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Global math education stagnations in the developed countries series

& how to overcome them by empowering the math poorest half of the student population, starting with the MMU1 (Mini Mini USL1)

By Dongchan Lee

Part 3: Math EDU stagnations in most mega cities (or school districts) in the USA (January 31st, 2017)

Youtube video version of this is at https://www.youtube.com/watch?v=vB7LcMLVWs4

Updates can be found from www.uslgoglobal.com

MMU1 (Mini Mini USL1) proposals to the cities 2017-2020 (2-3 years)

www.uslgoglobal.com

With Dongchan Lee

Ending Math Poverty

Very quickly

25%

25%

25%

25%

The Best math 50% (with the school teachers)

as appetizers

~ 1.35 STDEV advances

The Worst math 50% with Dongchan Lee

Follow the Yellow Arrows that indicate the expected MMU1 impacts.

To see is to believe: Follow the 12 year trajectories by NAEP's math National Report Card

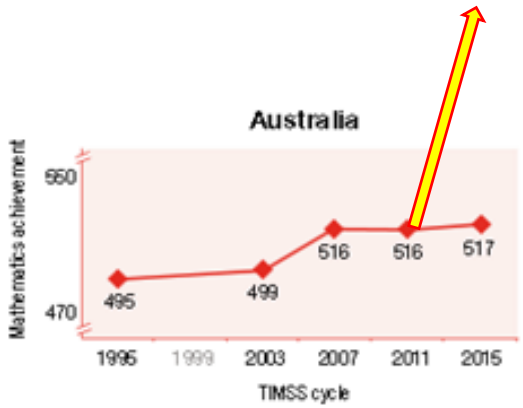
To ignore this is not only the economic ignorance of a nation, but also to betray the future generations of all around you.

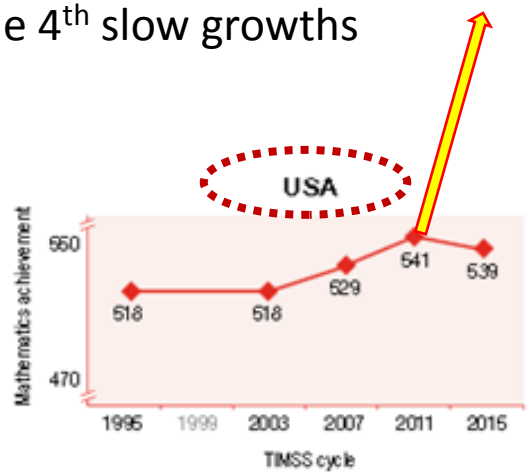
Key points:

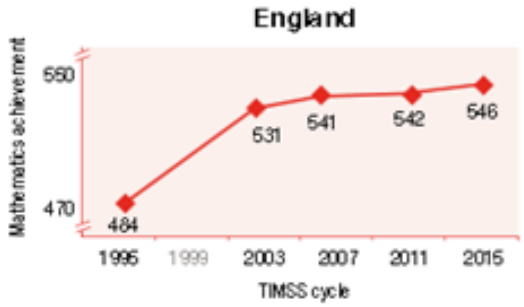
1) Most of the cities that have participated in the TUDA of the NAEP of the USA have shown the indications that their city math average have reached the saturation points of growths similar to the results from the math results of the PISA and TIMSS.
2) For the math poor states, still there are more space of the growths, but most of the participating cities seem to have quasi-saturated for the math average growths.

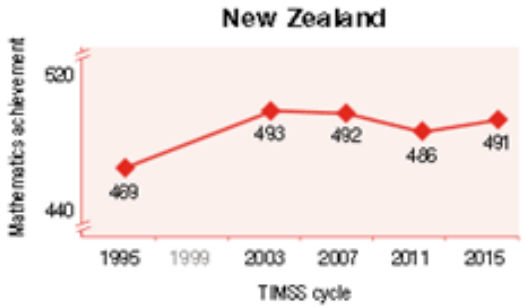
Quasi-horizontal TIMSS math growths past 20 years and what MMU1 is equivalent to do if implemented (Yellow Arrows)

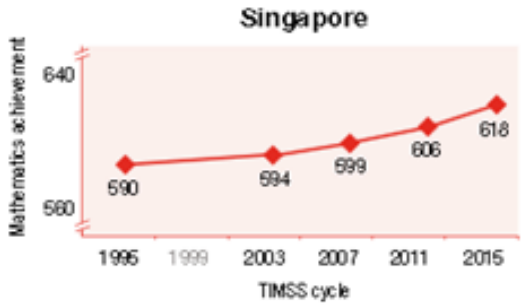
TIMSS Math grade 4th slow growths



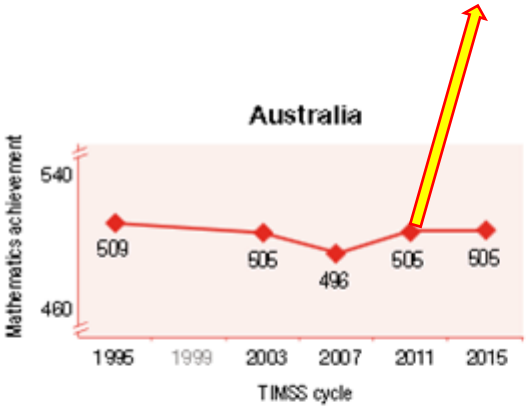


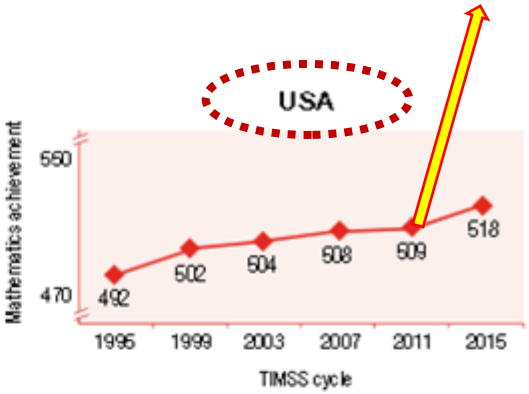


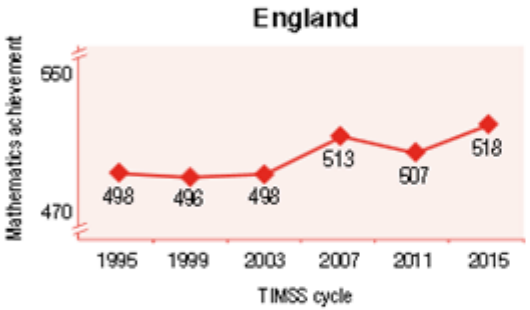


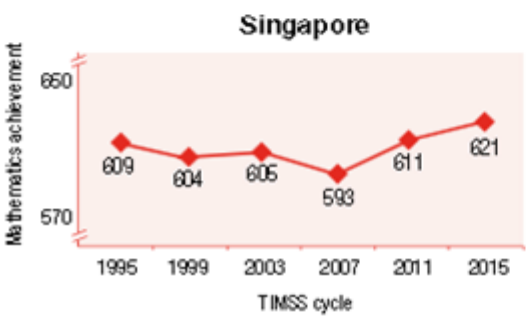


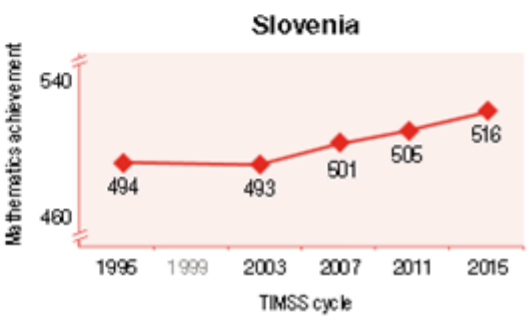
TIMSS Math grade 8th slow growths





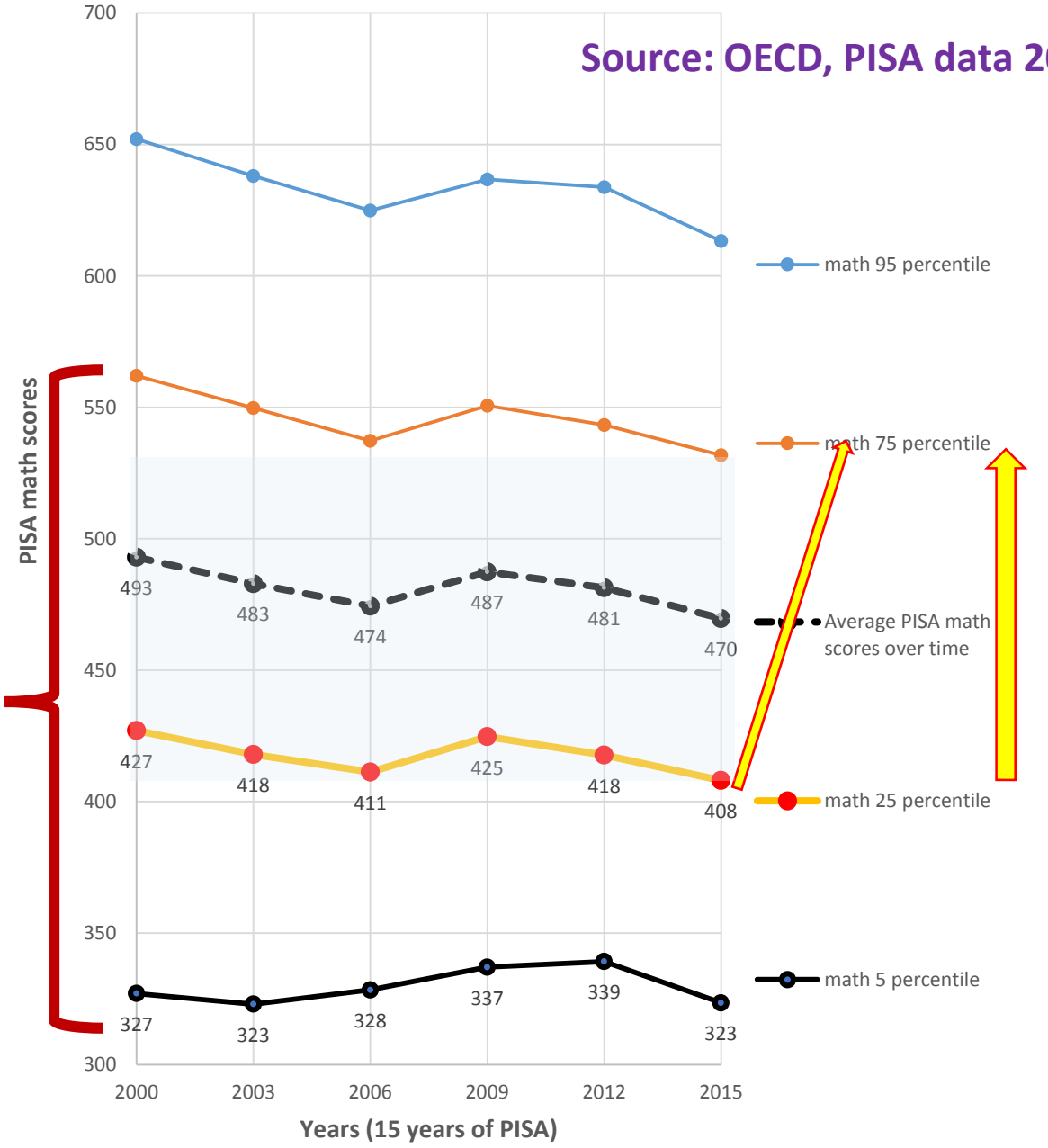




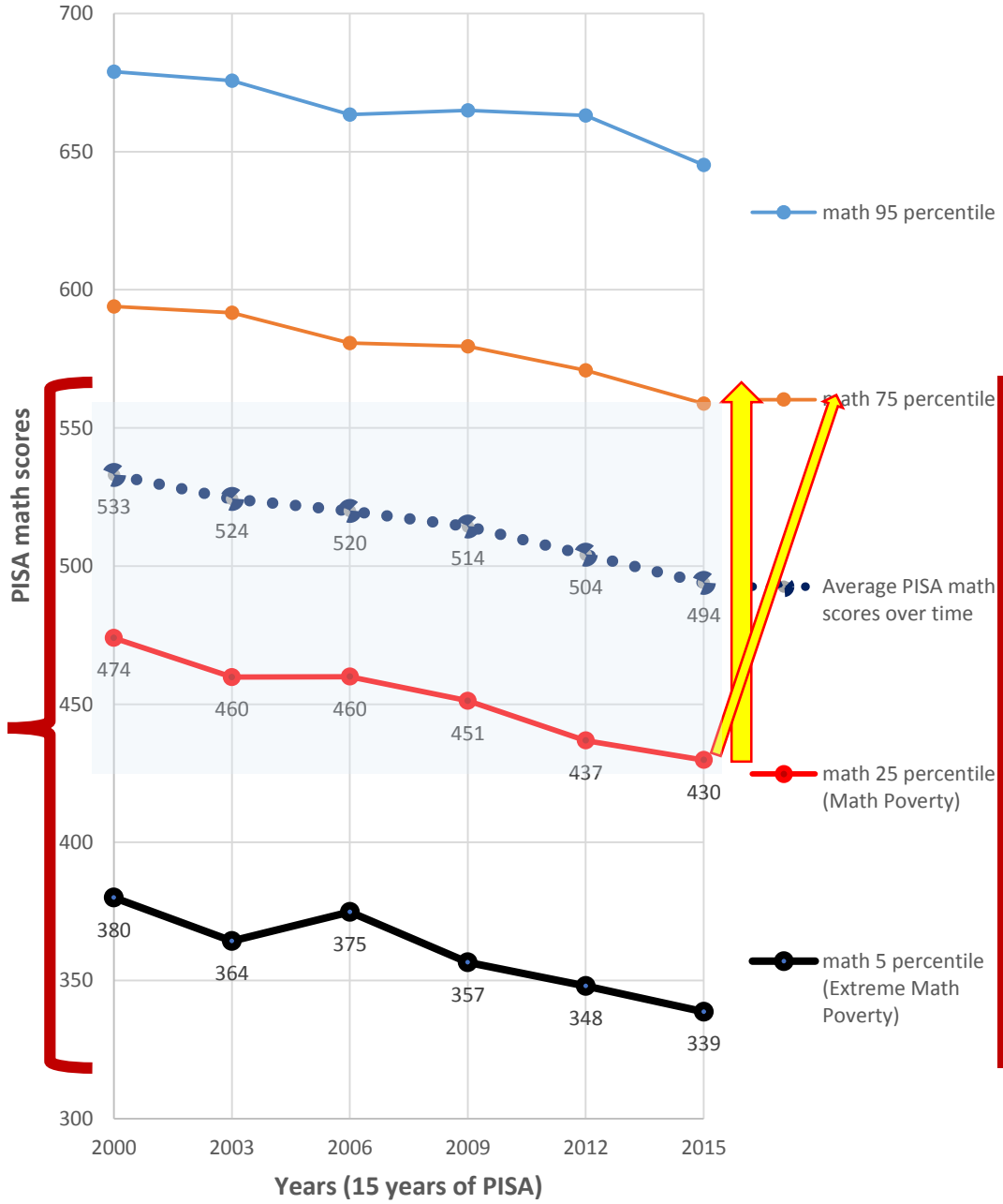


United States: PISA math trajectories: **Math poverty levels & percentile distributions 2000-2015** (entire history)

Source: OECD, PISA data 2017



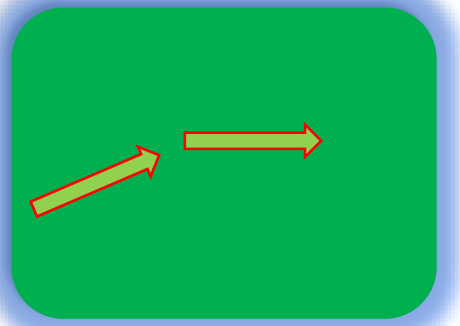
AUSTRALIA: PISA math trajectories: **Math poverty levels & percentile distributions 2000-2015** (entire history)



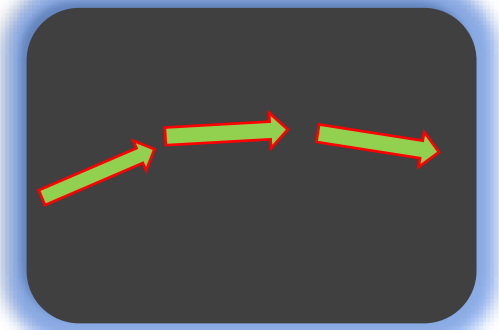
The red arrow is the math chasm between the top math countries and poorest math countries in the entire PISA and TIMSS tests

CC BY NC ND

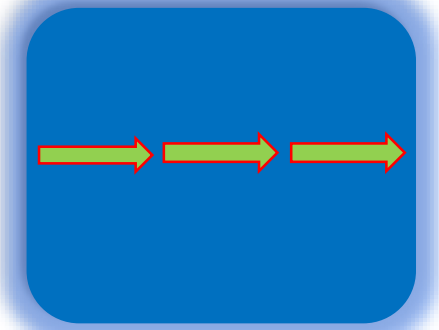
MMU1 (Mini Mini USL1) proposals to the cities 2017-2020 (2-3 years) To the 5 categories of math growth cities (or school districts) that have participated in the NAEP's TUDA program, in the USA



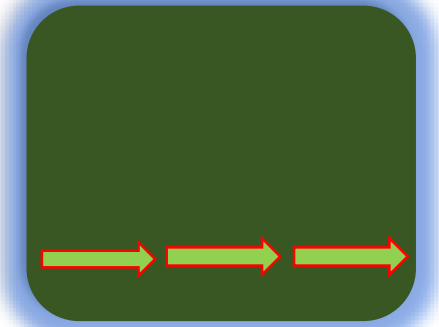
- Atlanta
- Austin
- Boston
- Chicago
- District of Columbia
- Los Angeles



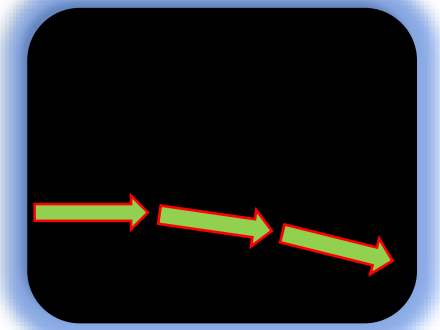
- Houston
- New York City
- San Diego



- Charlotte
- Dallas
- Hillsborough
- Miami-Dade (FL)
- Jefferson County (KY)



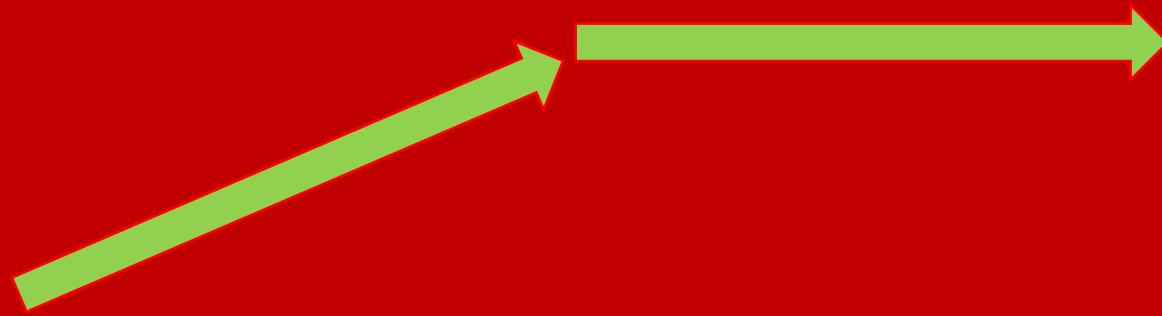
- Cleveland
- Detroit
- Fresno
- Milwaukee



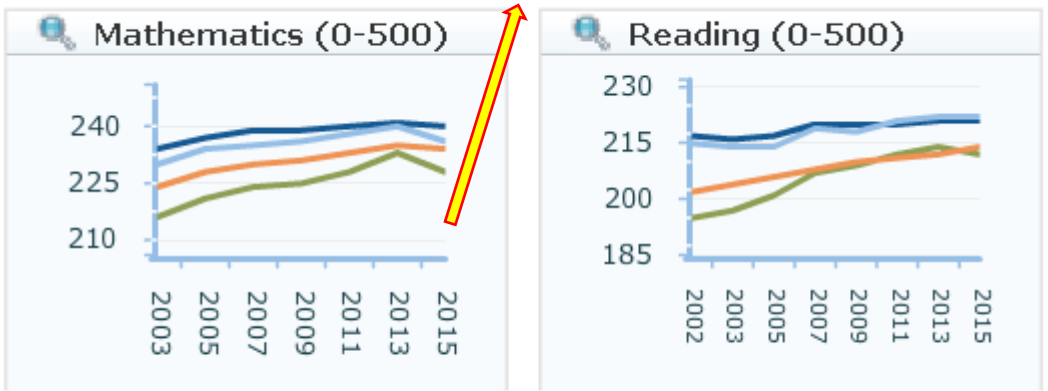
- Albuquerque
- Boltimore City
- Philadelphia

Source:
https://nces.ed.gov/nationsreportcard/districts/

For those grew much initially, but about to saturate or have been saturating…



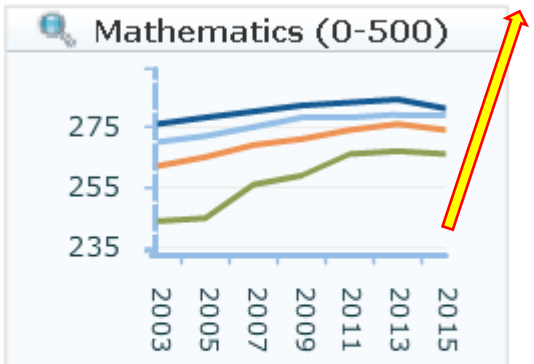
Average Scale Score over time for Atlanta

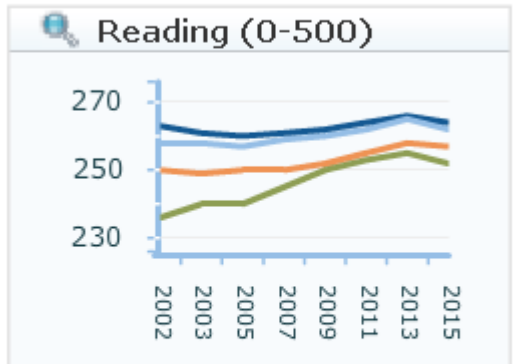


Atlanta
National public
Large city
Georgia

(•) Grade 4
( ) Grade 8

Average Scale Score over time for Atlanta

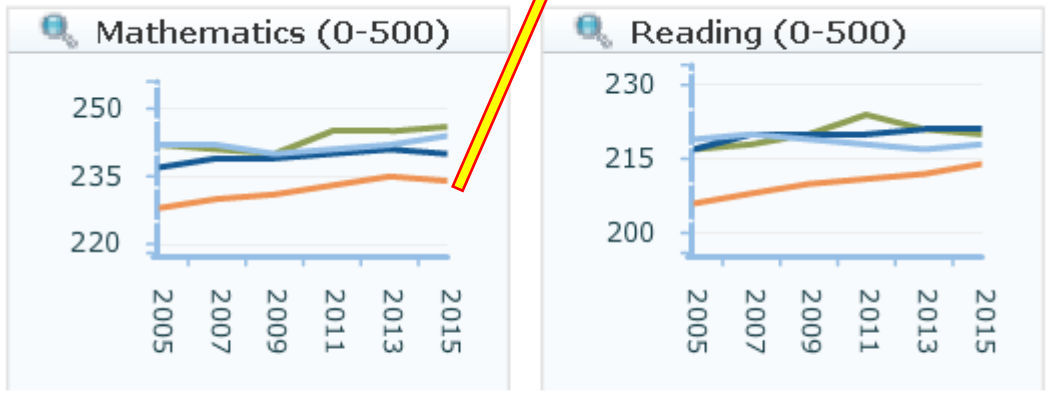




Atlanta
National public
Large city
Georgia

( ) Grade 4
(•) Grade 8

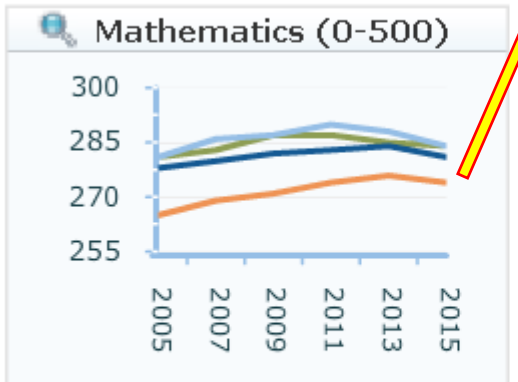
Average Scale Score over time for Austin

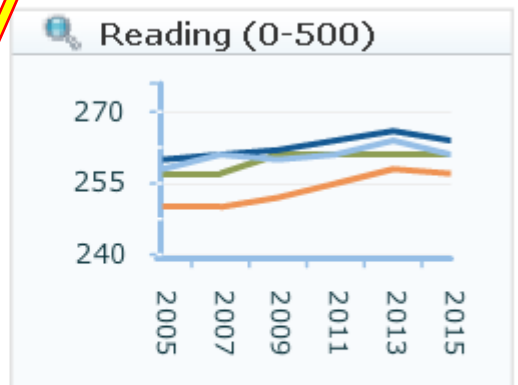


Austin
National public
Large city
Texas

(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Austin

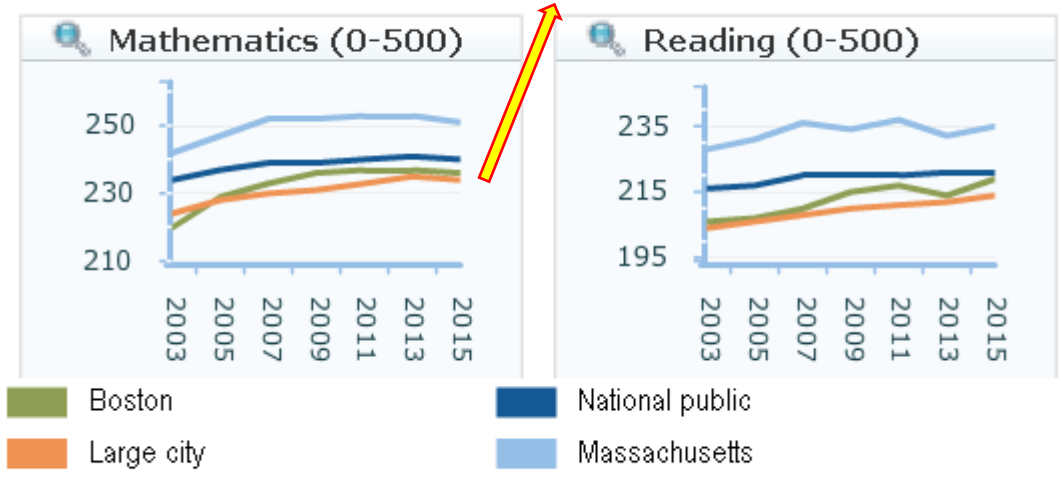




Austin
National public
Large city
Texas

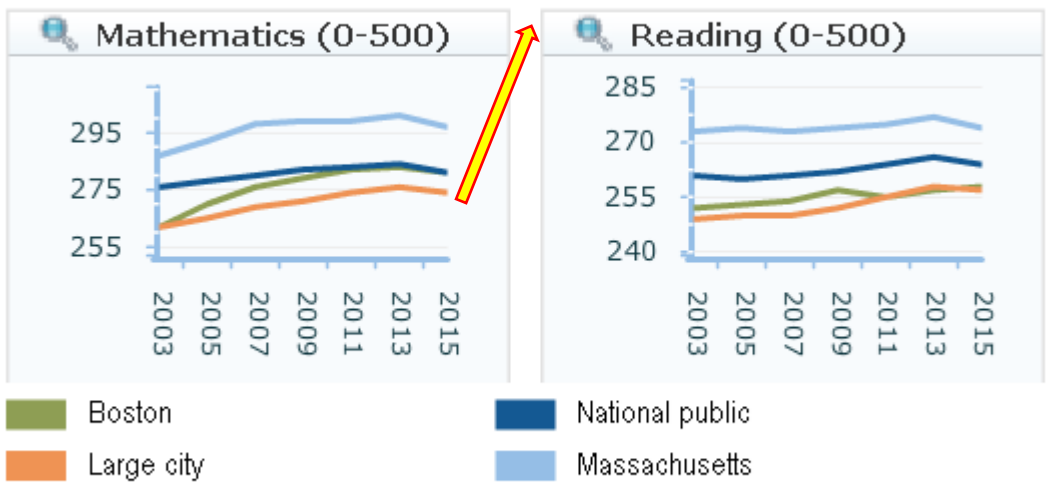
( ) Grade 4 (•) Grade 8

Average Scale Score over time for Boston



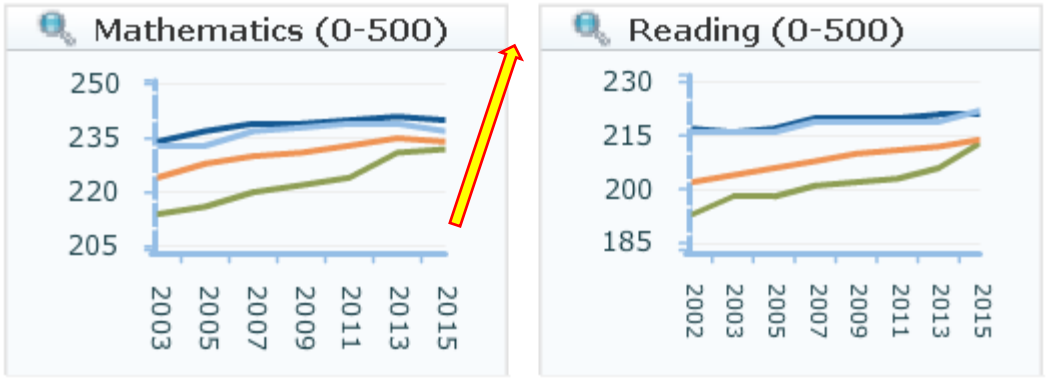
(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Boston



( ) Grade 4 (•) Grade 8

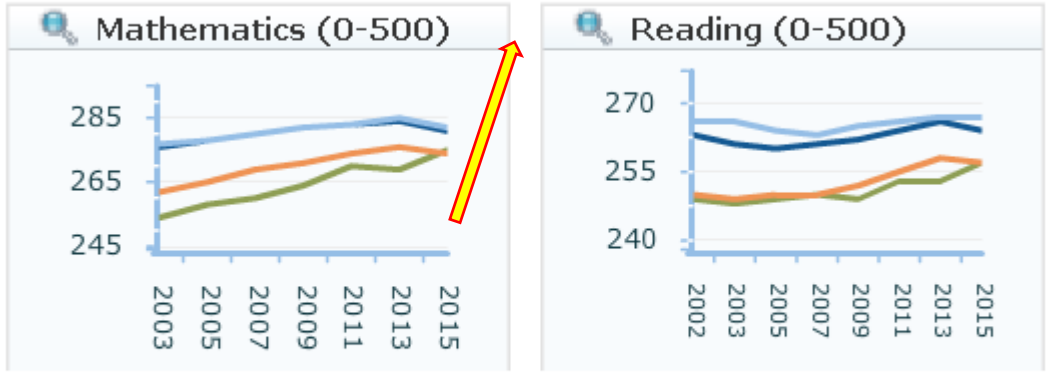
Average Scale Score over time for Chicago



Chicago
Large city
National public
Illinois

(•) Grade 4 ( ) Grade 8

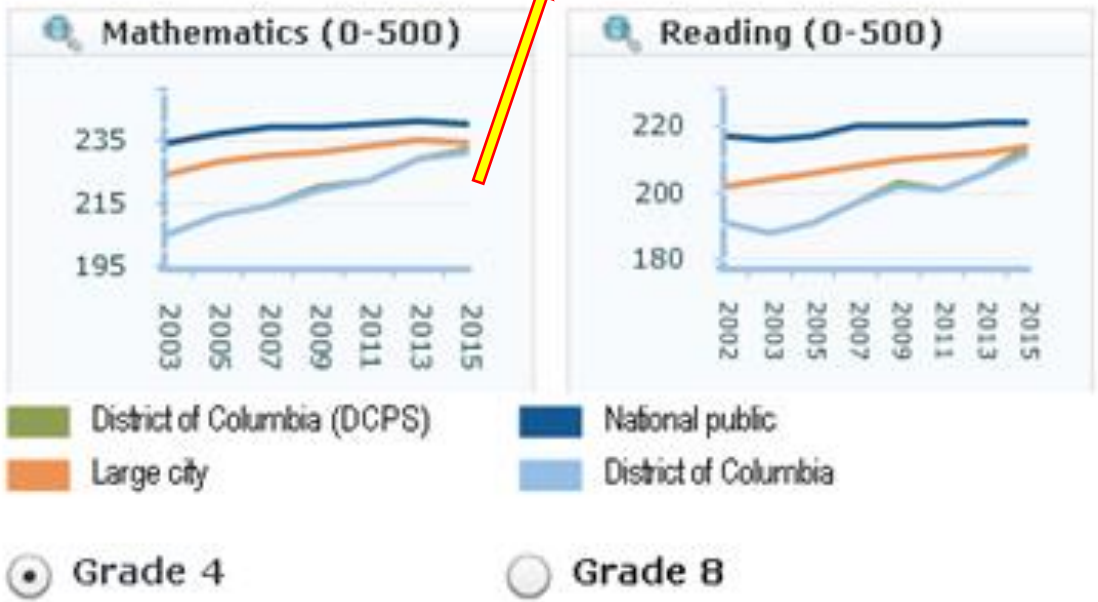
Average Scale Score over time for Chicago



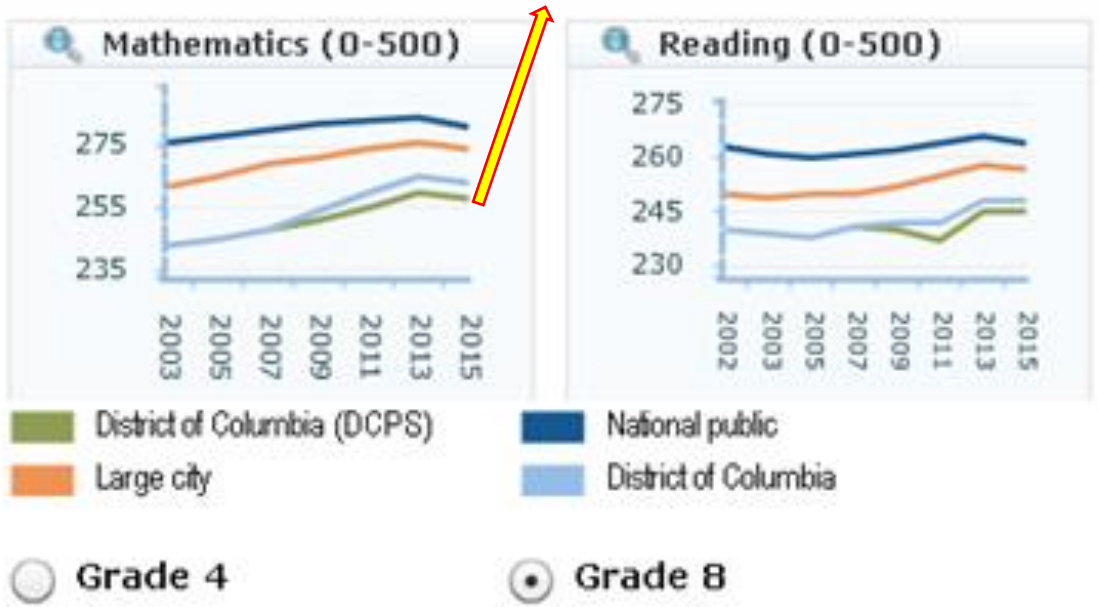
Chicago
Large city
National public
Illinois

( ) Grade 4 (•) Grade 8

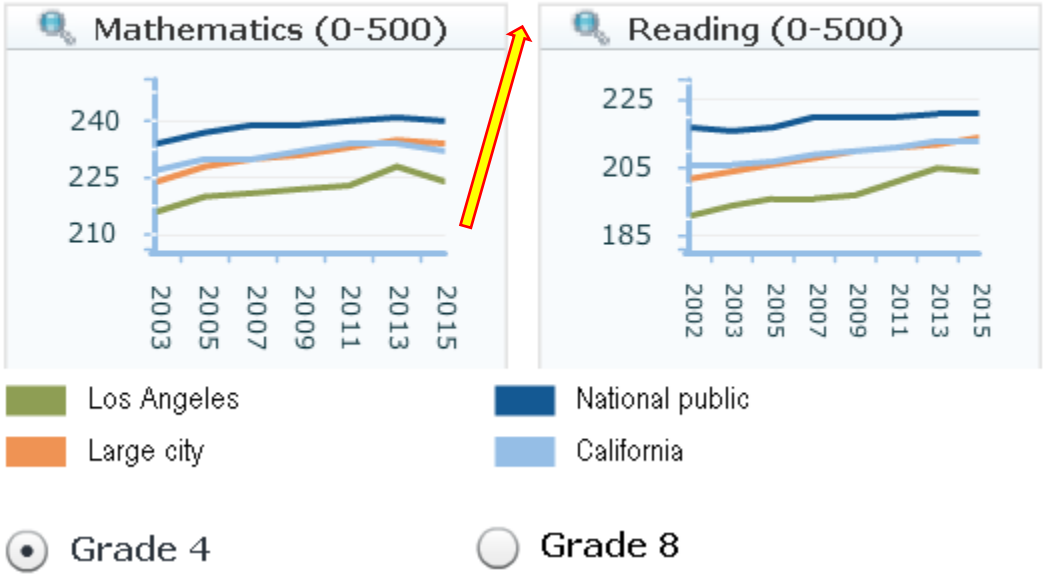
Average Scale Score over time for District of Columbia (DCPS)



Average Scale Score over time for District of Columbia (DCPS)

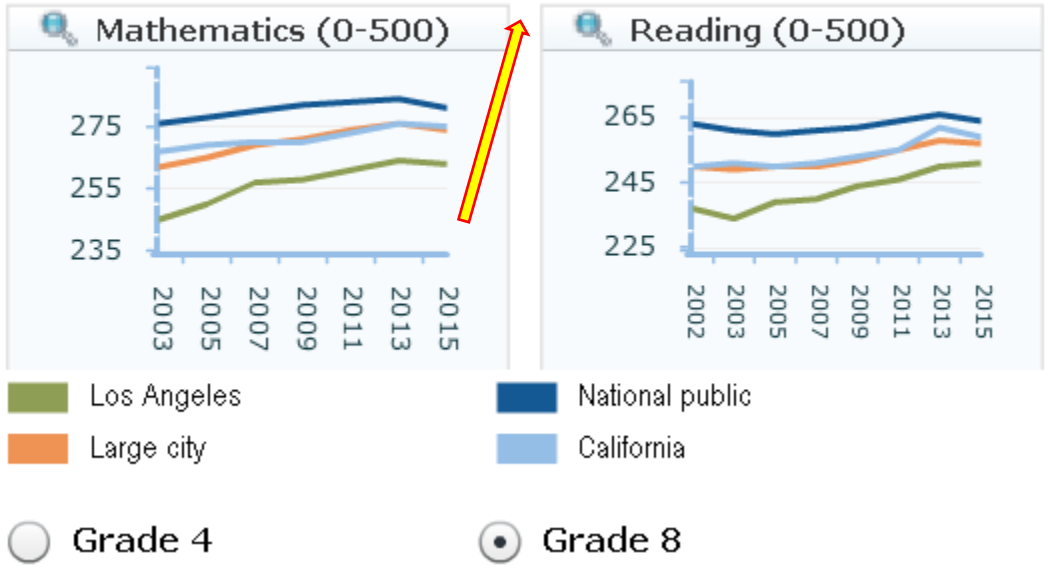


Average Scale Score over time for Los Angeles



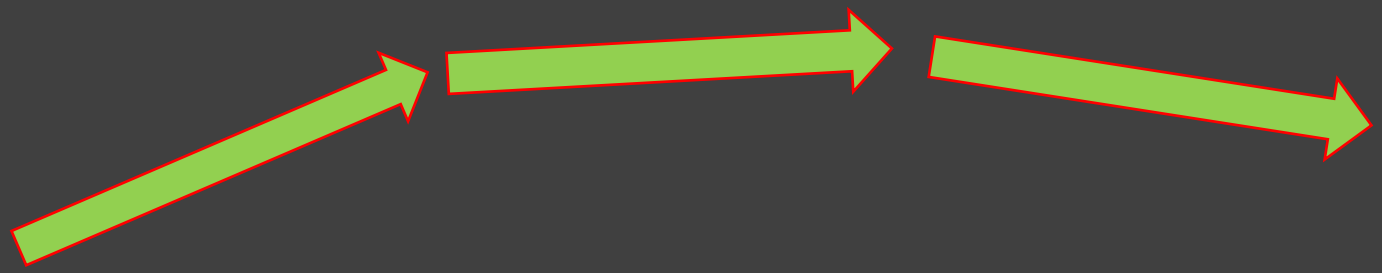
(•) Grade 4 ( ) Grade 8

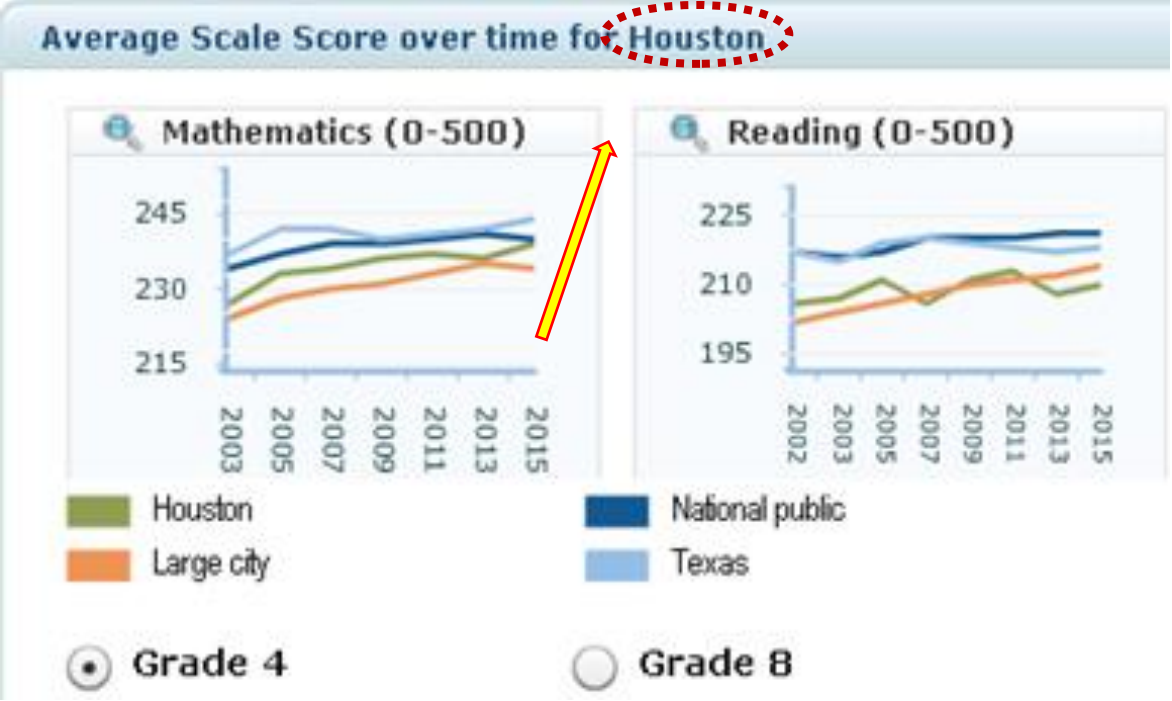
Average Scale Score over time for Los Angeles

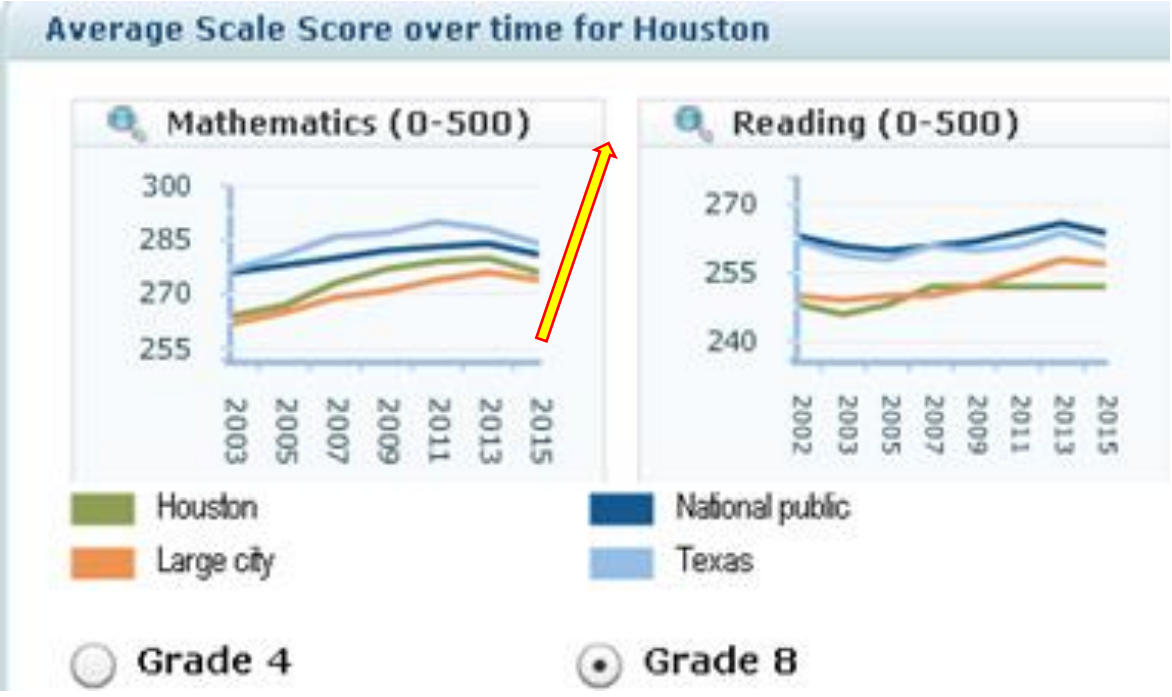


( ) Grade 4 (•) Grade 8

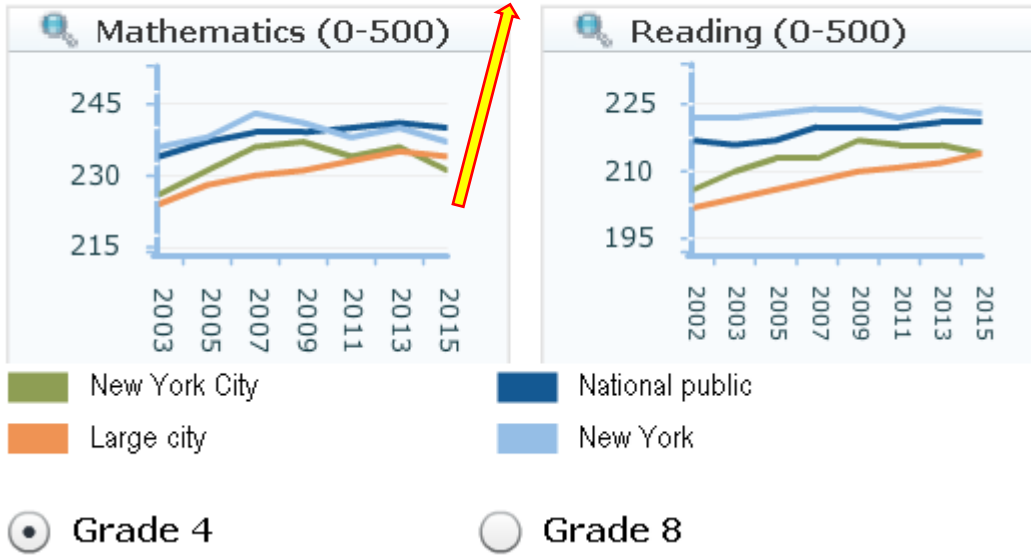
For those grew much initially, but saturated and decaying




Average Scale Score over time for Houston
Mathematics (0-500)
245
230
215
2003
2005
2007
2009
2011
2013
2015
Reading (0-500)
225
210
195
2002
2003
2005
2007
2009
2011
2013
2015
Houston
Large city
National public
Texas
Grade 4
Grade 8

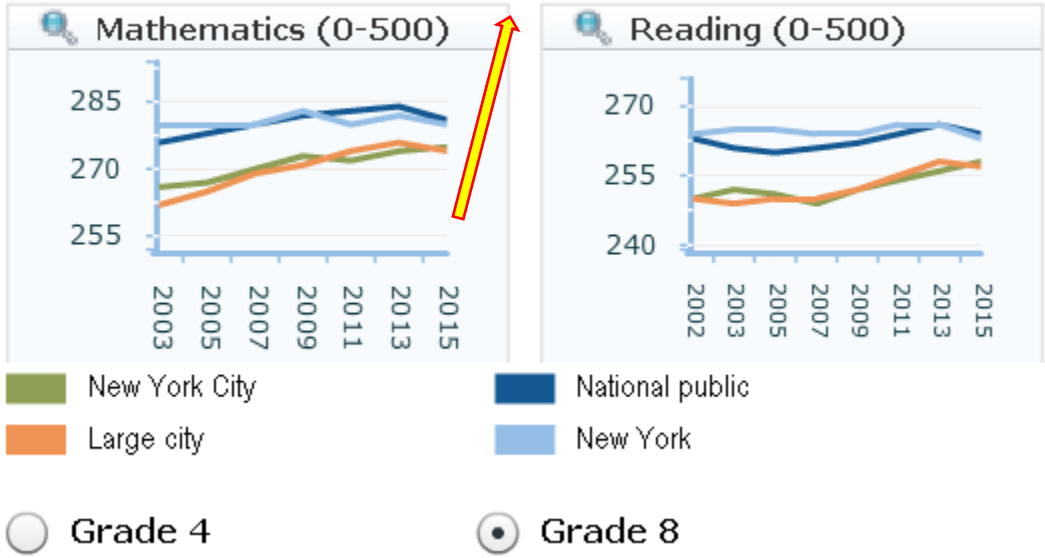

Average Scale Score over time for Houston
Mathematics (0-500)
300
285
270
255
2003
2005
2007
2009
2011
2013
2015
Reading (0-500)
270
255
240
2002
2003
2005
2007
2009
2011
2013
2015
Houston
Large city
National public
Texas
Grade 4
Grade 8

Average Scale Score over time for New York City



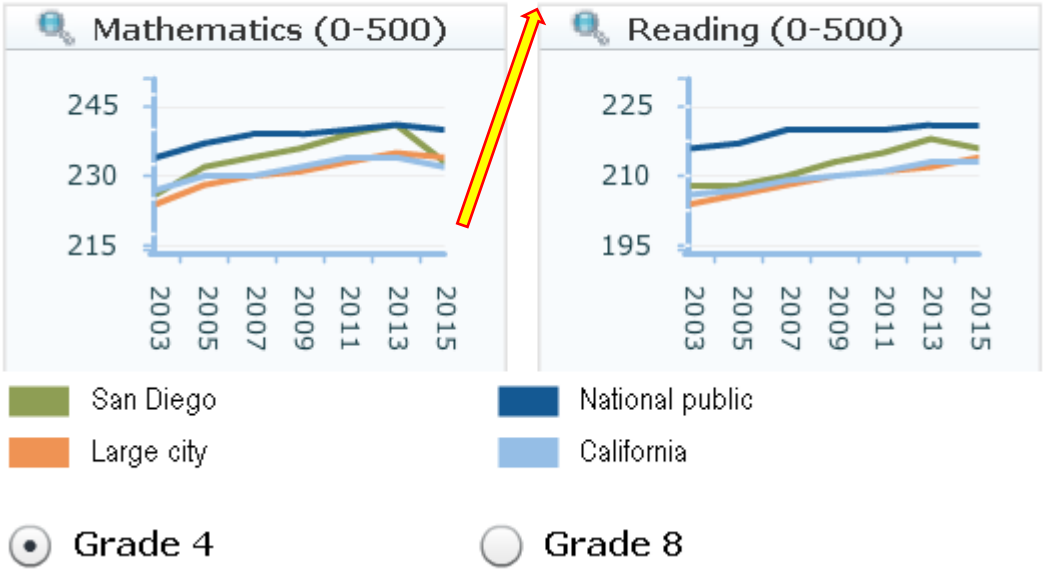
Grade 4 Grade 8

Average Scale Score over time for New York City



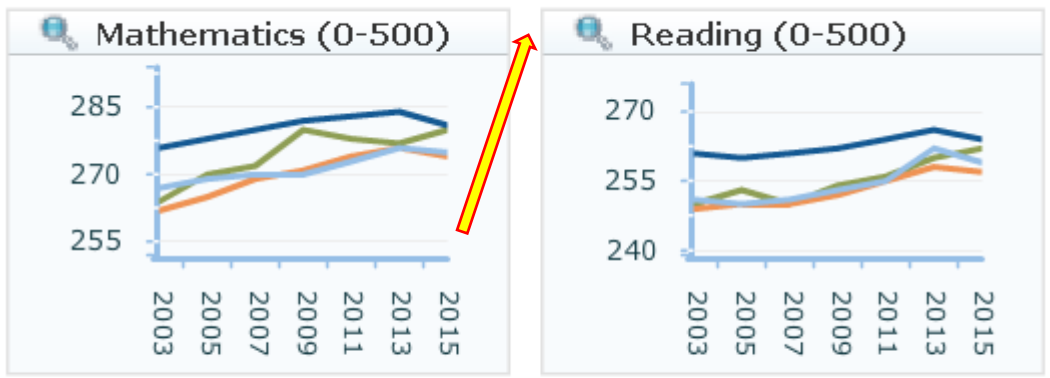
Grade 4 Grade 8

Average Scale Score over time for San Diego



(•) Grade 4 ( ) Grade 8

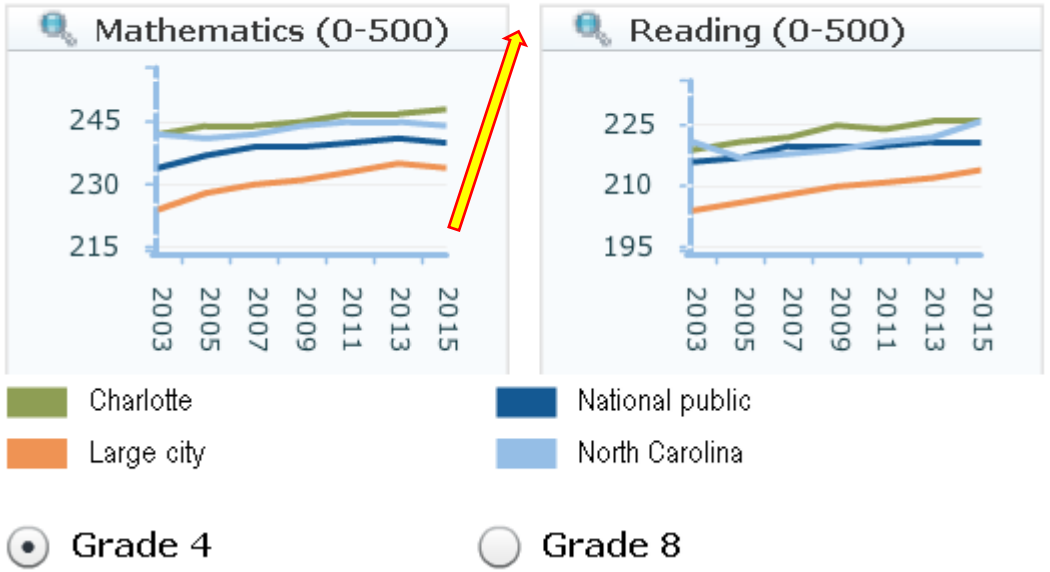
Average Scale Score over time for San Diego



( ) Grade 4 (•) Grade 8

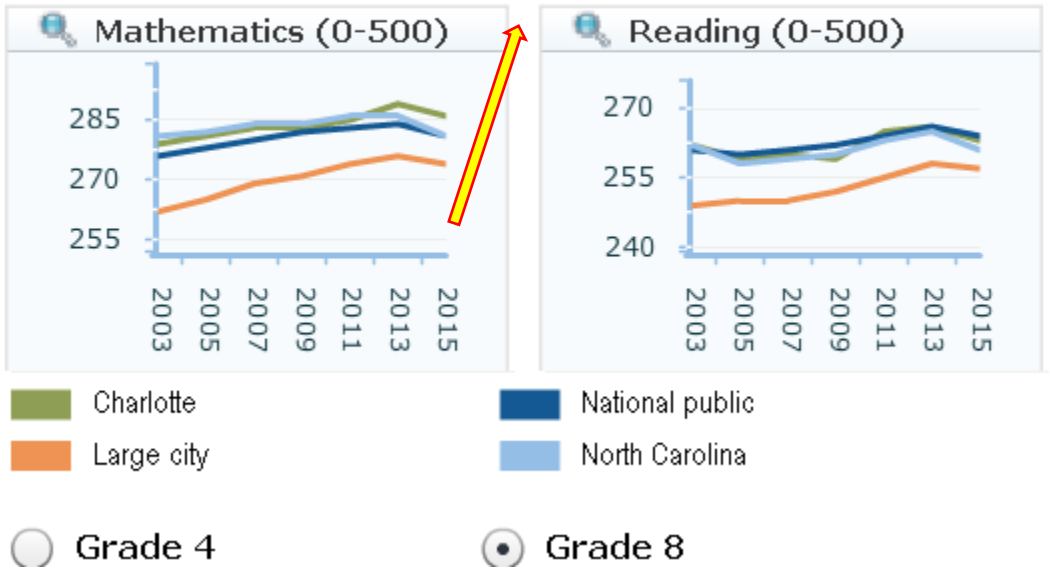
For the math growth saturated cities

Average Scale Score over time for Charlotte



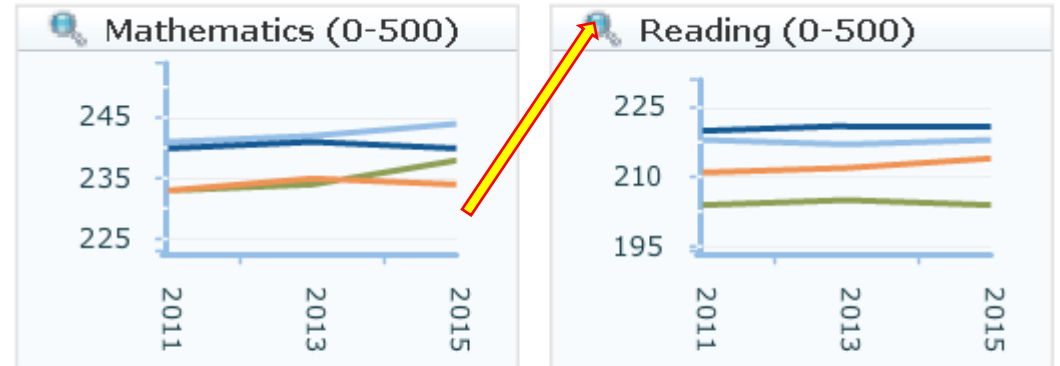
Grade 4 Grade 8

Average Scale Score over time for Charlotte



Grade 4 Grade 8

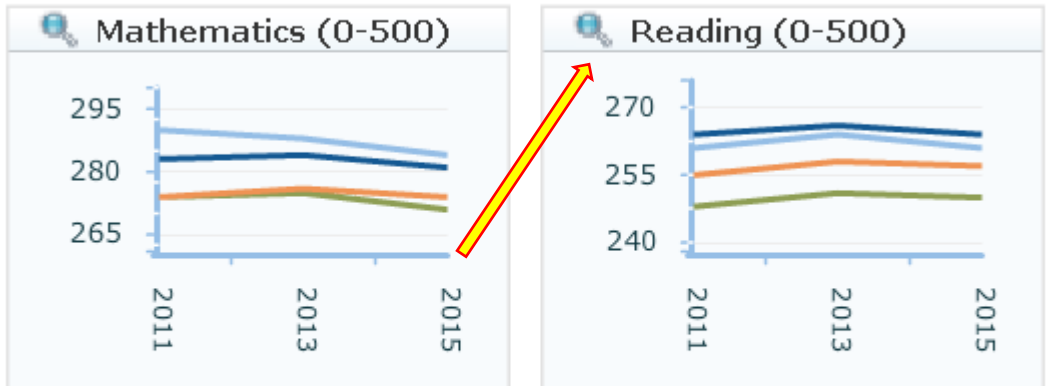
Average Scale Score over time for Dallas



Dallas
National public
Large city
Texas

Grade 4
Grade 8

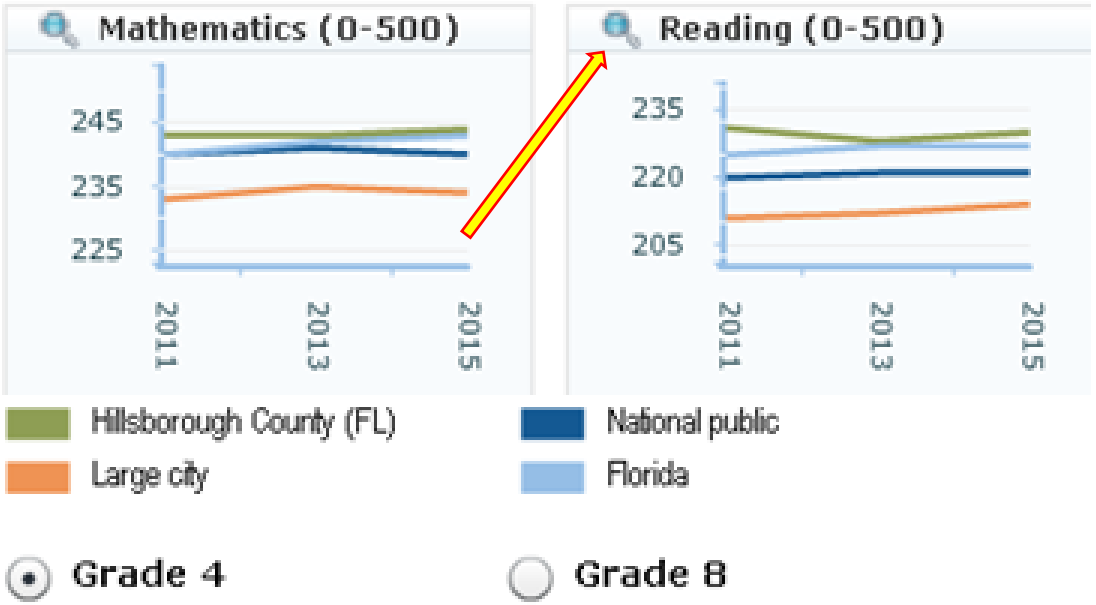
Average Scale Score over time for Dallas



Dallas
National public
Large city
Texas

Grade 4
Grade 8

Average Scale Score over time for Hillsborough County (FL)

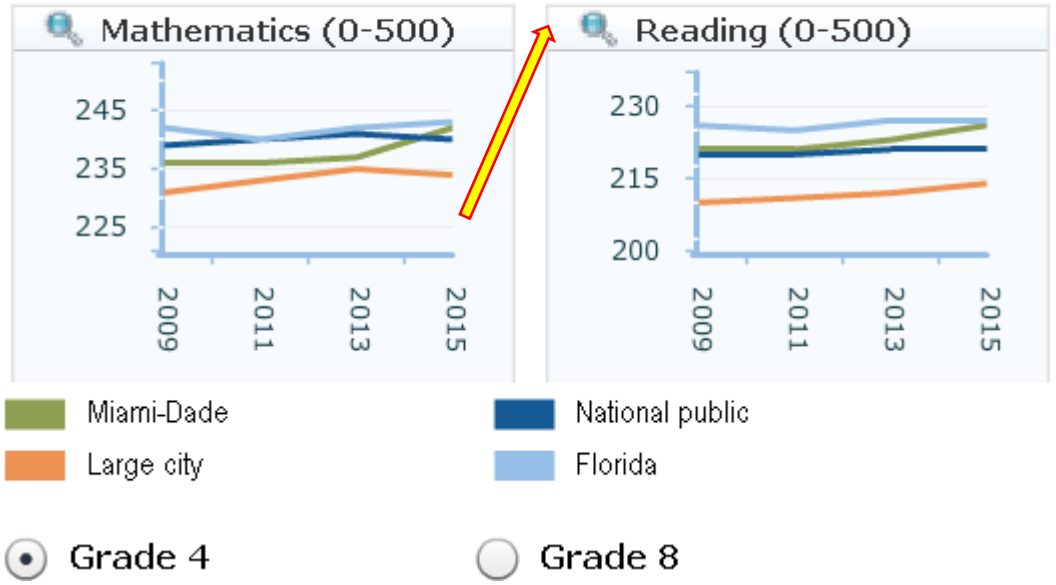


(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Hillsborough County (FL)

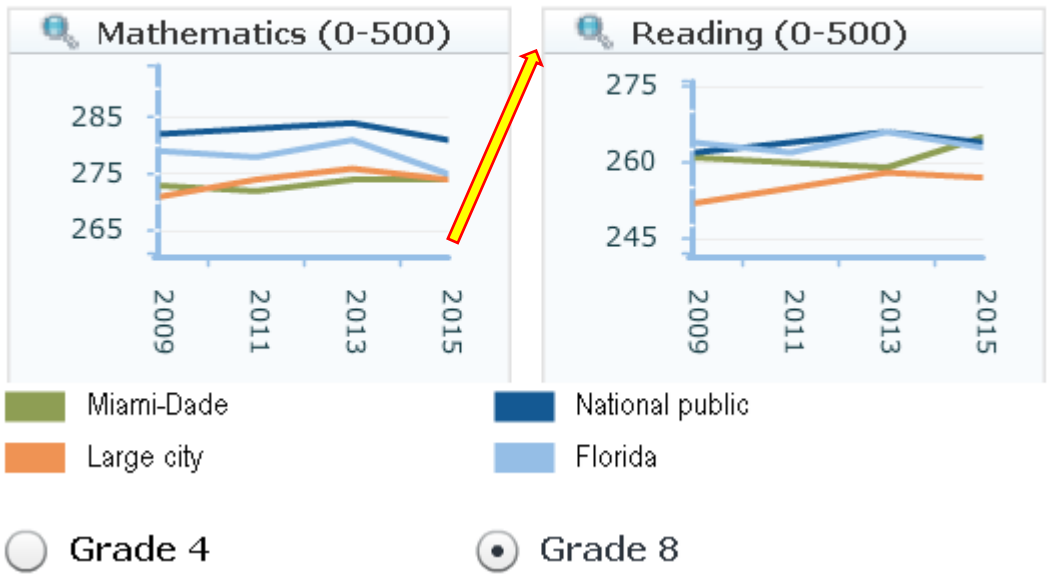
( ) Grade 4 (•) Grade 8

Average Scale Score over time for Miami-Dade



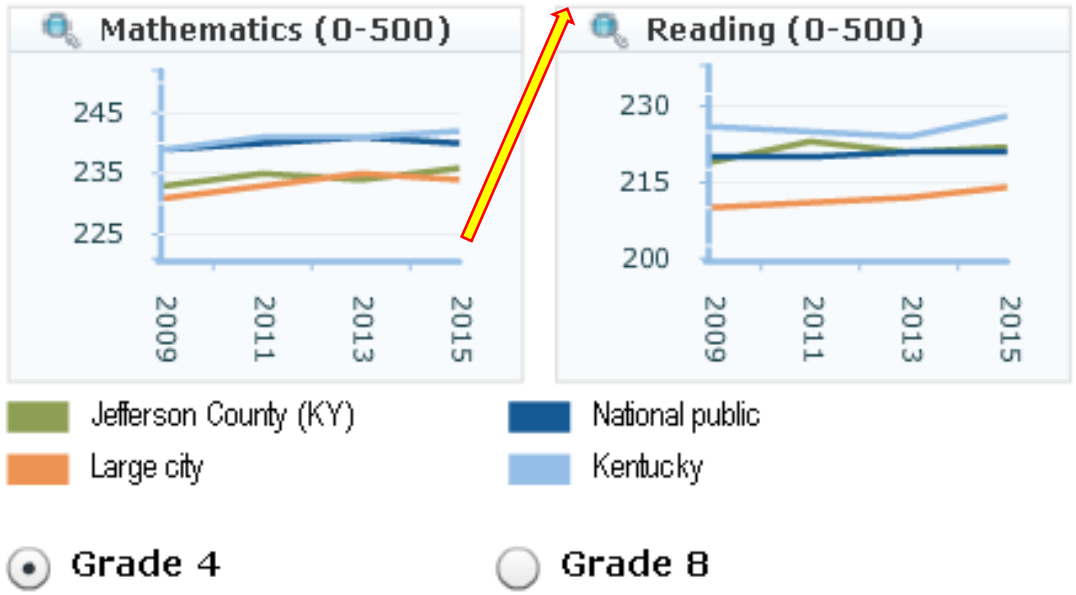
(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Miami-Dade



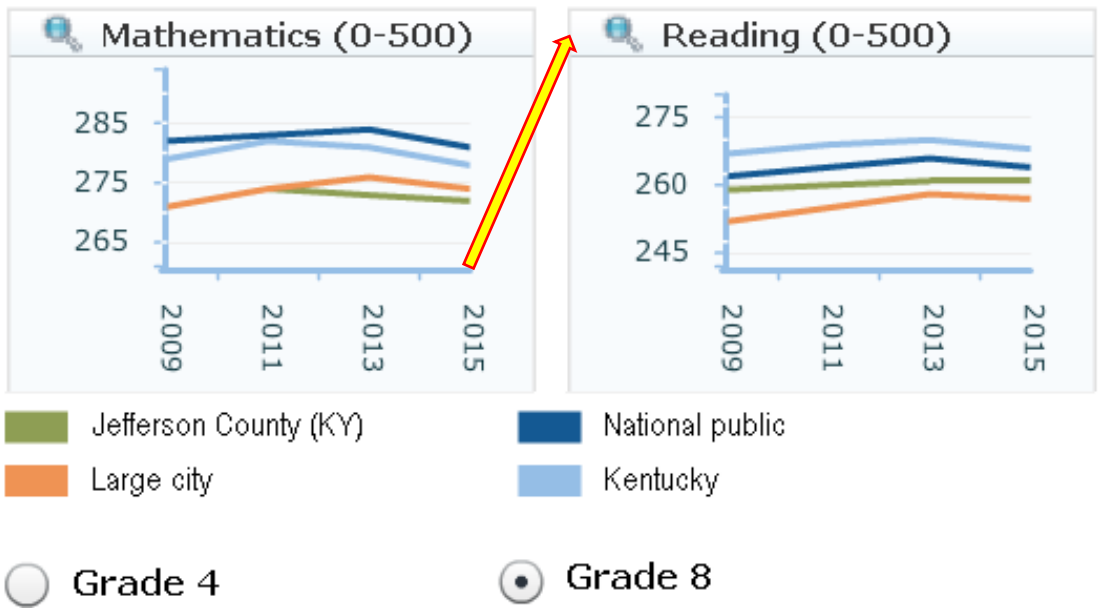
( ) Grade 4 (•) Grade 8

Average Scale Score over time for Jefferson County (KY)



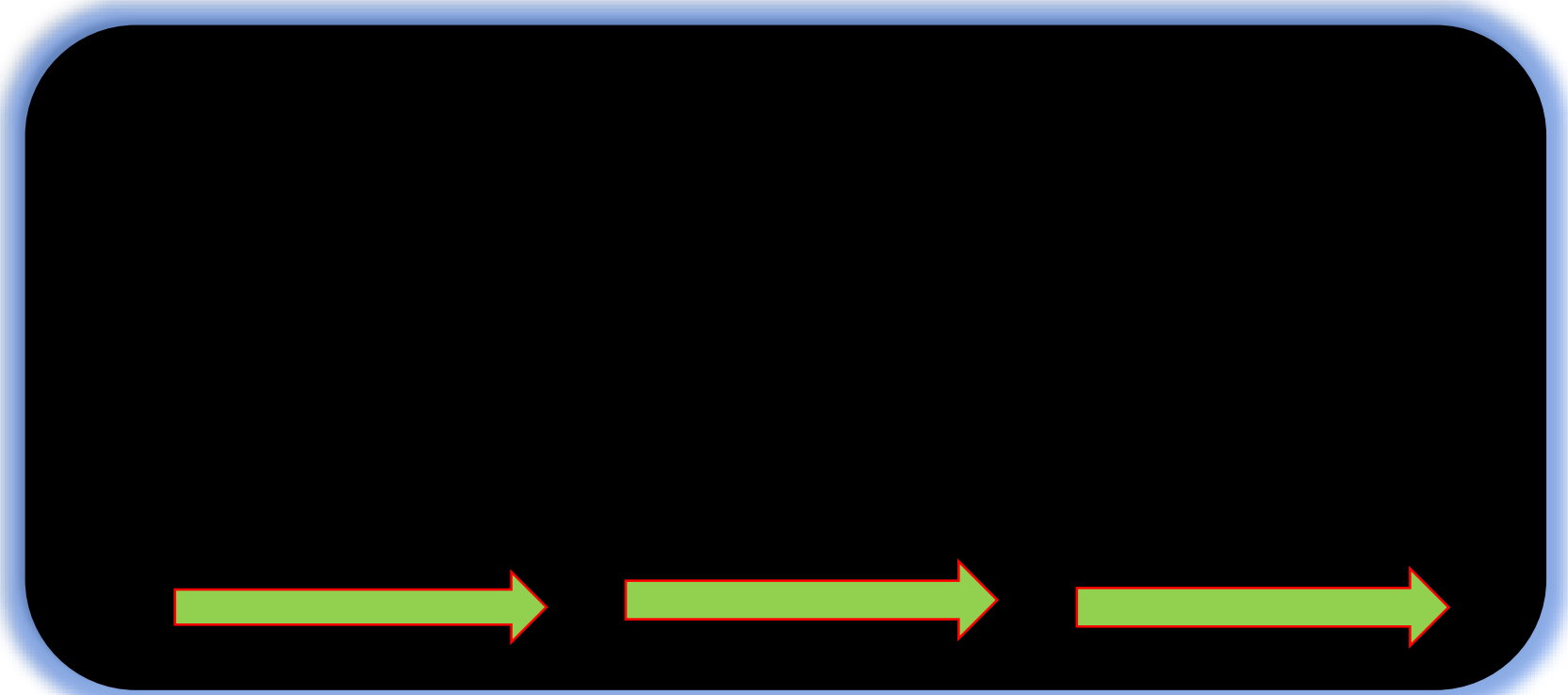
(•) Grade 4 ( ) Grade 8

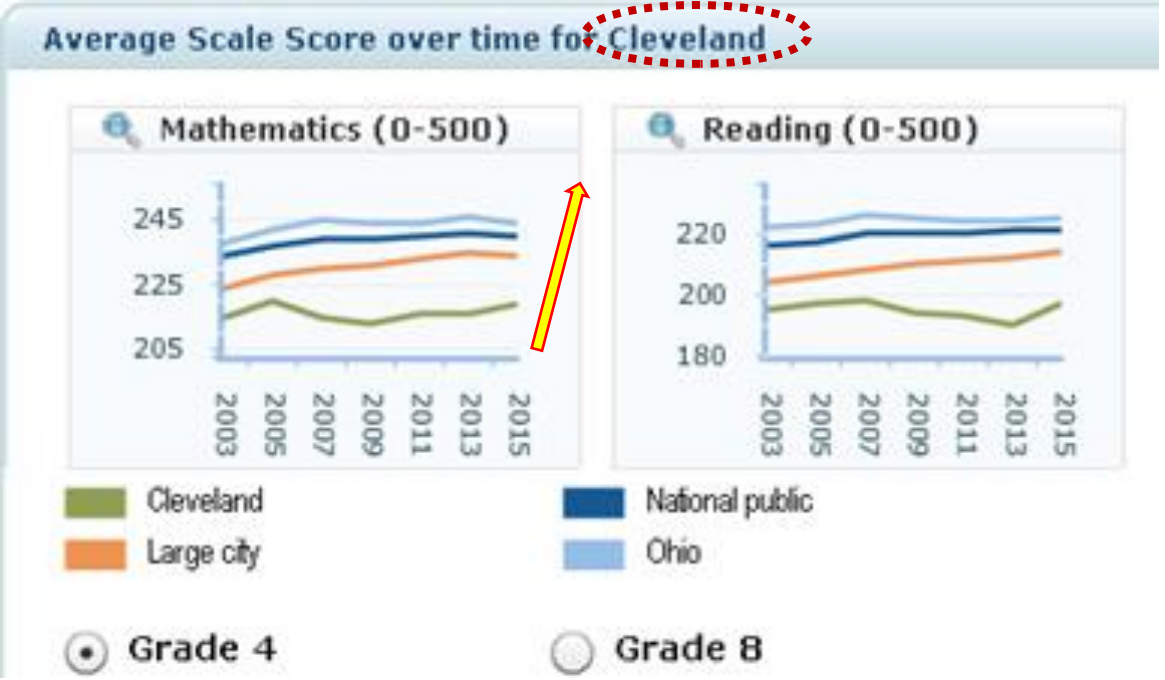
Average Scale Score over time for Jefferson County (KY)

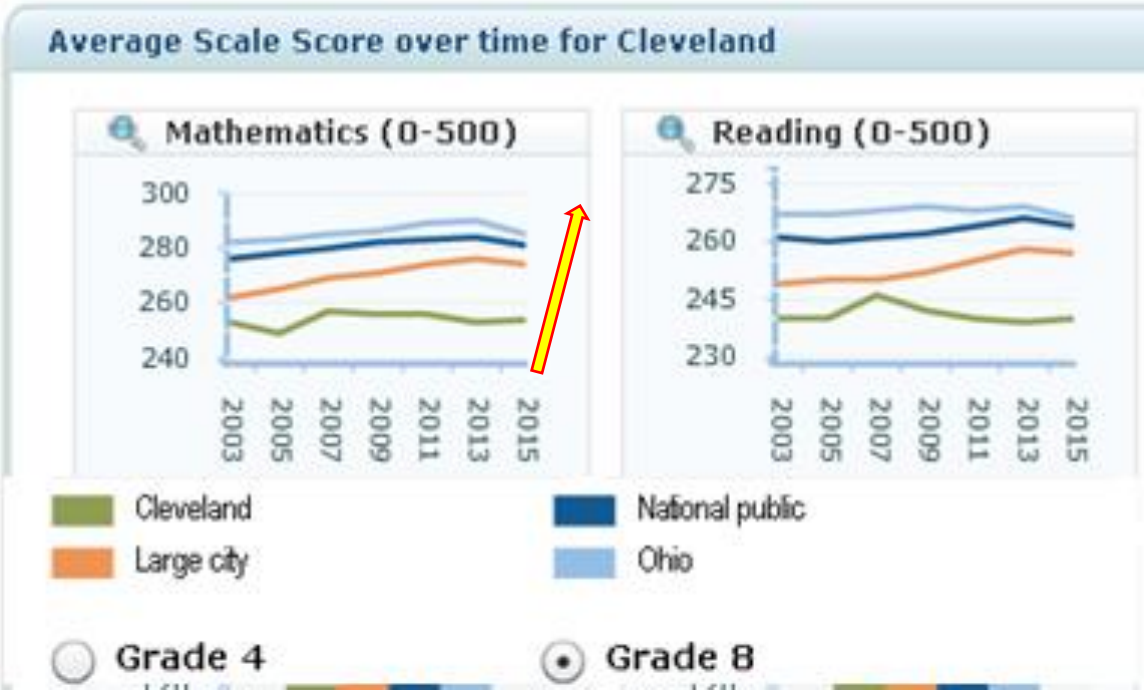


( ) Grade 4 (•) Grade 8

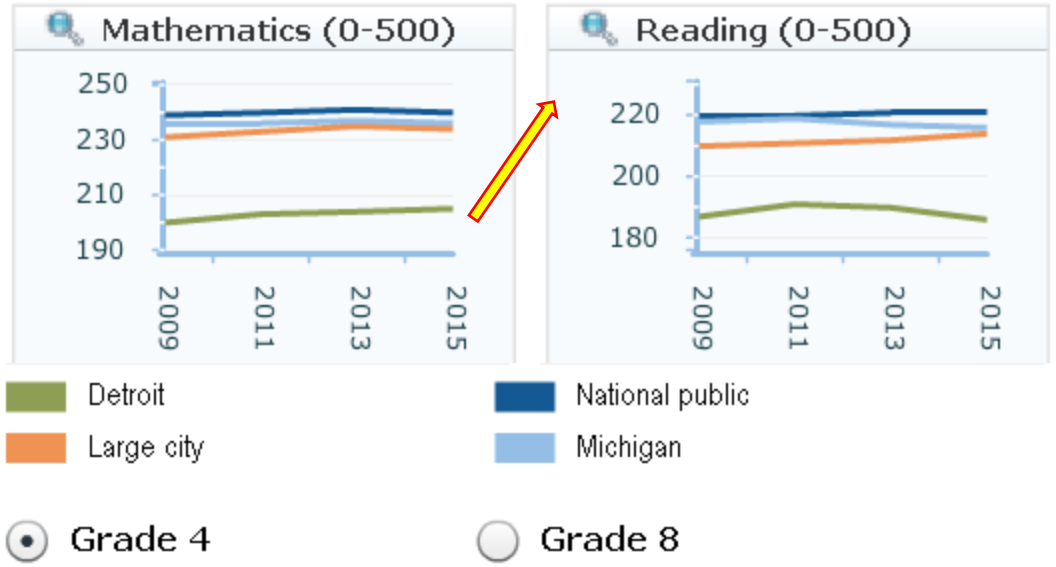
For the math growth stagnating cities
(near the bottom)




Average Scale Score over time for Cleveland
Mathematics (0-500)
245
225
205
2003
2005
2007
2009
2011
2013
2015
Reading (0-500)
220
200
180
2003
2005
2007
2009
2011
2013
2015
Cleveland
Large city
National public
Ohio
Grade 4
Grade 8

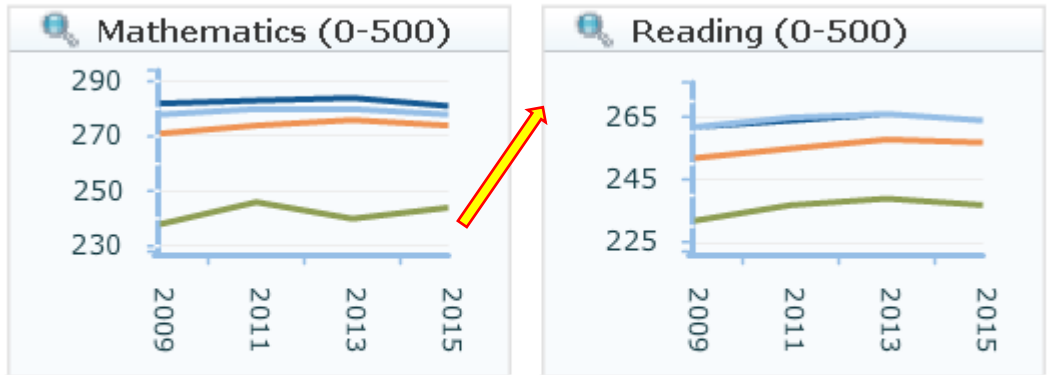

Average Scale Score over time for Cleveland
Mathematics (0-500)
300
280
260
240
2003
2005
2007
2009
2011
2013
2015
Reading (0-500)
275
260
245
230
2003
2005
2007
2009
2011
2013
2015
Cleveland
Large city
National public
Ohio
Grade 4
Grade 8

Average Scale Score over time for Detroit



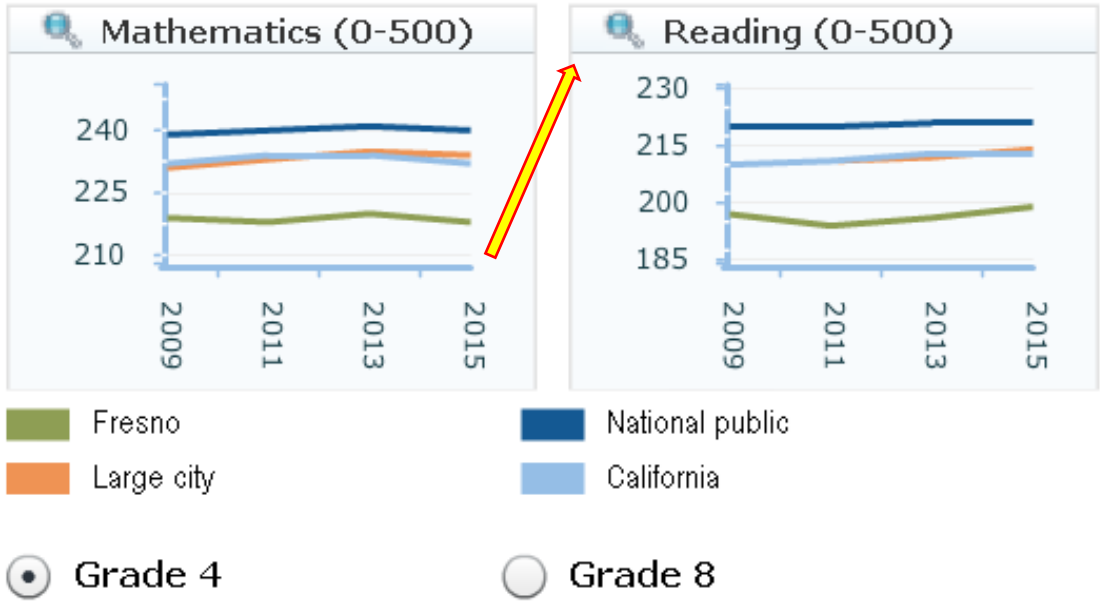
(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Detroit



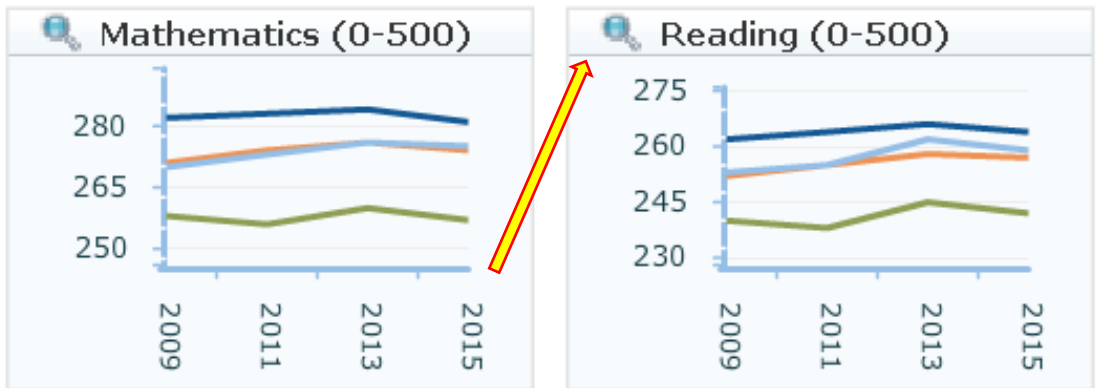
( ) Grade 4 (•) Grade 8

Average Scale Score over time for Fresno



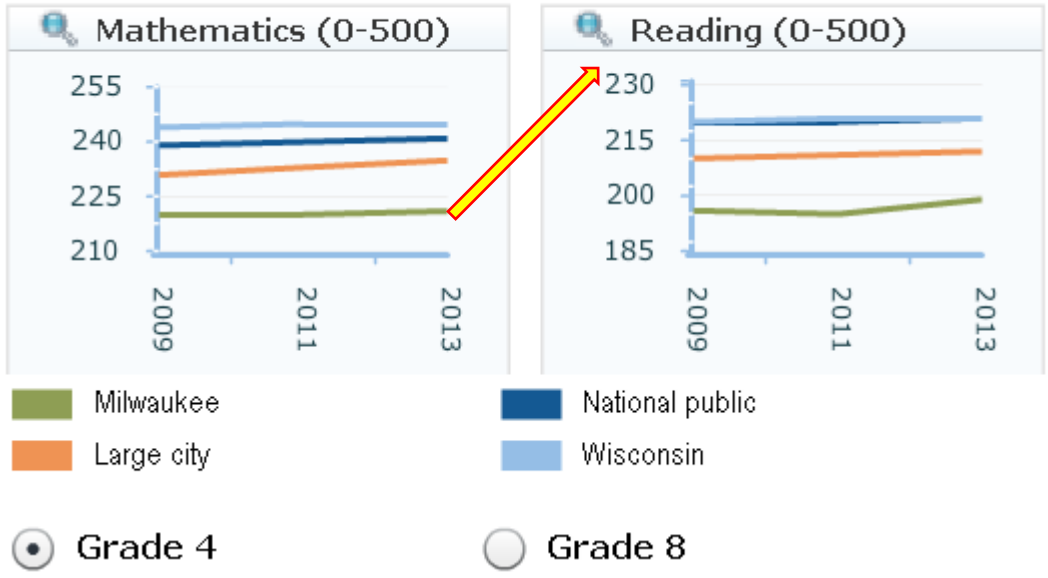
Grade 4 Grade 8

Average Scale Score over time for Fresno



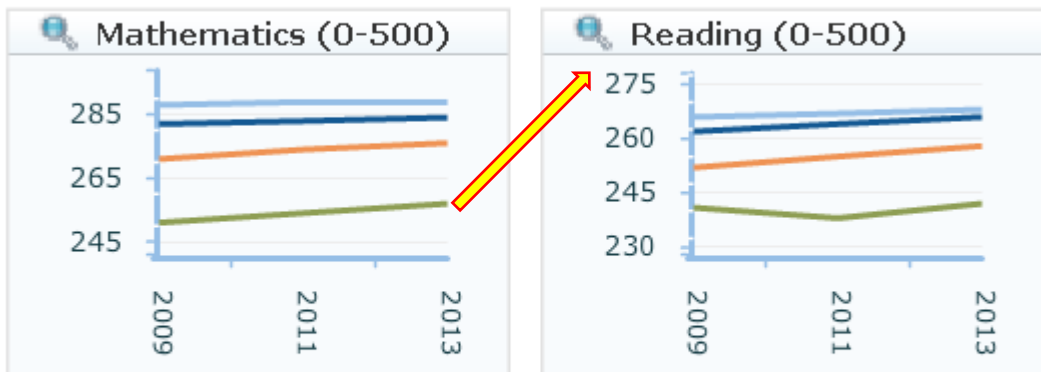
Grade 4 Grade 8

Average Scale Score over time for Milwaukee



(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Milwaukee

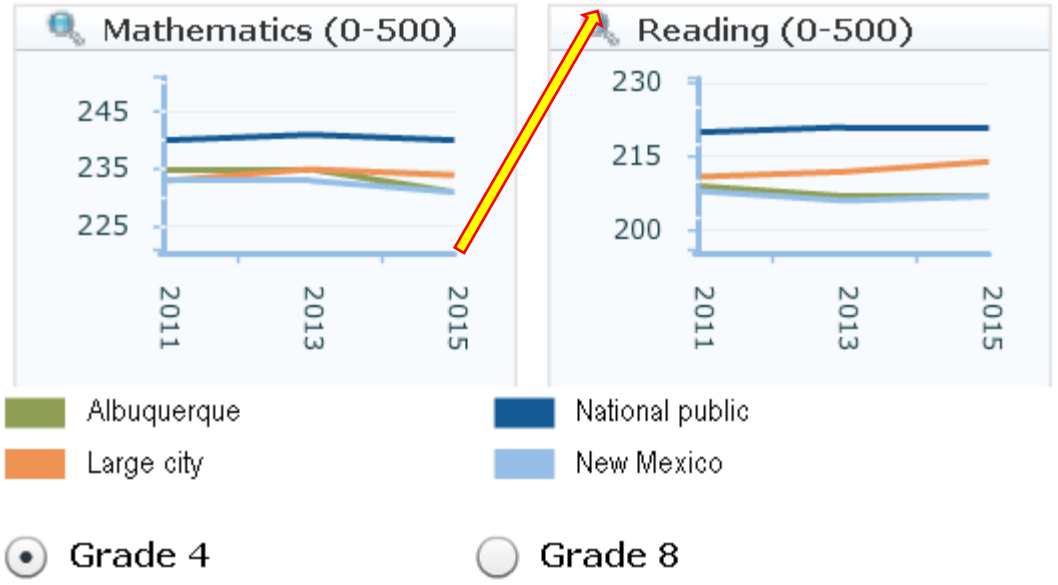


( ) Grade 4 (•) Grade 8

For the math growth worsening cities

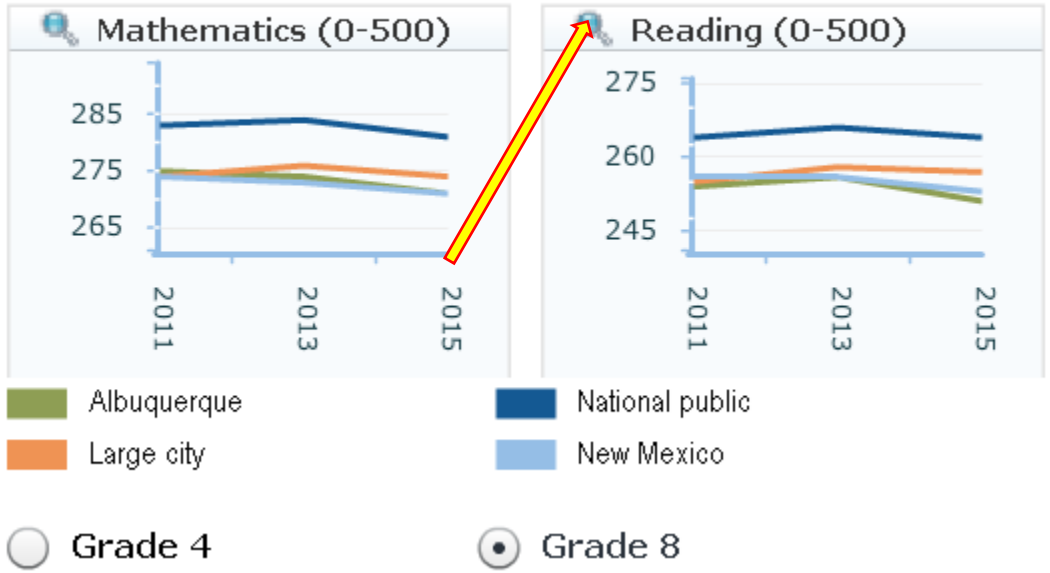
Compare ▶

Average Scale Score over time for Albuquerque



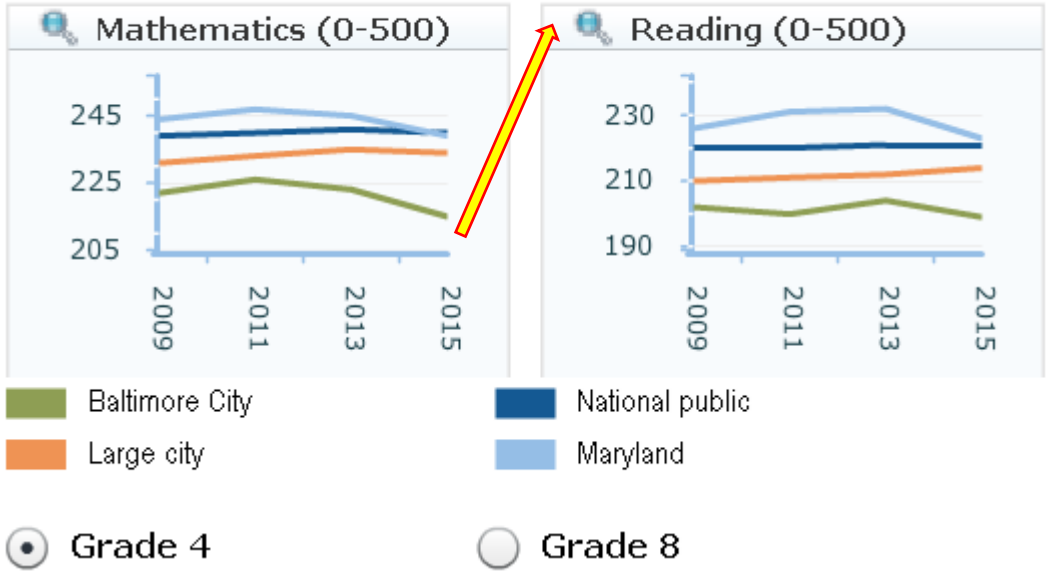
Grade 4 Grade 8

Average Scale Score over time for Albuquerque



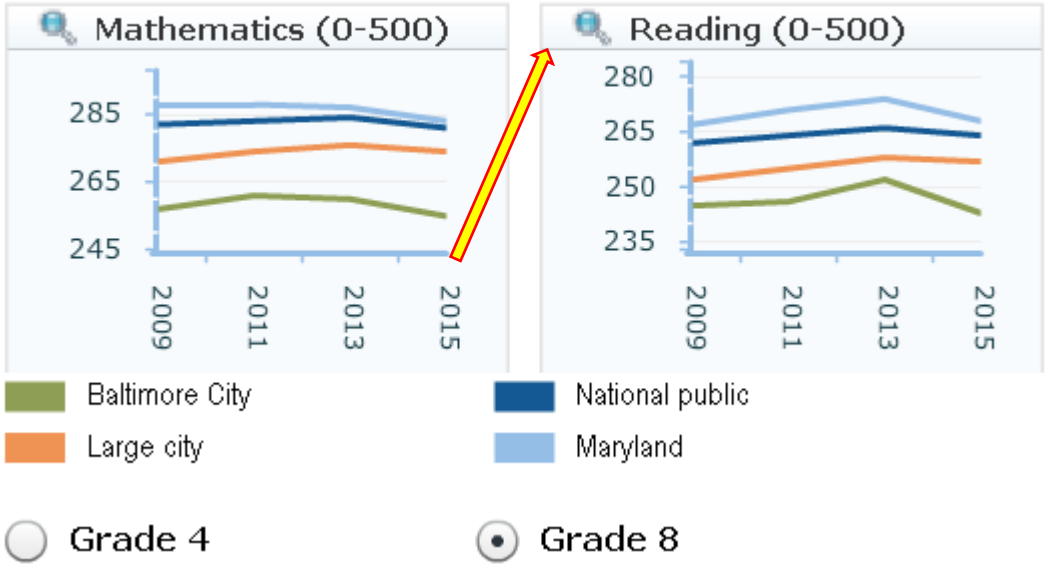
Grade 4 Grade 8

Average Scale Score over time for Baltimore City



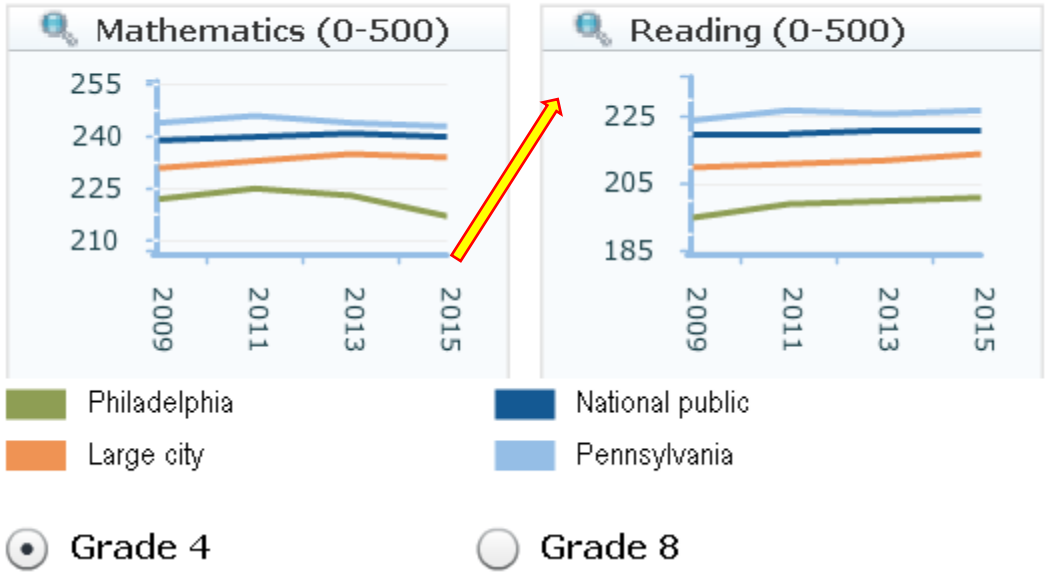
Grade 4 Grade 8

Average Scale Score over time for Baltimore City



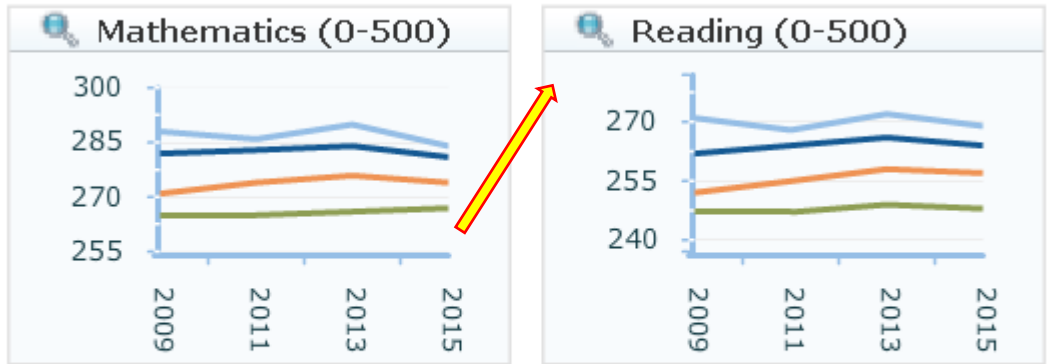
Grade 4 Grade 8

Average Scale Score over time for Philadelphia



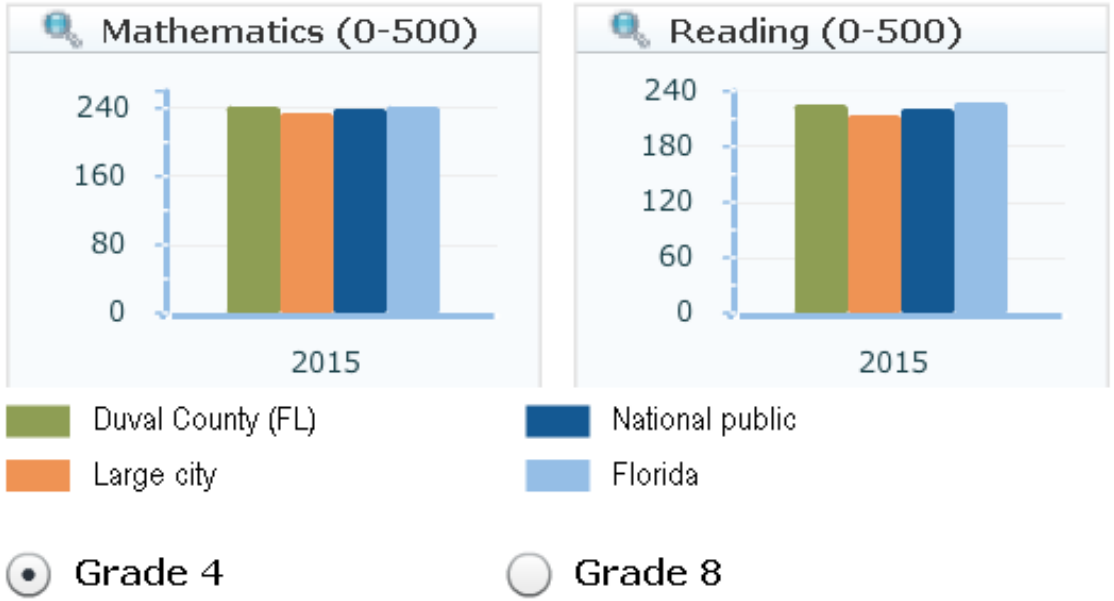
(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Philadelphia



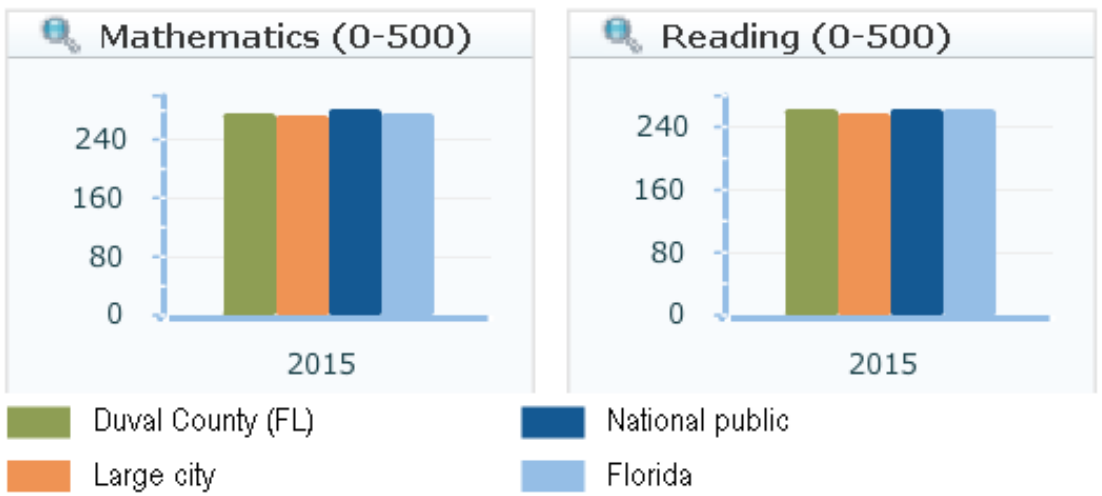
( ) Grade 4 (•) Grade 8

Average Scale Score over time for Duval County (FL)



(•) Grade 4 ( ) Grade 8

Average Scale Score over time for Duval County (FL)



( ) Grade 4 (•) Grade 8

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