THE TIME IS NOW!
THE PLACE IS DALLAS.
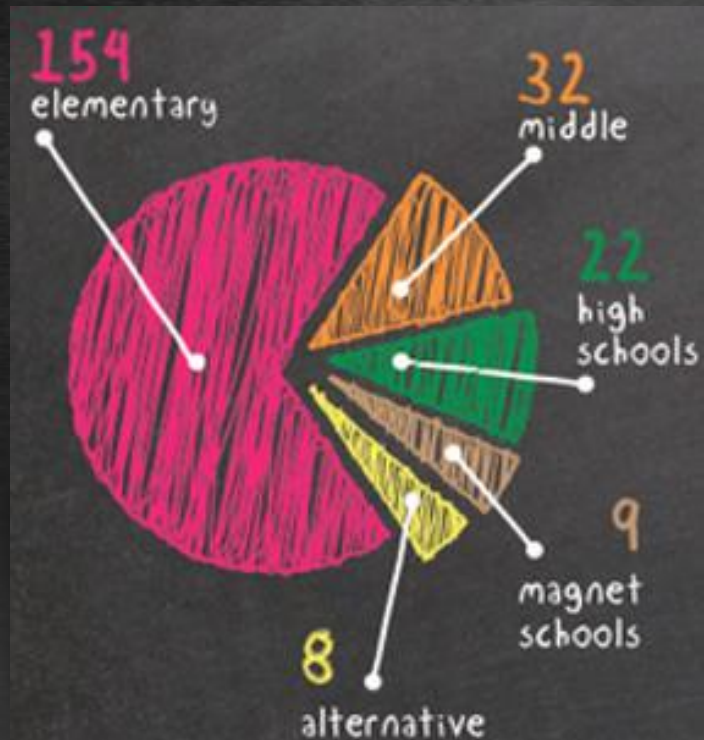
The Journey Out of Darkness

How Smart Data, Intelligent Systems and a Big Dose of BRAVE are Changing Education in Dallas, Texas

Wolfram **DATA SUMMIT** 2014

Kerri Holt
Dallas Independent School District

Dallas ISD is BIG – 12th Largest District in the US

162,000
Students
in **233** Schools

154 elementary
32 middle
22 high schools
9 magnet schools
8 alternative

$1.6B
Budget
52%
Local Taxes
31%
State Funding

24,784
Total Employees
10,601
Teachers

384 Square Miles
encompassing the cities of
Dallas
Cockrell Hill
Seagoville
Addison
Wilmer

and parts of
Carrollton
Cedar Hill
DeSoto
Duncanville
Farmers Branch
Garland
Grand Prairie
Highland Park
Hutchins
Lancaster and
Mesquite

Challenges

90%
Economically Disadvantaged

40%
Limited English

Up to **20%**
Teacher Turnover

14.4%
of Graduates are College-Ready

- **990** on the Reading & Math portion of the SAT
- **21** or higher on the ACT

Student Demographics

70% HISPANIC

24% AFRICAN AMERICAN

5% WHITE

PASSIONATE OPINIONS

DALLAS ISD IS HOME TO THE BEST PUBLIC HIGH SCHOOLS IN THE NATION

National Rank	School	Students / Teachers	College Readiness
#1	**School for the Talented and Gifted** 1201 EAST EIGHTH ST DALLAS, TX 75203 **Dallas Independent School District** BEST Gold Medal	**17:1** Near National Avg 240 Students 14 Teachers	**100.0** Above National Avg 100% Tested (AP®) 100% Passed (AP®)
#8	**School of Science and Engineering Magnet** 1201 EAST EIGHTH ST DALLAS, TX 75203 **Dallas Independent School District** BEST Gold Medal	**17:1** Near National Avg 388 Students 23 Teachers	**100.0** Above National Avg 100% Tested (AP®) 100% Passed (AP®)

Newsweek- #1 High School in America 2006, 2007, 2009, 2010, 2012, 2013, 2014

*US News and World Report*s Gold Medal School – #1 High School in US 2012, 2013, 2014

*The Washington Post*s America's Most Challenging High Schools

"The right hand doesn't know what the left hand is doing," I told him.

September 1980

The School Board: How the Clowns Control the Circus

Looking for the Honest Mechanic: Pssst, We Found Him

D

A Public Grade School That Works

THE DALLAS LOOK *Fall/Winter Fashion Guide*

DALLAS/FORT WORTH

SEPTEMBER 1980/$1.75

THIS CHAOS MUST END
What We Must Do to Save the Dallas School System

ROOLS
1. THERE WIL BE NO TEESING ALOWD

"This is a personal, political issue that doesn't have anything to do with educating the kids," says Bartos as he gets up from the board table and walks toward the door. "We have a $20 million overdraft proposal before us that we haven't even given proper consideration. I'm not going to listen to this anymore. I'm going to lunch."

But consider these bare facts: Dallas has the *highest* per-student expenditure and the *lowest* student test scores of any of the eight largest school districts in Texas. If Johnny could read this paragraph, he'd know in a minute that he isn't getting his money's worth.

"This is like a three-ring circus, only with five rings!"

This is your hissing, scratching, clawing melee in which the opponents have one goal: to draw blood. It is the type of ordeal that normally occurs in an alley. Or in the DISD board room.

school the best. There's a DISD research department and its Ph.D. administrator whose multimillion-dollar budget has served mostly to bury the school district in paper, and there's a strong-willed new superintendent who is struggling to sweep it up. There's a school board that has justifiably been called "the worst elected governmental body that Dallas has ever seen" and there's a not-so-modest proposal to usher them out of office.

In the past, administrators leveraged INTUITION and EXPERIENCE to make decisions

In 2012, we couldn't find the answers to these questions....

- How many math teachers do we need to hire?

- How many classroom vacancies do we have?

- What is the teacher attendance rate?

- How many of our students hav options?

- How many Out of S erved by middle scho

- How m d last year?

- absent more than 10% of

- schools have the highest demand?

- schools have a utilization rate of less than %?

- What percent of our buses arrive at the school on time?

SIMPLE OPERATIONAL DATA

*"Or could it be that **they had no idea then and have no idea now** of the true number of teacher vacancies? The only way to know for sure will be for parents and students to check their classes when they arrive at school on the first day." –* DISD Community Blog 2011

WHAT BUSINESSES ARE WE IN BESIDES EDUCATING CHILDREN?

- Food Services – Breakfast & Lunch for 160,000 students at $117M per year
- Real Estate – over 250 Buildings
- Police & Security - $14.7M and 222 Employees
- Operations - $94M and 700 Employees
  - Grounds Maintenance, Plumbing, Glass & Windows, Electrical, Roof, Key & Lock, Waste Management, HVAC
- Maintenance & Construction - $221M Repairs
- Transportation - $33M for 882 Bus Routes
- Custodial – more than 1000 employees
- Fleet Maintenance – 80 employees
- Furniture – 9000 Classrooms
- Textbooks –54,000 Courses
- Finance – 163 Employees
- Tax & Appraisal - $884M collected in Local Taxes
- Administration – 32 different buildings

- IT - $37M and 200 employees
  - 87 Desktop Services
  - 40 Network Services
  - **2 DBAs - $87,000**

Dallas ISD Operations and IT Headquarters

- Attendance – 26M records
- Truancy – 1.7M records
- Master Course Catalog – 87,112 courses
- Campus Scheduling – 5.3M records
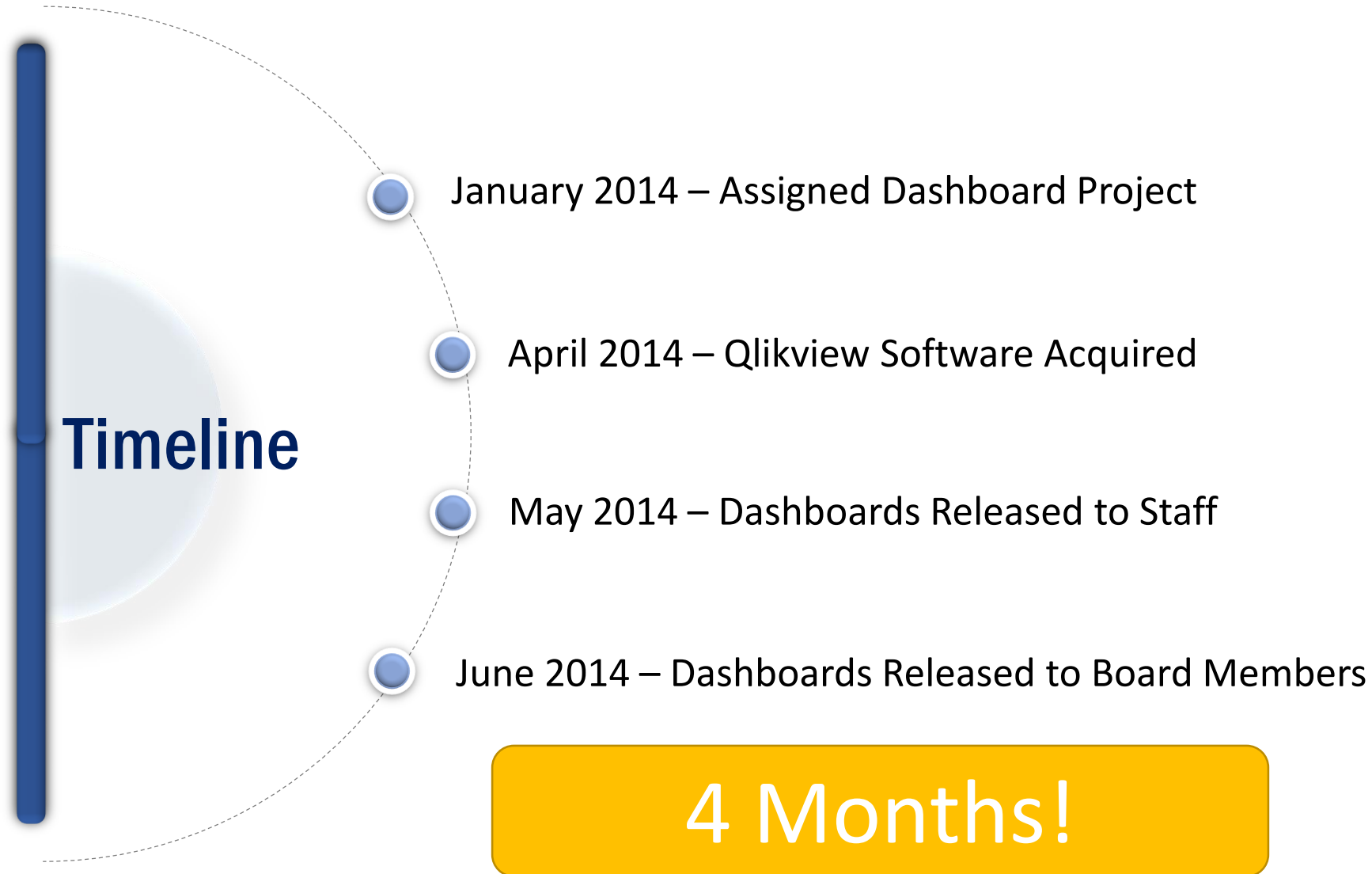- Assignments – 82.3M records
- Grades – 12.8M records

- Student Health & Nursing – 470,000 records
- State Assessments – 380,817 annually
- Semester Exams – 57,000 Classes
- Advanced Placement – 32,913 Students
- College Applications – 37,000 Students
- Financial Aid – 7000 Students

Past Attempt at a District-wide Dashboard - $14M FAIL

"But there's no way to understand what's going on, because there's not enough data analysis, not enough data being collected, and nobody there to analyze it," according to Panorama Education co-founder Aaron Feuer.

"**This would never be acceptable at a company, because nobody would know what's going on**."

Timeline

- January 2014 – Assigned Dashboard Project

- April 2014 – Qlikview Software Acquired

- May 2014 – Dashboards Released to Staff

- June 2014 – Dashboards Released to Board Members

4 Months!

DALLAS ISD

Finding the Data in Real-time

- So many different systems in many different buildings
- Manual Scrubbing
- Record of Truth
- Time Dimension
- Drill through by School ID, Student ID, Course ID and Employee ID
- Data Mart
- Interfaces and Nightly Refresh
- Interactive Visualizations with export to Excel
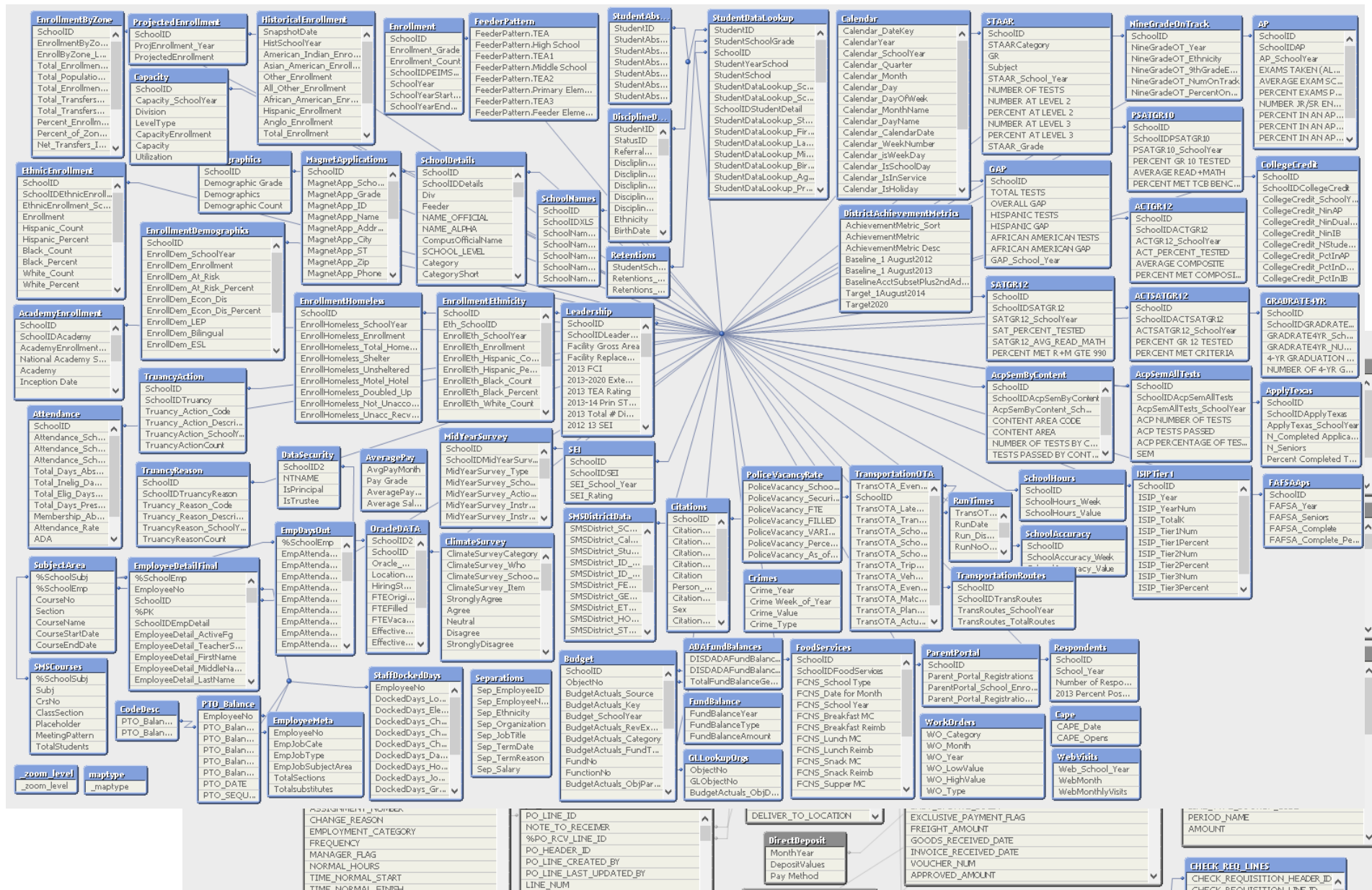
Dallas ISD Performance Management Dashboards
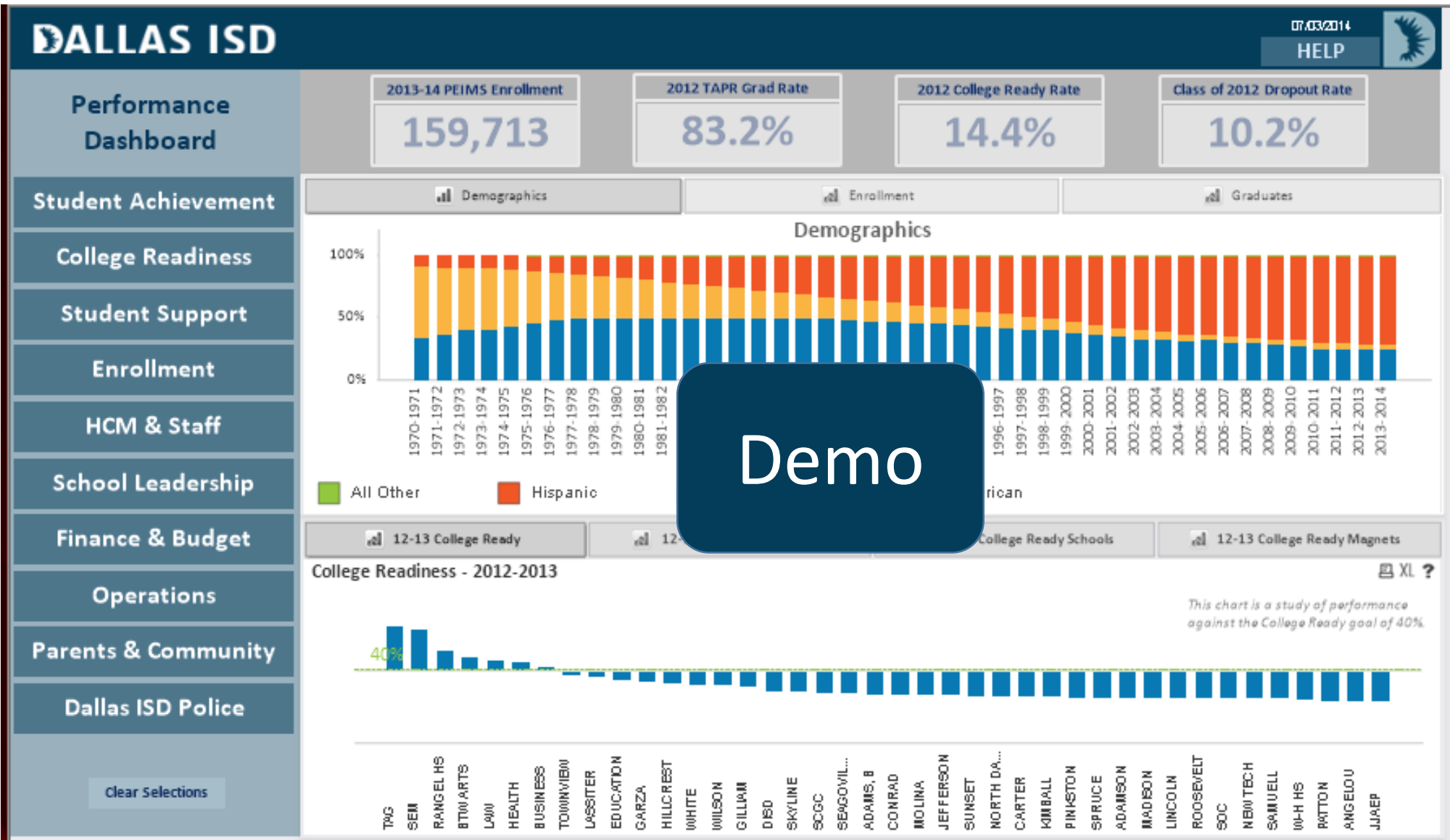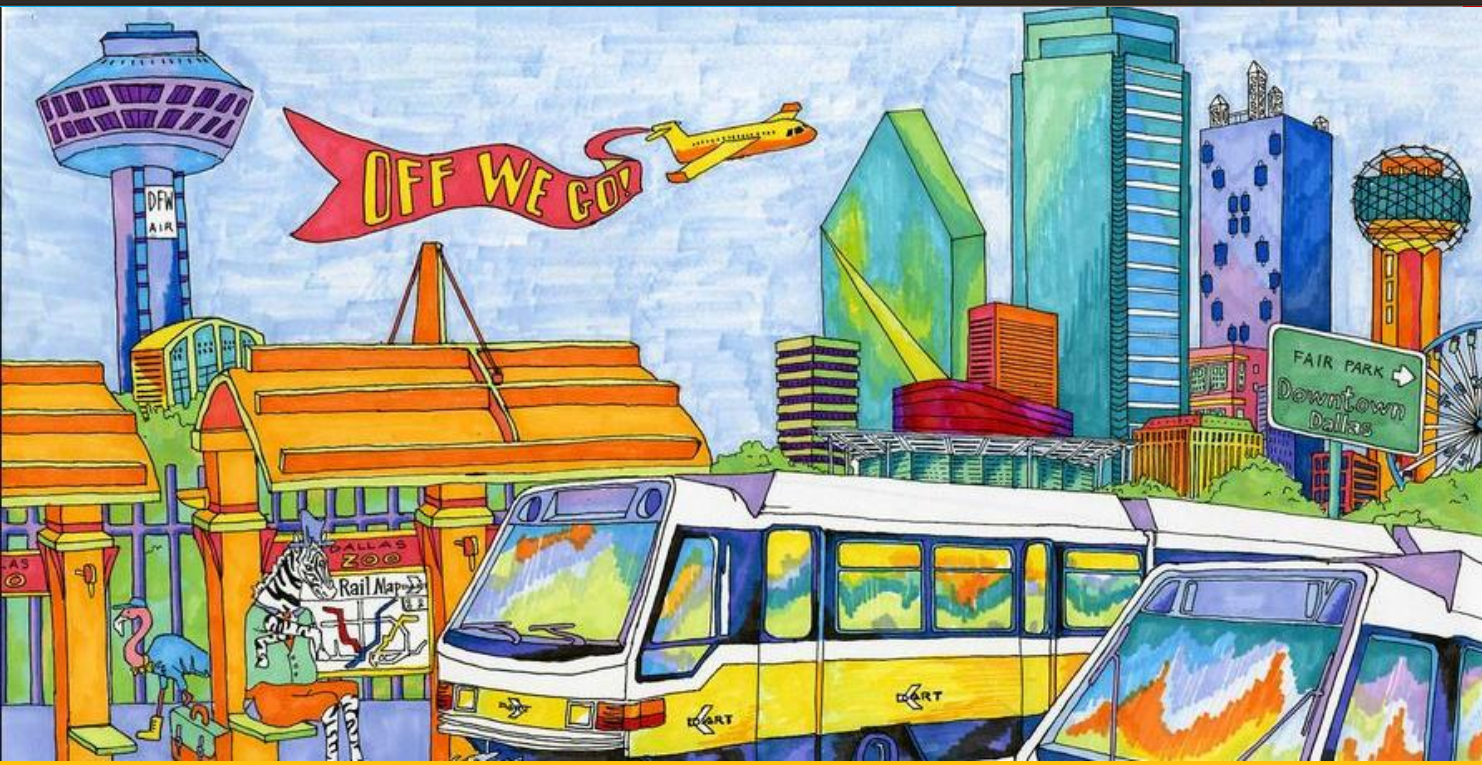
Lessons Learned

- No such thing as too much analysis
- But – users do not have the time or skills to see
  - Trends
  - Out of Bounds Conditions
  - Inconsistencies
- Do not take No for an answer
- Skill sets required were not on staff
- LOTS of manual data cleansing at first
- Need more than 2 DBAs ☺

Think Differently. Act Courageously.

- Provided ACCESS to data that had never been available previously
- Data from over 140 different systems are now linked together in real-time
- Major issues that have been masked in the past are now visible
- EMPOWER teams & individuals to do their own analysis
- FOCUS on the right issues - Outcomes driven
- ACT!
- Data is leveraged to make policy changes to enable efficiency and effectiveness
- Answers are available when and where it is needed
- Now that we have data, leading indicators demonstrate status before its too late
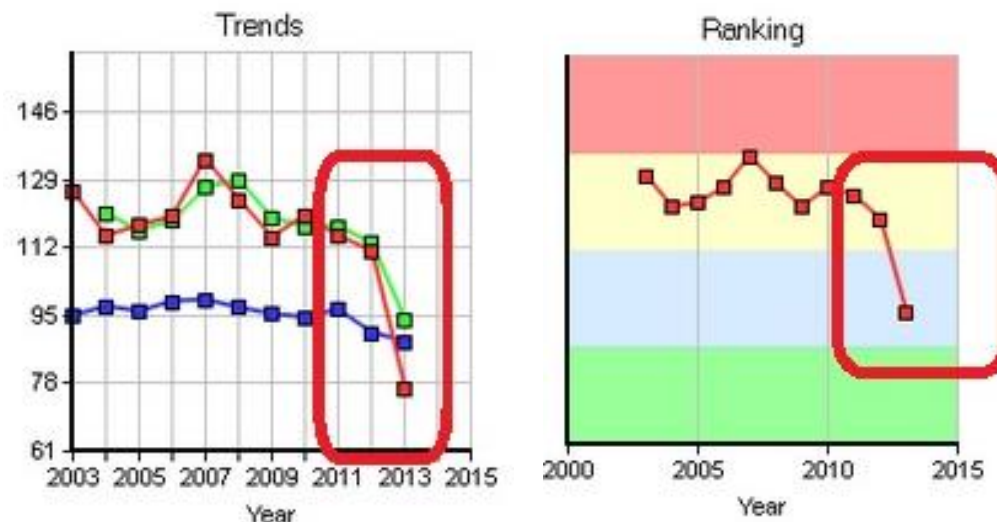
DALLAS ISD

"The Dallas Miracle" from 46ᵗʰ to 20ᵗʰ

Within the ERG Matrix, Dallas ISD* has been consistently in the 3-1 box, meaning that academic performance fell into the third quartile and financial performance fell into the first quartile except for years '03, '08, '09 and '11 where financial performance was in the second quartile. For the year '13, Dallas is now ranked in the 2-1 box.
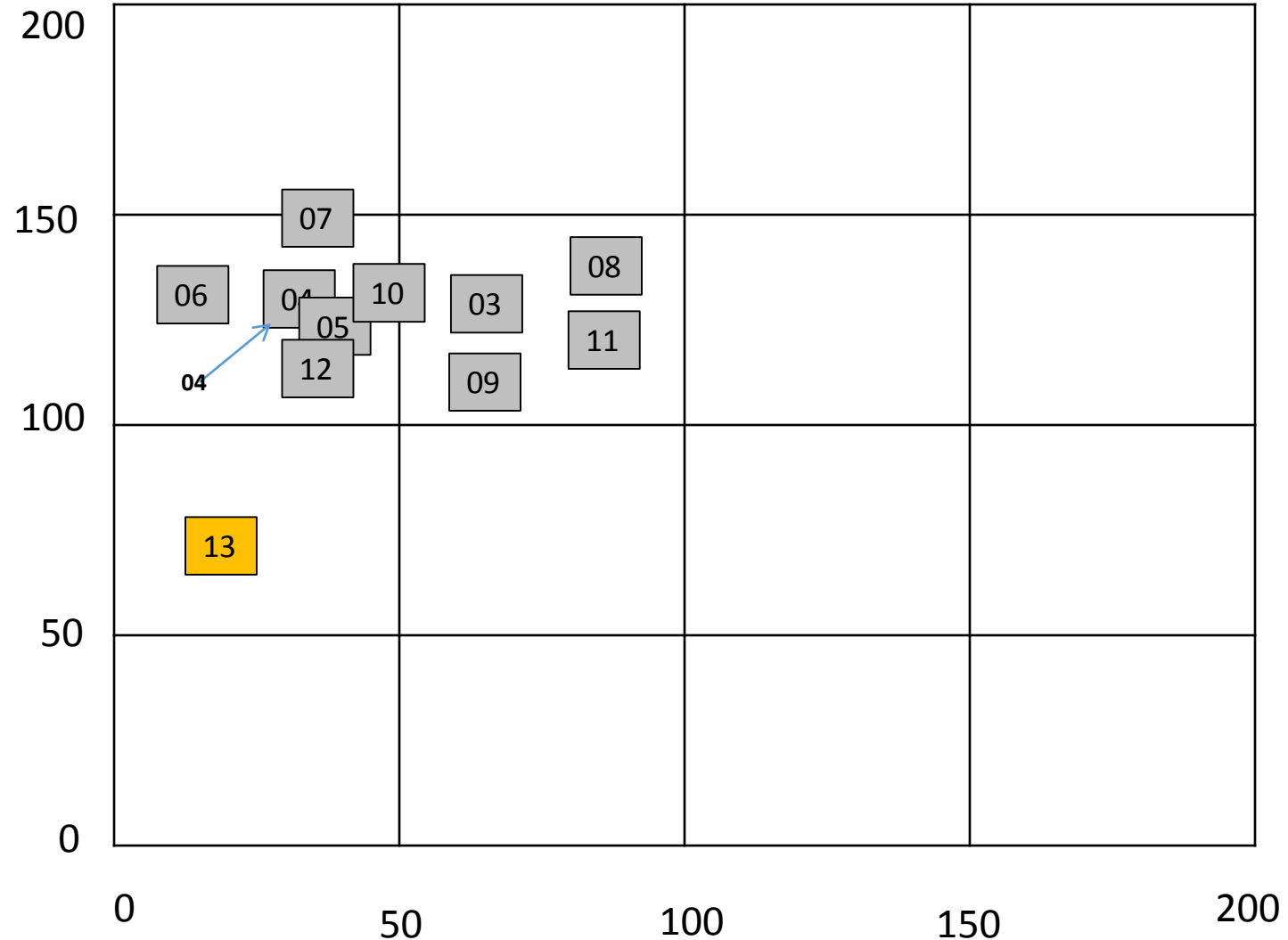
*Note - numbers in boxes represent the academic year

DALLAS ISD

The Dallas Miracle

The charts and table at the top of this post show just that. But look at what happened in 2013: Dallas ISD, the second-largest ISD in the state, one which has never moved out of the third quartile, shot to mid-second quartile, placing 69th among the 200 largest districts in Texas. For comparison, Houston ISD, a current Broad Award winner, is ranked 62nd.

"What happened in 2013?" Haeberlen asks. "The district improved across the board." In other words, in six of the seven metrics measured, DISD showed improvement. For a district this size, that's astonishing.

Entering the 2014-15 School Year – Encouraging Results

- $300 Million Fund Balance

- 14 Teacher Vacancies on the First Day of School
  - 2012: 860 vacancies out of 9600 Teachers
  - 2013: 334 vacancies out of 10,040 Teachers
  - 2014: 14 vacancies out of 10,642 Teachers

- 793 Buses transported 30,000 students on-time with no incidents

- All schools were operable and had working air conditioning

- Record first week of school attendance

- All kids eat free – breakfast & lunch

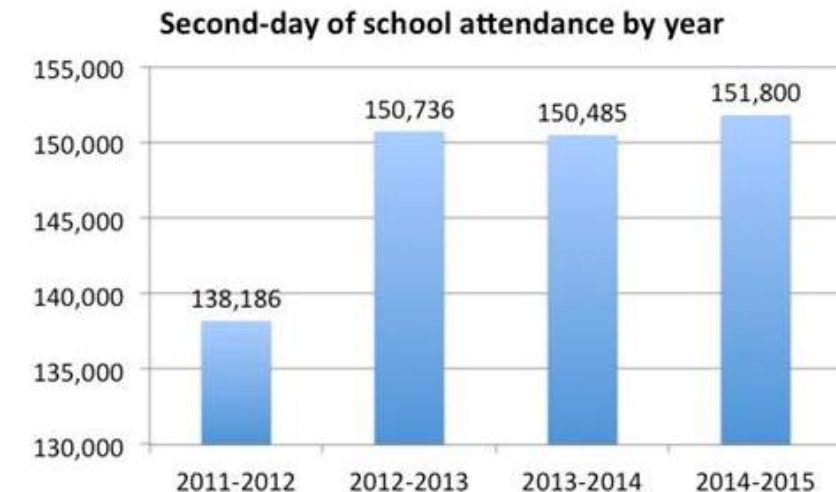All Dallas ISD students will now get free breakfast and lunch

By Matthew Haag   Follow @matthewhaag
mhaag@dallasnews.com
1:19 pm on October 1, 2013 | Permalink

Second-day of school attendance by year

|	2011-2012	2012-2013	2013-2014	2014-2015
	138,186	150,736	150,485	151,800

Other Accomplishments backed by Data

- Principal Evaluation Plan tied to Compensation

- Teacher Excellence Initiative – Support, Feedback, Performance Pay

- 20GB Fiber Optic Network – "Fence to Fence" Wireless Access

- 1:1 Device Initiative at 33 Schools

- Installed free DISD wireless access in high density locations

- Destination 2020 Metrics
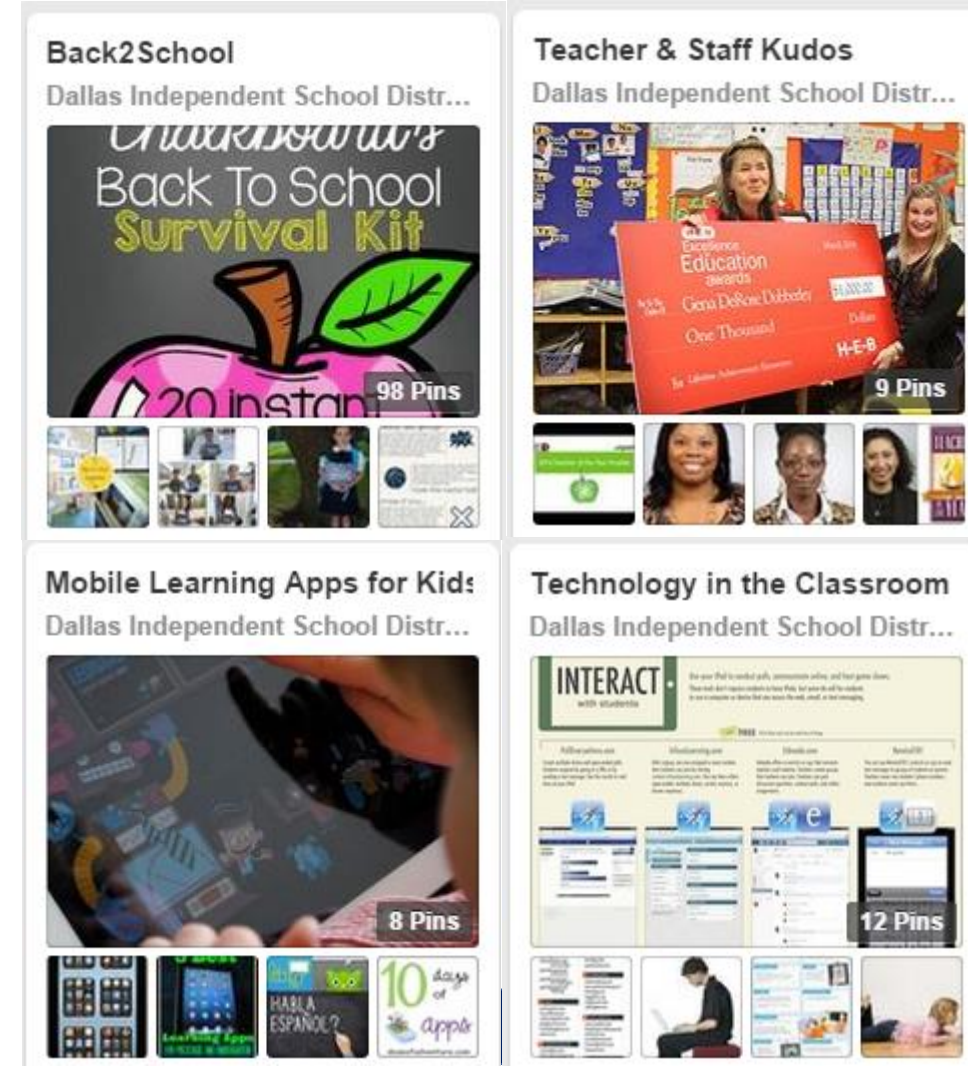
Teacher Excellence Initiative

On 22 May 2014, the Board approved the Teacher Excellence Initiative, allowing for the start of this rigorous teacher evaluation system in August 2014. This initiative will tie teacher evaluations to student achievement and performance results. It will also differentiate compensation, awarding higher salaries to teachers who get stronger results.
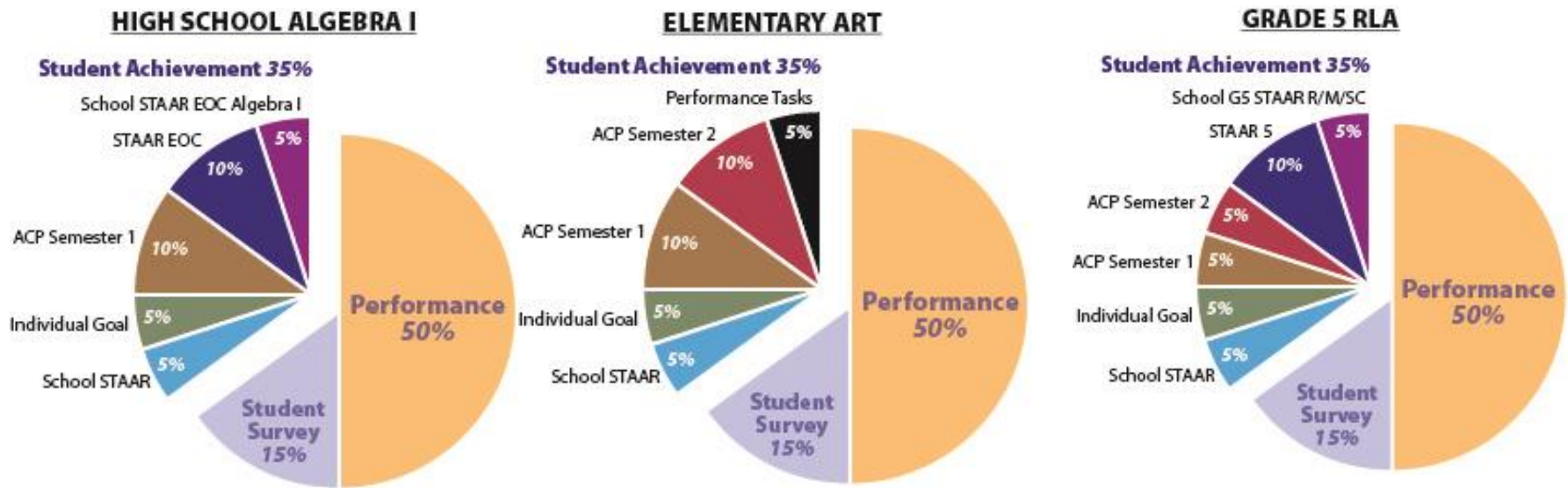
Unsat	Progressing		Proficient			Exemplary		Master
	I	II	I	II	III	I	II	
$45K	$49K	$51K	$54K	$59K	$65K	$74K	$82K	$90K

2014-15 Data Projects

- Insights → Suggested Actions and Automate or Accelerate where possible
- Personalized Learning – Opening 4-8 schools in 2015-16
- Equitable Access to Effective Teachers
- Counselor Evaluations with Strategic Pay By Cohort
  - Individual Performance – 50%
  - Team Performance – 15%
  - Student Outcomes – 35%
- Coaching Accountability
  - Participation & Team Performance
  - Lost Instruction Time
  - Academic Performance
  - On Track to Graduate
- Finance & HCM Deep Dive Dashboards
- Post Secondary Education, Career, Trade and Military Stats

Automated Insights

☐ Decrease ☐ Quartiles
☐ Improvement ☐ Sanity Check

School	△ Insight Description	More Info
ADAMS, B	Consistent Grad Rate improvement over past 4 periods.	link
ADAMS, B	Schools with the worst employee attendance rates for Student Contact Days	link
BROWNE	Schools with the worst employee attendance rates for Student Contact Days	link
BUDD	Schools with the worst employee attendance rates for Student Contact Days	link
BURLESON	Schools with the worst employee attendance rates for Student Contact Days	link
BUSH	Latest STAAR significantly above peers and historic performance.	link
BUSHMAN	Schools with the worst employee attendance rates for Student Contact Days	link
CARR	Schools with the worst employee attendance rates for Student Contact Days	link

Personalized Learning

- Learner Profiles
  - Voice & Choice
  - Learning Preferences

- Personalized Learning Paths
  - Diverse & Relevant Learning Experiences

- Individual Mastery
  - Demonstrate Mastery
  - Embedded Assessments

- Flexible Learning Environments

Thanks!
Watch us succeed at
www.dallasisd.org

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