SFUSD SAN FRANCISCO PUBLIC SCHOOLS

# Ad Hoc Committee on Student Assignment

April 15, 2019

# Modelling Elementary Attendance Area Boundaries

# Motivation for work

Why redraw Elementary School Attendance Areas (ESAAs)?

- New housing and new schools
- Opportunity to better meet BP5101 priorities (adopted 10/9/2018):
  1. Reverse trend of **racial isolation** & **concentration of underserved students** in same school.
  2. Provide **equitable access** to range of opportunities offered to students.
  3. Provide **transparency** at every stage of assignment process.
- Note that ESAA boundaries are only one possible lever among many alternatives.

# Lapkoff & Gobalet Demographic Research, Inc.

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# Context

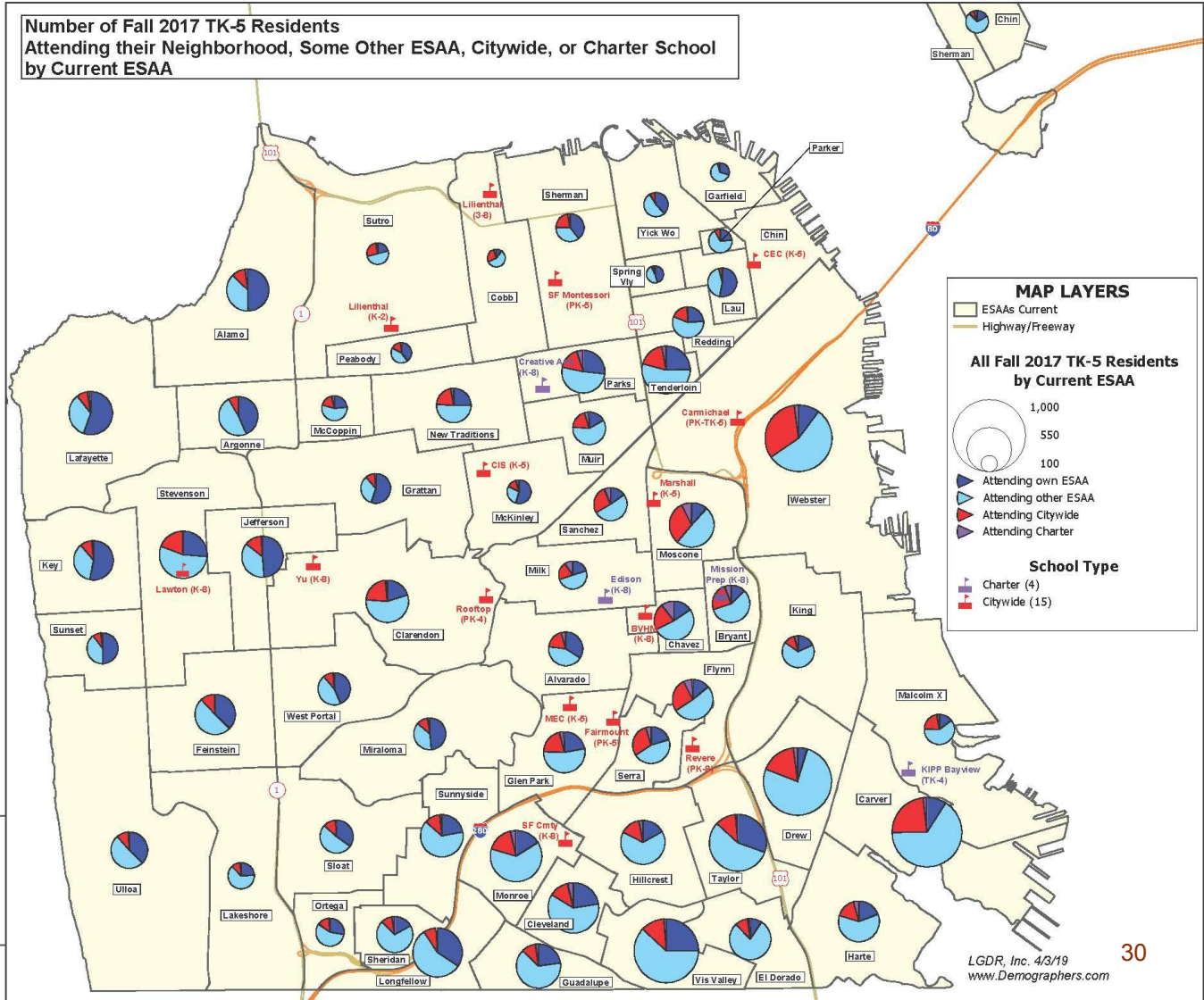
*where SFUSD students currently live*
*where new housing is expected*

# Where SFUSD students live & type of school attended

1. More students live in the SE portion of the city than the NW.
2. Many students choose to attend schools outside their ESAA.
3. Citywide enrollment is concentrated near Citywide schools (shown in red).

**Size of pie:** Number of students

**Pie slice color:** Type of school attended



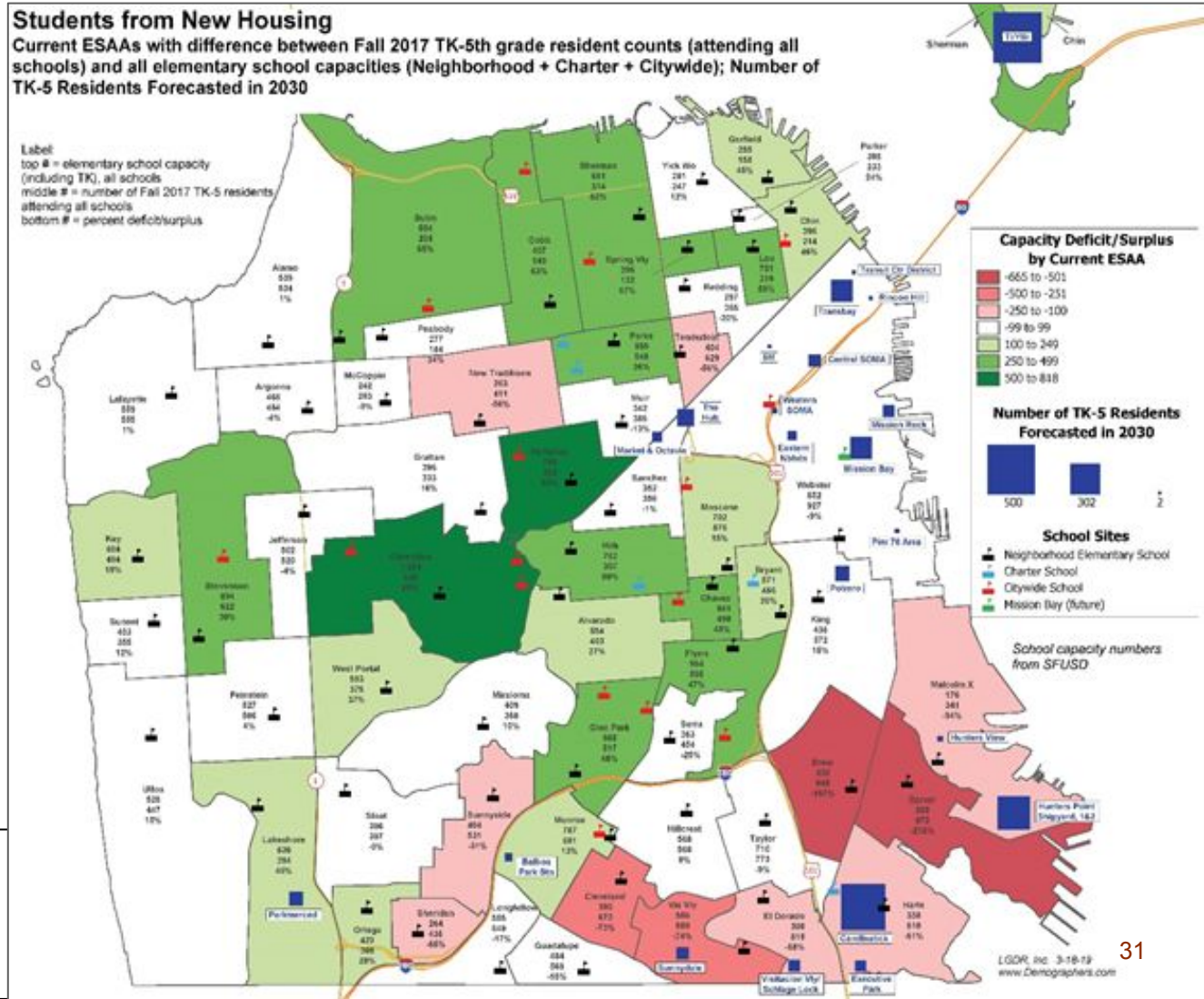
# Where new housing & students are expected

1. Mismatch between where facilities are located and students live, but ***capacity assumptions affect findings.***

2. New housing would worsen the mismatch unless capacity is added.

3. Many citywide schools are in areas with capacity surplus. Changing citywide schools to attendance-area schools will not address capacity shortages.

**Green shading**: current capacity **surplus**
**Pink shading**: current capacity **deficit**
**Blue squares**: number of new students expected by 2030 from future housing



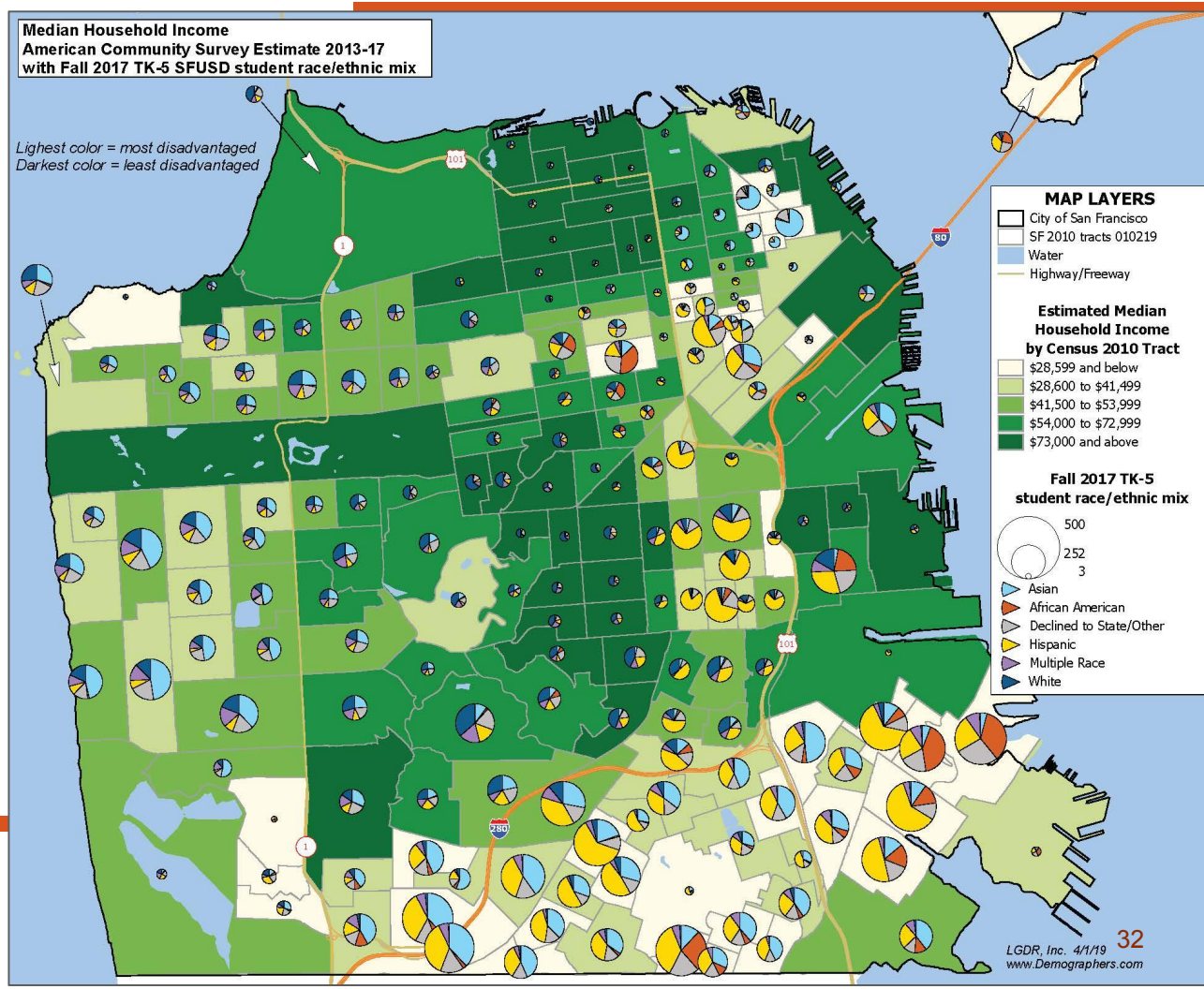
# Residential patterns: Student Race/Ethnicity and Socioeconomic Characteristics of Census Tracts

1. Students are concentrated in lower-income areas.

2. Income is generally correlated with student race/ethnicity. However, Asian students live in both high- and low-income areas.

3. It is difficult to draw diverse ESAAs and contiguous zones because of residential patterns.

*Census Bureau estimate of income levels for 2013-17*



# Exploration:  Redrawing Elementary School Attendance Areas (ESAAs)

# Our Task

- Redraw attendance boundaries to improve capacity balance and diversity
- When drawing boundaries, consider all students, including citywide and charter
- For now, assume citywide and charter schools will remain and will have no attendance boundaries
- Study capacity mismatch and diversity, both with and without citywide and charter students

We also explored current choice patterns to help us understand what might happen under a neighborhood model. We found that *many* students attend neighborhood and citywide schools outside their neighborhood, which complicates matters.

# What We Did

We explored many ways to draw ESAA boundaries, and report on **three scenarios:**

- **Current ESAAs:** We drew these boundaries in 2008—they are based somewhat on neighborhoods and previous ESAA boundaries.
- **Scenario 1:** Features small adjustments to the current ESAAs to reduce the capacity mismatch and to improve diversity to the extent possible, while still considering ease of access (not crossing freeways, etc.)
- **Scenario 2:** Makes some major boundary adjustments to reduce the capacity mismatch and to improve diversity. Ease of access is sometimes sacrificed (freeways, compactness, and walkability not considered in some areas).

We assumed that planned and potential new schools in Mission Bay, Treasure Island, Candlestick, and Hunters Point will accommodate most students from the new housing and did not create attendance areas for them.

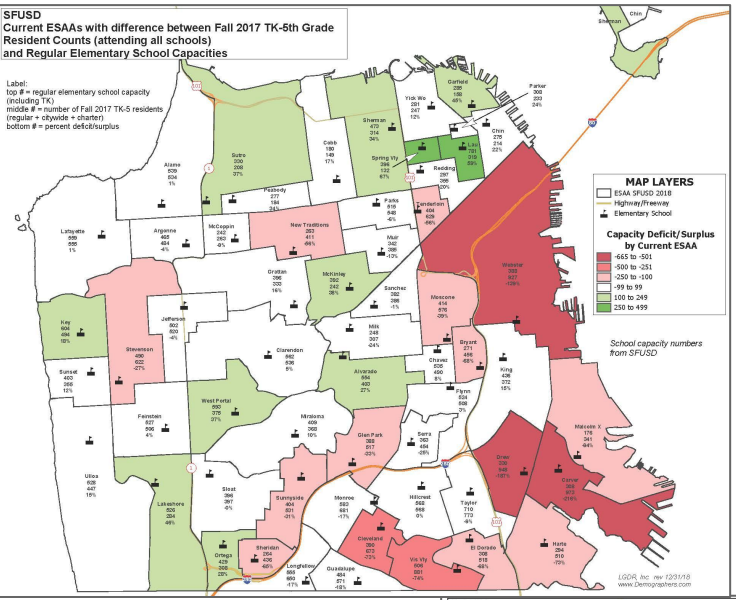
# What We Discovered

- Current facilities usage patterns do *not* guarantee every student a seat in their neighborhood school.
- Theoretically, big improvements would result from switching from the current choice system to any neighborhood model. Redrawing attendance boundaries (alone) improves diversity and capacity imbalance only slightly. However,
  - Actual diversity patterns will differ from predictions because students choose/need to (a) enroll in citywide and charter schools and (b) transfer to another neighborhood school if there is room. As a result, our statistics likely overestimate the improvement in diversity under a neighborhood model.
  - A neighborhood model would disproportionately reduce choices for students in the Southeast.
  - New housing in the South Central and Central zones will worsen current capacity shortages there.

# Capacity Surplus/Deficit in Current, Scenario 1, & Scenario 2 ESAAs

Not all students could be guaranteed a seat in their neighborhood school, even when we drew odd-shaped attendance boundaries to reduce the mismatch (Scenario 2).

## Current ESAAs

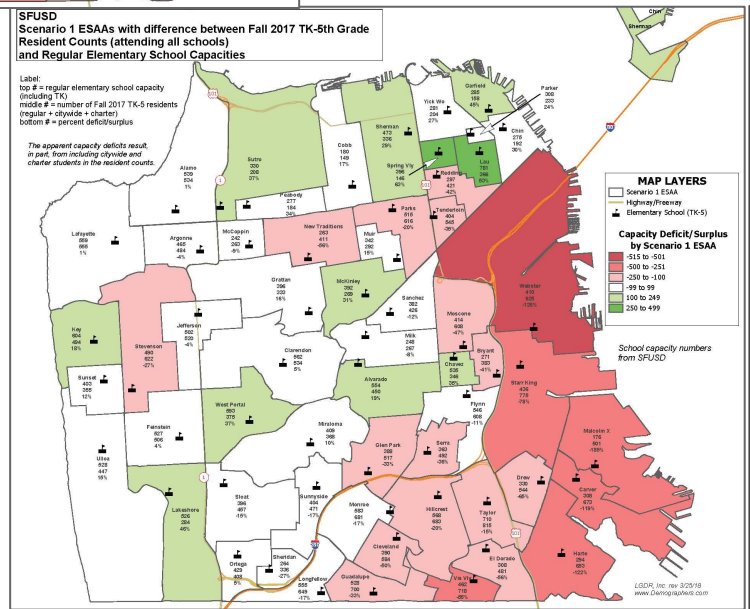



**Red = more residents than capacity (deficit)**

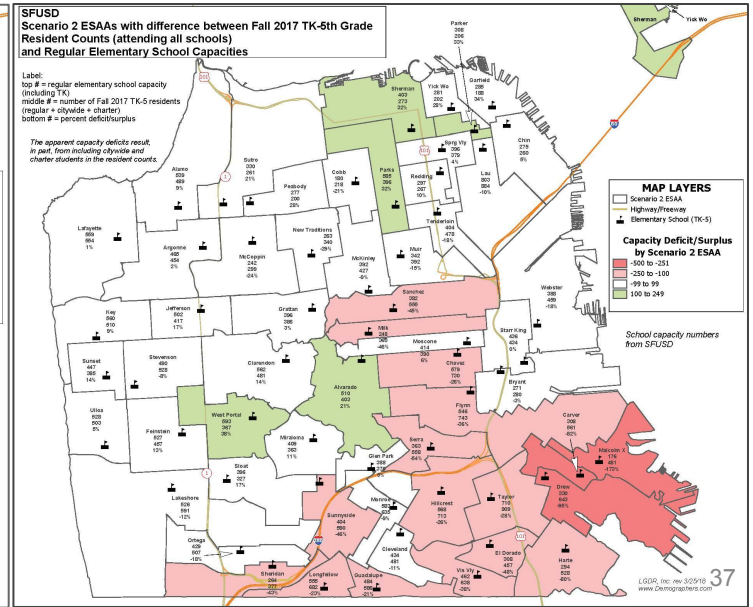
**Green = more capacity than residents (surplus)**

**All 2017 K-5 residents, but no citywide and charter facilities**

## Scenario 1 ESAAs



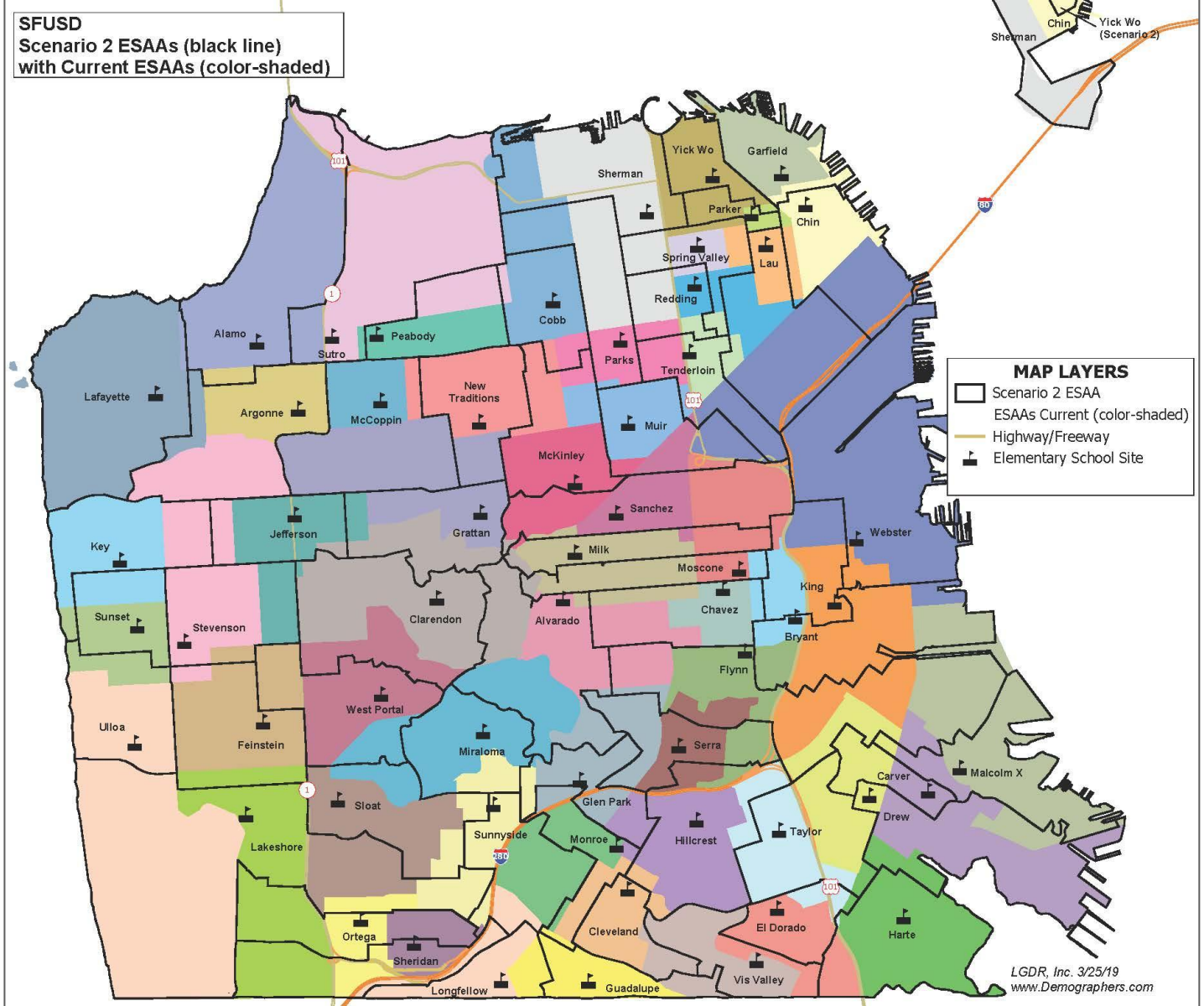

## Scenario 2 ESAAs



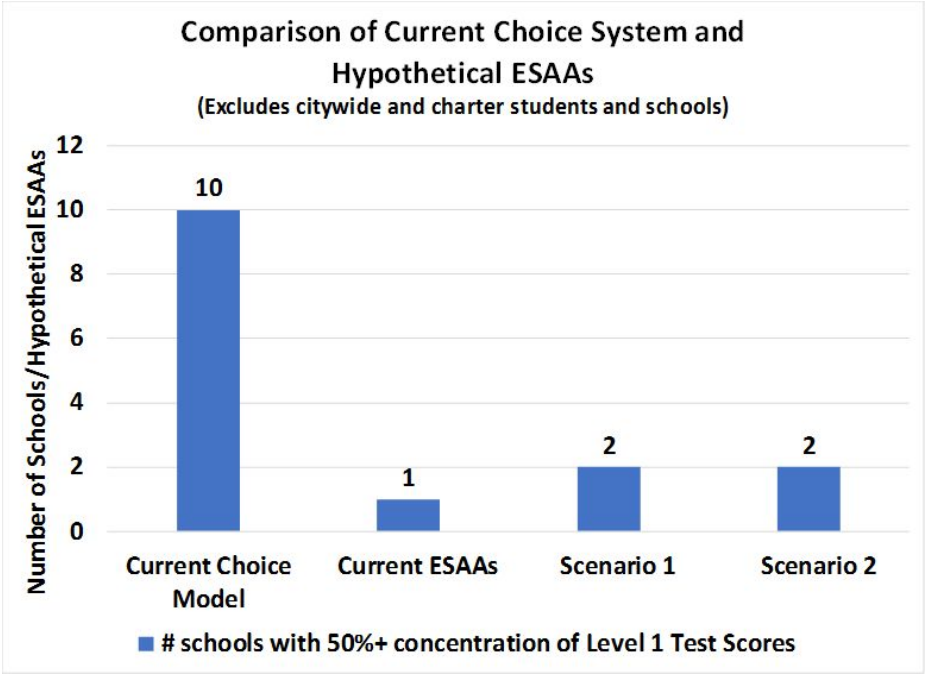
# Scenario 2 ESAAs

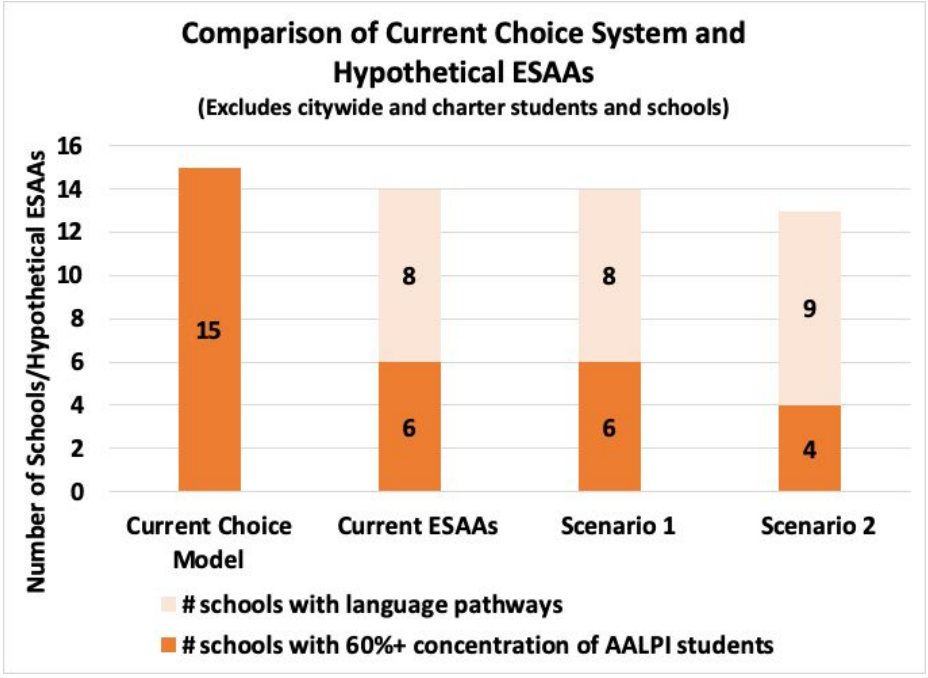
**Color shading indicates the current ESAAs; Lines indicate Scenario 2 ESAAs**

**Better capacity and diversity balance; ease of access limited in some areas**



# Hypothetical Neighborhood Model more "diverse" than Current Choice System




## Models Compared

- **Test scores**
- **Race/ ethnic mix of ESAA residents** (note that about one-quarter of SFUSD students respond Decline to State or Multiple Race)

# Neighborhood models affect residents differently by region & by race/ethnicity

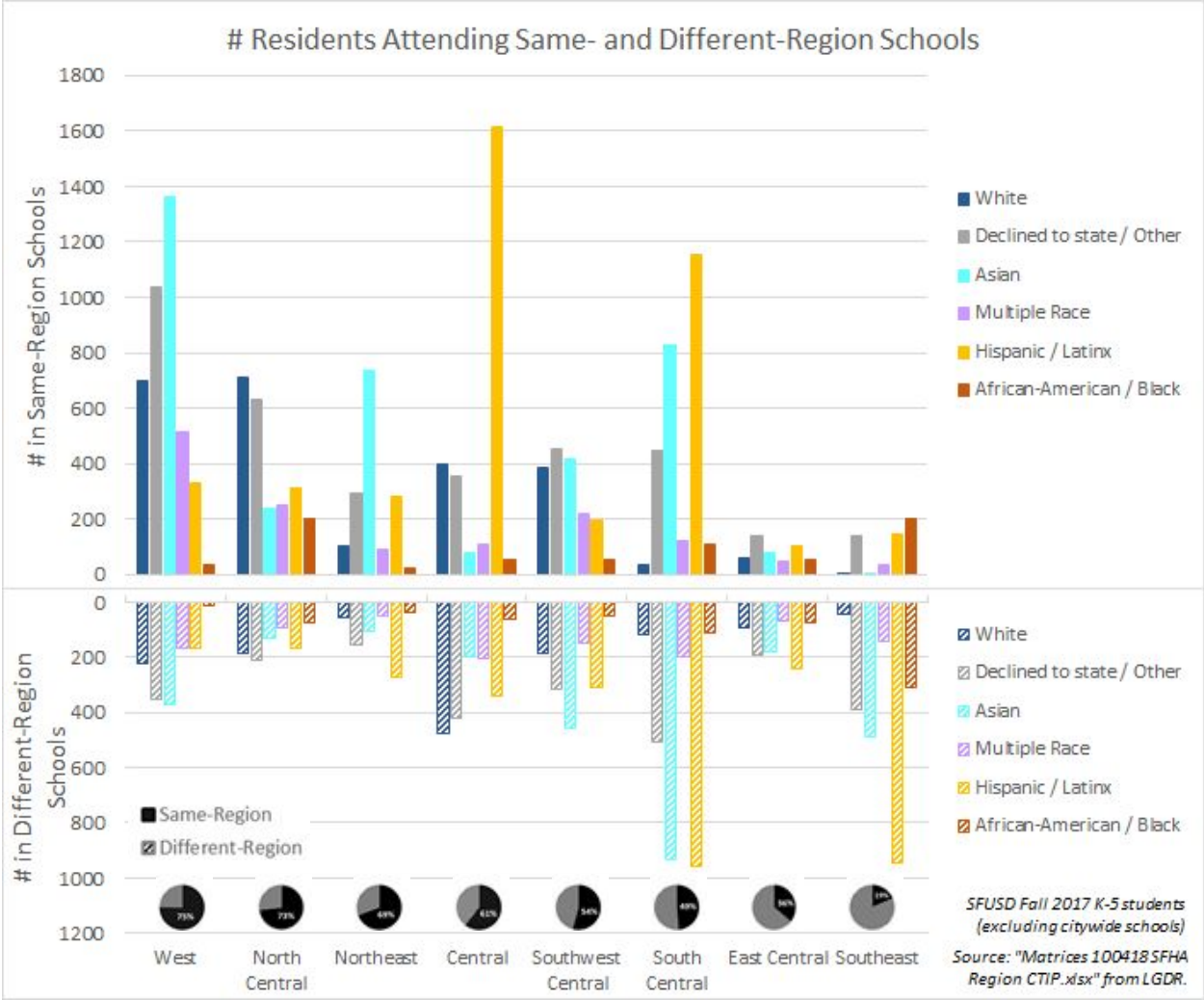


- The Southeast has the smallest share of residents attending a school in their region.

| Region | % who stay |
|---|---|
| West | 75% |
| North Central | 73% |
| Northeast | 69% |
| Central | 61% |
| Southwest Central | 54% |
| South Central | 49% |
| East Central | 36% |
| Southeast | 19% |

| Race / Ethnicity | % who stay |
|---|---|
| White | 63% |
| Declined to state / Other | 58% |
| Asian | 57% |
| Multiple Race | 56% |
| Hispanic | 55% |
| Black | 49% |

- These #s underestimate the impact of removing choice, since they do not capture within-region transfers.



# Implications for Capacity



- Modeling a neighborhood system reveals capacity mismatches that are obscured by the current choice model.
- We assume facilities will be added in some area with large housing developments (Treasure Island, Candlestick, Hunters Point). But new South Central housing will increase capacity deficits without an obvious facilities solution.
- Future schools in the Southeast as part of the development plans will be needed to accommodate students from future housing, so those schools are not expected to resolve the current capacity mismatch in the southeast.

# Implications for Diversity



- In theory, ***any*** neighborhood model would reduce racial isolation and the concentration of underserved students.
- Significant redrawing of some attendance boundaries could reduce racial isolation and the concentration of underserved students, as well as reduce the capacity mismatch. However, in some areas access to schools is reduced.
- In practice, some students will still enroll outside their neighborhood, and it is impossible to know and difficult to estimate the effect that future choice will have on the schools' diversity mix.
- It is difficult to draw ESAAs (or zones) that are diverse because of residential patterns.

# Implications for Equity of Choice



- Our work on neighborhood models is necessarily hypothetical because many students will still exercise choice (citywide and charter schools plus intra-district transfers), so accurate prediction of the future student mix under a neighborhood model is impossible.

- Limiting choice will have different impacts by region and race/ethnicity—families in the Southeast are likely to have the greatest reduction in choice because a large share currently choose schools away from their region.

# Information Needed to Improve Validity of Scenarios



- Assumptions about citywide schools?
  - Will the programs continue?  In their current locations?
  - Will future citywide students resemble current ones?

- How to prioritize the various criteria we use to draw attendance boundaries? Trade-offs (could vary by location):
  - What share of students will be guaranteed a seat at their neighborhood school?  What to assume about percentage of SFUSD students who will attend a citywide school?
  - Diversity of students assigned to the school (race/ethnicity, test scores?)
  - Ease of access to schools
  - Possible public reactions to the shape of ESAA boundaries

# Appendix

- Maps that show capacity mismatch excluding citywide and charter students and schools
- Additional maps showing socioeconomic variations within the District
- Additional data and map of regions
- Larger versions of slide 37 maps

# Appendix

# Appendix

## Maps that show capacity mismatch excluding citywide and charter students and schools

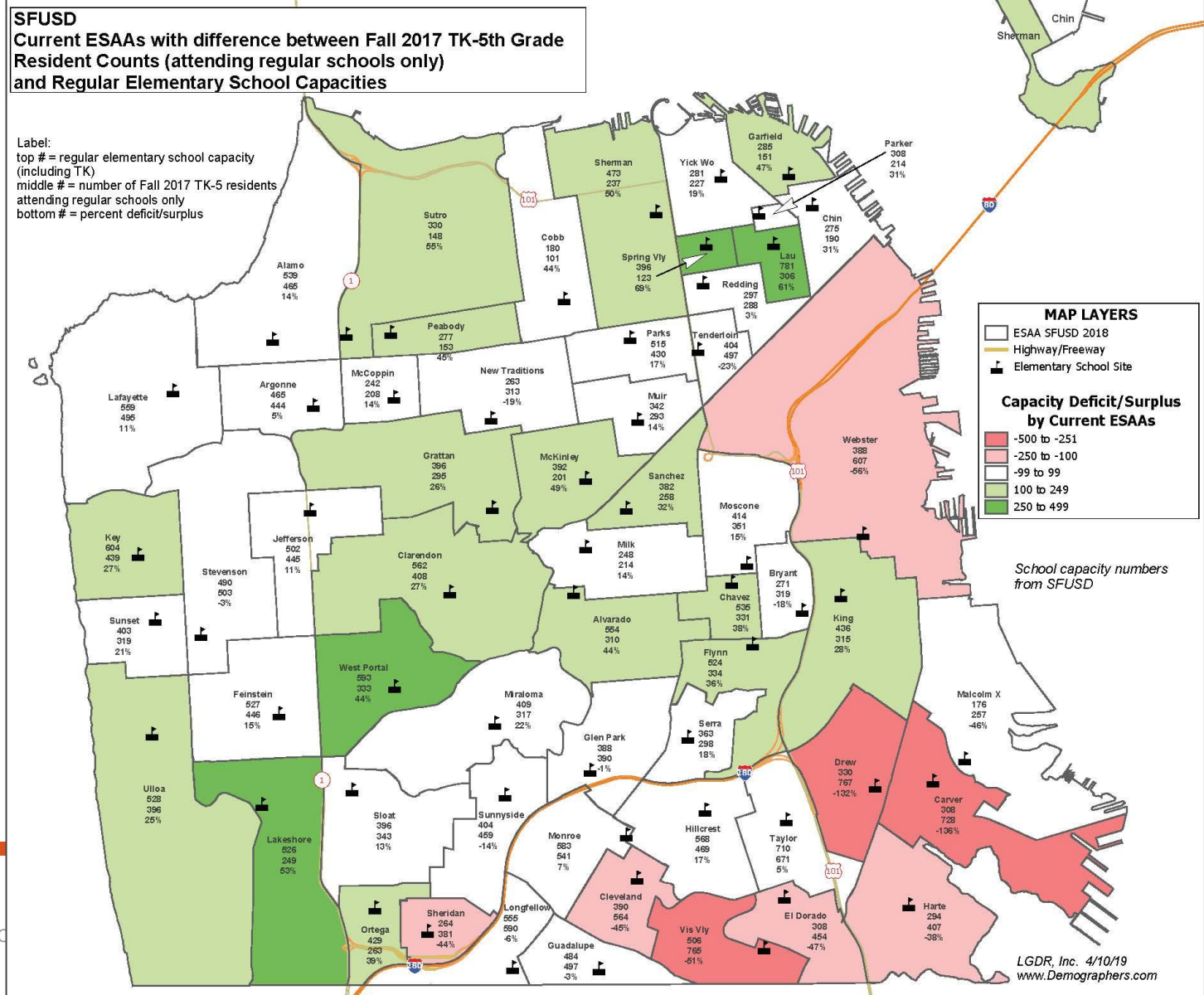
### SFUSD K-5 students in neighborhood schools compared to capacity in neighborhood schools

# Current ESAAs

**With capacity surplus/deficit**

**Regular students, neighborhood (regular) school capacities**

***Shows capacity mismatch if current citywide and charter students continue in their schools***

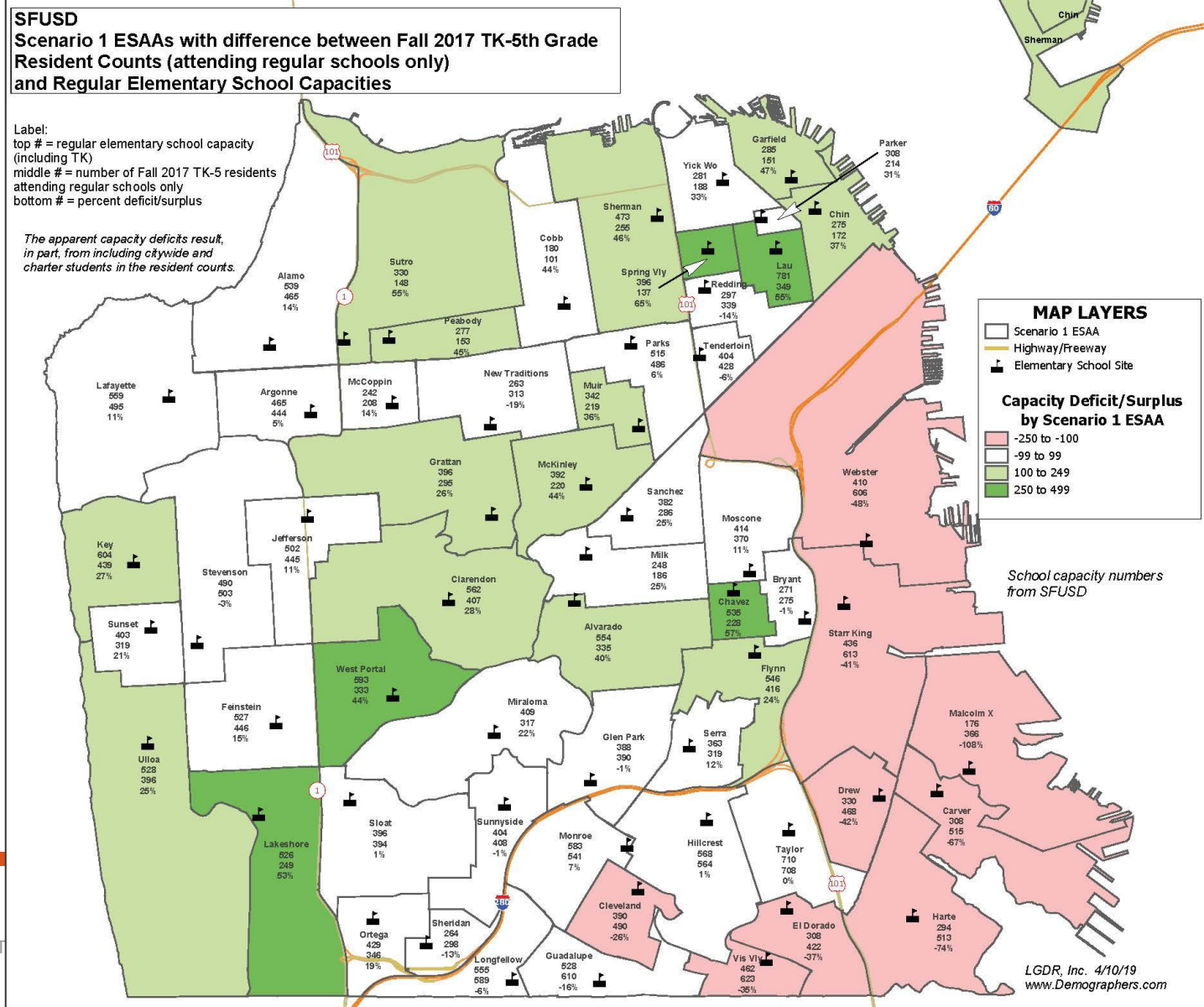


# Scenario 1 ESAAs

## With capacity surplus/deficit

## Regular students, neighborhood (regular) school capacities

***Shows capacity mismatch if current citywide and charter students continue in their schools***

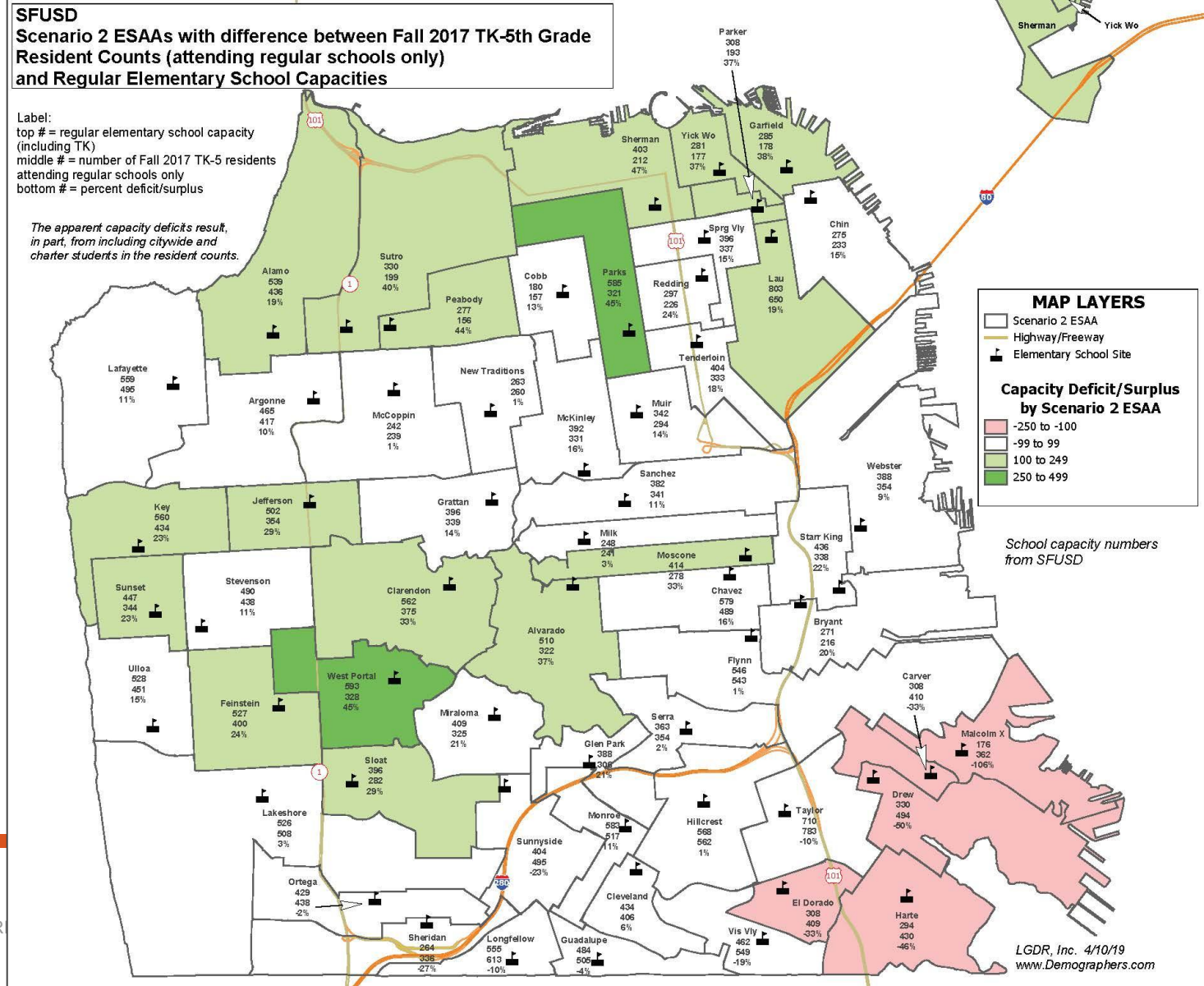


# Scenario 2 ESAAs

**With capacity surplus/deficit**

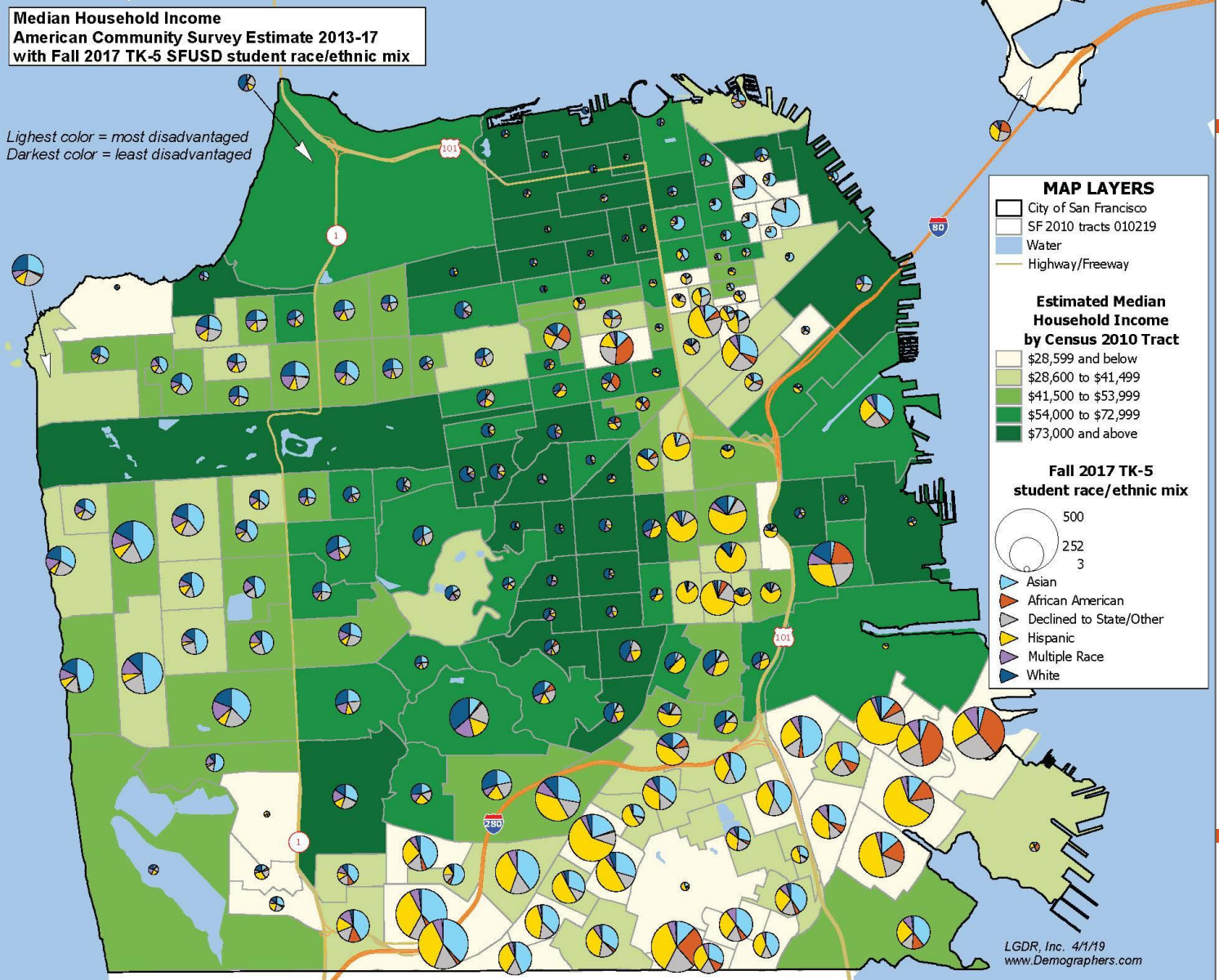
**Regular students, neighborhood (regular) school capacities**

***Shows capacity mismatch if current citywide and charter students continue in their schools***



# Appendix

## Additional maps showing socioeconomic variations within the District



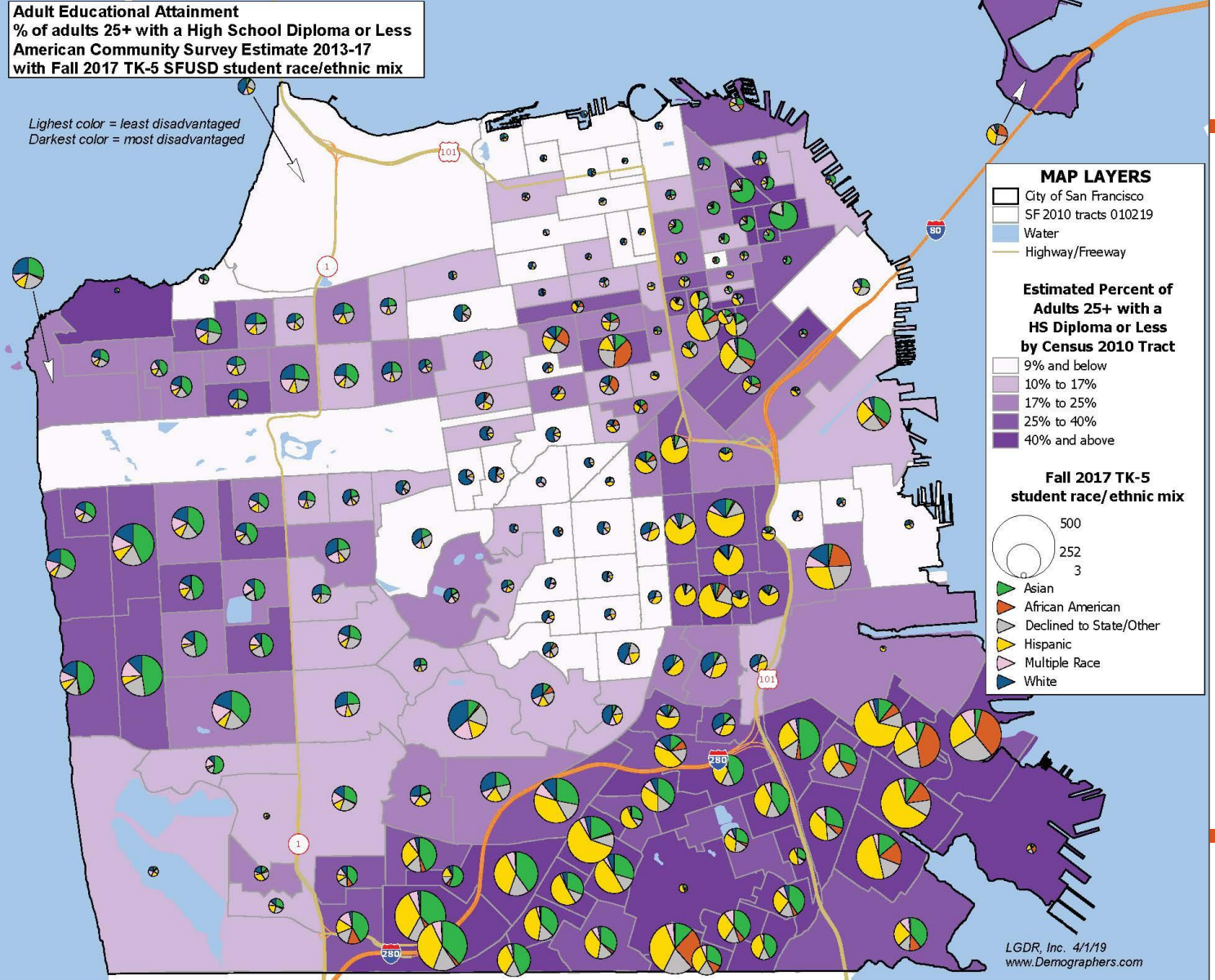

# Socioeconomic measure:

## Estimated median household income

## Pies show SFUSD 2017 TK-5 resident race/ethnic mix

## Census tracts ACS 2013-2017

SFUSD



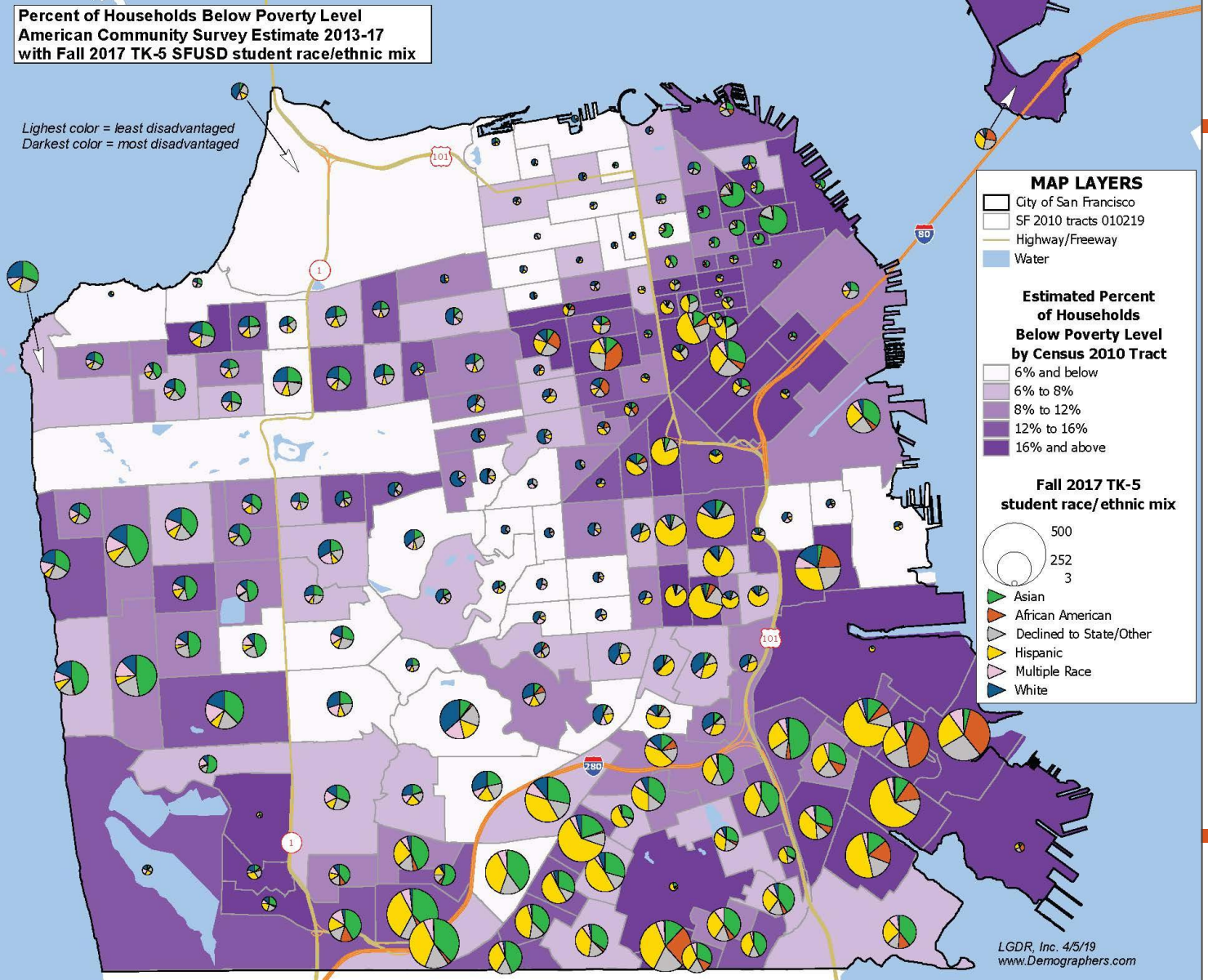

# Socioeconomic measure:

**Estimated share of adults with a high school diploma or less**

**Pies show SFUSD 2017 TK-5 resident race/ethnic mix**

**Census tracts ACS 2013-17**

SFUSD




# Socioeconomic measure:

## Estimated share of households below the poverty level

## Pies show SFUSD 2017 TK-5 resident race/ethnic mix

## Census tracts ACS 2013-17

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# Appendix

# Additional Data Table & Map of Regions

# Racially isolated schools using the 60% Definition



**% Hispanic in 2017-18 in Schools and Hypothetical ESAAs**

| | 2017-18 Actuals | Current ESAA, all | Current ESAA, excluding citywide and charter students | Scenario 1, all | Scenario 1, excluding citywide and charter students | Scenario 2, all | Scenario 2, excluding citywide and charter students |
|---|---|---|---|---|---|---|---|
| Chavez | 86% | 72% | 71% | 73% | 73% | 65% | 61% |
| Bryant | 84% | 70% | 71% | 70% | 71% | 41% | 36% |
| Sanchez | 81% | 53% | 50% | 50% | 47% | 58% | 51% |
| Cleveland | 80% | 51% | 50% | 49% | 48% | 42% | 42% |
| Serra | 73% | 43% | 46% | 38% | 40% | 41% | 39% |
| Flynn | 64% | 38% | 31% | 48% | 43% | 37% | 33% |
| Guadalupe | 58% | 38% | 36% | 42% | 40% | 41% | 40% |
| Moscone | 55% | 68% | 62% | 70% | 64% | 57% | 57% |

**% Asian in 2017-18 in Schools and Hypothetical ESAAs**

| | 2017-18 Actuals | Current ESAA, all | Current ESAA, excluding citywide and charter students | Scenario 1, all | Scenario 1, excluding citywide and charter students | Scenario 2, all | Scenario 2, excluding citywide and charter students |
|---|---|---|---|---|---|---|---|
| Chin | 86% | 37% | 39% | 40% | 43% | 61% | 63% |
| Lau | 85% | 70% | 70% | 67% | 67% | 26% | 32% |
| Stevenson | 78% | 42% | 41% | 42% | 41% | 44% | 43% |
| Ulloa | 77% | 43% | 43% | 43% | 43% | 46% | 45% |
| Parker | 73% | 73% | 76% | 73% | 76% | 61% | 64% |
| Sutro | 69% | 13% | 14% | 13% | 14% | 15% | 15% |
| Spring Valley | 39% | 57% | 59% | 59% | 61% | 37% | 39% |



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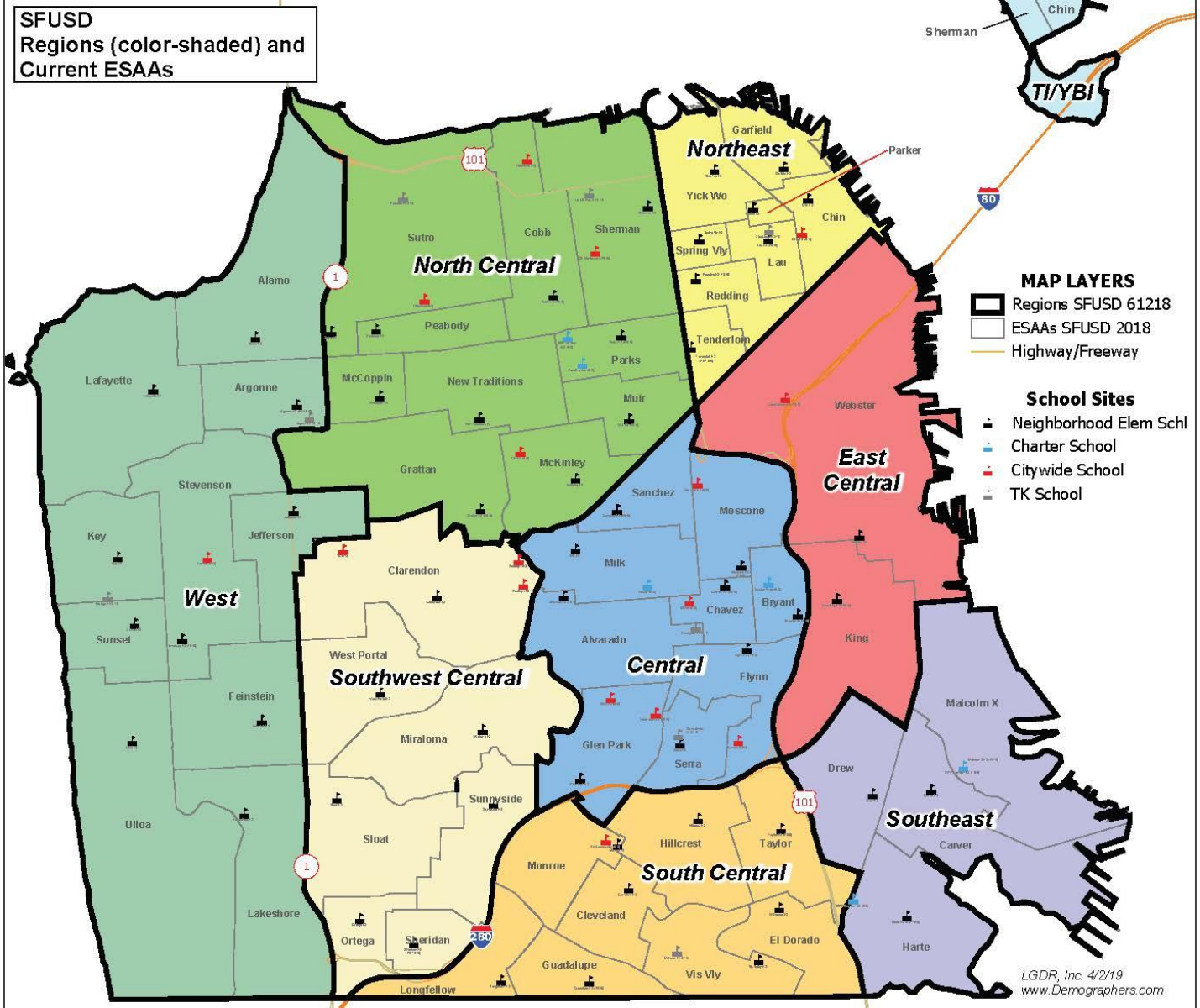
# Regions used for some analyses

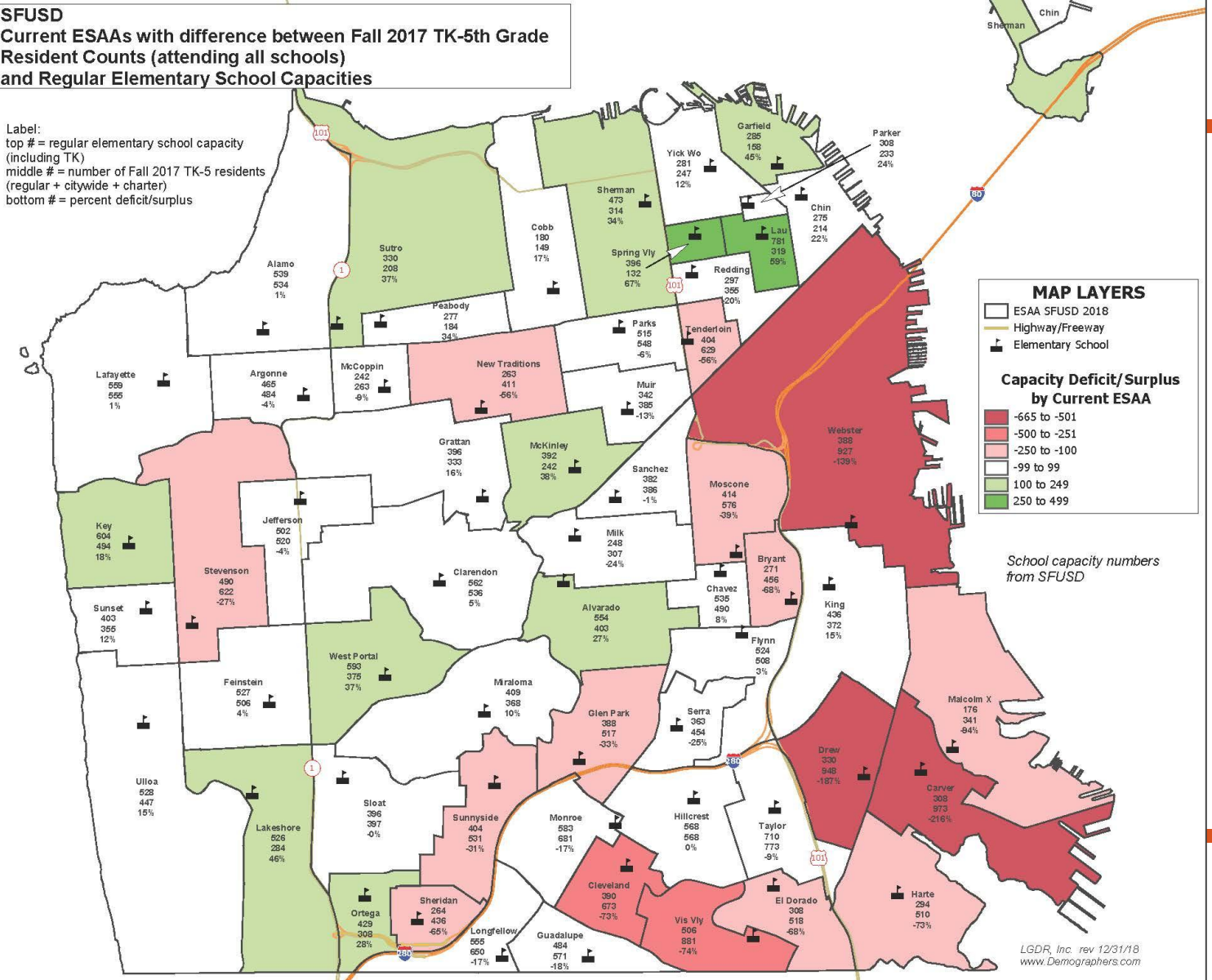
**(in addition to ESAAs and Census Tracts)**

**ESAA = Elementary School Attendance Area**



# Larger versions of slide 37 maps

## (Capacity Surplus/Deficit in Current ESAAs, Scenarios 1 & 2)



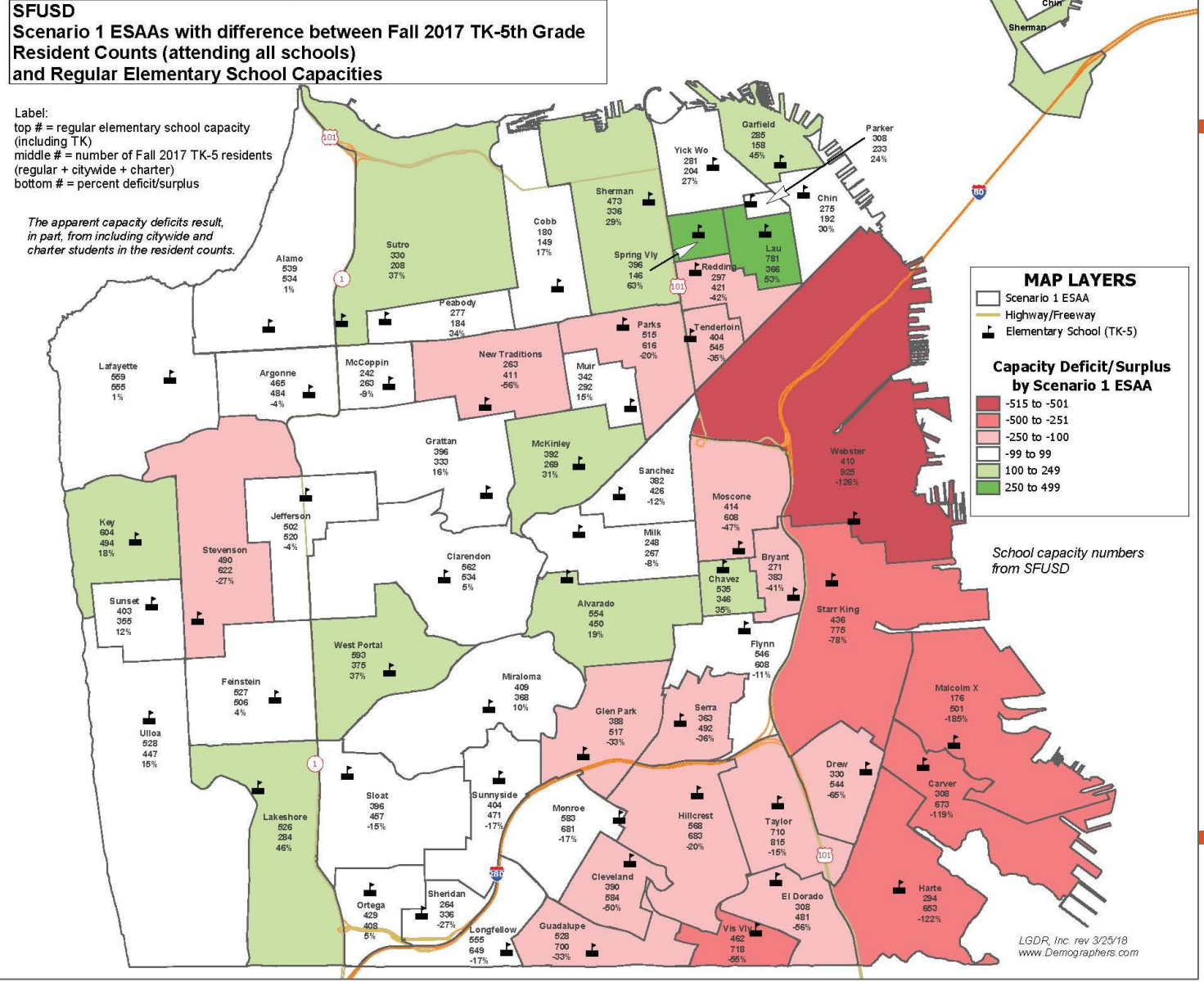

## Current ESAAs

## With capacity surplus/deficit

## All students, neighborhood school capacities

SFUSD

**SFUSD**
**Scenario 1 ESAAs with difference between Fall 2017 TK-5th Grade Resident Counts (attending all schools) and Regular Elementary School Capacities**

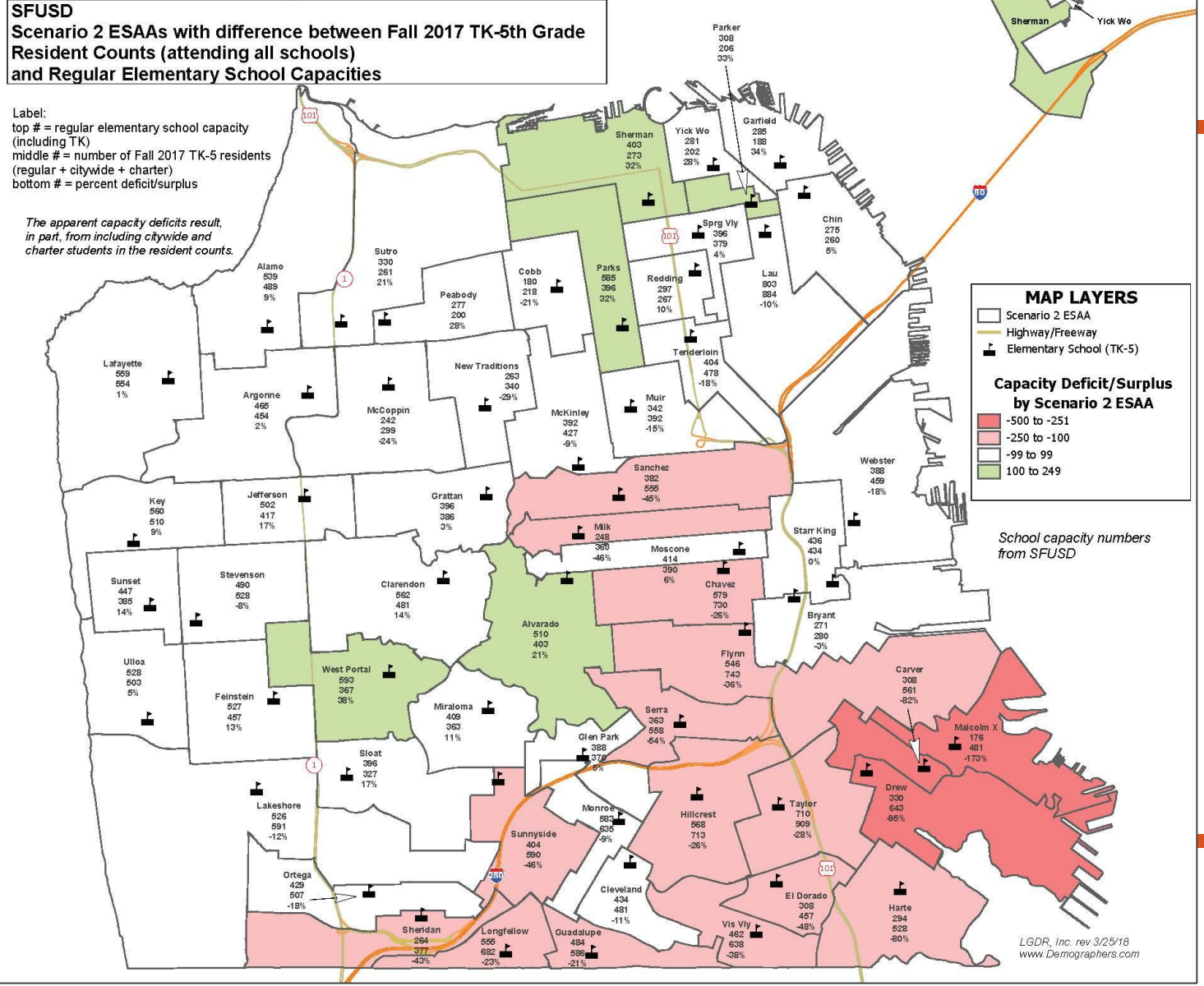



## Scenario 1 ESAAs

## With capacity surplus/deficit

## All students, neighborhood school capacities

SFUSD




## Scenario 2 ESAAs

## With capacity surplus/deficit

## All students, neighborhood school capacities

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