NAEP TUDA 2002-2011
Views through a Deming Lens

Prepared January 5, 2012 by Ed Johnson

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Grinding a Deming Lens

W. Edwards Deming, in The New Economics for Industry, Government, Education, 2nd Edition:

- "**How may we improve education?** The reader will be aware that improvement of education, and the **management** of education, require application of the same **principles** that must be used for the improvement of any [system.]"
- "A statement, if it contains **knowledge**, makes a **prediction**, with the chance of being wrong, and fits every observation of the past."
- "Some understanding of **variation**, including appreciation of a stable **system**, and some understanding of **special causes** and **common causes** of variation, are essential for management of a system, including management of people."
- "**Figures** come in, but the figures go on to **charts** to detect trends. The management now understand the distinction between common causes of variation, and special causes [of variation]."
- "The **upper control limit** represents **prediction** of extreme output under the present [system]."
- "Common causes of variation produce points on a **control chart** that over a long period all fall inside the control limits. Common causes of variation stay the same day to day, lot to lot. A **special cause** of variation is something special, not part of the system of common causes. It is detected by a point that falls **outside the control limits**. This in itself [is] a great contribution to knowledge."
- "If all the points fall **within the control limits** over a long period, assume that the variation is **random, common causes** only, no special cause present."
- "The layman, however well educated but not learned in **statistical theory**, attributes every event to a special cause, unaware of the distinction between common causes of variation and special causes [of variation]."

National Assessment of Education Progress (NAEP) Trial Urban District Assessment (TUDA)

- Each chart in this presentation aims to tell a systemic story much at a glance, drawing the reader into light analyses, if at all. Especial attention goes to Atlanta.
- "Systemic" means all Trial Urban Districts (TUD) as a system, a particular TUD as a system, Reading as a system, Mathematics as a system, 4th Grades as a system, and 8th Grades as a system. In no case does systemic mean students.
- NAEP TUDA defines scale scores for both Reading and Mathematics to range between zero and 500, inclusive.
- This presentation looks at TUDA average scale scores that were generated by subject, grade, year, jurisdiction, and student-reported race/ethnicity using the NAEP Data Explorer, at

  http://nces.ed.gov/nationsreportcard/naepdata/
- Charts in this presentation show District #'s instead of District names to avoid clutter.
- Refer to the table at the right to translate a District # into its District name.

District #	District
1	Albuquerque
2	Atlanta
3	Austin
4	Baltimore City
5	Boston
6	Charlotte
7	Chicago
8	Cleveland
9	Dallas
10	Detroit
11	District of Columbia (DCPS)
12	Fresno
13	Hillsborough County (FL)
14	Houston
15	Jefferson County (KY)
16	Los Angeles
17	Miami-Dade
18	Milwaukee
19	New York City
20	Philadelphia
21	San Diego

Trial Urban Districts, Bottom Line

2002-2011 Performance

	Systemic TUD Reading Improvement?	Systemic TUD Mathematic Improvement?
4th Grade	Slight Some individual TUD (Austin, Charlotte, Hillsborough) improvement; special causes at play. Slide 6.	No Common causes inhibit improvement. Slide 8.
8th Grade	No Common causes inhibit improvement. Slide 7.	No Common causes inhibit improvement. Slide 9.

2013 Prediction

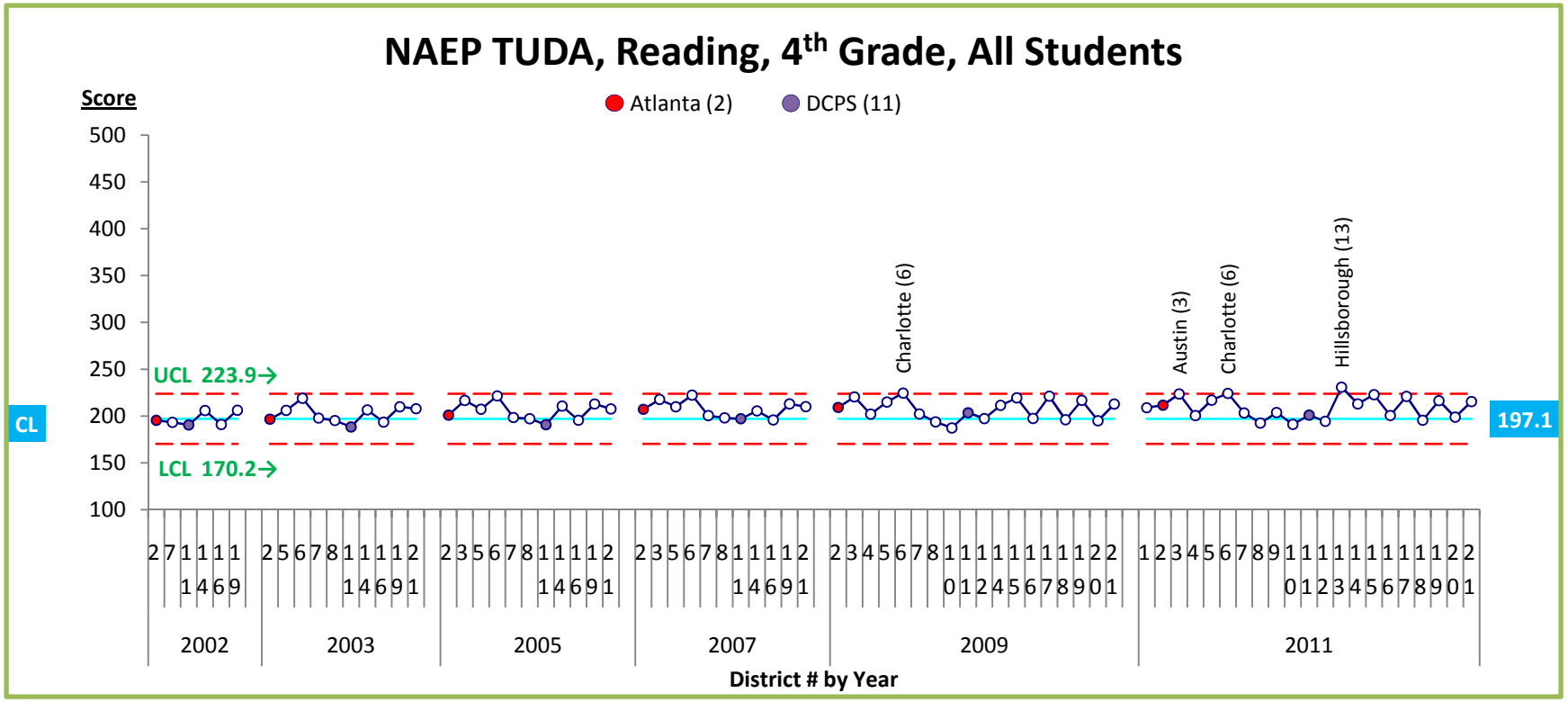
	Systemic TUD Reading Improvement?	Systemic TUD Mathematics Improvement?
4th Grade	Slight Some individual TUD improvement due to special causes. Slide 6.	No Common causes will continue to inhibit improvement. Slide 8.
8th Grade	No Common causes will continue to inhibit improvement. Slide 7.	No Common causes will continue to inhibit improvement. Slide 9.

NAEP Trial Urban Districts
Subject & Grade Variation

Method: For each of the following control charts, on slides 6 through 9, the upper control limit (UCL), lower control limit (LCL), and central line (CL) were calculated from the earliest TUDA average scale scores, 2002 or 2003, so as to characterize the natural variation amongst just those scores.

Then the UCL, LCL, and CL were projected forward over all latter TUDA years' average scale scores, so as to detect extreme score increases (scores above UCL), extreme score decreases (scores below LCL), and no-systemic-difference scores (scores between UCL and LCL) compared to the earliest average scale scores, from TUDA 2002 or 2003. Other non-random variation among the scores, as seen on the control charts, may be meaningful.

Note: UCL, LCL, and CL do not represent any fitting of the average scale scores to a statistical model. Again, UCL, LCL, and CL were calculated from average scales scores themselves, so as to characterize the natural variation amongst just those scores. See, also, Understanding Variation: The Key to Managing Chaos, by Donald Wheeler.



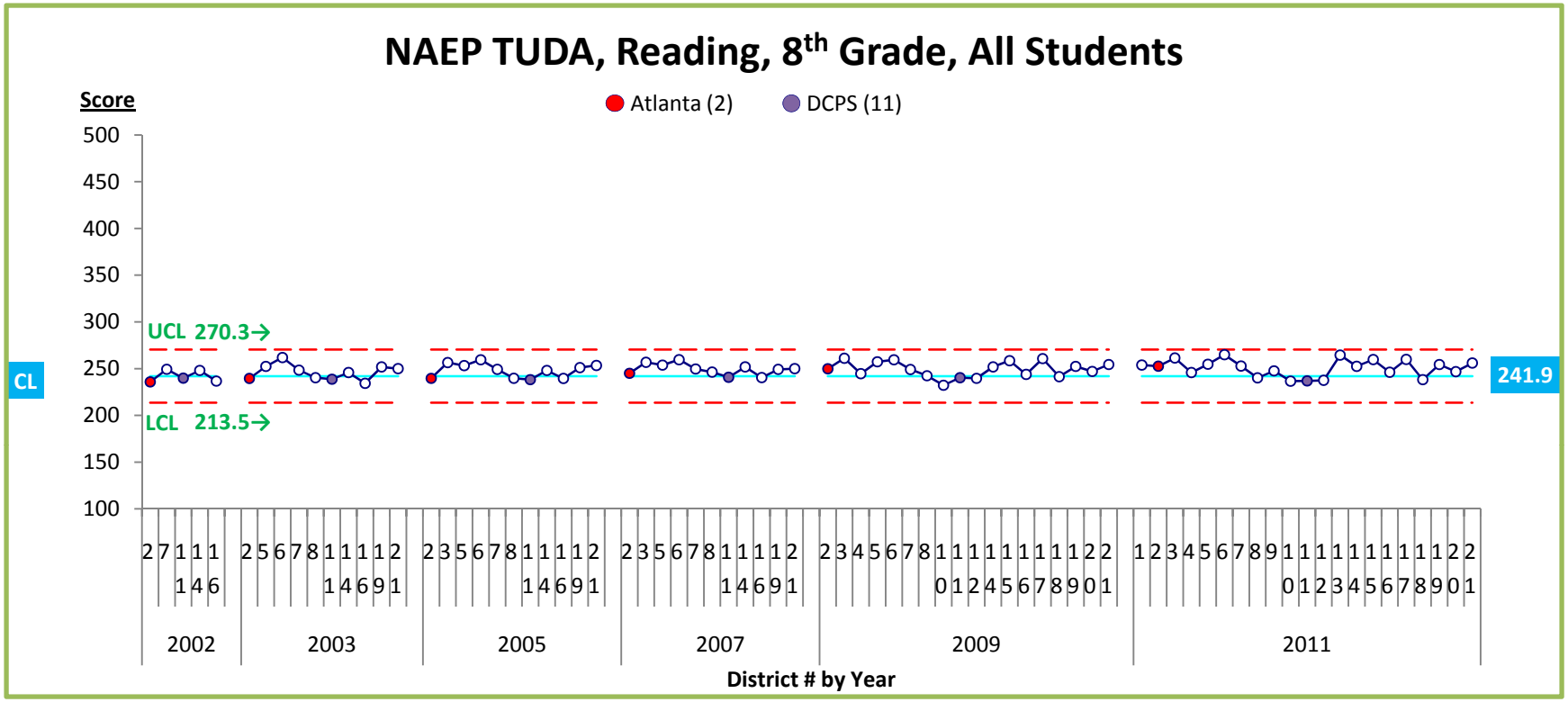
Key Question: Have Trial Urban District (TUD) systems of 4th Grade Reading for all students improved since 2002?

Answer: No, except slight extreme improvement by Charlotte, in 2009 and 2011; Austin, in 2011; and, Hillsborough, in 2011.

Learning Opportunity: Study Charlotte NC, Austin TX, and Hillsborough County FL, without copying or benchmarking.

2013 Prediction: Only some slight individual TUD improvement; no systemic TUD improvement. Most TUD systems of 4th Grade Reading for all students will vary within an average scale score spread of around 53.7 having upper control limit around 223.9, a lower control limit around 170.2, and an overall central line (average) around 197.1.

About Atlanta: Its 2011 average scale score of 211.6 less its 2002 average scale score of 195.4 leaves 16.2 as the difference. This "two points in time" difference does not, and cannot, represent systemic improvement or performance gap closure with other Trial Urban Districts.



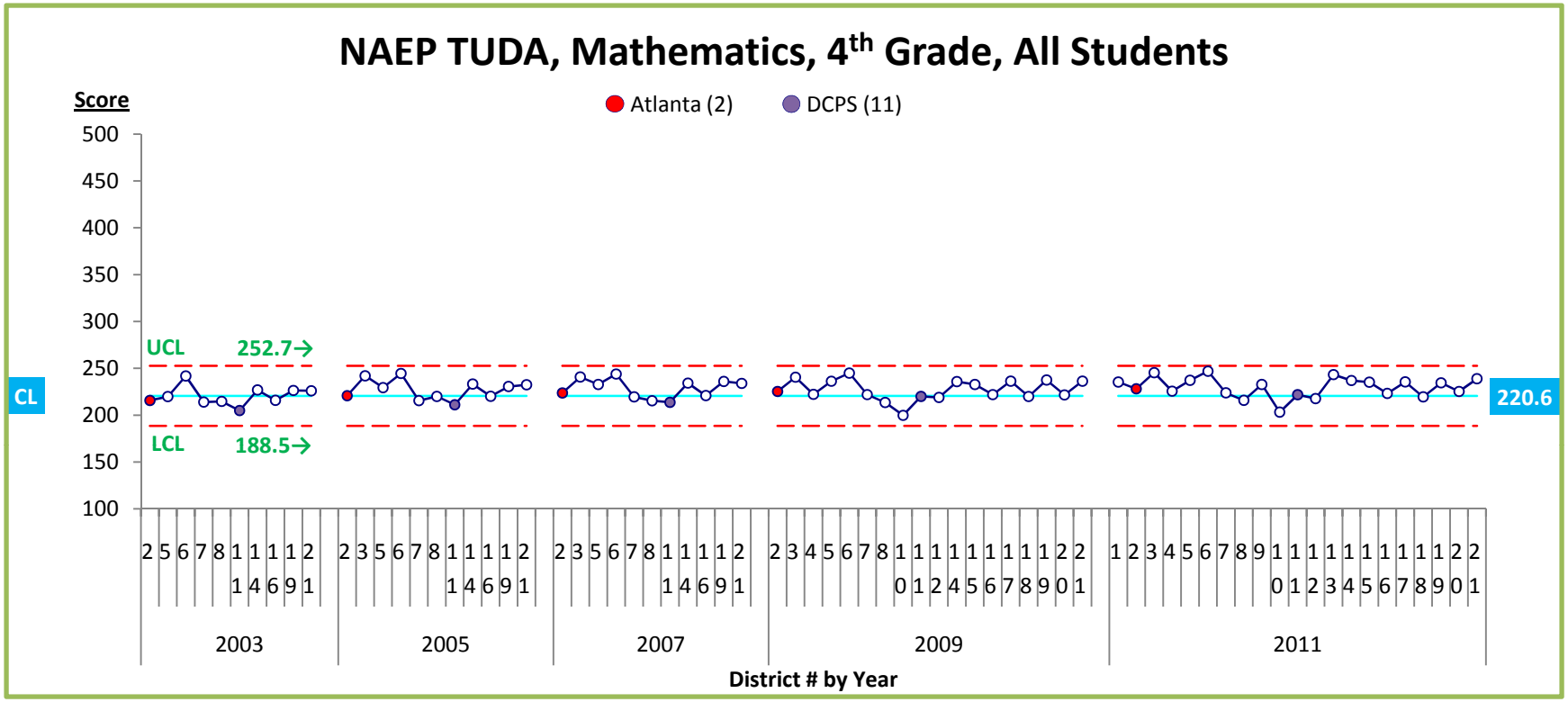
Key Question: Have Trial Urban District (TUD) systems of 8th Grade Reading for all students improved since 2002?

Answer: No. All districts have been "on the same boat" continuously since 2002, although in "deck chairs" arranged differently each TUDA.

Learning Opportunity: Seek to discover common causes that keep the TUDs "on the same boat," so as to come up with new theory for systemic improvement.

2013 Prediction: No systemic TUD improvement. All TUD systems of 8th Grade Reading for all students will vary within an average scale score spread of around 56.8 having an upper control limit around 270.3, a lower control limit around 213.5, and an overall central line (average) around 241.9.

About Atlanta: Its 2011 average scale score of 252.6 less its 2002 average scale score of 235.8 leaves 16.8 as the difference. This "two points in time" difference does not, and cannot, represent systemic improvement or performance gap closure with other Trial Urban Districts.



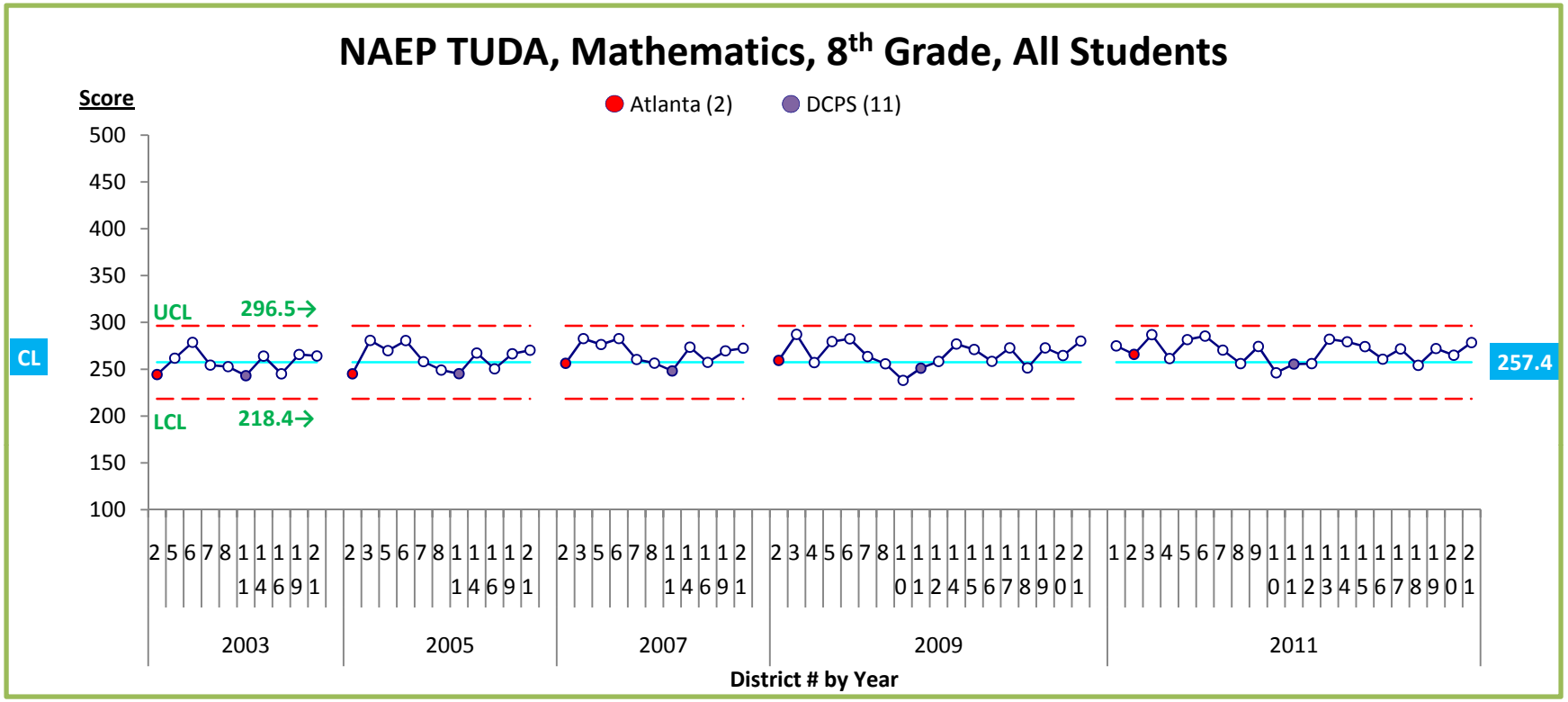
Key Question: Have Trial Urban District (TUD) systems of 4th Grade Mathematics for all students improved since 2003?

Answer: No. All districts have been "on the same boat" continuously since 2003, although in "deck chairs" arranged differently each TUDA.

Learning Opportunity: Seek to discover common causes that keep the TUDs "on the same boat," so as to come up with new theory for systemic improvement.

2013 Prediction: No systemic TUD improvement. All TUD systems of 4th Grade Mathematics for all students will vary within an average scale score spread of around 64.2 having an upper control limit around 252.7, a lower control limit around 188.5, and an overall central line (average) around 220.6.

About Atlanta: Its 2011 average scale score of 228.1 less its 2003 average scale score of 215.7 leaves 12.4 as the difference. This "two points in time" difference does not, and cannot, represent systemic improvement or performance gap closure with other Trial Urban Districts.



Key Question: Have Trial Urban District (TUD) systems of 8th Grade Mathematics for all students improved since 2003?

Answer: No. All districts have been "on the same boat" continuously since 2003, although in "deck chairs" arranged differently each TUDA.

Learning Opportunity: Seek to discover common causes that keep the TUDs "on the same boat," so as to come up with new theory for systemic improvement.

2013 Prediction: No systemic TUD improvement. All TUD systems of 8th Grade Mathematics for all students will vary within an average scale score spread of around 78.1 having an upper control limit around 296.5, a lower control limit around 218.4, and an overall central line (average) around 257.4.

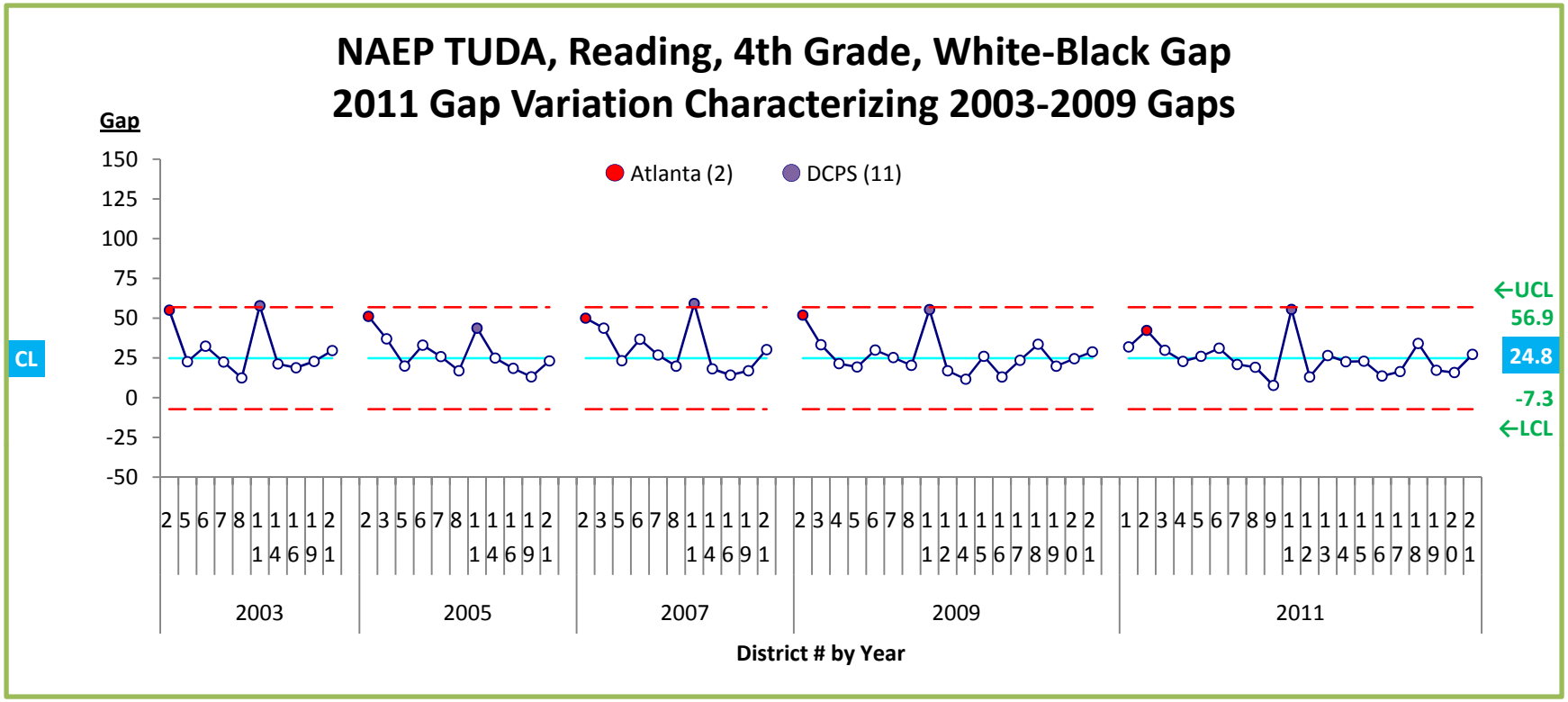
About Atlanta: Its 2011 average scale score of 265.9 less its 2003 average scale score of 244.3 leaves 21.6 as the difference. This "two points in time" difference does not, and cannot, represent systemic improvement or performance gap closure with other Trial Urban Districts.

NAEP Trial Urban Districts
"Performance Gap" Variation

Method: For each of the following control charts, on slides 11 through 22, the upper control limit (UCL), lower control limit (LCL), and central line (CL) were calculated from TUDA 2011 average scale score differences, so as to characterize the natural variation amongst just those differences, or "gaps."

Then the UCL, LCL, and CL were projected backward over all preceding TUDA years' average scale score gaps, so as to detect extremely positive gaps favoring race/ethnicity "A" over "B" (gaps above UCL), extremely negative gaps favoring race/ethnicity "B" over "A" (gaps below LCL), and no-systemic-difference gaps (gaps between UCL and LCL) compared to TUDA 2011. Other non-random variation among the gaps, as seen on the control charts, may be meaningful.

Note: UCL, LCL, and CL do not represent any fitting of the average scale score gaps to a statistical model. Again, UCL, LCL, and CL were calculated from the average scale score gaps themselves, so as to characterize the natural variation amongst just those gaps. See, also, Understanding Variation: The Key to Managing Chaos, by Donald Wheeler.

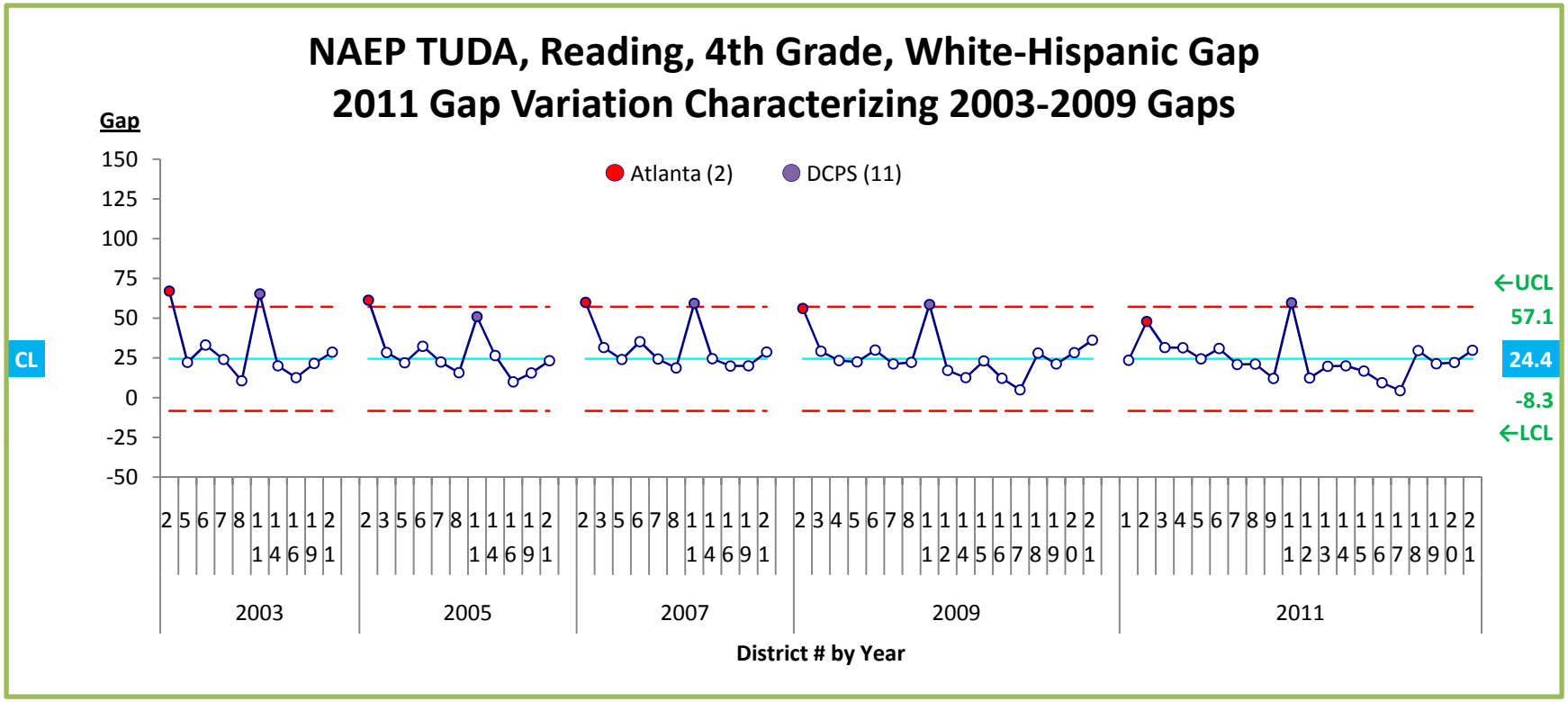


Key Question: Do the TUDs have, and have they always had, distinctive White and Black systems of 4th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with Atlanta (2) and District of Columbia Public Schools (11) continuously favoring White over Black, in or nearest the extreme.

Learning Opportunity: 1) Study Atlanta and DCPS to learn to avoid what these systems do. 2) Seek to discover common causes influencing TUDs to have distinctive White and Black systems of 4th Grade Reading, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Save DCPS (11) and possibly Atlanta (2), gaps between TUD White and Black systems of 4th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 64.2 having an upper control limit around 56.9 favoring White, a lower control limit around -7.3 favoring Black, and an overall central line (average) around 24.8.

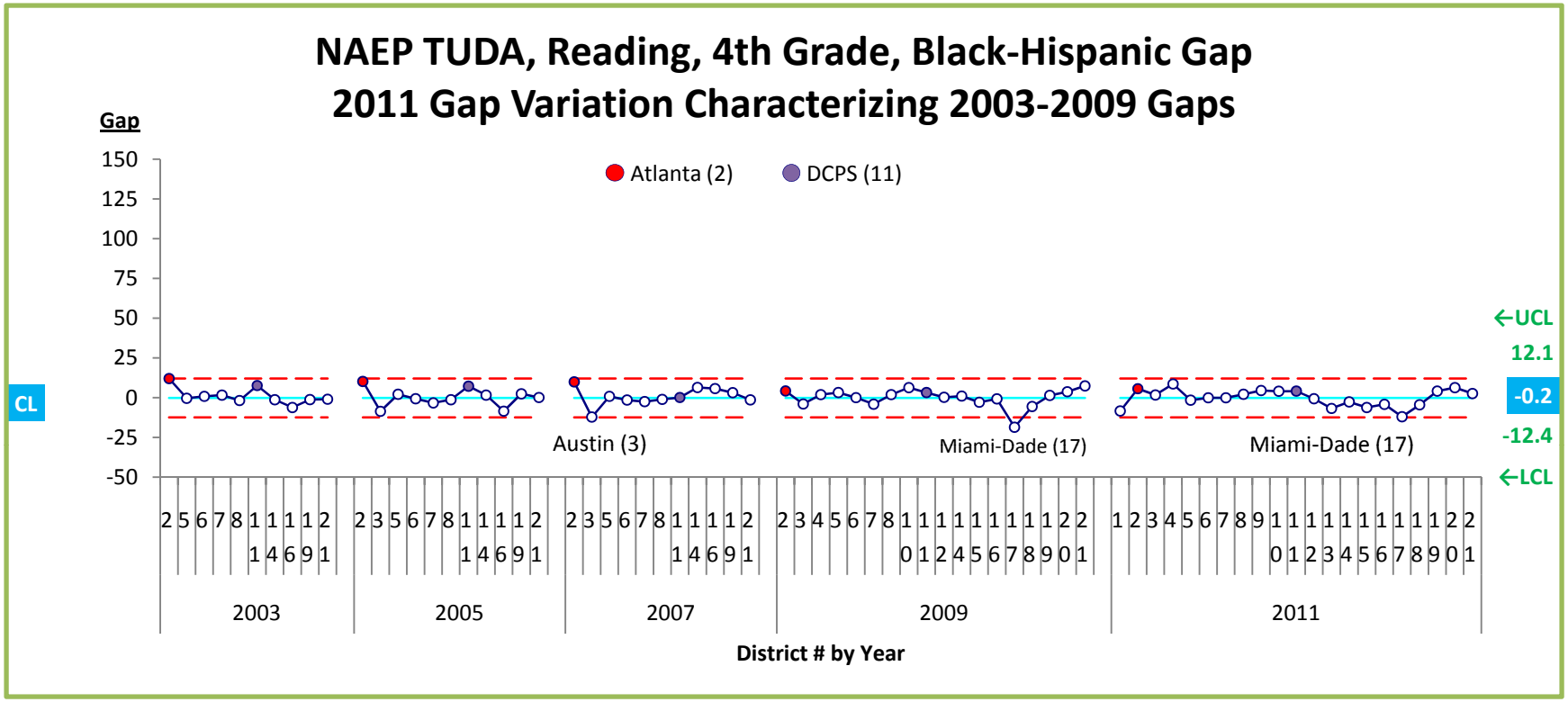


Key Question: Do the TUDs have, and have they always had, distinctive White and Hispanic systems of 4th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with Atlanta (2) and District of Columbia Public Schools (11) continuously favoring White over Hispanic, in or nearest the extreme.

Learning Opportunity: 1) Study Atlanta and DCPS to learn to avoid what these systems do. 2) Seek to discover common causes influencing TUDs to have distinctive White and Hispanic systems of 4th Grade Reading, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Save DCPS (11) and possibly Atlanta (2), gaps between TUD White and Hispanic systems of 4th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 65.4 having an upper control limit around 57.1 favoring White, a lower control limit around -8.3 favoring Hispanic, and an overall central line (average) around 24.4.

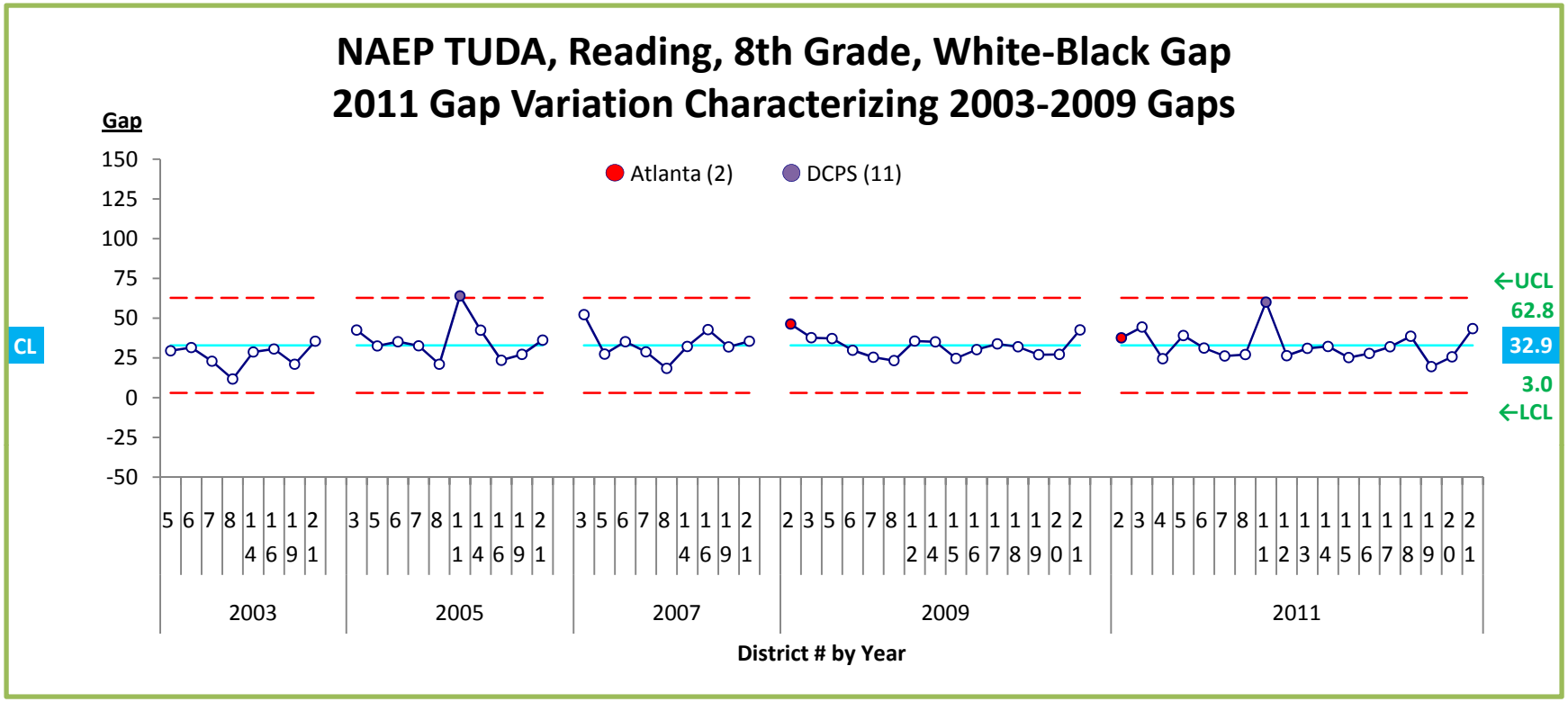


Key Question: Do the TUDs have, and have they always had, distinctive Black and Hispanic systems of 4th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: No, save Miami-Dade favoring Hispanic over Black, in or nearest the extreme.

Learning Opportunity: Seek to discover common causes influencing TUDs to have non-distinctive Black and Hispanic systems of 4th Grade Reading that yet are so distinctive from the White system of 4th Grade Reading for the worse (see slides 24 and 25), so as to come up with new theory for systemic improvement.

2013 Prediction: Non-distinctive Black and Hispanic systems of 4th Grade Reading. Save Miami-Dade (17) and possibly Austin (3), gaps between TUD Black and Hispanic systems of 4th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 24.5 having an upper control limit around 12.1 favoring Black, a lower control limit around -12.4 favoring Hispanic, and an overall central line (average) around -0.2, effectively zero gap.

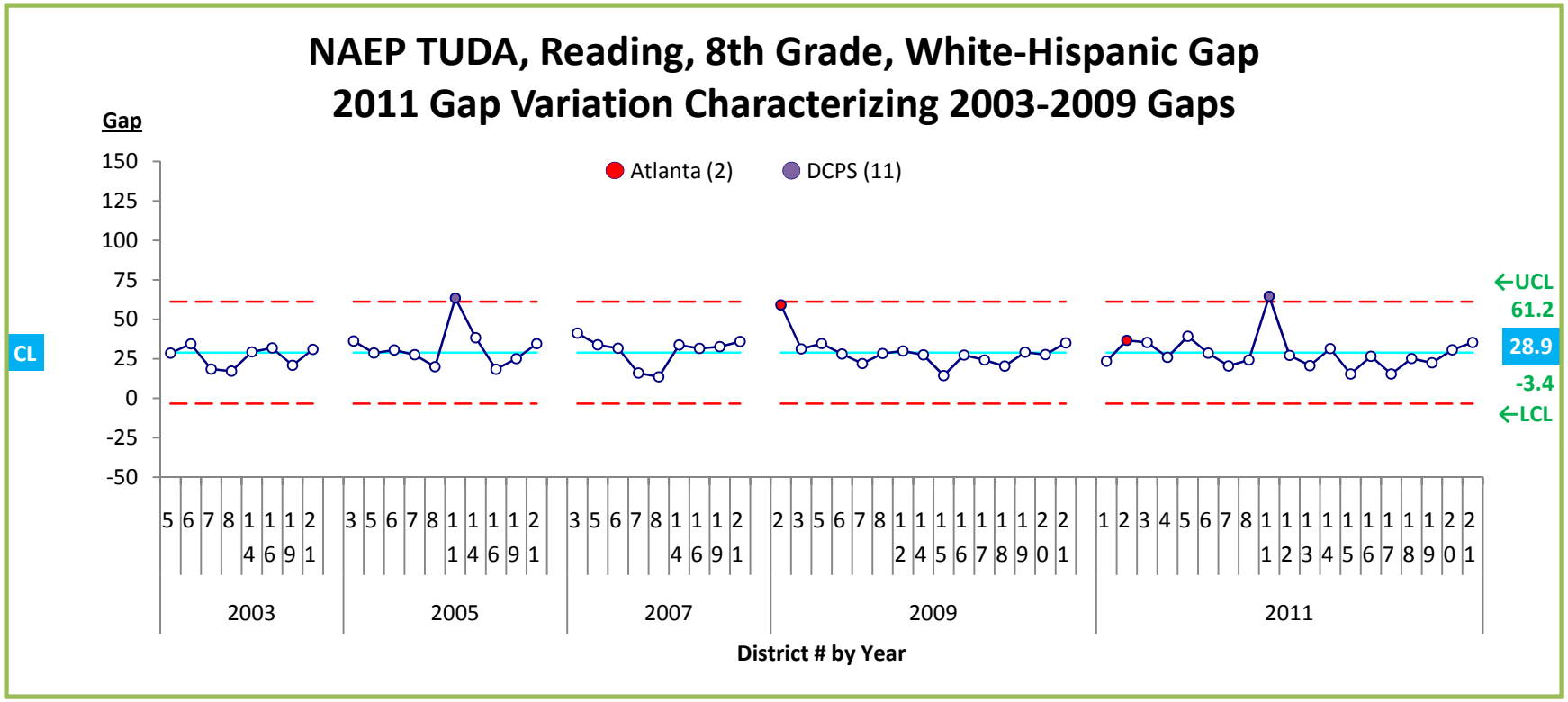


Key Question: Do the TUDs have, and have they always had, distinctive White and Black systems of 8th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with District of Columbia Public Schools (11) favoring White over Black, in or nearest the extreme.

Learning Opportunity: 1) Study DCPS (11) to learn to avoid what this system does. 2) Seek to discover common causes influencing TUDs to have distinctive White and Black systems of 8th Grade Reading, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Save possibly DCPS (11), gaps between TUD White and Black systems of 8th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 59.8 having an upper control limit around 62.8 favoring White, a lower control limit around 3.0 favoring Black, and an overall central line (average) around 32.9.

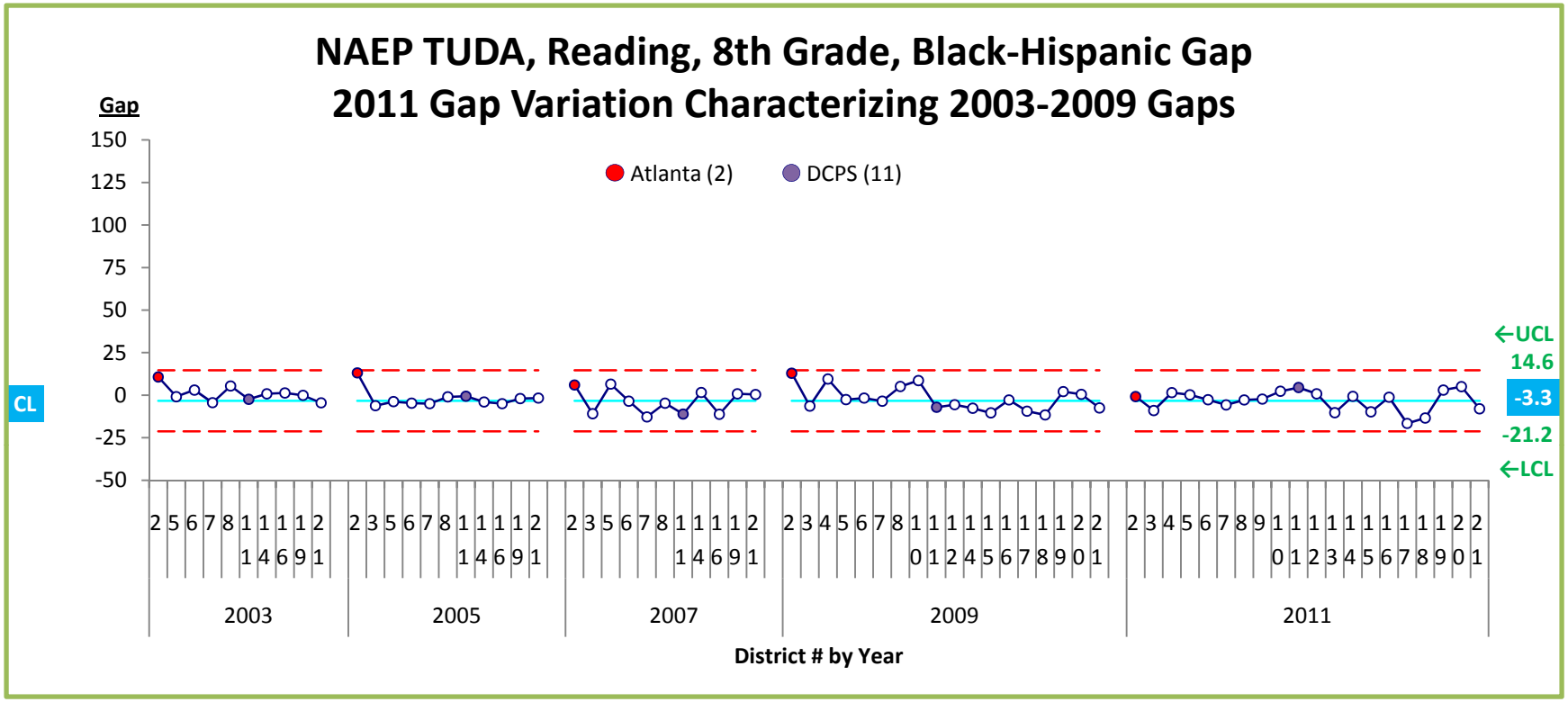


Key Question: Do the TUDs have, and have they always had, distinctive White and Hispanic systems of 8th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with District of Columbia Public Schools (11) favoring White over Hispanic, in the extreme.

Learning Opportunity: 1) Study DCPS to learn to avoid what this system does. 2) Seek to discover common causes influencing TUDs to have distinctive White and Hispanic systems of 8th Grade Reading, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Save DCPS, gaps between TUD White and Hispanic systems of 8th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 64.6 having an upper control limit around 61.2 favoring White, a lower control limit around -3.4 favoring Hispanic, and an overall central line (average) around 28.9.

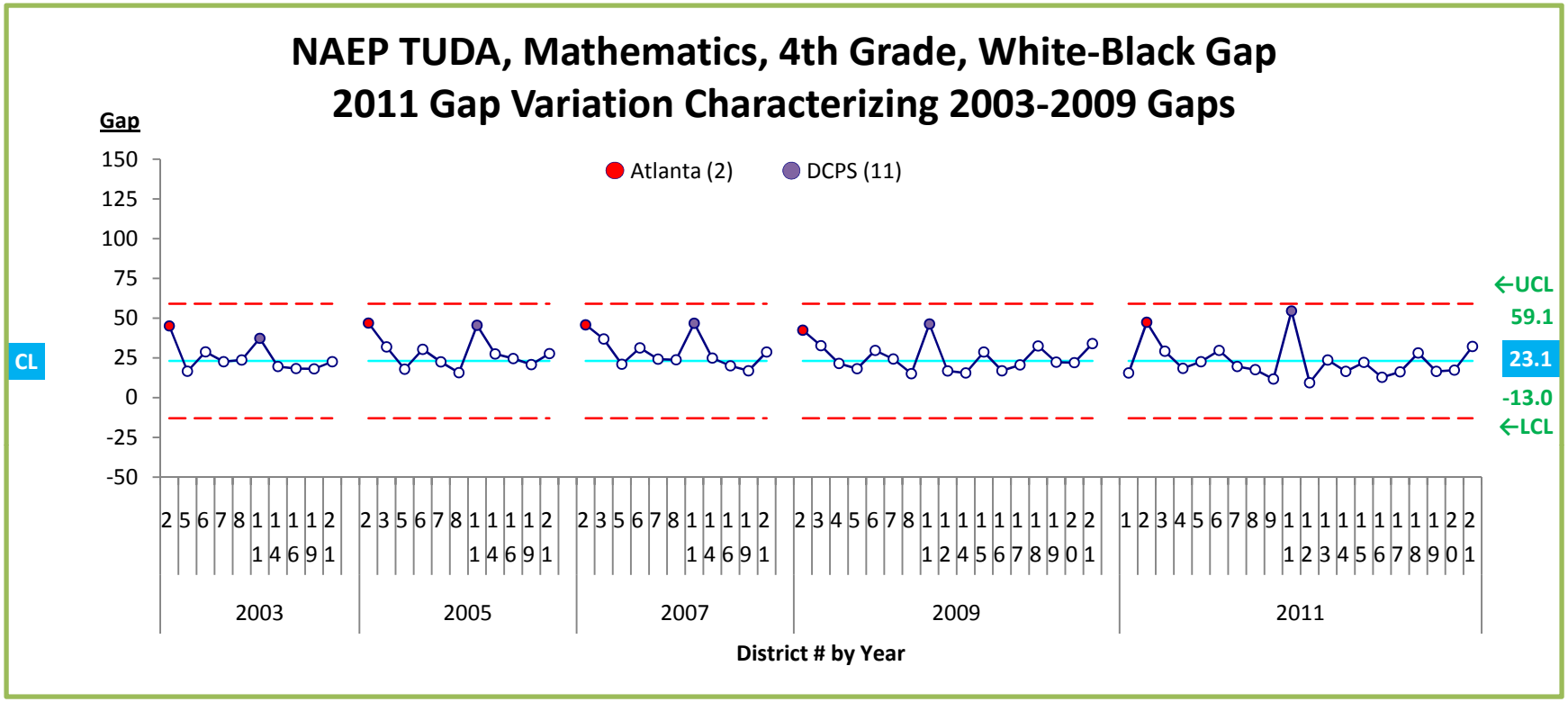


Key Question: Do the TUDs have, and have they always had, distinctive Black and Hispanic systems of 8th Grade Reading with respect to NAEP TUDA average scales score gaps between the systems?

Answer: No, never, since all gaps fall between the upper and lower control limits.

Learning Opportunity: Seek to discover common causes influencing TUDs to have non-distinctive Black and Hispanic systems of 8th Grade Reading that yet are so distinctive from the White system of 8th Grade Reading for the worse (see slides 27 and 28), so as to come up with new theory for systemic improvement.

2013 Prediction: Non-distinctive Black and Hispanic systems of 8th Grade Reading, but with inclination to favor Hispanic. Gaps between TUD Black and Hispanic systems of 8th Grade Reading will on the 2013 NAEP TUDA vary within an average scale score spread of around 35.8 having an upper control limit around 14.6 favoring Black, a lower control limit around -21.2 favoring Hispanic, and an overall central line (average) around -3.3.

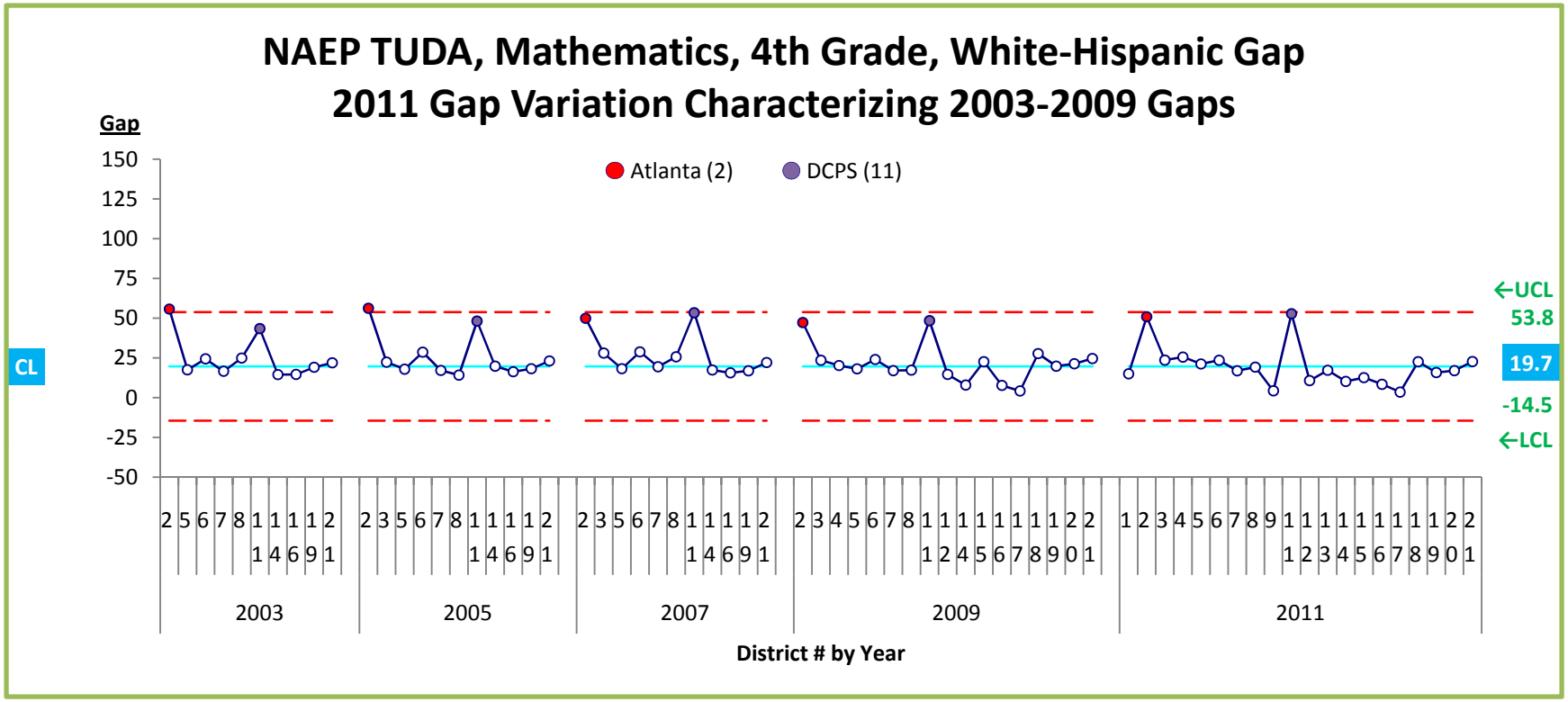


Key Question: Do the TUDs have, and have they always had, distinctive White and Black systems of 4th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with Atlanta (2) and District of Columbia Public Schools (11) continuously favoring White over Black, nearest the extreme.

Learning Opportunity: 1) Study Atlanta and DCPS to learn to avoid what these systems do. 2) Seek to discover common causes influencing TUDs to have distinctive White and Black systems of 4th Grade Mathematics, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Gaps between TUD White and Black systems of 4th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of around 72.1 having an upper control limit around 59.1 favoring White, a lower control limit around -13.0 favoring Black, and an overall central line (average) around 23.1.

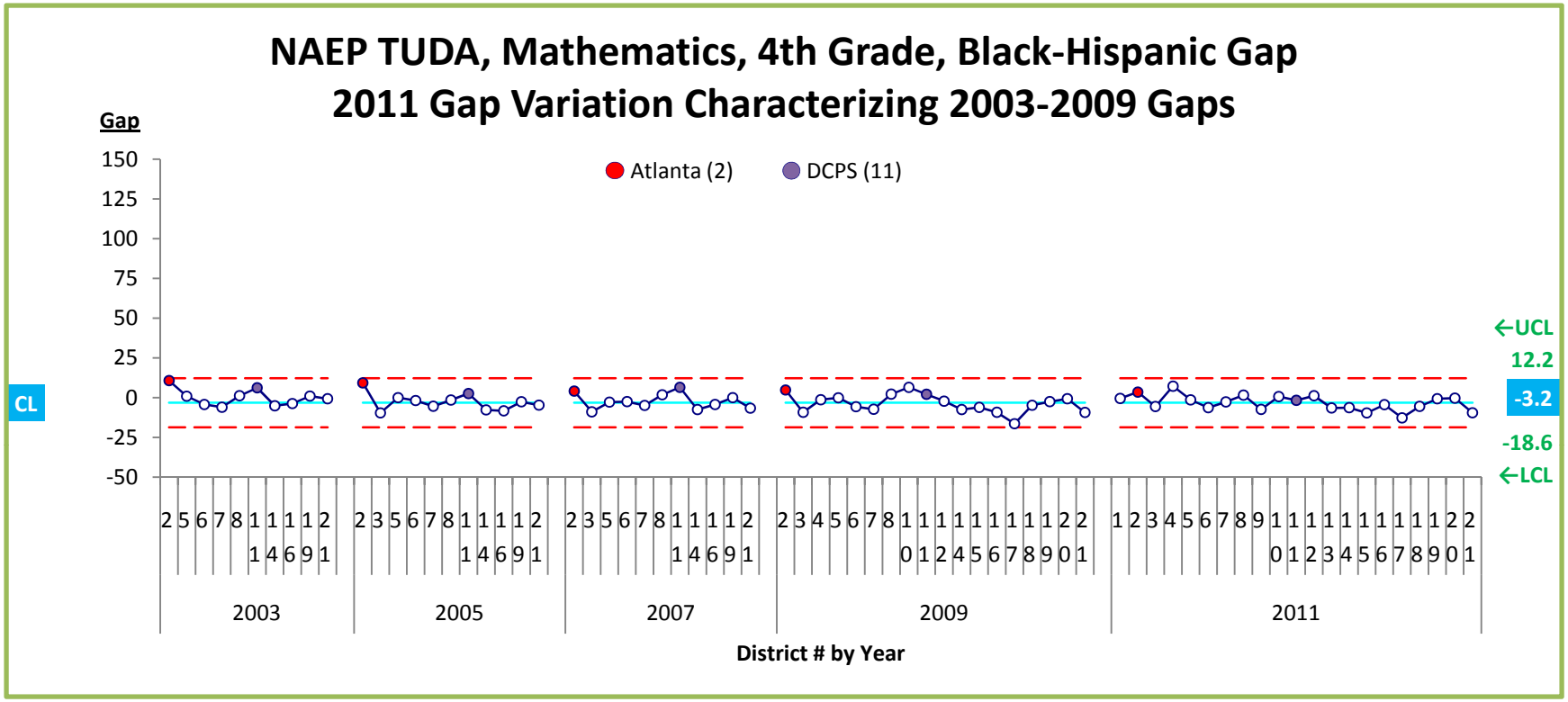


Key Question: Do the TUDs have, and have they always had, distinctive White and Hispanic systems of 4th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with Atlanta (2) and District of Columbia Public Schools (11) continuously favoring White over Hispanic, in or nearest the extreme.

Learning Opportunity: 1) Study Atlanta and DCPS to learn to avoid what these systems do. 2) Seek to discover common causes influencing TUDs to have distinctive White and Hispanic systems of 4th Grade Mathematics, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Gaps between TUD White and Hispanic systems of 4th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of around 68.3 having an upper control limit around 53.8 favoring White, a lower control limit around -14.5 favoring Hispanic, and an overall central line (average) around 19.7.

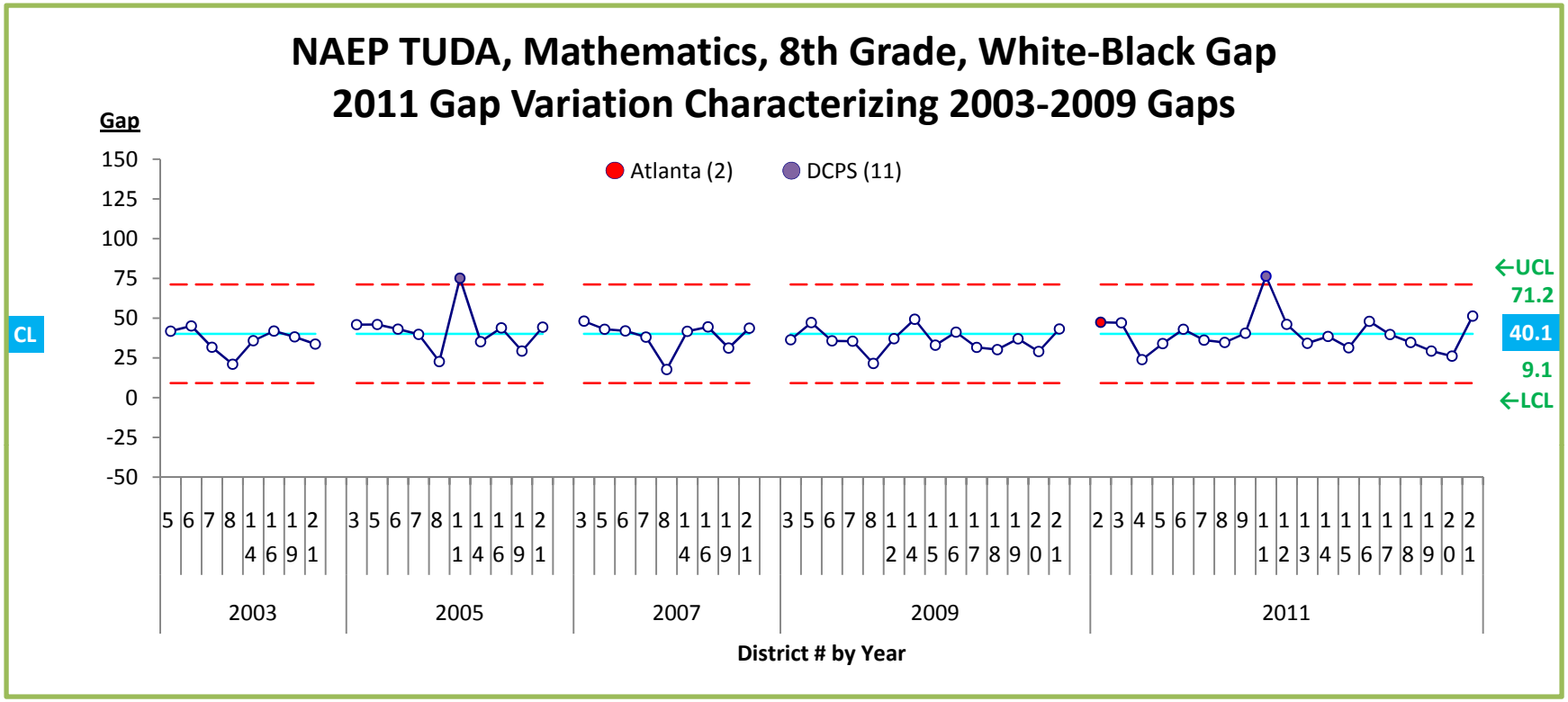


Key Question: Do the TUDs have, and have they always had, distinctive Black and Hispanic systems of 4th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: No, never. All TUDS have been "on the same boat" since TUDA 2003, or earlier.

Learning Opportunity: Seek to discover common causes influencing TUDs to have non-distinctive Black and Hispanic systems of 4th Grade Mathematics that yet are so distinctive from the White system of 4th Grade Mathematics for the worse (see slides 30 and 31), so as to come up with new theory for systemic improvement.

2013 Prediction: Non-distinctive Black and Hispanic systems of 4th Grade Mathematics, but with inclination to favor Hispanic. Gaps between TUD Black and Hispanic systems of 4th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of around 30.8 having an upper control limit around 12.2 favoring Black, a lower control limit around -18.6 favoring Hispanic, and an overall central line (average) around -3.2.

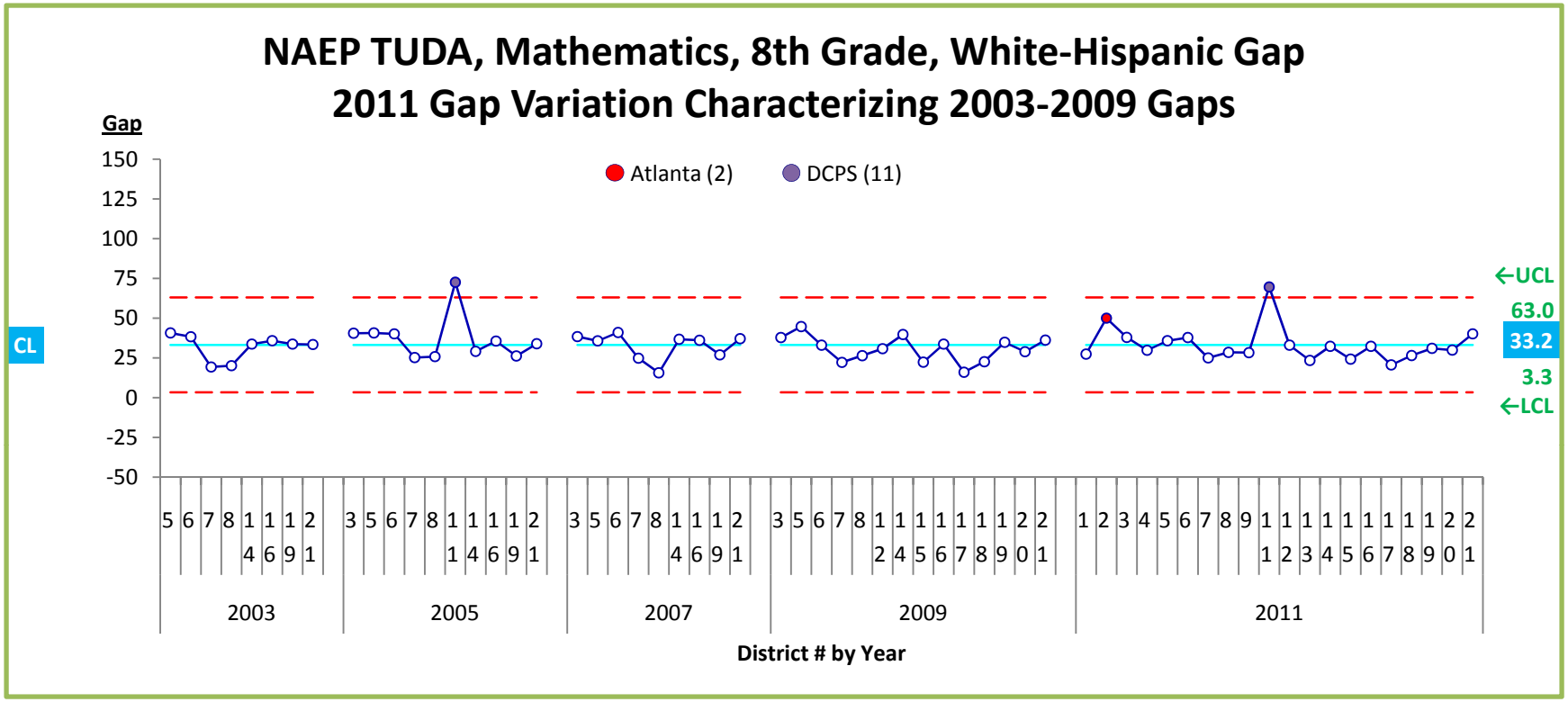


Key Question: Do the TUDs have, and have they always had, distinctive White and Black systems of 8th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with District of Columbia Public Schools (11) favoring White over Black, in the extreme.

Learning Opportunity: 1) Study DCPS to learn to avoid what this system does. 2) Seek to discover common causes influencing TUDs to have distinctive White and Black systems of 8th Grade Mathematics, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Gaps between TUD White and Black systems of 8th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of about 62.1 having an upper control limit around 71.2 favoring White, a lower control limit around 9.1 favoring Black, and an overall central line (average) around 40.1.

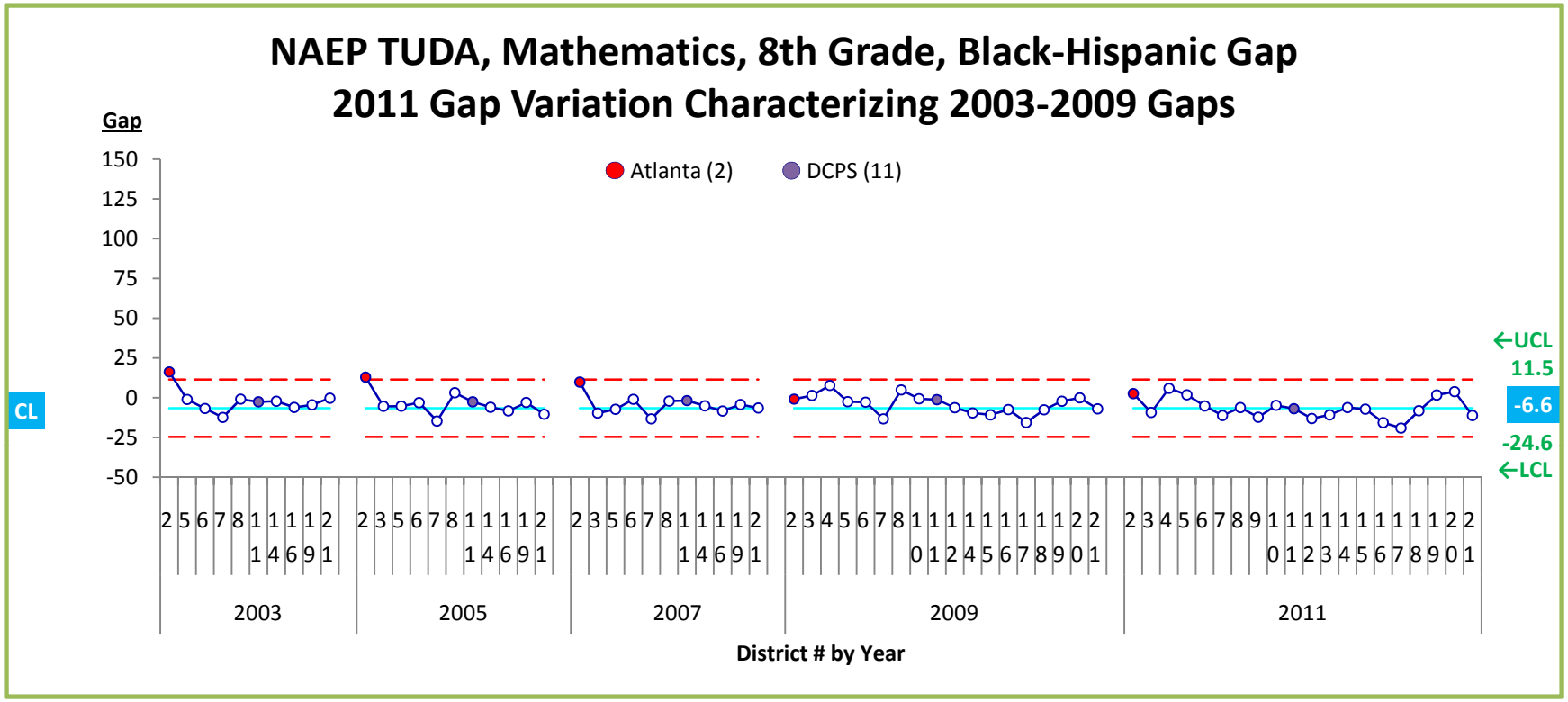


Key Question: Do the TUDs have, and have they always had, distinctive White and Hispanic systems of 8th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: Yes, greatly so, with District of Columbia Public Schools (11) favoring White over Hispanic, in the extreme.

Learning Opportunity: 1) Study DCPS to learn to avoid what this system does. 2) Seek to discover common causes influencing TUDs to have distinctive White and Hispanic systems of 8th Grade Mathematics, so as to come up with new theory for systemic improvement.

2013 Prediction: No TUD systemic gap improvement. Gaps between TUD White and Hispanic systems of 8th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of 59.7 having an upper control limit around 63.0 favoring White, a lower control limit around 3.3 favoring Hispanic, and an overall central line (average) around 33.2.



Key Question: Do the TUDs have, and have they always had, distinctive Black and Hispanic systems of 8th Grade Mathematics with respect to NAEP TUDA average scales score gaps between the systems?

Answer: No, save Atlanta (2) that used to stand out by favoring Black over Hispanic.

Learning Opportunity: Seek to discover common causes influencing TUDs to have non-distinctive Black and Hispanic systems of 8th Grade Mathematics that yet are so distinctive from the White system of 8th Grade Mathematics for the worse (see slides 33 and 34), so as to come up with new theory for systemic improvement.

2013 Prediction: Non-distinctive Black and Hispanic systems of 8th Grade Mathematics, but with inclination to favor Hispanic. Gaps between TUD Black and Hispanic systems of 8th Grade Mathematics will on the 2013 NAEP TUDA vary within an average scale score spread of around 36.1 having an upper control limit around 11.5 favoring Black, a lower control limit around -24.6 favoring Hispanic, and an overall central line (average) around -6.6.

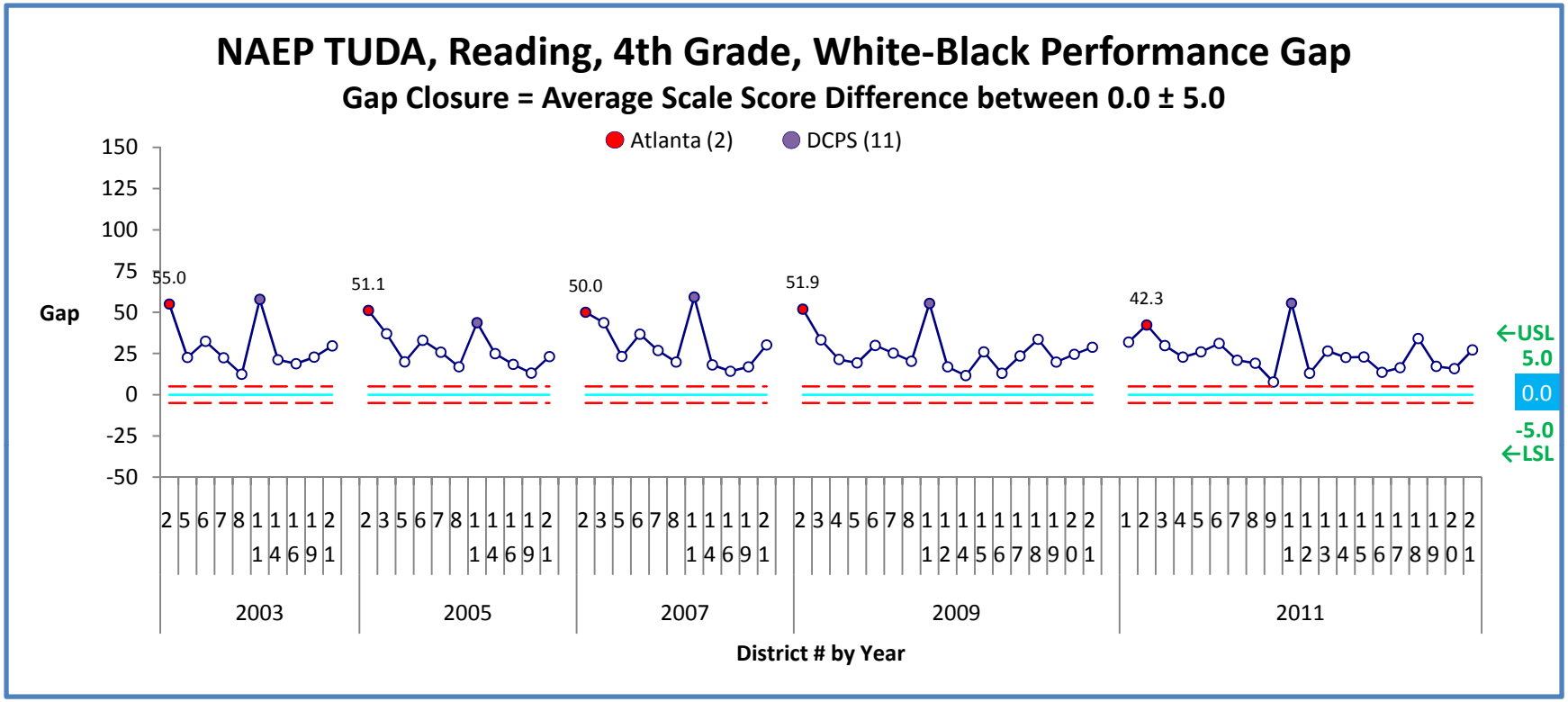
NAEP Trial Urban Districts "Performance Gap Closure" Capability (with a focus on Atlanta)

Method: For each of the following control charts, on slides 24 through 35, the upper specification limit (USL), lower specification limit (LSL), and central line (CL) were imposed, not calculated, on the supposition an average scale score gap that falls between the limits zero ± 5.0, inclusive, reasonably defines "performance gap closure."

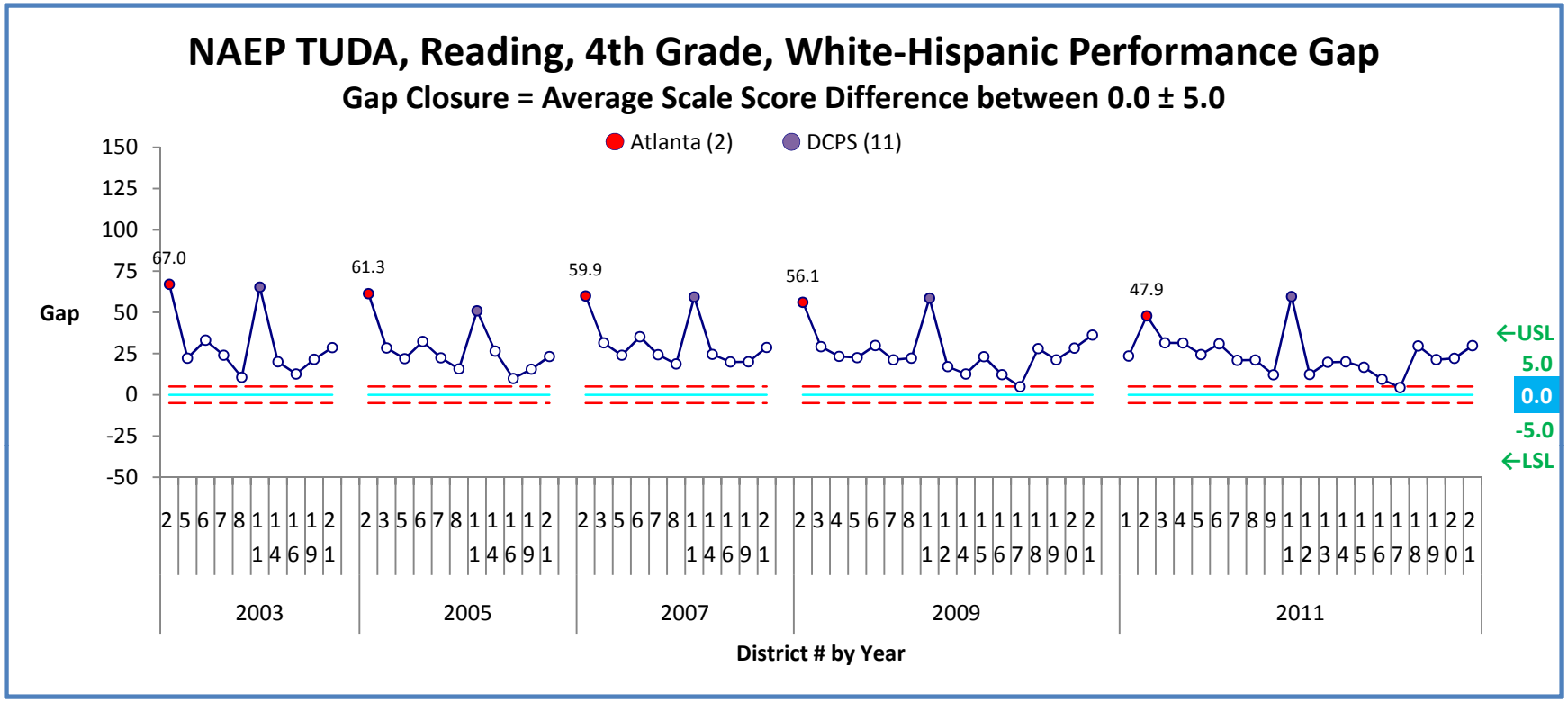
Then the USL, LSL, and CL were applied to average scale score gaps across the TUDA years, 2003 through 2011, so as to detect systemic capability of Trial Urban Districts to:

- close performance gaps for race/ethnicity "B" with respect to "A" (gaps above USL)
- close performance gaps for race/ethnicity "A" with respect to "B" (gaps below LSL)
- continuously sustain performance gap closure (gaps between USL and LSL)

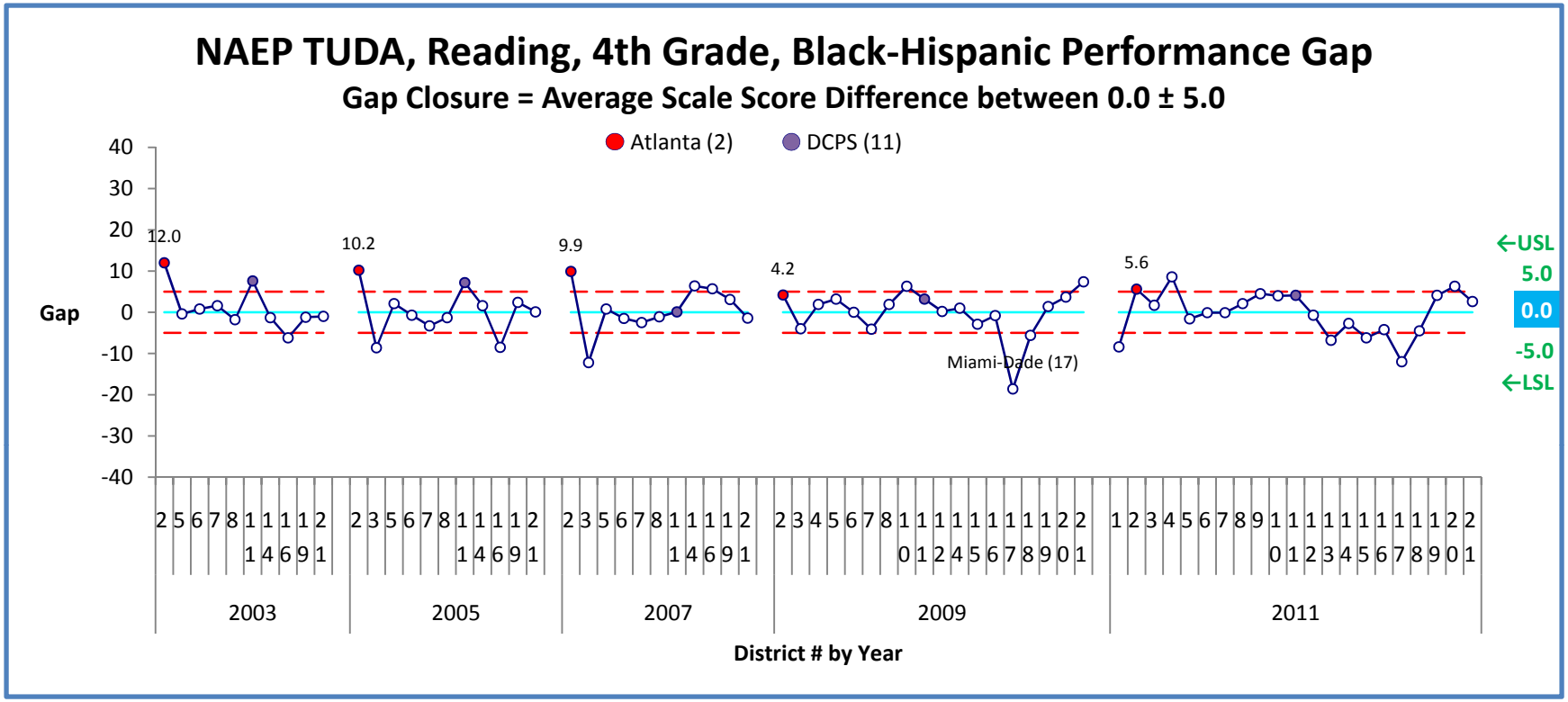
Other non-random variation among gap closing capabilities of Trial Urban Districts, as seen on the control charts, may be meaningful.



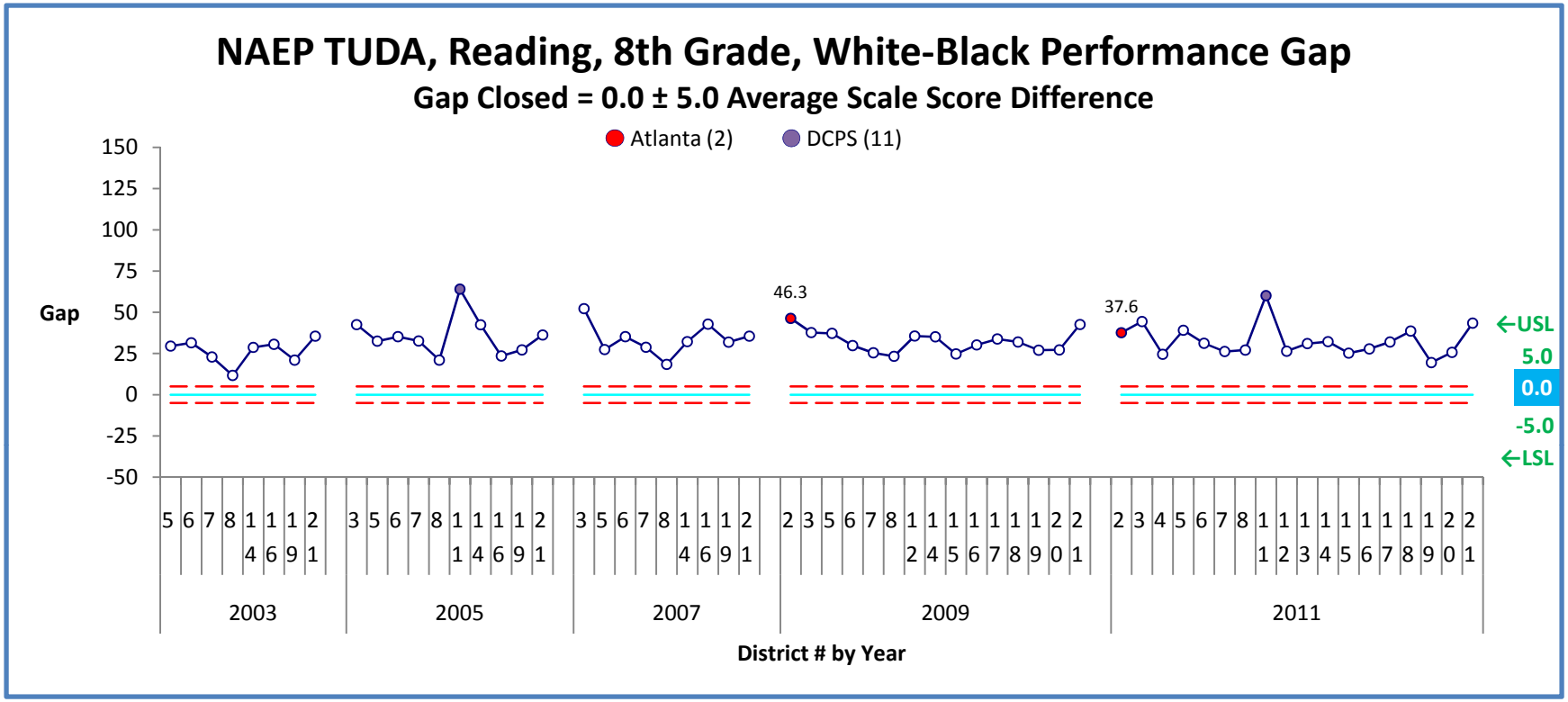
- **No Trial Urban District currently is or has been capable to attain White-Black performance gap closure**
- Atlanta (2)
  - Has needed at least since 2003 extraordinary special help to address White-Black performance gap
  - White-Black performance gap declined 2.46 (linear) average scale scores per TUDA continually since 2003. Why?
    - Because White increased 0.53 (linear) average scale score per TUDA continually since 2003, slower than Black
    - Because Black increased 2.99 (linear) average scale scores per TUDA continuously since 2003, faster than White
    - **Prediction**: At current (linear) rates, White-Black performance gap will close to zero in around 37 years, in around 2048
- District of Columbia Public Schools (DCPS) (11)
  - Has needed at least since 2003 extraordinary special help to address White-Black performance gap



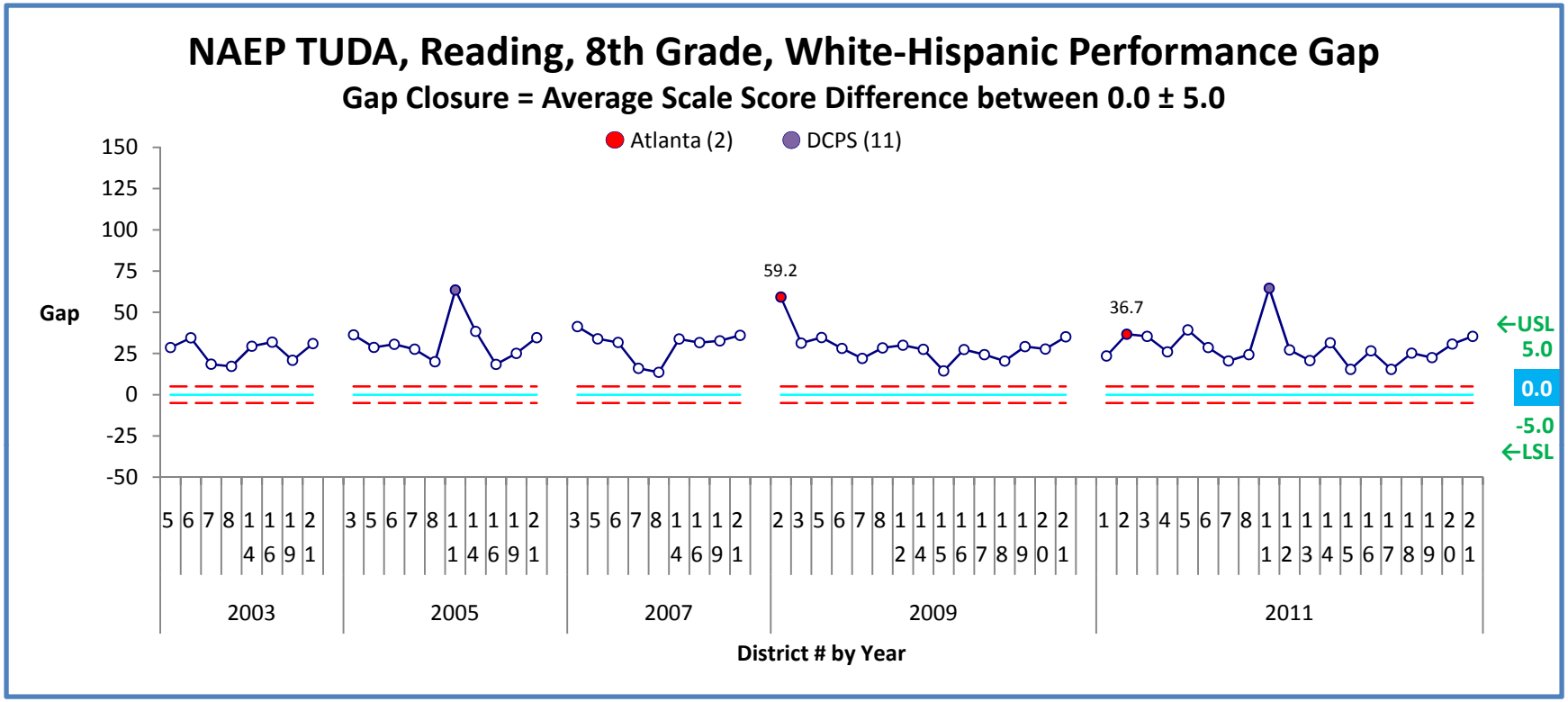
- **No Trial Urban District currently is or has been capable to attain White-Hispanic performance gap closure**
  - Except possibly Miami-Dade County FL (17) since 2009
- Atlanta (2)
  - Has needed at least since 2003 extraordinary special help to address White-Hispanic performance gap
  - White-Hispanic performance gap declined 4.34 (linear) average scale scores per TUDA continuously since 2003. Why?
    - Because White increased 0.53 (linear) average scale score per TUDA continually since 2003, slower than Hispanic
    - Because Hispanic increased 4.87 (linear) average scale scores per TUDA continuously since 2003, faster than White
    - **Prediction**: At current (linear) rates, White-Hispanic performance gap will close to zero in around 23 years, in around 2034
- District of Columbia Public Schools (DCPS) (11)
  - Has needed at least since 2003 extraordinary special help to address White-Hispanic performance gap



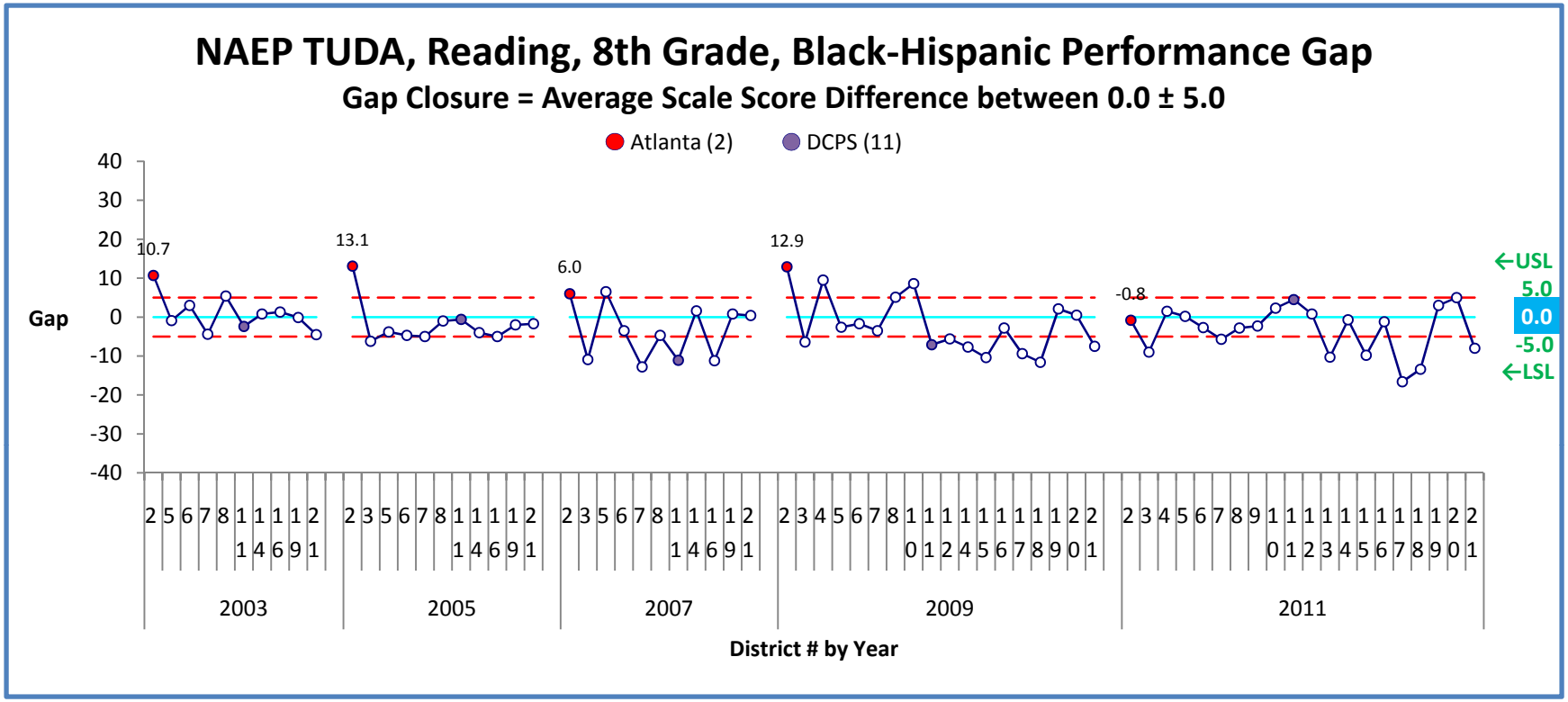
- **<u>Continuous</u> Black-Hispanic performance gap closure: Boston (5), Charlotte (6), Chicago (7), Cleveland (7), New York (19)**
- Atlanta (2)
  - Black-Hispanic performance gap declined 1.88 (linear) average scale scores per TUDA <u>continually</u> since 2003. Why?
    - Because Black increased 2.99 (linear) average scale scores per TUDA <u>continuously</u> since 2003, slower than Hispanic
    - Because Hispanic increased 4.87 (linear) average scale scores per TUDA <u>continuously</u> since 2003, faster than Black
    - **Prediction**: At current (linear) rates, Black-Hispanic performance gap will close to zero in around 5 years, in around 2016



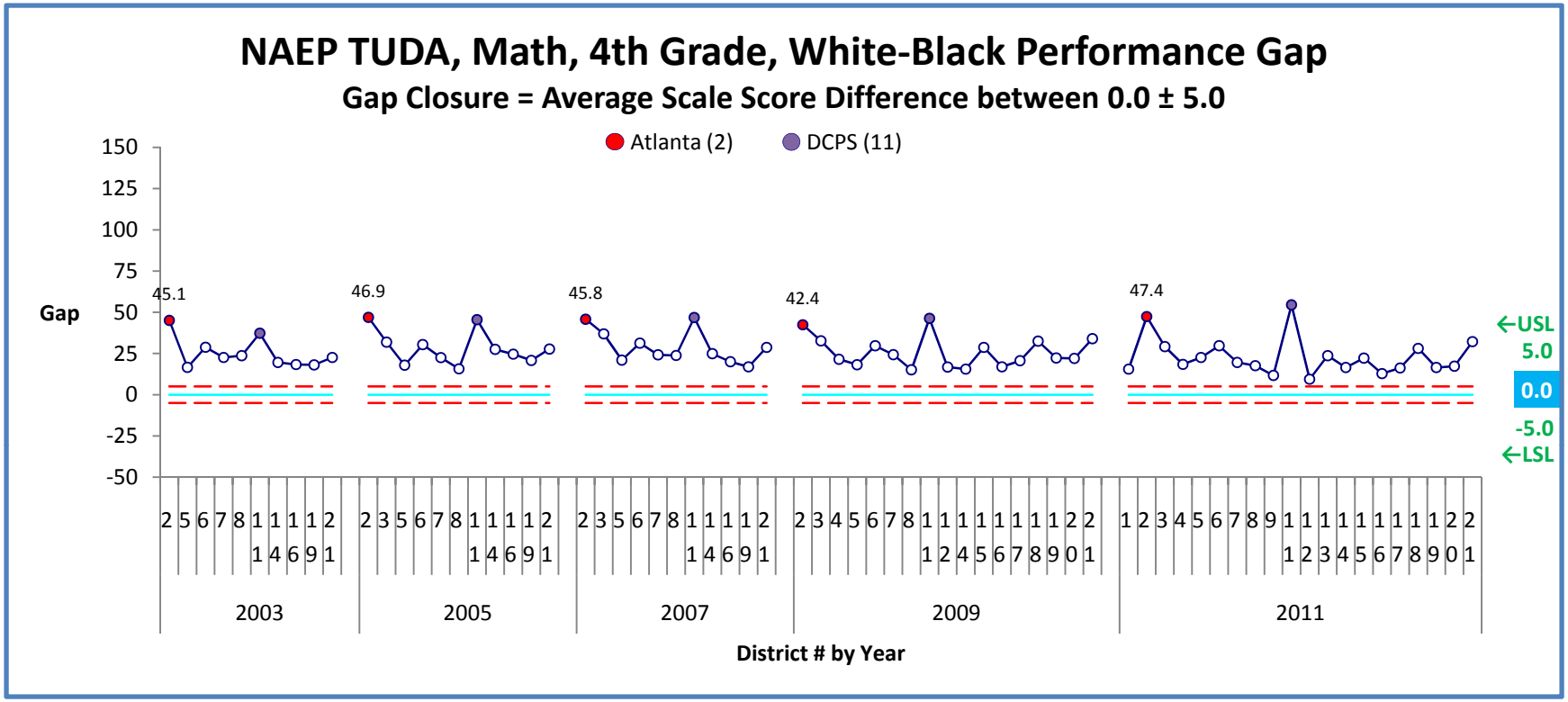
- **No Trial Urban District currently is or has been capable to attain White-Black performance gap closure**
- Atlanta (2)
  - NAEP: "Reporting standards not met" for White for years 2003, 2005, and 2007
  - White-Black performance gap declined 8.70 (linear) average scale scores directly from 2009 to 2011. Why?
    - Because White declined 7.00 (linear) average scale scores
    - Because Black increased 1.68 (linear) average scale scores
    - **Prediction**: None; too few data
- District of Columbia Public Schools (DCPS) (11)
  - NAEP: "Reporting standards not met" for White for years 2003, 2007, and 2009
  - Has needed at least since 2005 extraordinary special help to address White-Black performance gap



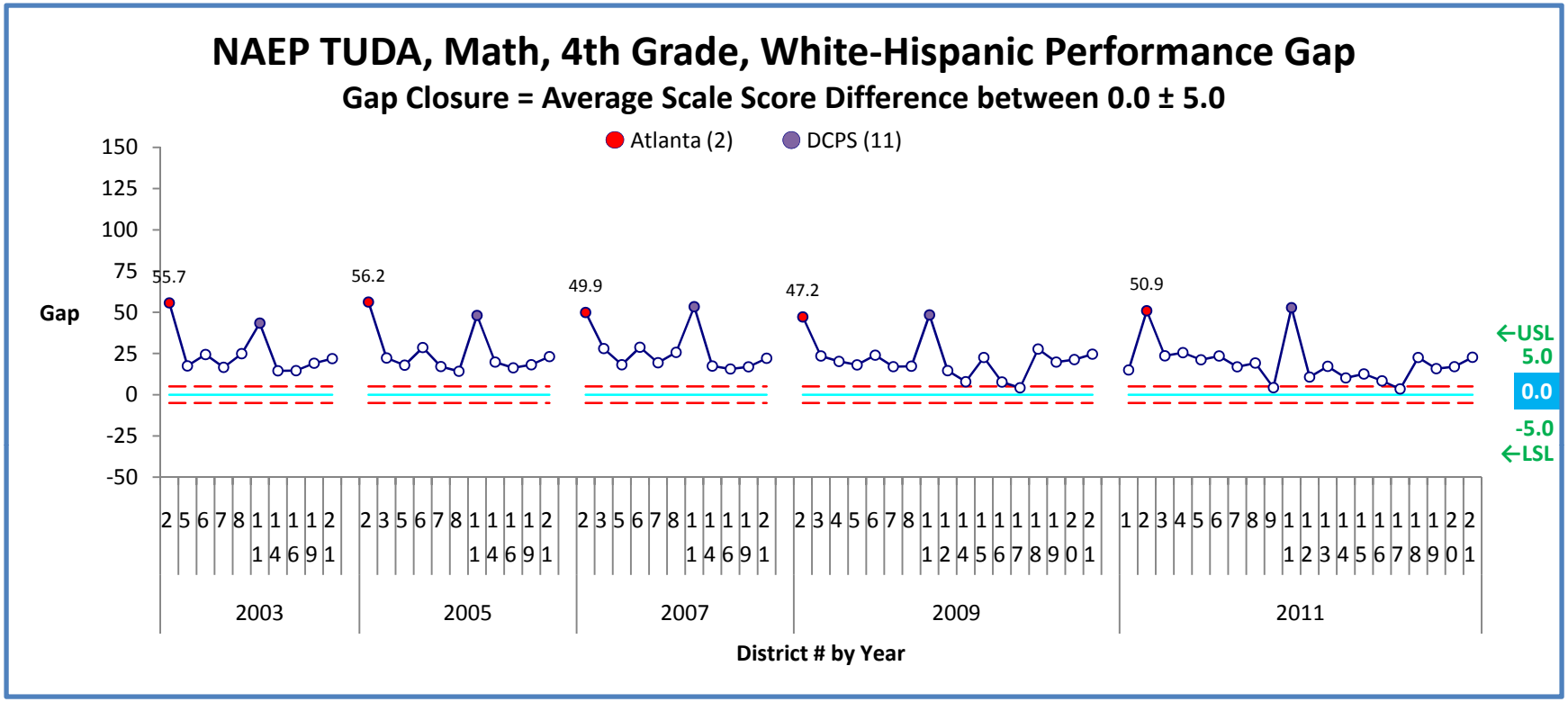
- **No Trial Urban District currently is or has been capable to attain White-Hispanic performance gap closure**
- Atlanta (2)
  - NAEP: "Reporting standards not met" for White for years 2003, 2005, and 2007
  - White-Hispanic performance gap declined 22.50 (linear) average scale scores directly from 2009 to 2011. Why?
    - Because White declined 7.00 (linear) average scale scores
    - Because Hispanic increased 15.45 (linear) average scale scores
    - **Prediction**: None; too few data
- District of Columbia Public Schools (DCPS) (11)
  - NAEP: "Reporting standards not met" for White for years 2003, 2007, and 2009
  - Has needed at least since 2005 extraordinary special help to address White-Hispanic performance gap



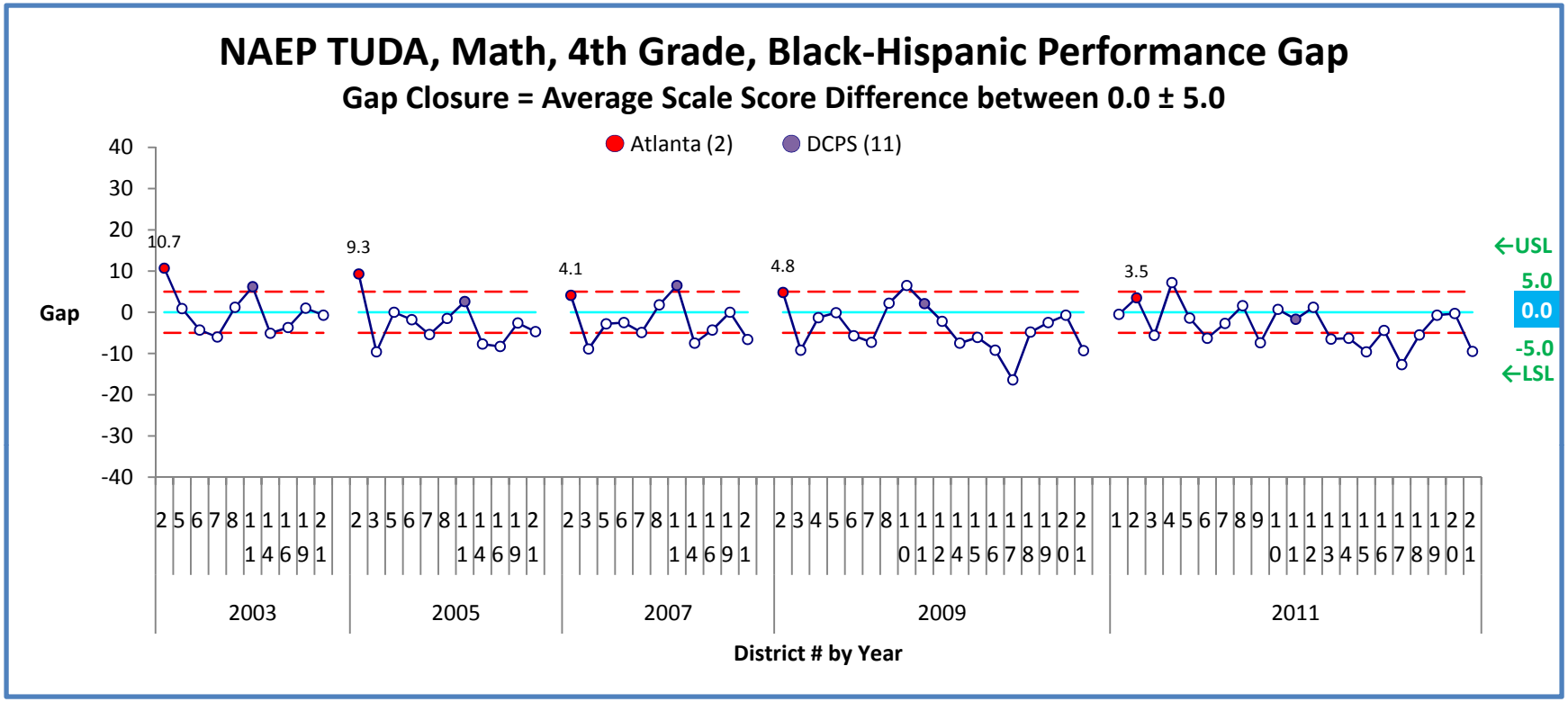
- **<u>Continuous</u> Black-Hispanic performance gap closure: Charlotte (6), New York City (19)**
- Atlanta (2)
  - Black-Hispanic performance gap declined 2.32 (linear) average scale scores per TUDA <u>continually</u> since 2003. Why?
    - Because Black increased 3.15 (linear) average scale scores per TUDA <u>continually</u> since 2003, slower than Hispanic
    - Because Hispanic increased 5.47 (linear) average scale scores per TUDA <u>continually</u> since 2003, faster than Black
    - **Prediction**: Black-Hispanic performance gap closed in 2011, but gap will quickly grow, with Black lagging Hispanic



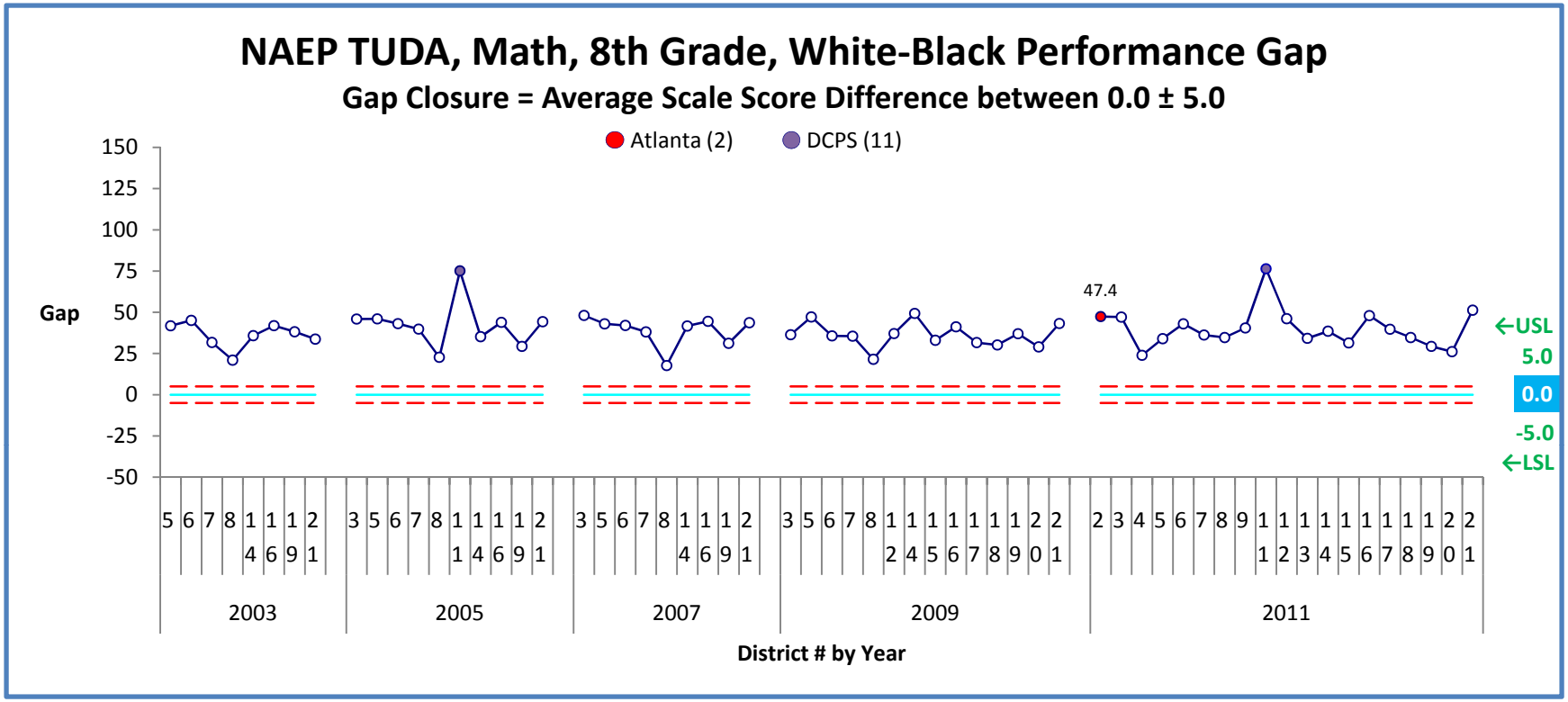
- **No Trial Urban District currently is or has been capable to attain White-Black performance gap closure**
- Atlanta (2)
  - Has needed at least since 2003 extraordinary special help to address White-Black performance gap
  - White-Black performance gap increased 0.03 (linear) average scale score per TUDA continually since 2003. Why?
    - Because White increased 1.91 (linear) average scale scores per TUDA continually since 2003, faster than Black
    - Because Black increased 1.88 (linear) average scale scores per TUDA continually since 2003, slower than White
    - **Prediction**: At current (linear) rates, White-Black performance gap will continually widen, with Black always lagging White
- District of Columbia Public Schools (DCPS) (11)
  - Has needed at least since 2003 extraordinary special help to close White-Black performance gap



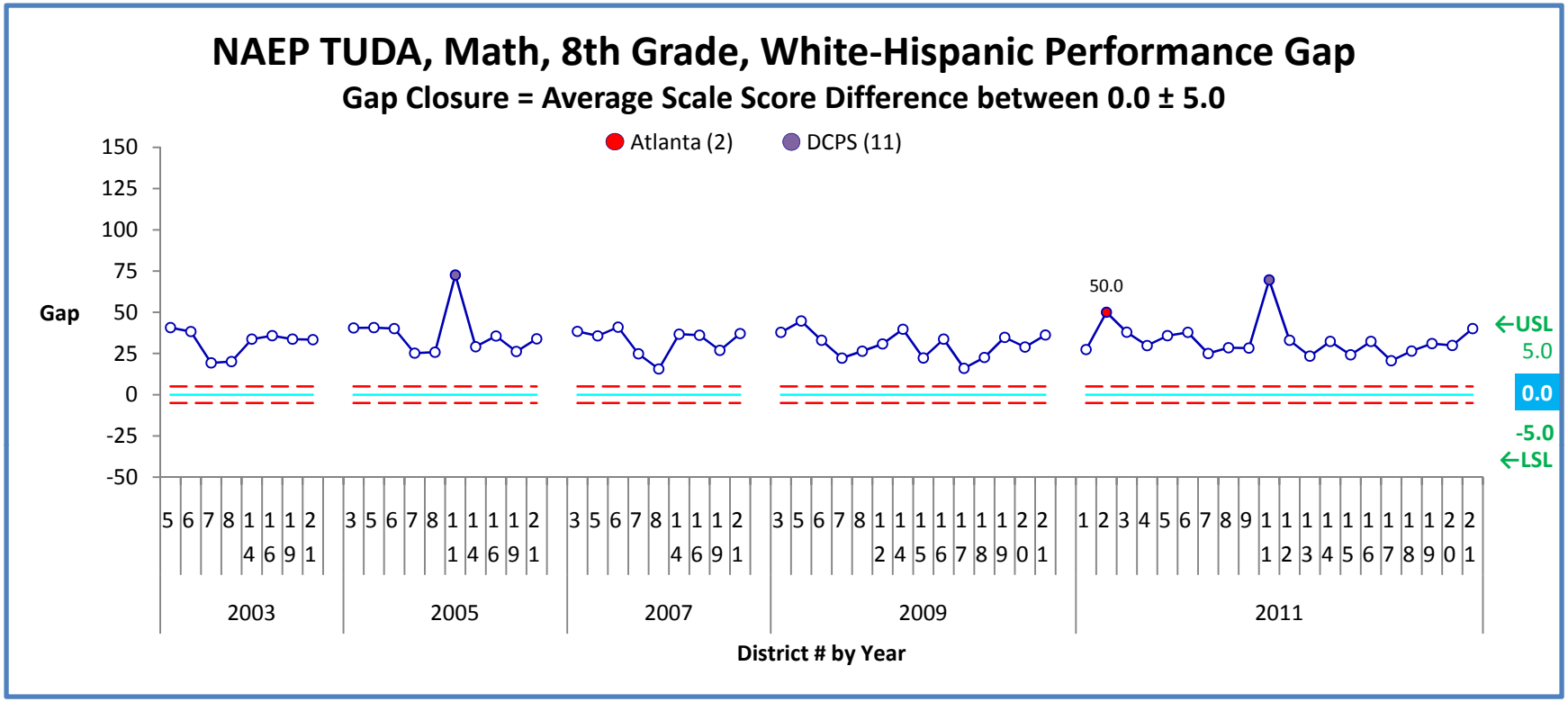
- **No Trial Urban District currently is or has been capable to attain White-Hispanic performance gap closure**
  - Except possibly Miami-Dade County FL (17) since 2009
- Atlanta (2)
  - Has needed at least since 2003 extraordinary special help to address White-Hispanic performance gap
  - White-Black performance gap declined 1.86 average scale scores per TUDA continually since 2003. Why?
    - Because White increased 1.91 (linear) average scale scores per TUDA continually since 2003, slower than Hispanic
    - Because Hispanic increased 3.77 (linear) average scale scores per TUDA continually since 2003, faster than White
    - **Prediction**: At current (linear) rates, White-Hispanic performance gap will close to zero in around 52 years, in around 2063
- District of Columbia Public Schools (DCPS) (11)
  - Has needed at least since 2003 extraordinary special help to address White-Hispanic performance gap



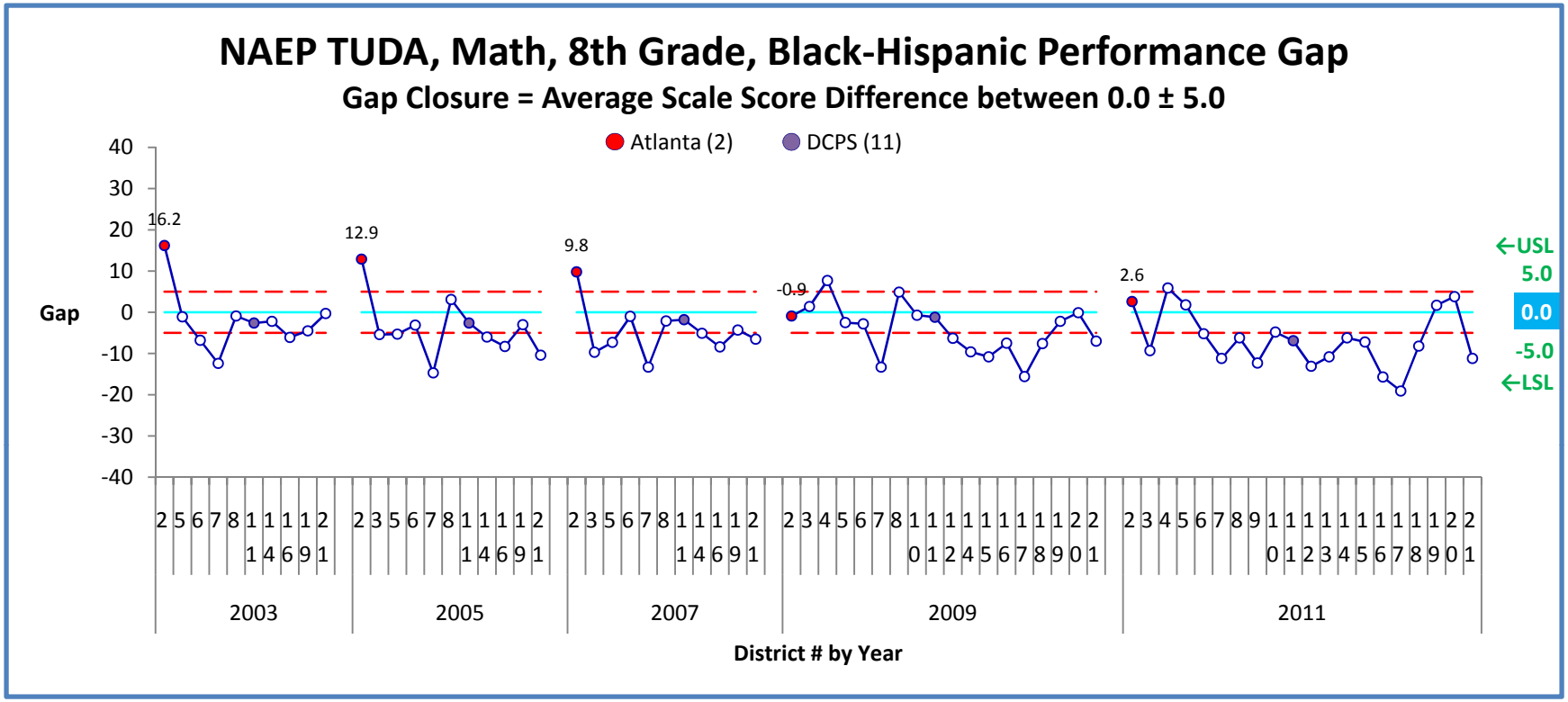
- **<u>Continuous</u> Black-Hispanic performance gap closure: Boston (5), Cleveland (8), New York City (19)**
- Atlanta (2)
  - Black-Hispanic performance gap declined 1.89 (linear) average scale scores per TUDA <u>continually</u> since 2003. Why?
    - Because Black increased 1.88 (linear) average scale scores per TUDA <u>continuously</u> since 2003, slower than Hispanic
    - Because Hispanic increased 3.77 (linear) average scale scores per TUDA <u>continuously</u> since 2003, faster than Black
    - **Prediction**: At current (linear) rates, Black-Hispanic performance gap will close to zero in around 3 years, in around 2014



- **No Trial Urban District currently is or has been capable to attain White-Black performance gap closure**
- Atlanta (2)
  - NAEP: "Reporting standards not met“ for White for years 2003, 2005, 2007, and 2009
- District of Columbia Public Schools (DCPS) (11)
  - NAEP: "Reporting standards not met" for White for years 2003, 2007, and 2009
  - Has needed at least since 2003 extraordinary special help to address White-Black performance gap



- **No Trial Urban District currently is or has been capable to attain White-Hispanic performance gap closure**
- Atlanta (2)
  - NAEP: "Reporting standards not met“ for White for years 2003, 2005, 2007, and 2009
- District of Columbia Public Schools (DCPS) (11)
  - NAEP: "Reporting standards not met" for White for years 2003, 2007, and 2009
  - Has needed at least since 2003 extraordinary special help to address White-Hispanic performance gap



- **<u>Continuous</u> Black-Hispanic performance gap closure: New York City (19)**
- Atlanta (2)
  - Black-Hispanic performance gap declined 4.10 (linear) average score scores per TUDA <u>continually</u> since 2003. Why?
    - Because Black increased 5.19 (linear) average scale scores per TUDA <u>continuously</u> since 2003, slower than Hispanic
    - Because Hispanic increased 9.29 (linear) average scale scores per TUDA <u>continuously</u> since 2003, faster than Black
    - **Prediction**: Black-Hispanic performance gap closed in 2009, but gap will quickly grow, favoring Hispanic over Black

NAEP Trial Urban District - Atlanta

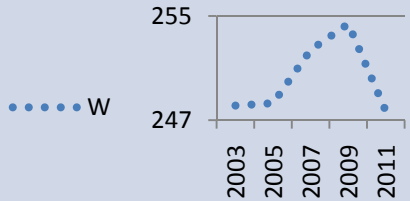
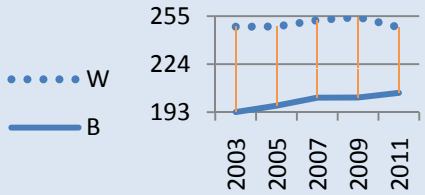
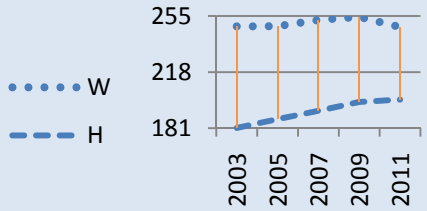
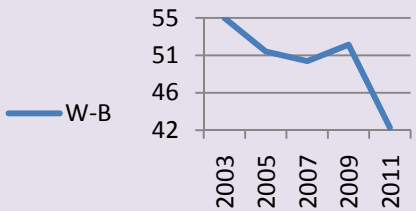
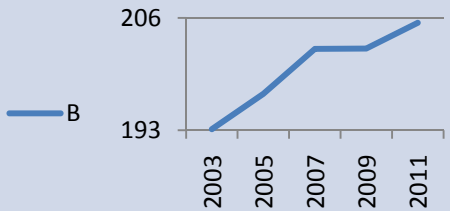
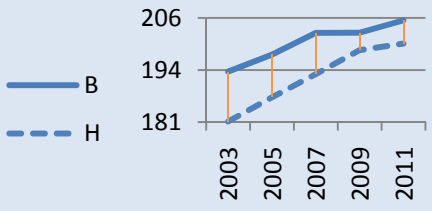
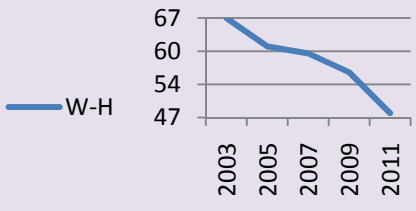
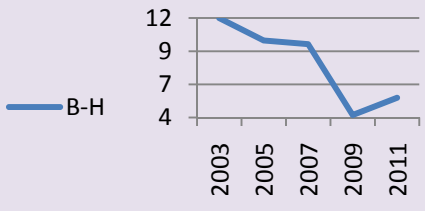
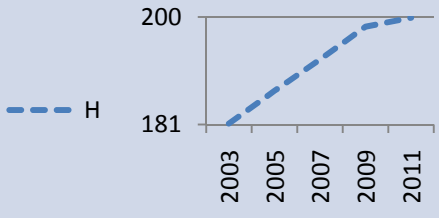
Each of slides 37 through 40 presents a race/ethnicity-by-race/ethnicity matrix of small charts about a subject and a grade that shows

- Average Scale Score charts along the main diagonal
- High-Low Average Scale Score charts in the upper right triangular area
- Average Scale Score Performance Gap charts in the lower left triangular area

Key Observations

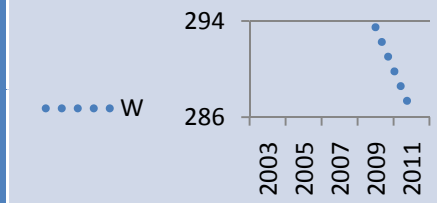
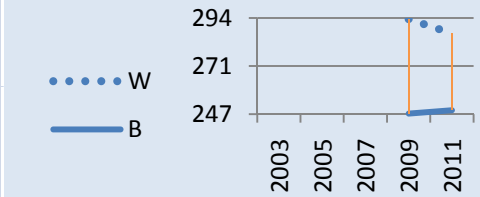
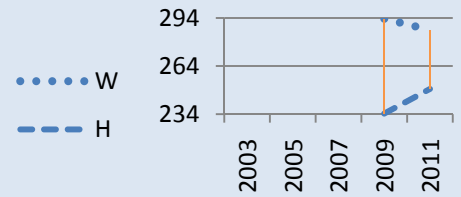
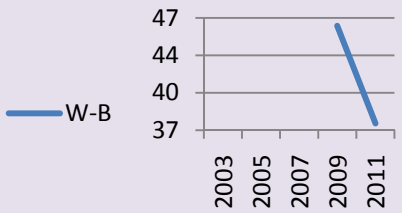
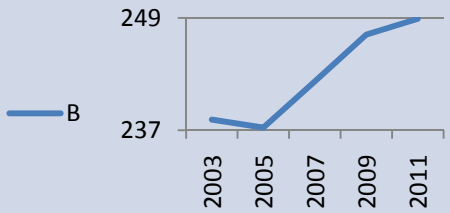
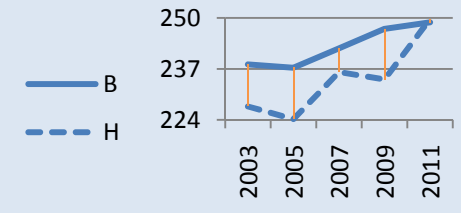
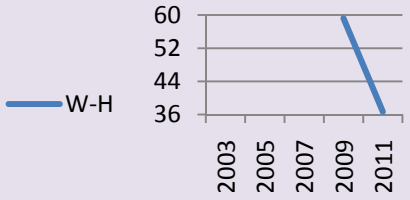
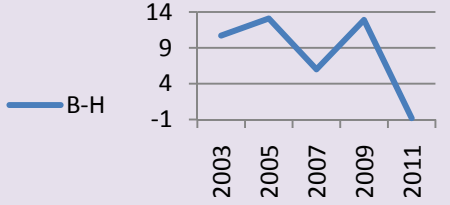
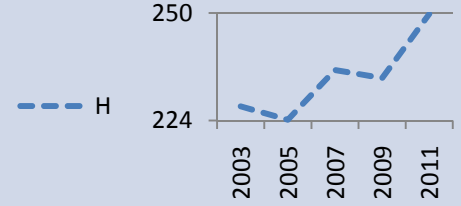
- Greater White-Black gaps as White average scale scores rise
- Lesser White-Black gaps as White average scale scores fall
- Black-Hispanic gap closures due to Atlanta tending to favor Hispanic over Black

NAEP Trial Urban District – Atlanta
4th Grade Reading

4th Grade Reading‡	White	Black	Hispanic
White			
Black			
Hispanic			

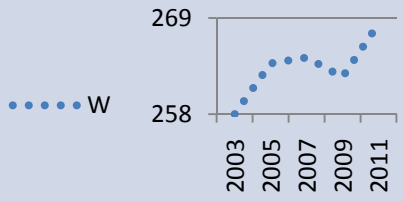
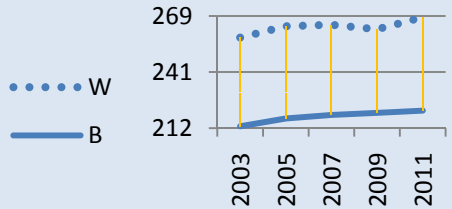
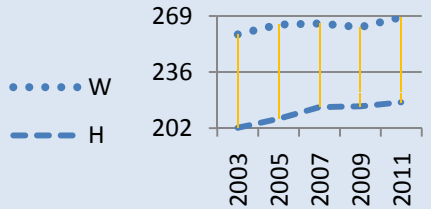
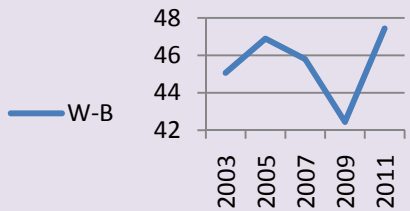
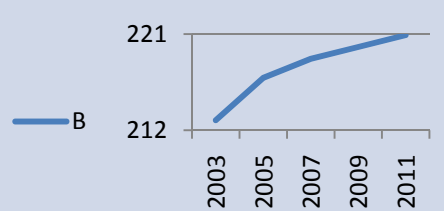
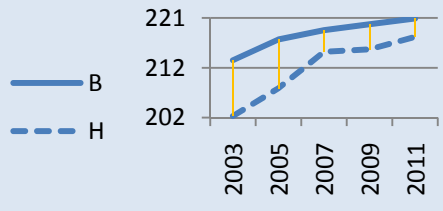
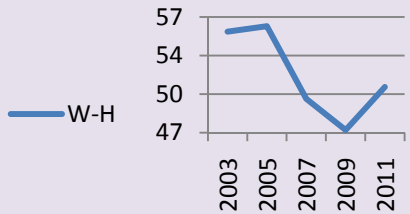
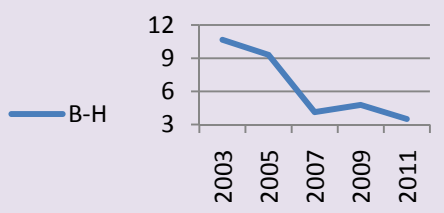
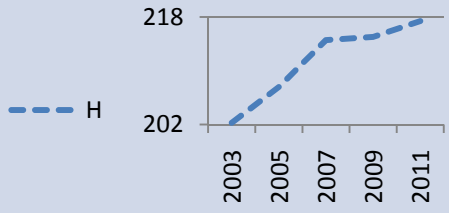
‡NAEP: "Reporting standards not met" by any TUDA district, including Atlanta, for 2002, which no chart represents.

NAEP Trial Urban District – Atlanta
8th Grade Reading

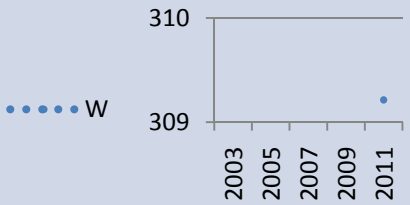
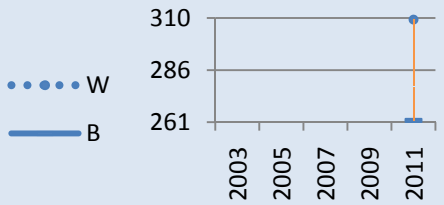
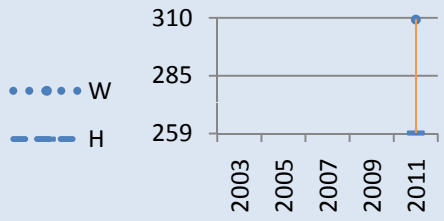
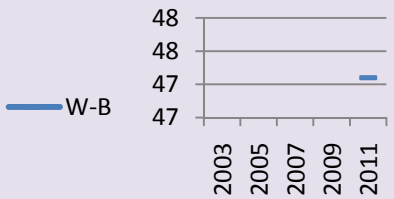
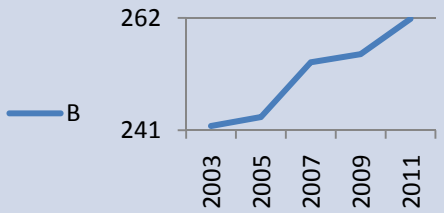
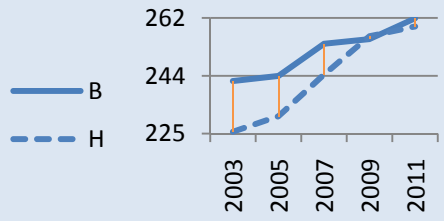
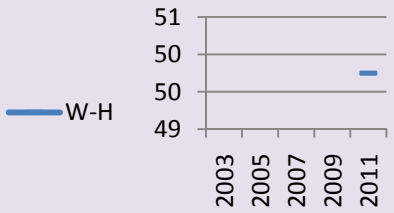
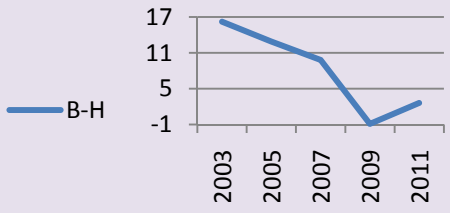
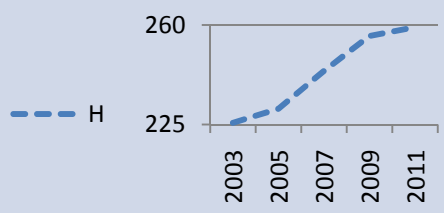
8th Grade Reading‡	White†	Black	Hispanic
White†			
Black			
Hispanic			

‡NAEP: "Reporting standards not met" by any TUDA district, including Atlanta, for 2002, which no chart represents.
†NAEP: "Reporting standards not met" by Atlanta for White for years 2003, 2005, and 2007.

NAEP Trial Urban District – Atlanta
4th Grade Mathematics

4th Grade Math	White	Black	Hispanic
White			
Black			
Hispanic			

NAEP Trial Urban District – Atlanta
8th Grade Mathematics

8th Grade Math	White†	Black	Hispanic
White†			
Black			
Hispanic			

†NAEP: "Reporting standards not met" by Atlanta for White for years 2003, 2005, 2007, and 2009.

Closing Proposition

"The foundation of every state is the education of its youth."
Diogenes of Sinope (c. 412 - c. 323 BCE)