

Build 4: Create Meaningful Data Story on School Residency & Funding Inequities with Quiz 11: Tell and Show Your Data Story (5 + 5 = 10 points combined)

Anyone with the link can write suggestions on this Google Doc.

Due on Mon 14 November at 9pm.

1) Chat with classmates and identify two related questions that you would like to work on for the remainder of the semester. Choose one from part A (residency) and one from part B (finance) that have some type of connection, **or the instructor may assign you one of your preferred questions if there is a multi-part answer**. Choose if you wish to work **solo** (which still allows you to coordinate data with another student but submit individual products that will be evaluated separately) **or in a duo** (two students who submit one product to be evaluated together). **Request your preferred questions by writing a comment with your name(s)** on this Google Doc prior to our Thur 10 Nov class, for review and approval by the instructor to ensure that our class addresses a wide range of questions.

Approved Assignments:

If a question has been assigned to students below, YOU CAN STILL REQUEST to work on that question as long as you have a different approach. Talk with your instructor.

Insert link below to YOUR GOOGLE DOC and SHARE so that ANYONE can COMMENT

Peer review: Shayla and Rob write separate peer reviews of Liam and Ben, and vice versa

Shayla and Rob (duo) [data story](#)

A1) How many school-age youth reside in each town, and how has it changed over a decade?

B1) How does per-student spending vary by school district, and how does it change over time?

UPDATED note from Jack D: Since EdSight does not easily show per-student spending data prior to 2017, I recommend this strategy to align your data:

A1) for roughly 2010, 2017, 2019, and most recent year

B1) for roughly 2017, 2019, and most recent year

Liam and Ben (duo) [data story](#)

A5) In selected towns, how do enrollment rates by school type vary by student race & ethnicity?

B3) How does district-level per-student spending vary by student race & ethnicity?

Note from Jack D: I modified your assignment to include both A5 and B3 because they align better on the same theme of student race and ethnicity.

Peer review: Jack R comments on Keelyn and vice versa

Jack R [Data Story](#) (Solo):

A3) In each town, how many students are educated in a different district, and how has it changed over time?

Note from Jack D: You have been assigned one question with multiple parts. Show at least three years: 2010 or similar, 2019 or similar pre-pandemic, and most recent year. Also show meaningful results in both a chart and a map. You are welcome to add a finance component if you wish, but not required.

Keelyn [data story](#) (solo)

B2) How does per-student spending vary by school type, and how does it change over time? [Keelyn's Data](#)

Note from Jack D: I have assigned you only to one Part B question right now. Let's wait and see other students' preferences, then we can discuss if you wish to modify or expand a bit. Updated note: We agreed that CT Tech funding is not easily available on EdSight database, so focus on what you know and I sent other source ideas when you have time.

Peer review: [Anna comments on Faris](#); [Faris comments on Emiko](#); [Emiko comments on Anna](#)

Anna [data story](#) (solo)

A7) In selected towns, how do enrollment rates by school type vary by students with (and without) disabilities? [SWD Enrollment Data](#)

B5) How does district-level per-student spending vary by percent of students with disabilities? [PPE vs. SWD Enrollment Data](#)

Faris [data story](#) (coordinated solo with Cam: submit separate products)

A4) In each town, how do student enrollment rates vary between school types (traditional public, magnet, open choice, charter, tech, etc), and how have they changed over time?

Note from Jack D: Do at least a 10-year period, preferably with years such as 2010 (or similar), pre-pandemic 2019 (or similar), and most current year.

Emiko [data story](#) (solo)

A2) How many students are educated in each district, and how has it changed over a decade?

PLUS a related school finance question of her own design

Peer review: [Viv comments on Mia and vice versa](#); Peer review: [Julianna comments on Viv with cc: to instructor](#);

Viv and Julianna [data story](#) (duo)

A9) Where is the location of each public choice school or district (magnets, Open Choice, charters, tech schools), and how many students do they enroll?

A10) Where is the location of each Hartford traditional public school, and how many students do they enroll?

Note from Jack D: Use the source recommendations to find and organize data. The second question may require more work to compile the data than the first one. Viv and I discussed how school-level data can be shown on a symbol point map, which will work for magnets, charters, tech schools, and traditional public schools. But Open Choice is district-level data, so that portion may require a separate colored polygon map.

Mia [data story](#) (solo)

A6) In selected towns, how do enrollment rates by school type vary by students who are (or are not) English language learners?

B4) How does district-level per-student spending vary by percent of English language learners?

Note from Jack D: Thanks for selecting two questions with a thematic focus on English language learners, and be sure to emphasize this connection in your data story.

Peer review pending for Natalie, who may choose to comment on any data story

Natalie [data story](#) (solo) [spreadsheet link](#)

New question:

A8) In selected towns, how do enrollment rates by school type vary by students with (and without) high-needs? (Defined as Eligible for Free & Reduced Lunch, English Language Learners, and Students with Disabilities)

Note from Jack D: I recommend focusing on this question alone because it is complex, and no one previously worked on it last month. You have the option to expand “selected towns” to include Hartford and others that look interesting.

Peer review pending for Cam, who may choose to comment on any data story

Cam [data story](#) (coordinated solo with Faris: submit separate products)

B1) How does per-student spending vary by school district, and how does it change over time?

Note from Jack D: Do at least a 10-year period, preferably with years such as 2010 (or similar), pre-pandemic 2019 (or similar), and most current year.

2) Create a data story of about 750-1000 words & at least 2 visualizations with the following:

Remember to **SHARE** your Google Doc so that **ANYONE** can **COMMENT**

a) Start with an introduction for non-experts to introduce the questions you are addressing and why they matter. Draw relevant support from [School+State Finance Project](#) using any standard academic citation style.

b) Describe your key findings to your question. Walk readers through your evidence and explain how to interpret tables, charts, and maps.

c) Create at least two visualizations to support your findings. Follow good design principles and draw our attention to meaning. (For each table/chart/map in your Google Doc, paste a static image and a link to the live online version. Soon you'll learn how to embed the live version in your own web page.)

d) Data sources, methods, and uncertainty: Write a paragraph that explains what sources you consulted, specific methods used to create your data story, and show your work for any pivot tables or calculations in linked Google Sheets. Be sure to describe any uncertainty or cautions to help readers avoid misinterpreting your results.

Assessment: Your work will be evaluated by the instructor and your peers based on:

- 1) How well does the data story answer the assigned question(s) and explain why it matters?
- 2) How well-designed are the visualizations to draw true and meaningful insights from data?
- 3) How clearly does the story describe key steps in the process and cautions about data?
- 4) How challenging was it to create this data story based on existing sources and methods?

Goal: Our community partners at the Center for Leadership and Justice asked us to create meaningful charts and maps to help them answer questions about school residence and educational funding inequities in the metro Hartford region, which we defined this way:

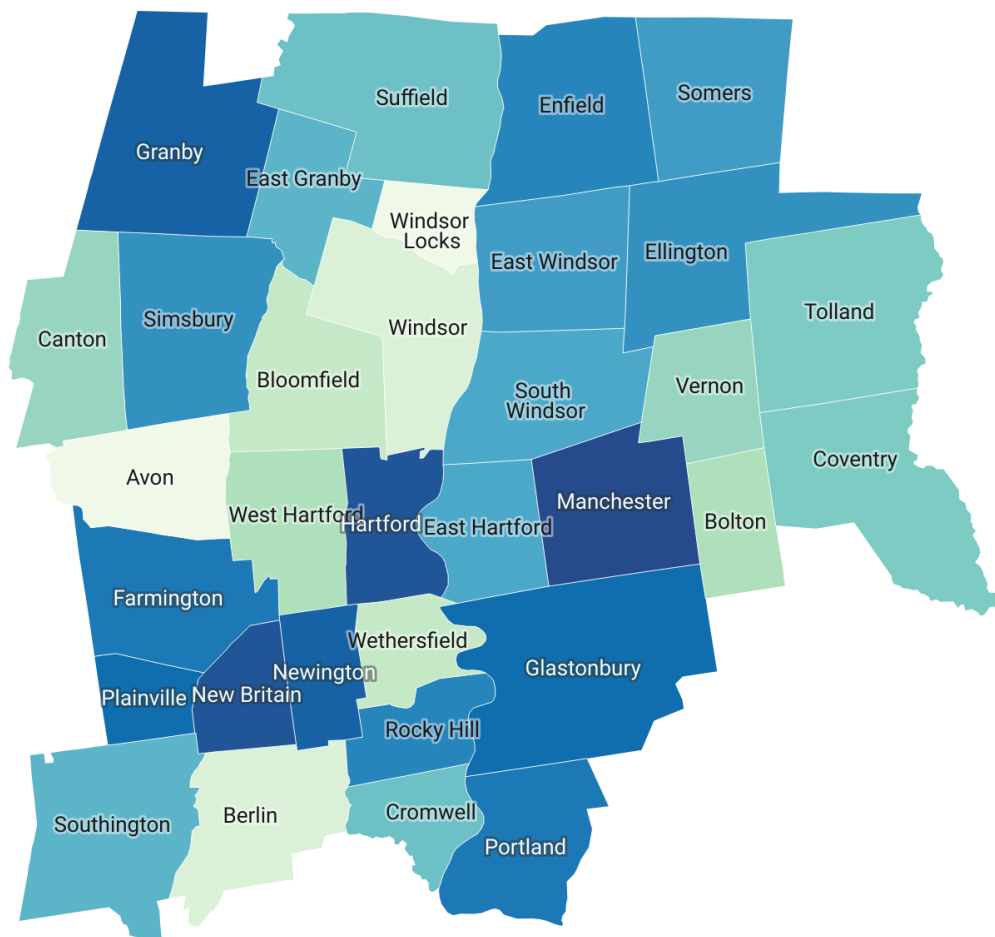
Scope of metro Hartford towns and school districts

[Google Sheet](#) of 33 towns, 38 school districts (including CREC and Goodwin U magnet districts & 3 charter districts), 45 interdistrict choice schools, and more.

Defined by areas that currently participate in Open Choice AND others in continuous region.

Note: 2021-22 = School Year Ending 2022 = SYE 2022 (similar to fiscal year)

Scope of 33-town Hartford Area for CLJ Study



Map: DataVizForAll.org at Trinity College • Created with Datawrapper

Current research questions (with links to sources and current work by students)

So far we have found public data and made preliminary charts about student residency and school enrollment:

A: Student Residency and School Enrollment

A1) How many school-age youth reside in each town, and how has it changed over a decade?

Source: [Social Explorer tutorial](#), ACS 2016-2020 and prior, table: A01001 Age
[Sample chart by Faris](#). Work by [Faris & Jack R GSheet](#) and [Viv & Shayla GSheet](#)
See also [Recommendations in our October progress report](#)

A2) How many students are educated in each district, and how has it changed over a decade?

Source: EdSight > Students > Enrollment > View Data
https://public-edsight.ct.gov/students/enrollment-dashboard?language=en_US
[Sample chart by Emiko](#). Work by [Natalie & Emiko in Google Sheet](#). See also [Recs](#)

A3) In each town, how many students are educated in a different district, and how has it changed over time?

Source: EdSight Resident Town Dashboard > View Data
https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US
[Sample chart](#). Work by [Liam & Rob in Google Sheet](#), w [more data](#). See also [Recs](#)

A4) In each town, how do student enrollment rates vary between school types (traditional public, magnet, open choice, charter, tech, etc), and how have they changed over time?

Source: EdSight Resident Town Dashboard > View Data
https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US
[Sample chart](#) by **Ben**. Work by Ben & Cam in [Google Sheet](#). See also [Recs](#)

A5) In selected towns, how do enrollment rates by school type vary by student race & ethnicity?

Source: EdSight Resident Town Dashboard > View Data
https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US

A6) In selected towns, how do enrollment rates by school type vary by students who are (or are not) English language learners?

Source: EdSight Resident Town Dashboard > View Data
https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US
[Sample chart](#) by **Anna**. Work by [Mia & Anna in Google Sheet](#). See also [Recs](#)

A7) In selected towns, how do enrollment rates by school type vary by students with (and without) disabilities?

Source: EdSight Resident Town Dashboard > View Data

https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US
[Sample chart by Keelyn](#). Work by [Keelyn & Julianna in GSheet](#). See also [Recs](#)

A8) In selected towns, how do enrollment rates by school type vary by students with (and without) high-needs? (Defined as Eligible for Free & Reduced Lunch, English Language Learners, and Students with Disabilities)

Source: EdSight Resident Town Dashboard > View Data

https://public-edsight.ct.gov/overview/resident-town-dashboard?language=en_US

A9) Where is the location of each public choice school or district (magnets, Open Choice, charters, tech schools), and how many students do they enroll?

[Compiled source](#) – see [Notes](#)

See also [Chart #4: Open Choice](#) by Spring 2022 class

A10) Where is the location of each Hartford traditional public school, and how many students do they enroll?

[Compiled source](#) (need to clean and add addresses) – see [Notes](#)

A11) For each Sheff magnet school (and other choice schools where data is available), how many students are enrolled from each town?

Source: EdSight Sheff Magnet Schools Dashboard > View Data

https://public-edsight.ct.gov/Overview/Resident-Town-Dashboard/Sheff-Magnet-Schools-Dashboard/Sheff-Magnet-Schools-Export?language=en_US

Our next step is to expand our research into school finance and inequities:

B: School Finance and Town/District Inequities

What public data sources are available to help us fully or partially answer questions below?

What cautions and caveats about the data should we keep in mind and warn readers about?

For answerable questions below, which are highest priority for charts and maps to help CLJ?

Data Sources and Existing Visualizations

School and State Finance Project website, <https://schoolstatefinance.org/>

[School Finance 101 Powerpoint presentation slides](#), Hartford edition, October 2022

[Segregated Connecticut](#) (town-level maps by race and income)

[Role of Property Taxes](#) (town-level maps by taxable property and property tax rates)

[School Segregation](#) (district, school, border maps by race, income, ELL, disability)

[District and School Spending](#) (district-level and school-level comparison charts)

[Breakdown of Spending](#) (district-level spending and staffing comparison charts)

[How CT Funds Education](#) (funding source chart, diagrams of funding by school type)

[CT Education Cost Sharing \(ECS\) Formula](#) (descriptions and tables)

[CT ECS Interactive Tool](#) (adjust sliders for formula weights to view different outcomes)

[Current Year Funding](#) (table of town-level current and estimated future ECS grants)

See additional source links at bottom of each web page listed above

Requested research questions from CLJ (if data available):

B1) How does per-student spending vary by school district, and how does it change over time?

Source rec by Morgan Considine: EdSight > Overview > Fiscal Resources

https://public-edsight.ct.gov/overview/per-pupil-expenditures-by-function---district?language=en_US

Shared notes by Mia: Edsight home tab, per pupil spending report (2018-2021)

Spending per object (district) Transportation included? Excludes construction

By district:

https://public-edsight.ct.gov/Overview/Per-Pupil-Expenditures-by-Function---District/Per-Pupil-Expenditures-by-Object---District?language=en_US

B2) How does per-student spending vary by school type, and how does it change over time?

See source notes above

B3) How does district-level per-student spending vary by student race & ethnicity?

Design rec by Jack:

- create chart and/or choropleth map of spending by district
- create chart and/or choropleth map of a combined student race by district
- create a scatterchart of spending and student race to explore relationship

Shared notes by Liam:

District and school lvl to spending numbers

- Scatter Charts and bar charts
 - Scatter
 - Totality
 - Bar charts
 - Narrow to community (Hartford)

<https://schoolstatefinance.org/issues/segregation-and-education>

- nearby towns have distinct differences
- Msg to get across: geographic close towns have distinct differences
- Why bipoc?
 - How narrow did we wanna get with data
 - Data suppression/loss data
 - Funding disparities were more important than hispanic and others

B4) How does district-level per-student spending vary by percent of English language learners?

See Design and Source recs above

B5) How does district-level per-student spending vary by percent of students with disabilities?

See Design and Source recs above

B6) How does district-level per-student spending vary by percent of students with high needs?

See Design and Source recs above

B7) How much funding goes to host towns/districts that enroll students in public school choice programs (magnets, Open Choice, charters, tech schools, etc.)?

Source rec by Morgan Considine:

<https://www.csde.state.ct.us/public/dgm/grantreports1/paydetlMain.aspx>

Shared notes by Shayla: The CSCE grant payment database - grant payment report to determine money distributed to districts (not much more specific)

REMOVED three questions due to lack of usable data

B-X) How does school-level per-student spending vary by any student demographics above?

- Shared notes by Liam: Same as district
 - Consider: school level can lead to suppressed data due to sizes
 - School spending can vary compared to districts
- <https://schoolstatefinance.org/issues/spending>
- Choose representative schools not just CREC

B-Y) How much financial loss does student migration for choice programs cost sending towns and districts?

B-Z) How much financial gain does student migration for choice programs benefit host towns and districts?

Shared notes by Julianna:

Some students that are migrating are and are not being counted

Charter schools are not counted- financial loss (receives grant for student)

Magnets schools are counted - receive grant for student and receives grant from the state