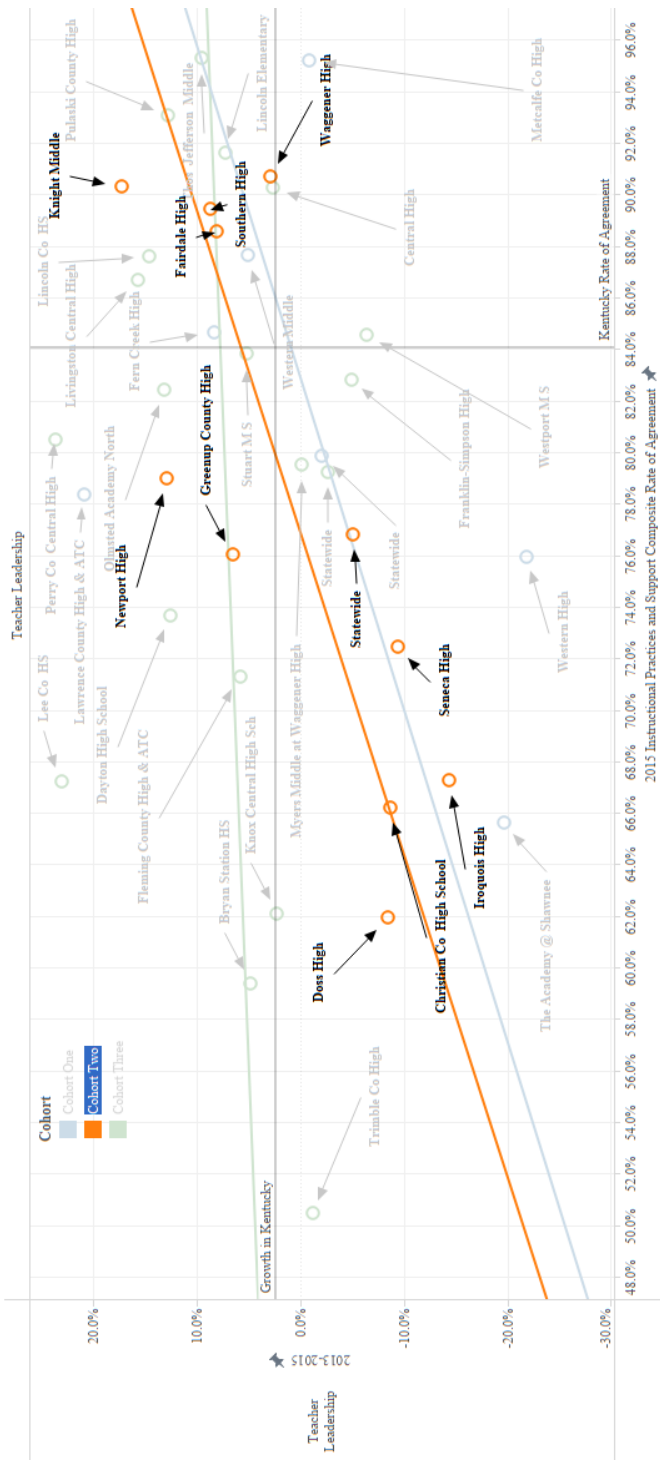
## Appendix. D180 Scatterplots (continued)



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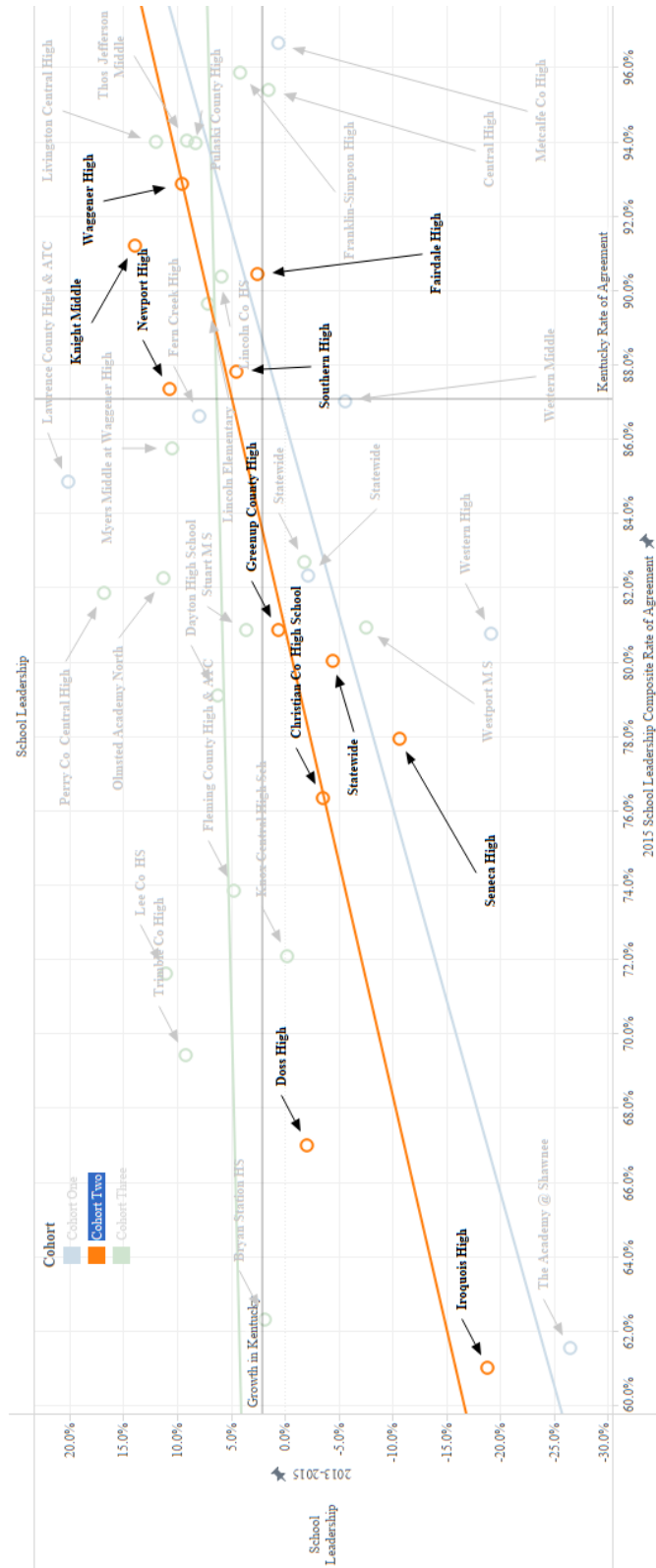
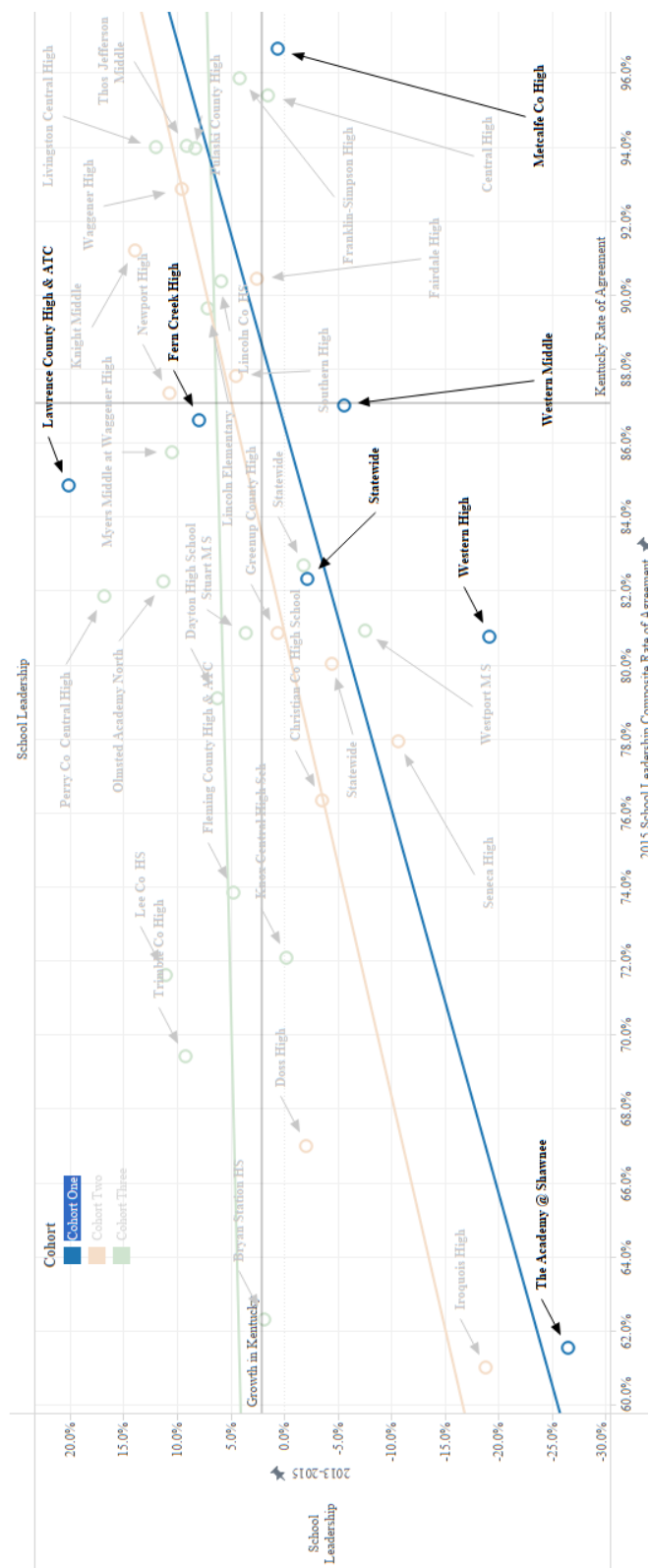


# Appendix. D180 Scatterplots (continued)

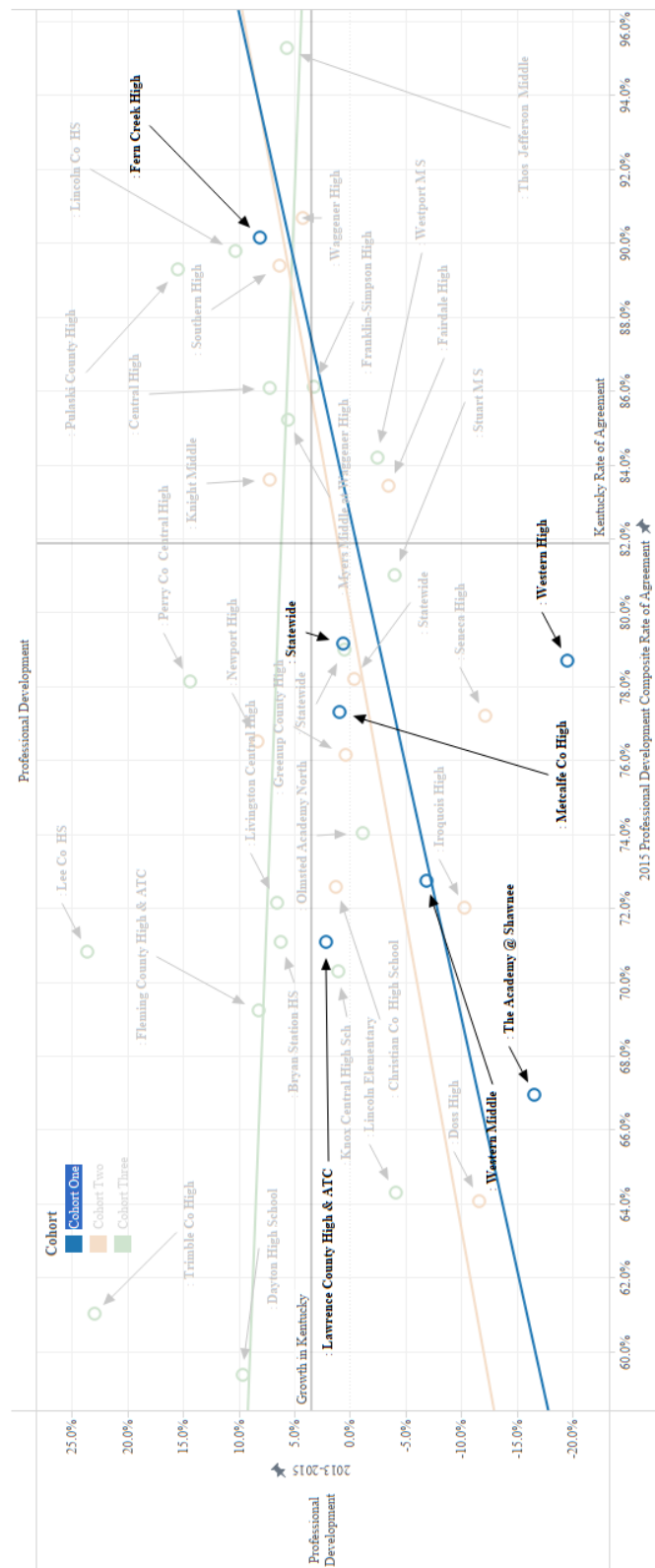
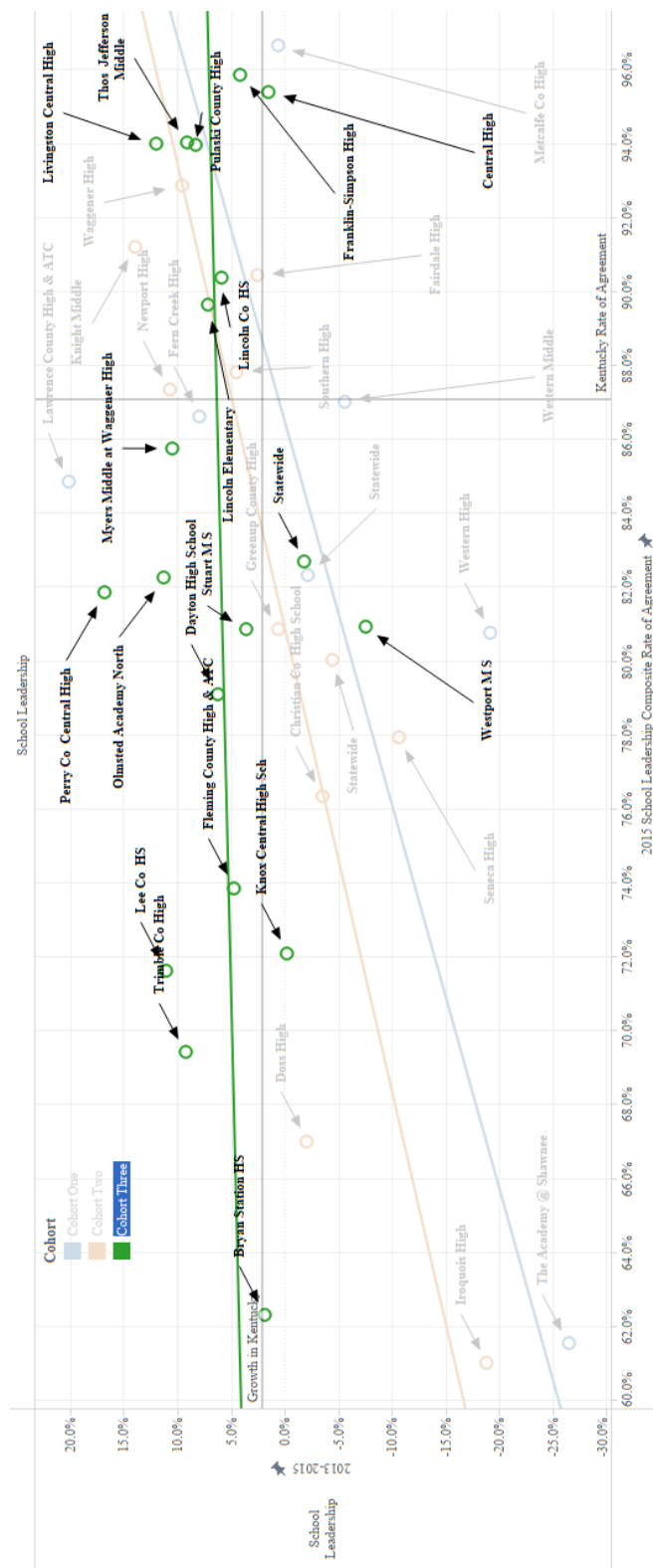




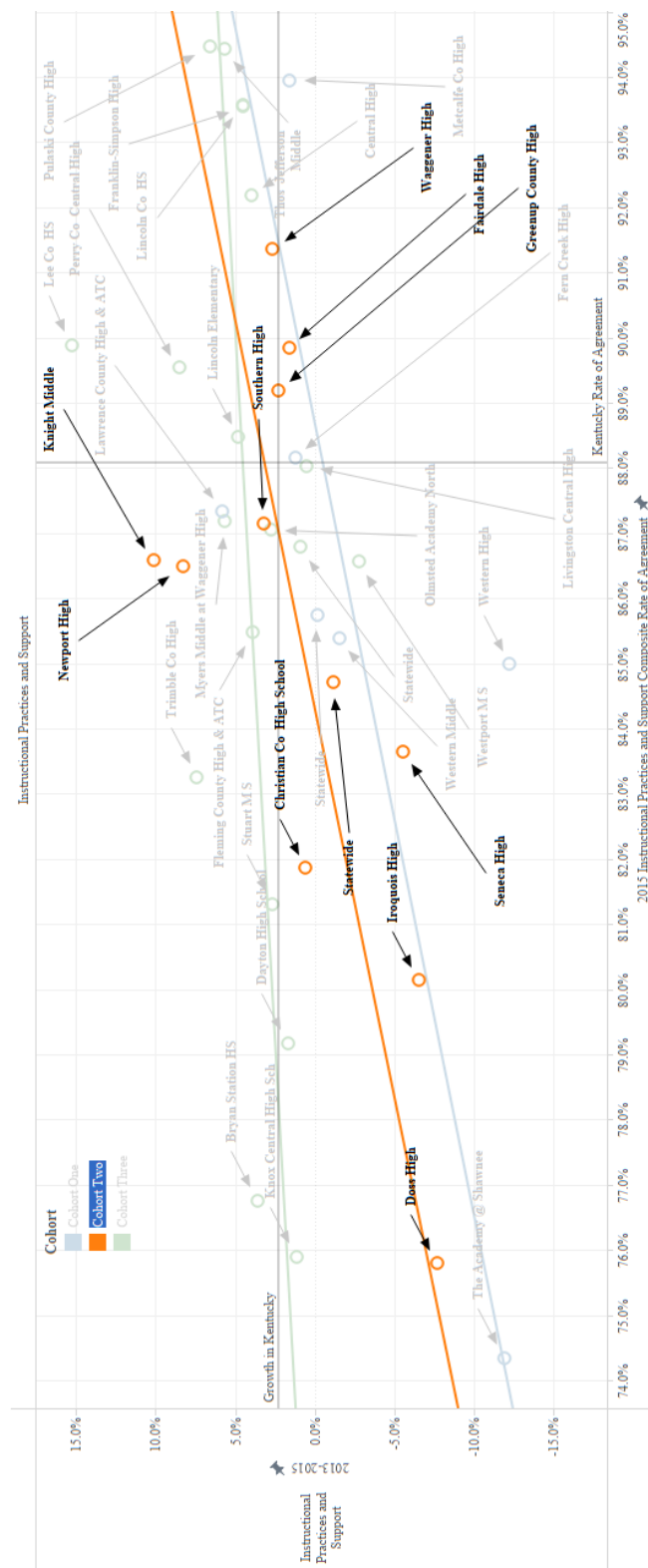
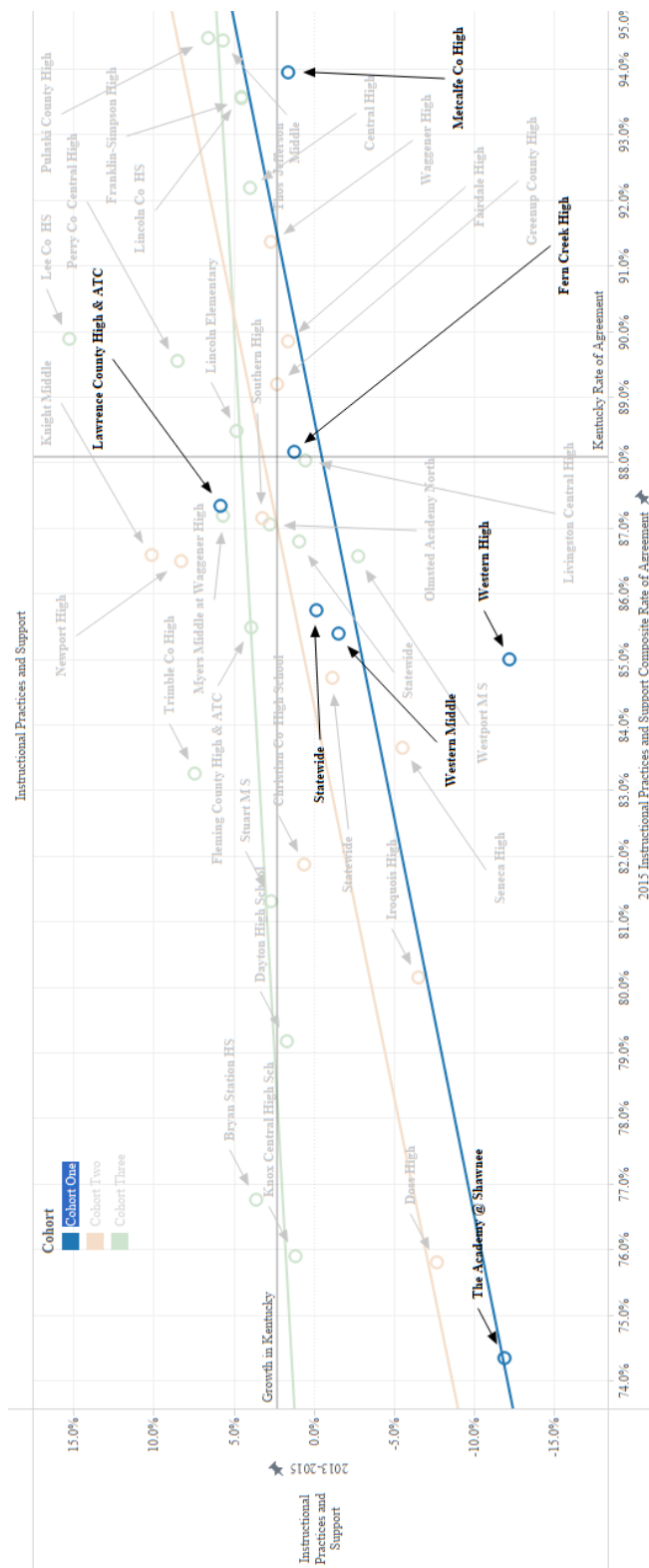
# Appendix. D180 Scatterplots (continued)



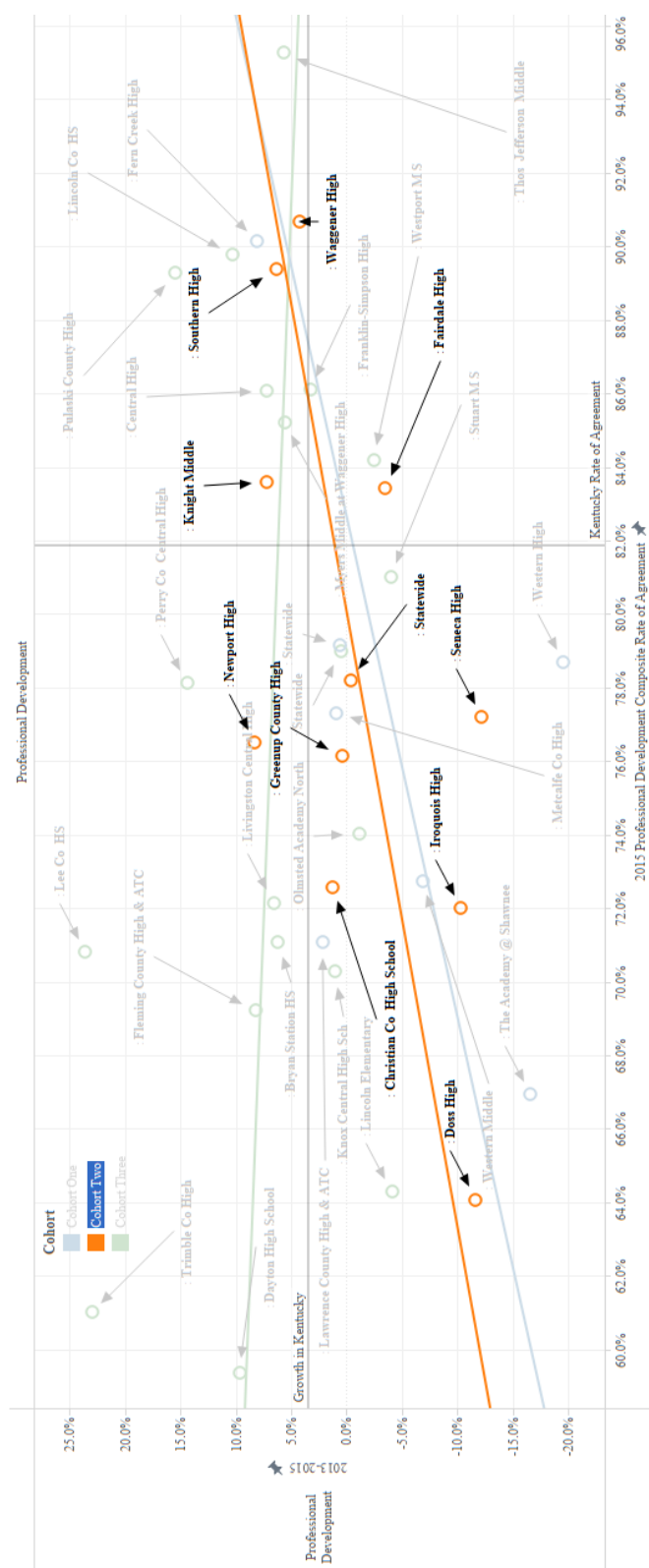
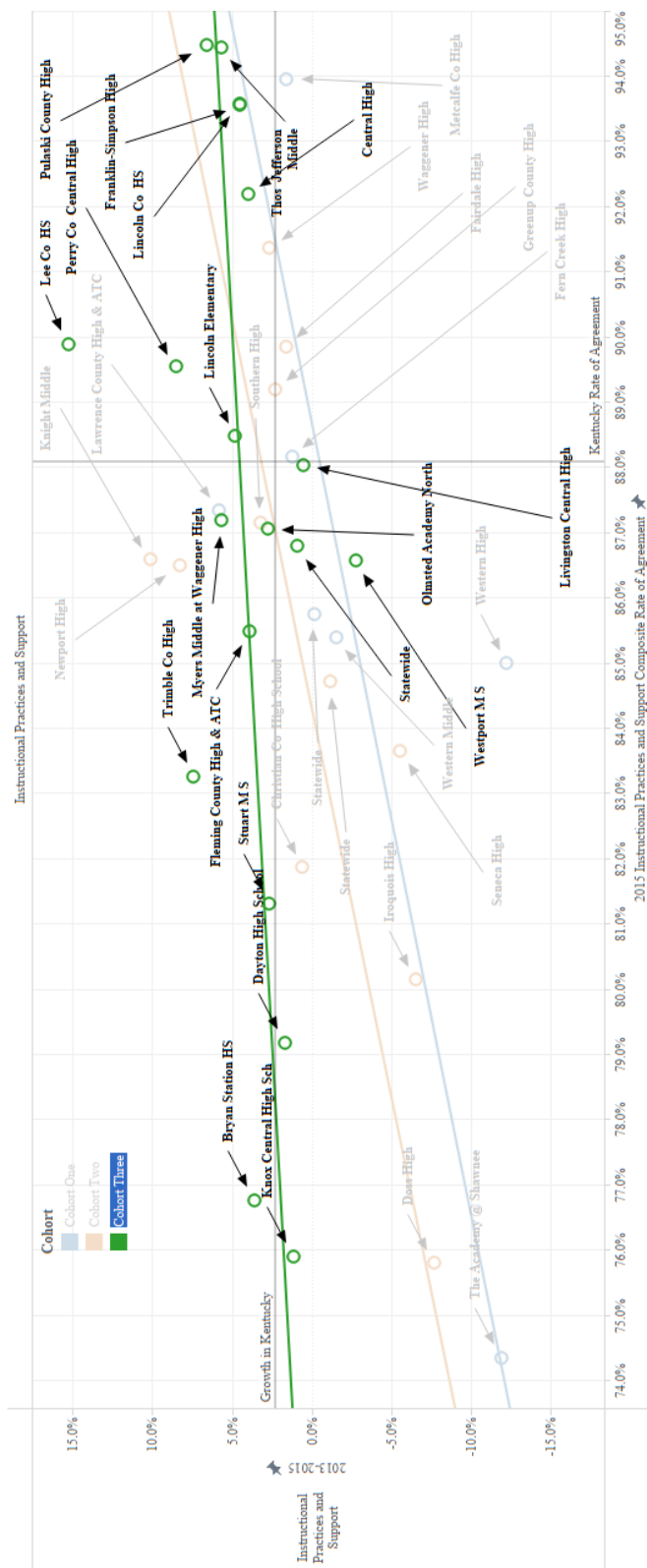
# Appendix. D180 Scatterplots (continued)



# Appendix. D180 Scatterplots (continued)



# Appendix. D180 Scatterplots (continued)



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## Endnotes

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## About the New Teacher Center

New Teacher Center focuses on improving student learning by accelerating the effectiveness of new teachers. NTC partners with states, school districts, and policymakers to design and implement systems that create sustainable, high-quality mentoring and professional development; build leadership capacity; work to enhance teaching conditions; improve retention; and transform schools in vibrant learning communities where all students succeed.

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