APPENDIX E

ENROLLMENT STUDY

DATE: MAY 2021

PCC enrollment projections

ECONorthwest

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Background and purpose

- ECONorthwest prepared enrollment projections to inform Portland Community College's Facility Plan
- Enrollment projections can help guide future space needs planning and other College initiatives

Overview

- ECONorthwest produced enrollment projections for PCC from AY 2021 through AY 2030 along four different dimensions:
  - By campus
  - By pathway
  - By race/ethnicity
  - By age
- The projections incorporate trends apparent in the historical data
- Future PCC decisions about program and course offerings and marketing could have a significant effect on actual enrollment patterns in the future

Data and definitions

The enrollment projections rely on student- and course-level data provided by PCC.

Key analytical notes:

- Projections are based on **credit-hour-based FTE**, which differs from the **clock-hour-based FTE** that PCC reports to the state[1]
- Enrollees are assigned to campuses and pathways based on the campus/pathway to which most of their credits are assigned[2]
- Enrollees taking solely community education, vocational supplementary (CEU) courses, and other non-reimbursable courses were excluded from the analysis[3]

Limitations

Data available for our analysis have important limitations:

- Student enrollment data do not identify a student's major or other aspects of their academic plans, limiting our ability to quantify enrollment by pathway

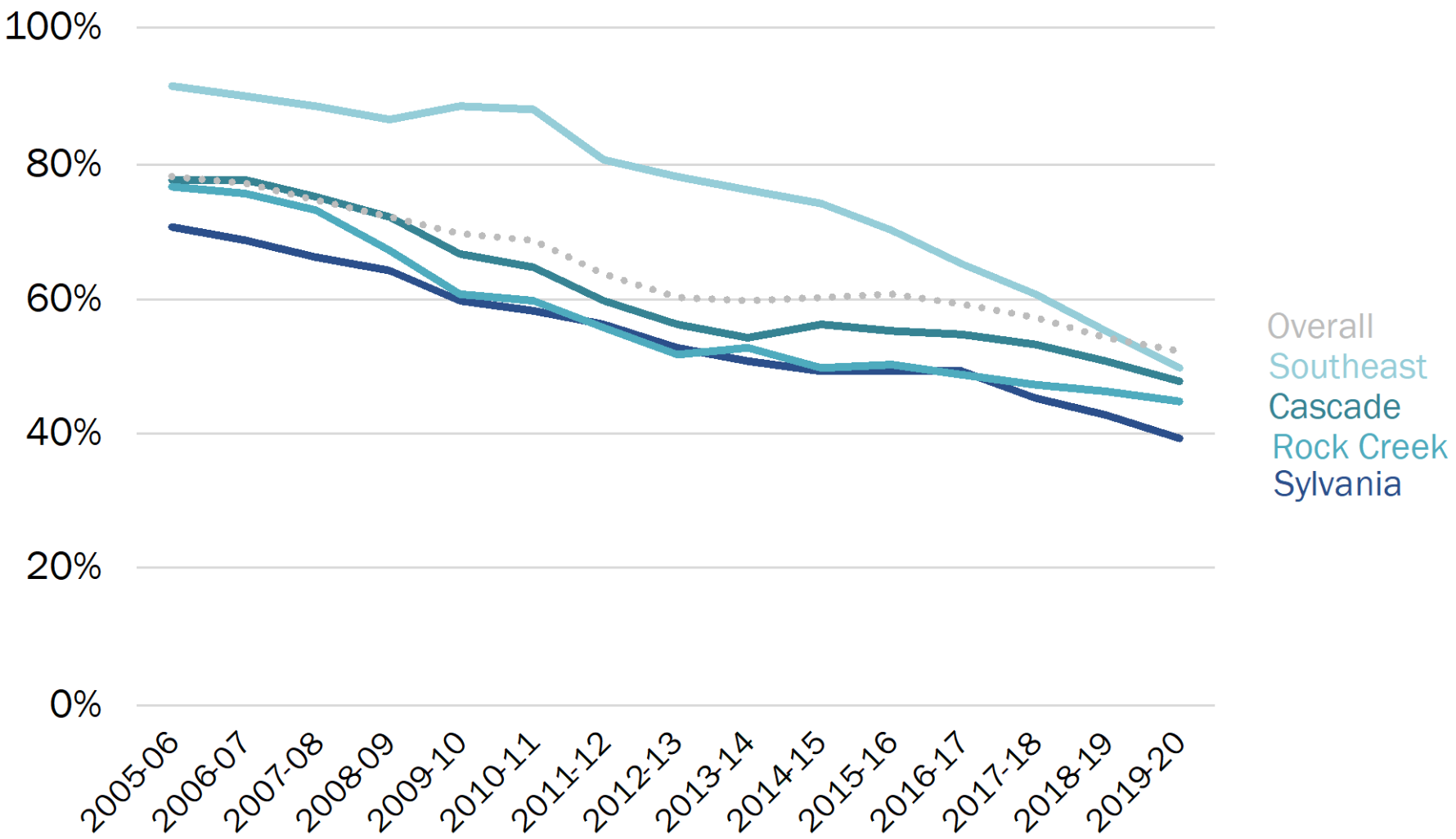
- Deeper analysis with additional data could enhance the projections to meet specific PCC needs or interests

- For example, better characterizing course-taking patterns by pathway (e.g., common science courses associated with certain medical fields)

Trends in online enrollment

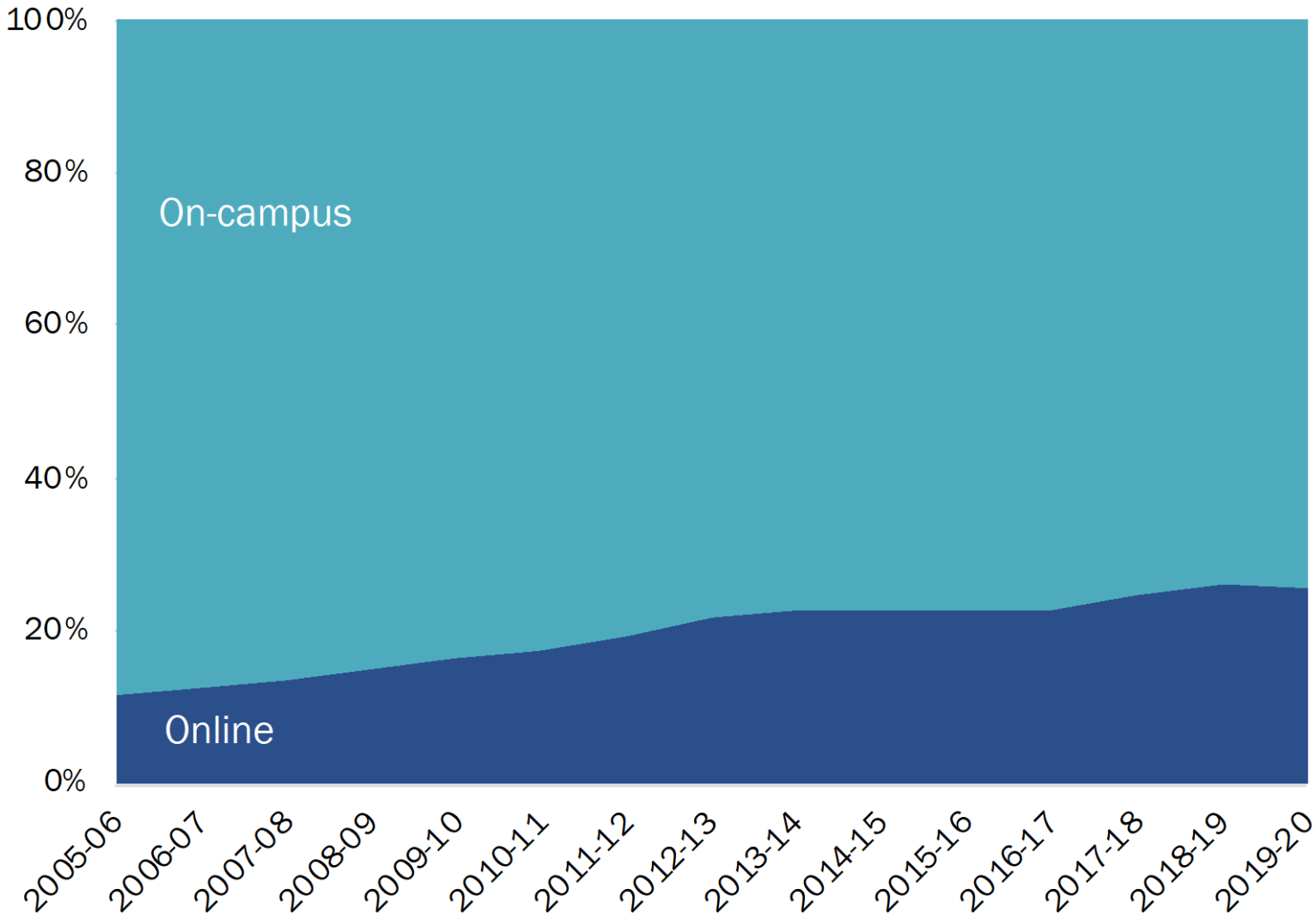
- The extent of online enrollment in the future will influence PCC's space needs
- While ECONorthwest did not produce projections based on modality, the data clearly indicate a long-term shift—not connected with the pandemic—toward online enrollment
- By AY 2019, online FTE accounted for just over one quarter of all FTE

Share of enrollees attending only on-campus



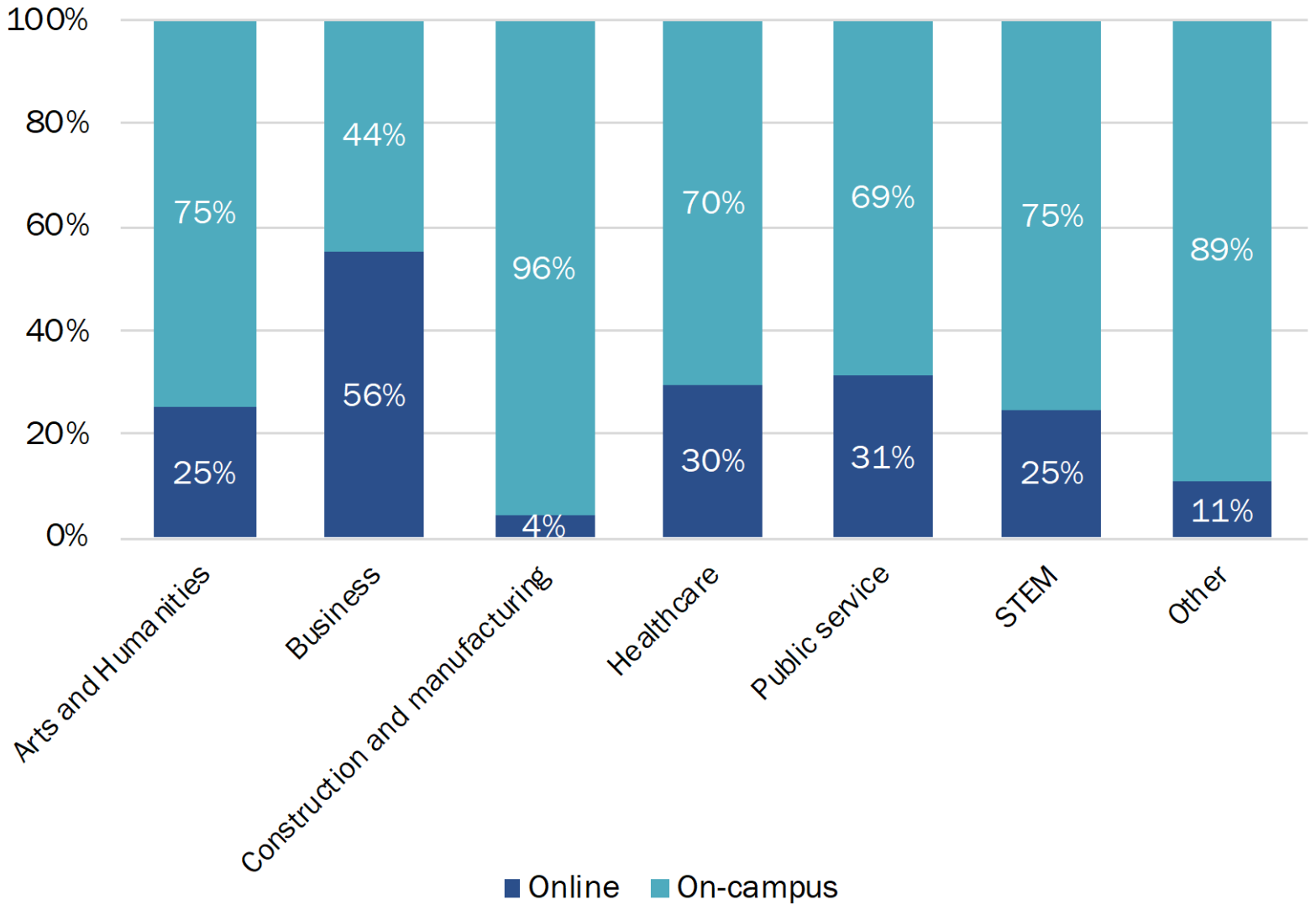
Source: ECONorthwest

FTE by modality



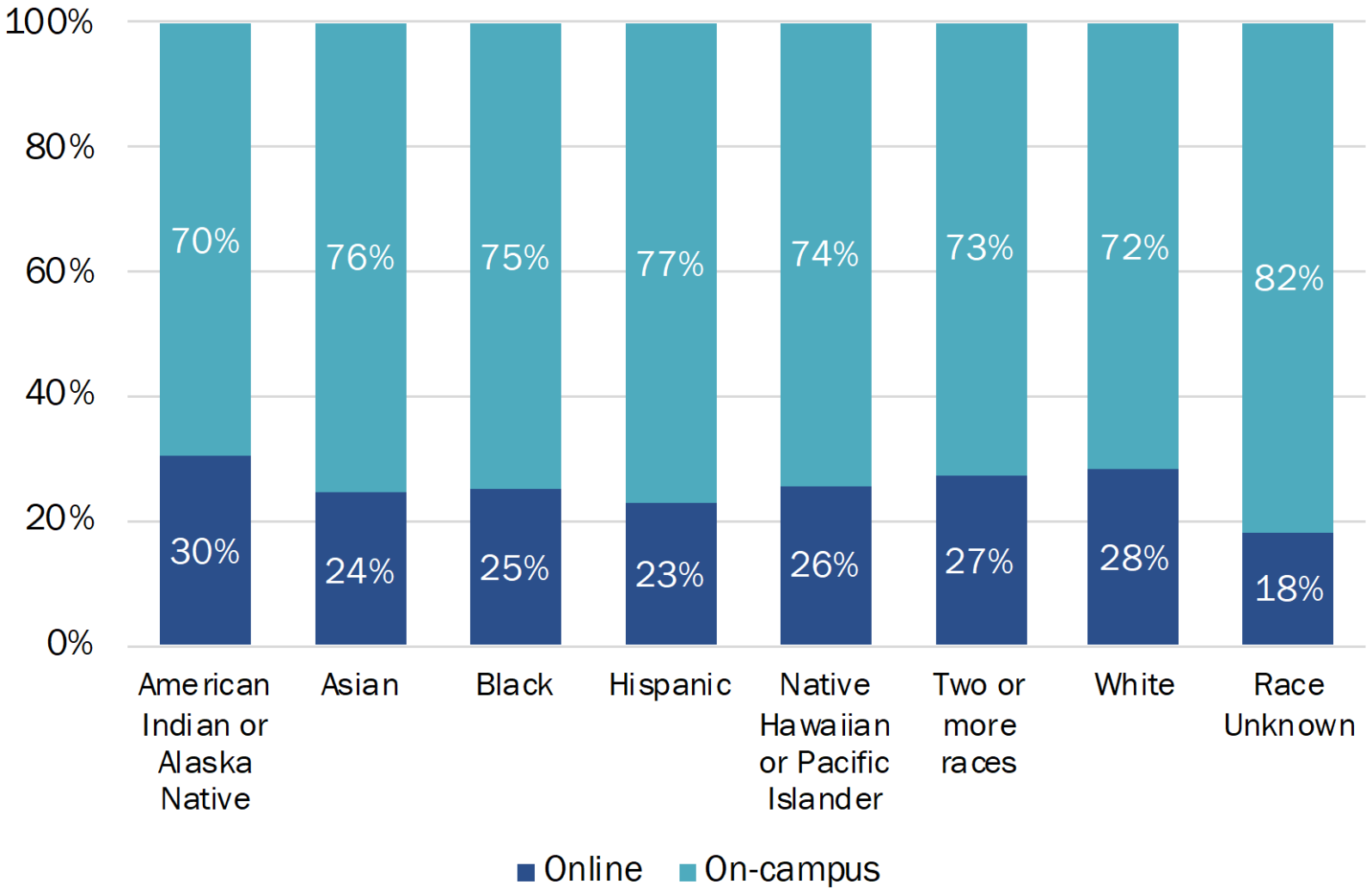
Source: ECONorthwest

FTE by modality and pathway



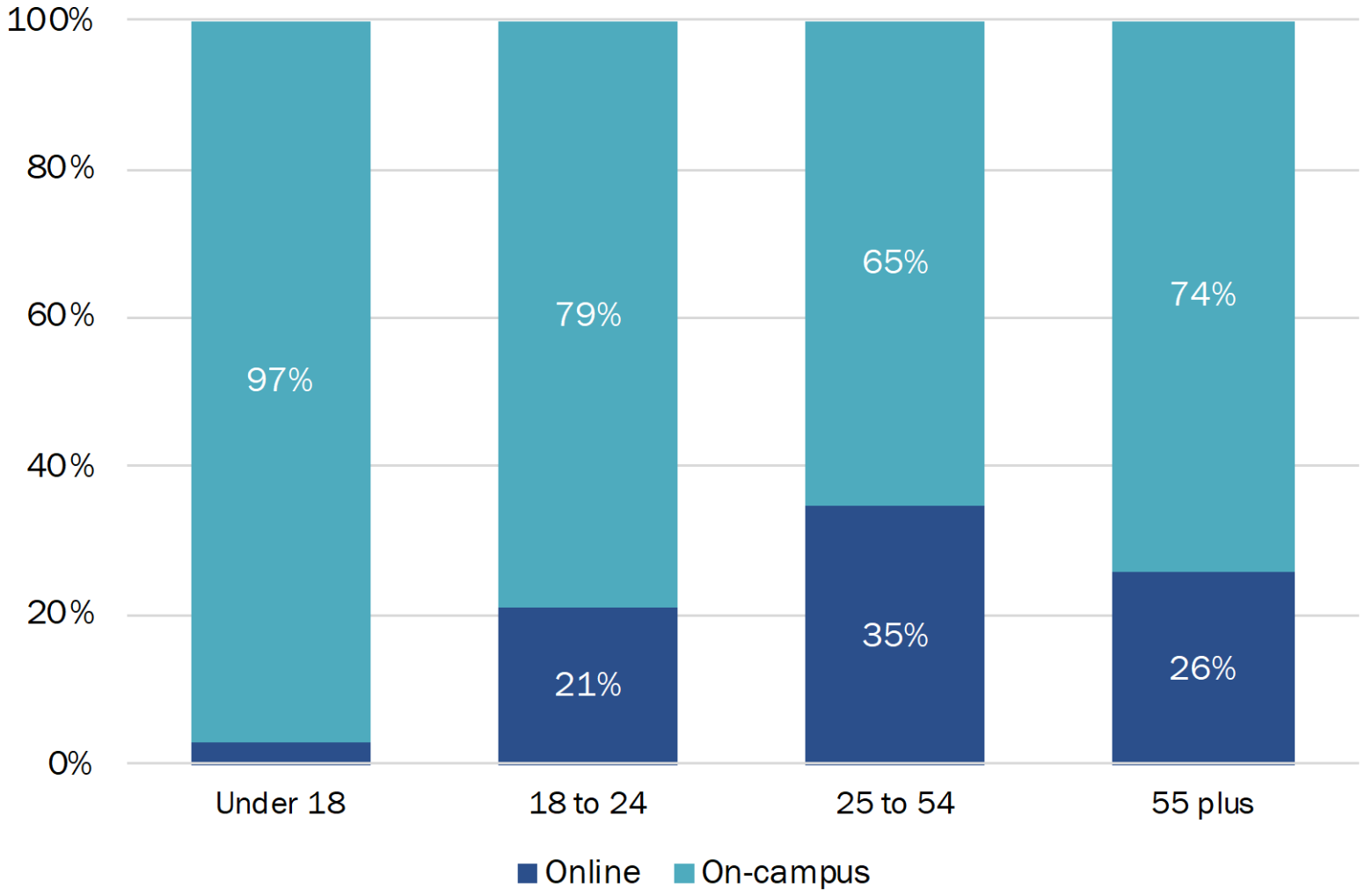
Enrollees in 2018-19 academic year. Source: ECONorthwest

FTE by modality and race/ethnicity



Enrollees in 2018-19 academic year. Source: ECONorthwest

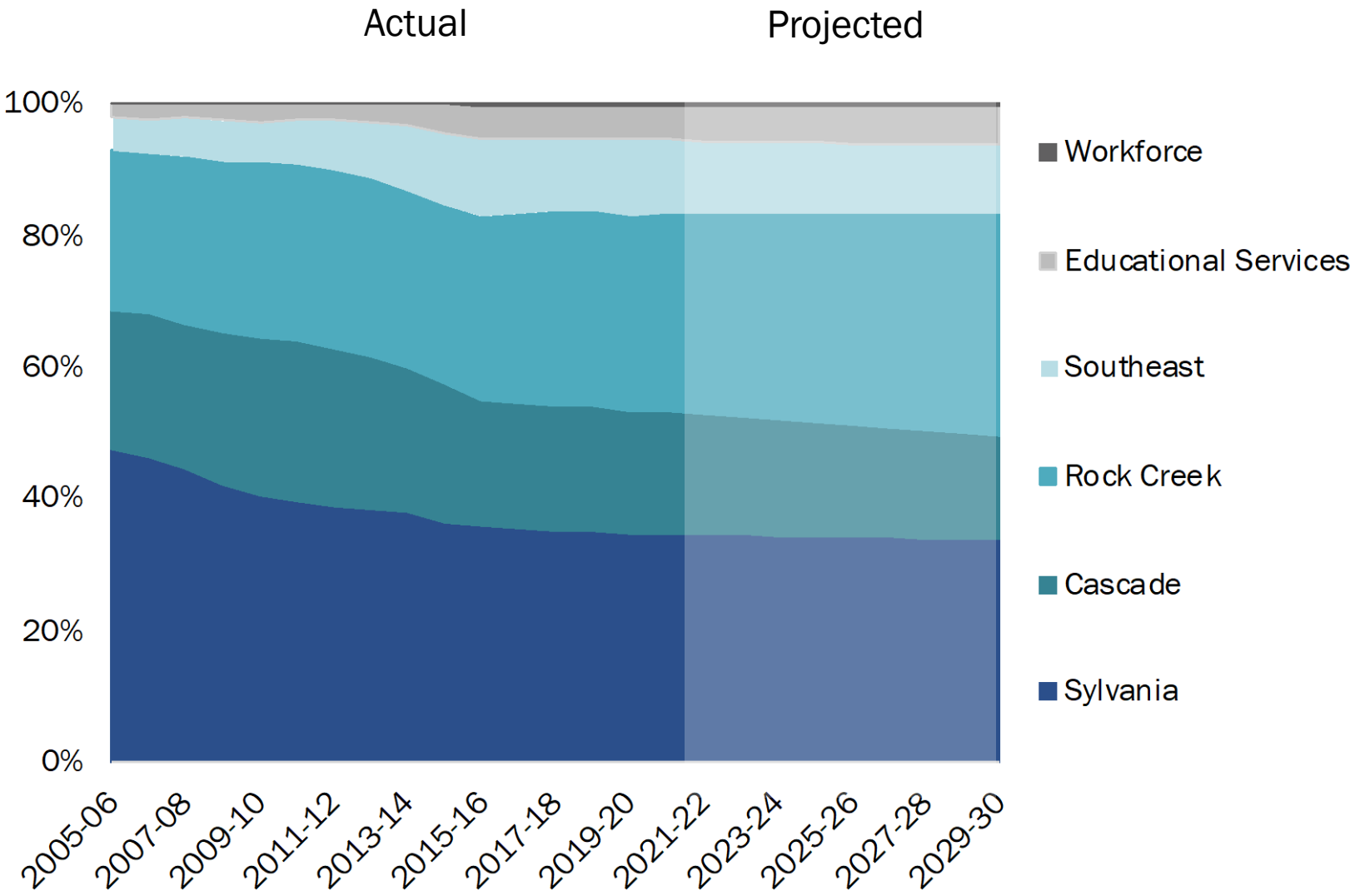
FTE by modality and age



Enrollees in 2018-19 academic year. Source: ECONorthwest

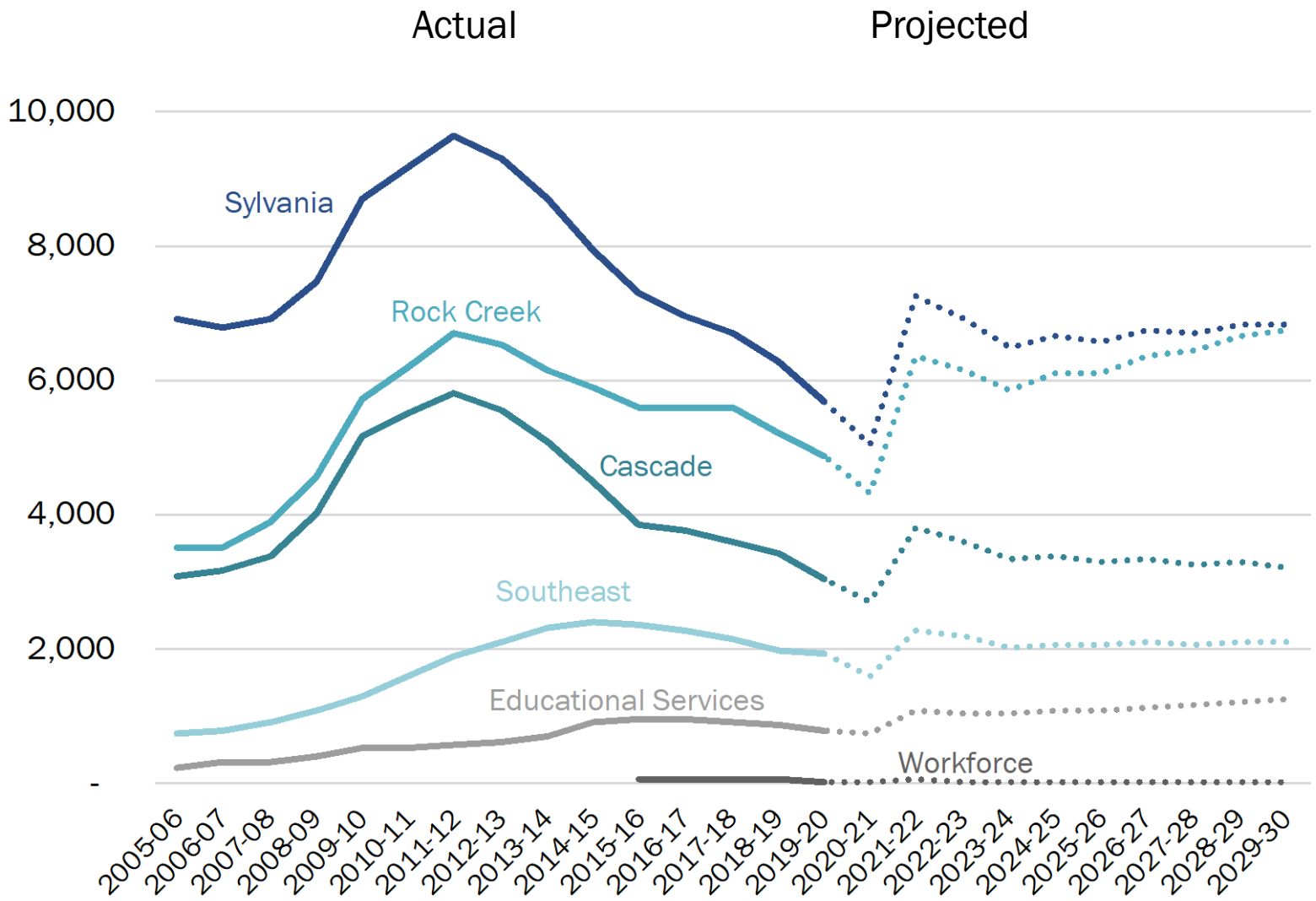
Projections by campus

Projected campus share of total FTE



Source: ECONorthwest

Projected FTE by campus



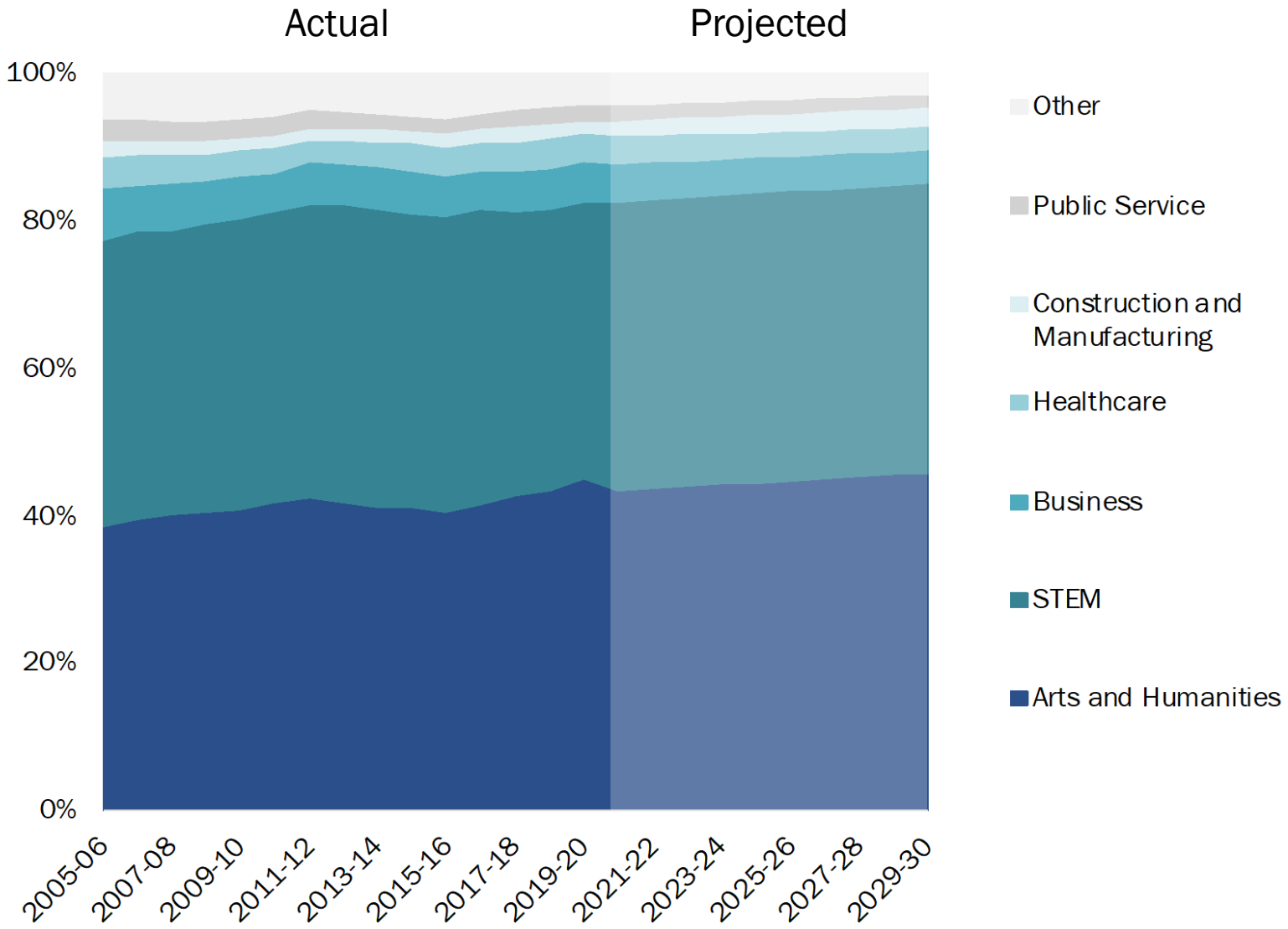
Source: ECONorthwest

Discussion

- The distribution of enrollment across campuses has remained relatively stable over the past few years
- Longer-term trends suggest continued growth in the share of enrollment at Rock Creek, consistent with anticipated population growth
- The projections anticipate the largest offsetting decline in enrollment share for the Cascade campus

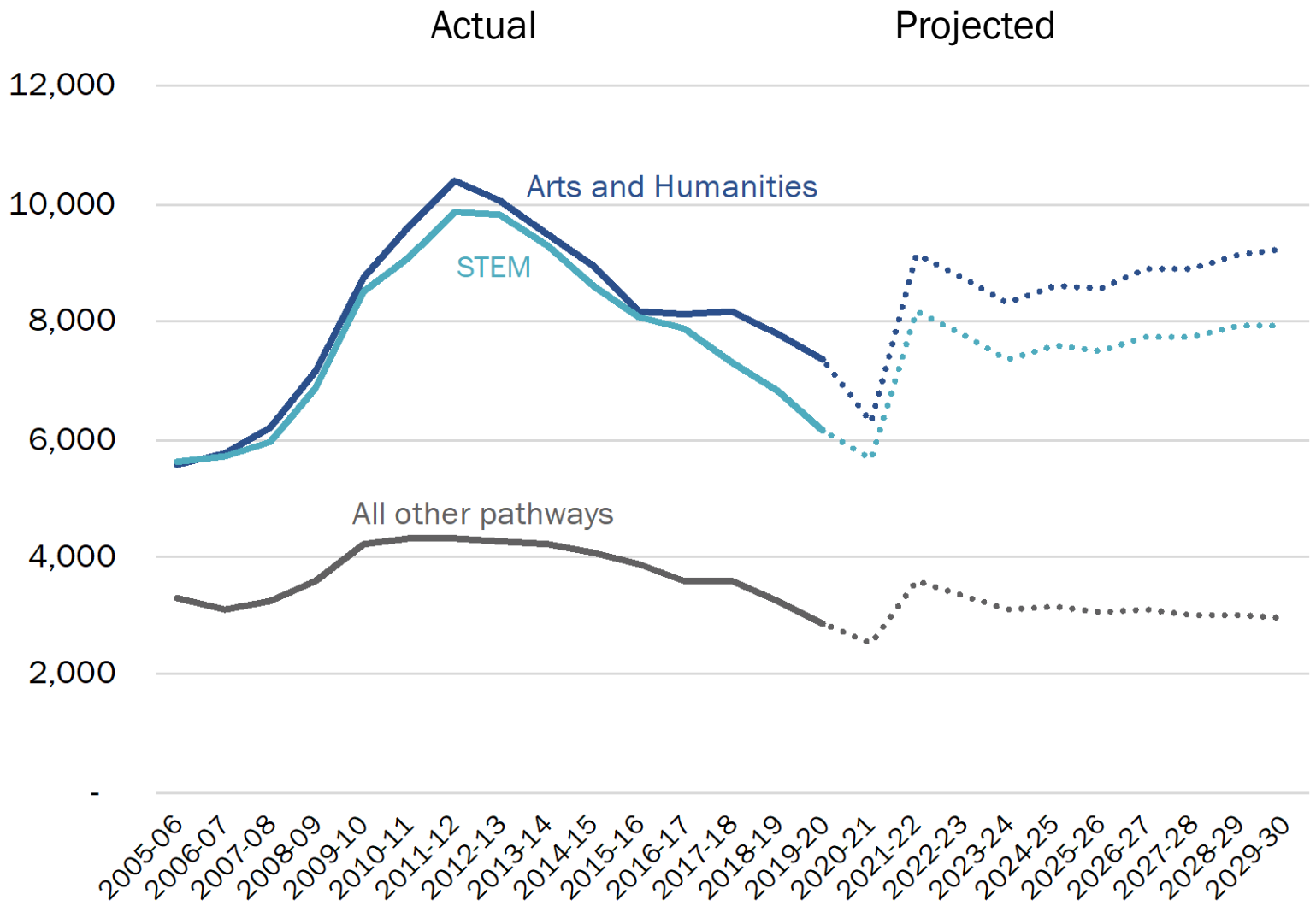
Projections by pathway

Projected pathway share of total FTE



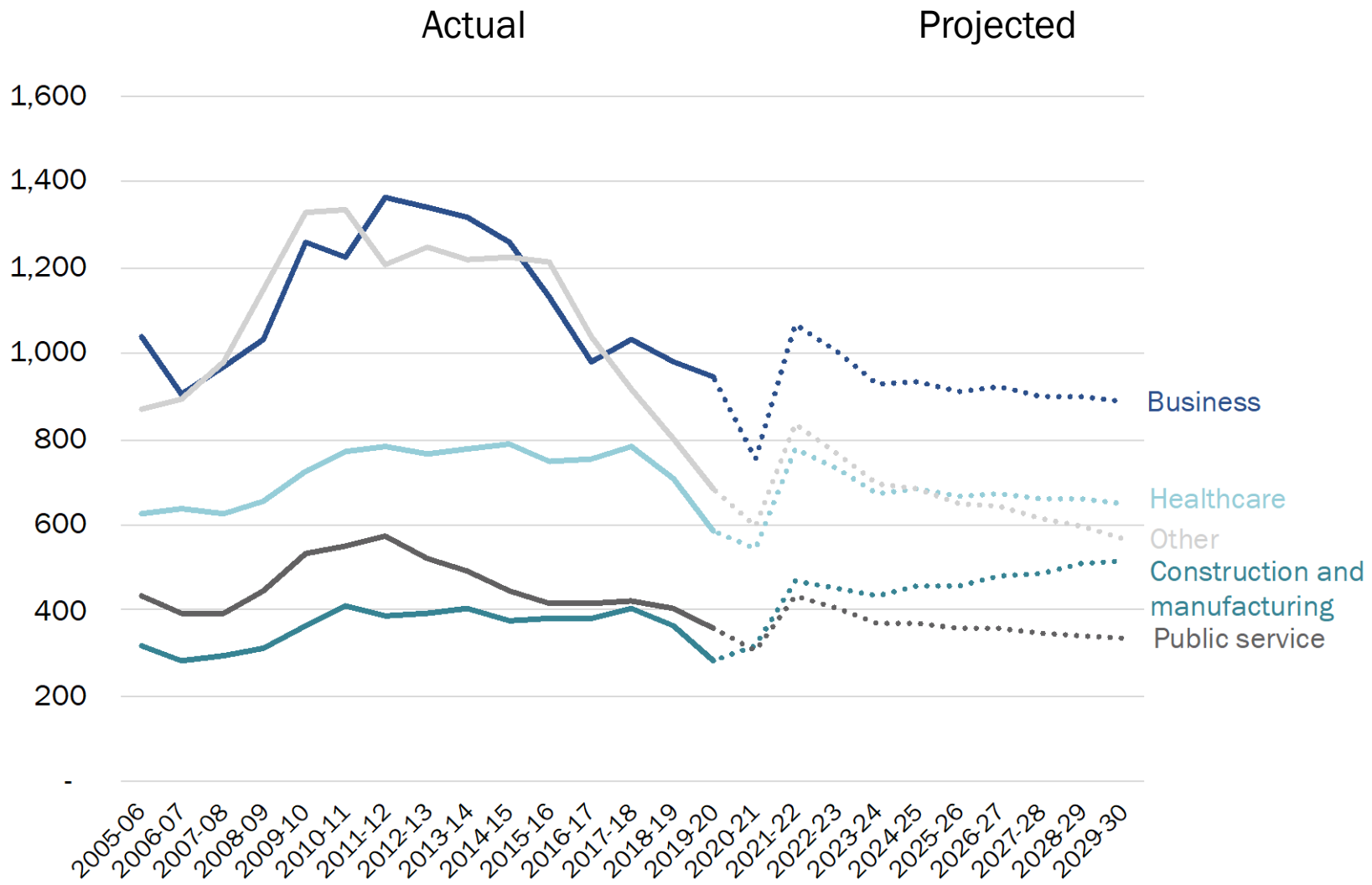
Source: ECONorthwest

Projected FTE by pathway: Largest pathways



Source: ECONorthwest

Projected FTE by pathway: All other pathways



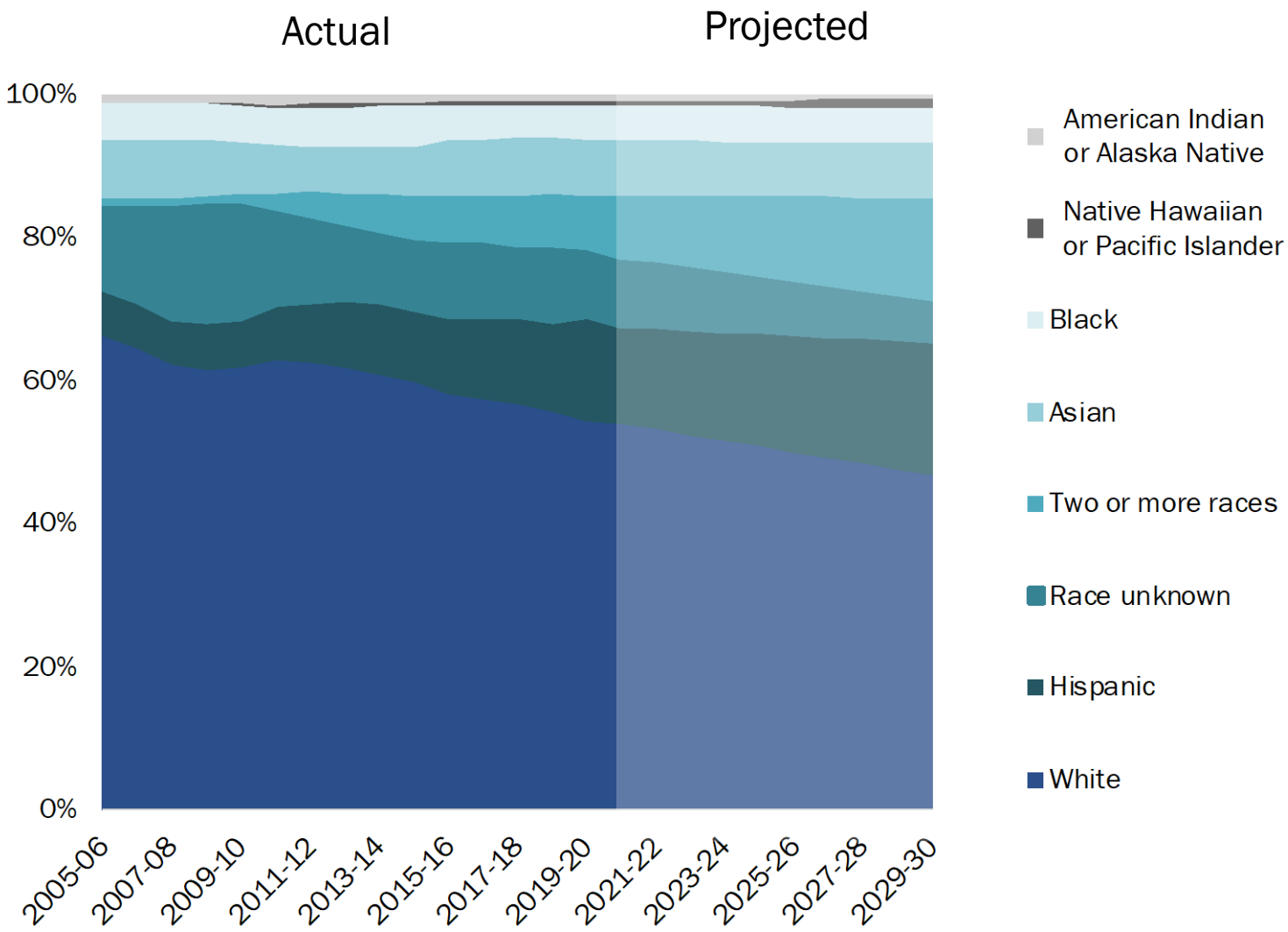
Source: ECONorthwest

Discussion

- Enrollment in Arts and Humanities and Construction and Manufacturing will continue to increase slowly as a share of FTE enrollment
- The projections anticipate slight declines in the share of FTE enrollment in the Business and Public Service pathways
- The Healthcare pathway will remain relatively constant as a share of FTE, with a small decline in the late 2020s
- Projections by pathway are based on our assignment of course CIP codes to pathways and the share of a student's credits thereby assigned to each pathway
- The assignment may not align with a student's major or planned credential (the data do not include either type of information)
- Additional program-specific analysis could lead to a better understanding of specific pathways (e.g., healthcare)

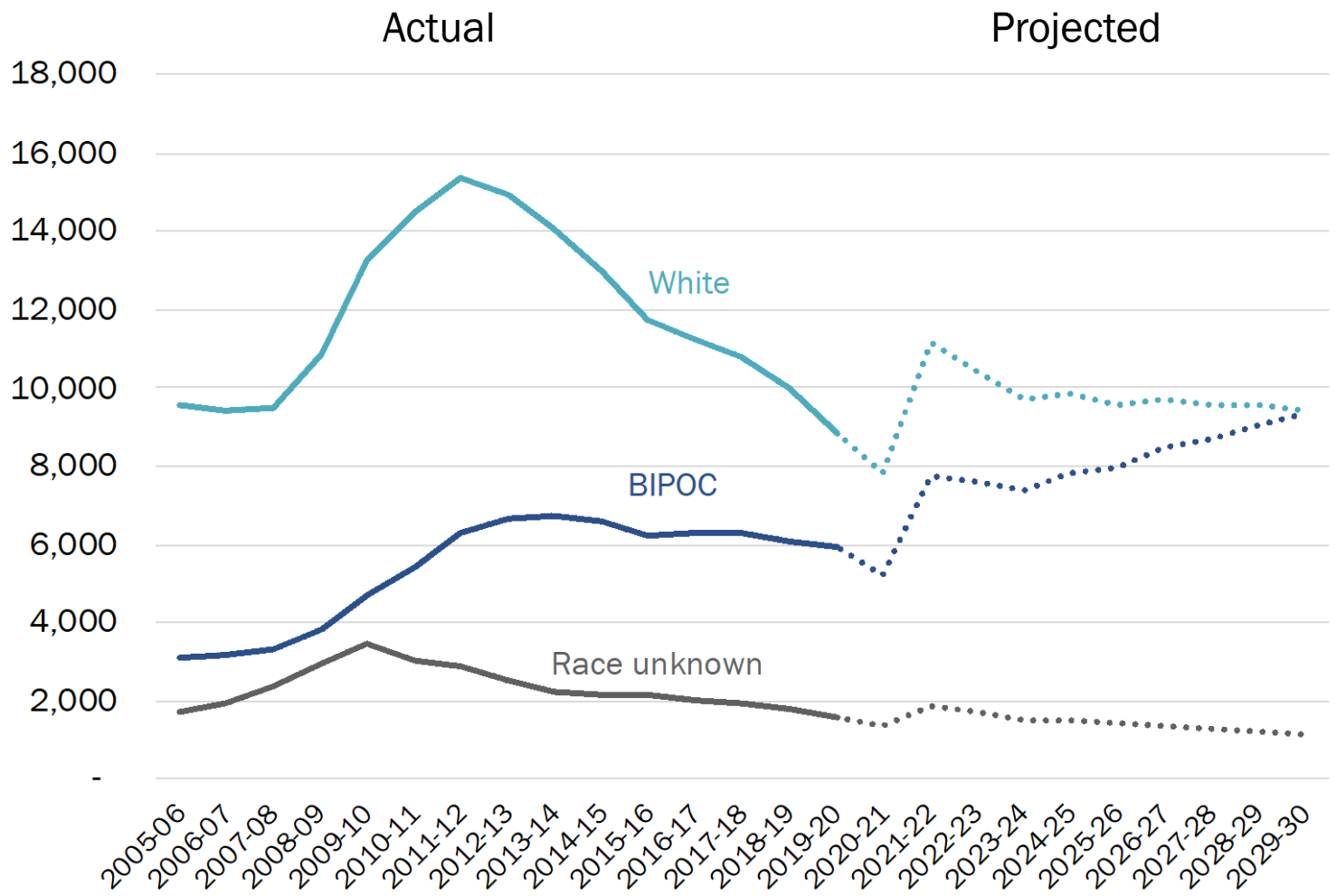
Projections by race/ethnicity

Projected FTE share by race/ethnicity



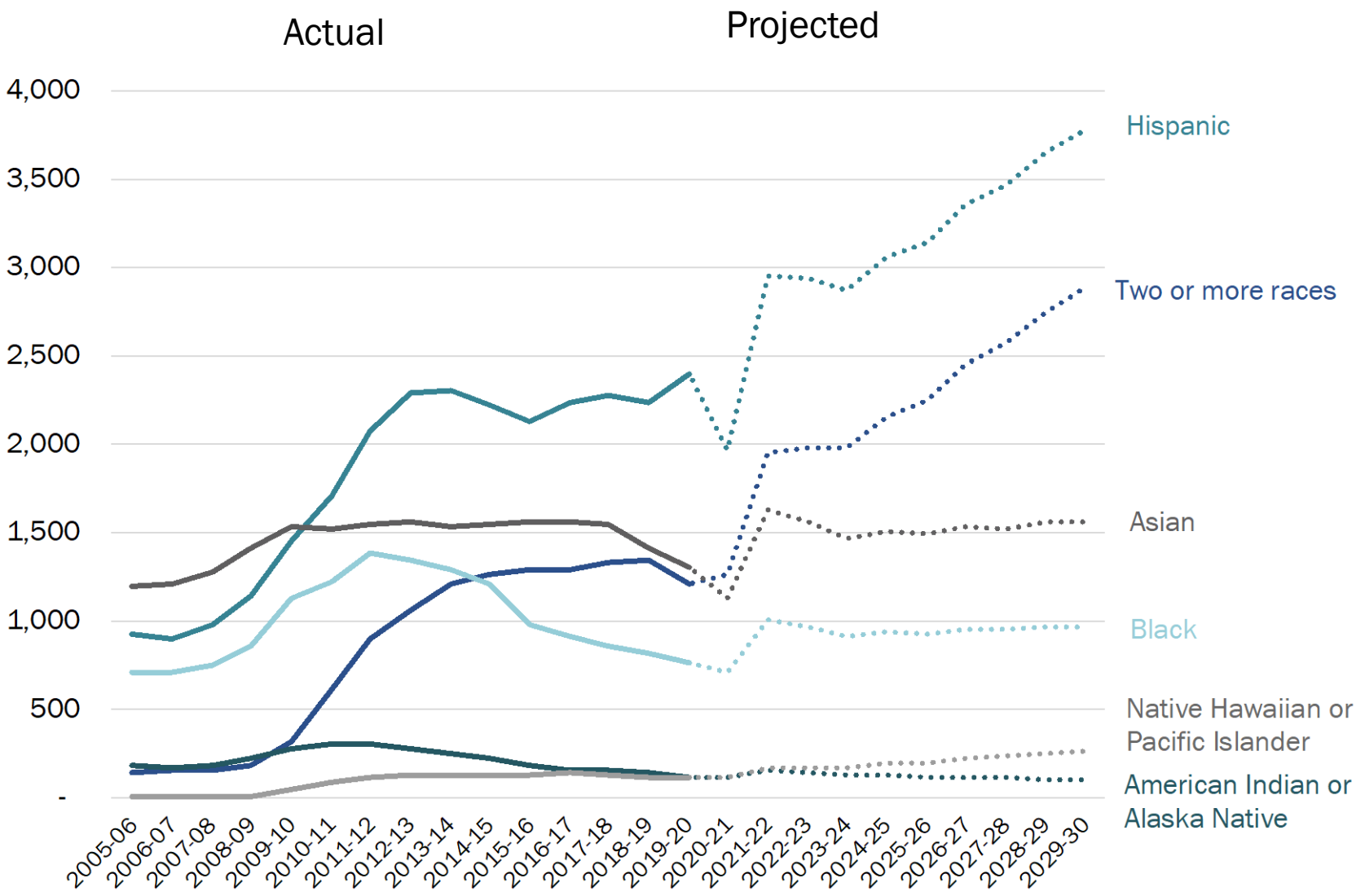
Source: ECONorthwest. Note: Race unknown includes international students. International students accounted for 2% of PCC's total enrolled FTE in 2019-20.

Projected FTE: BIPOC and White



Source: ECONorthwest. Note: Race unknown includes international students. International students accounted for 2% of PCC's total enrolled FTE in 2019-20.

Projected FTE by race/ethnicity: BIPOC



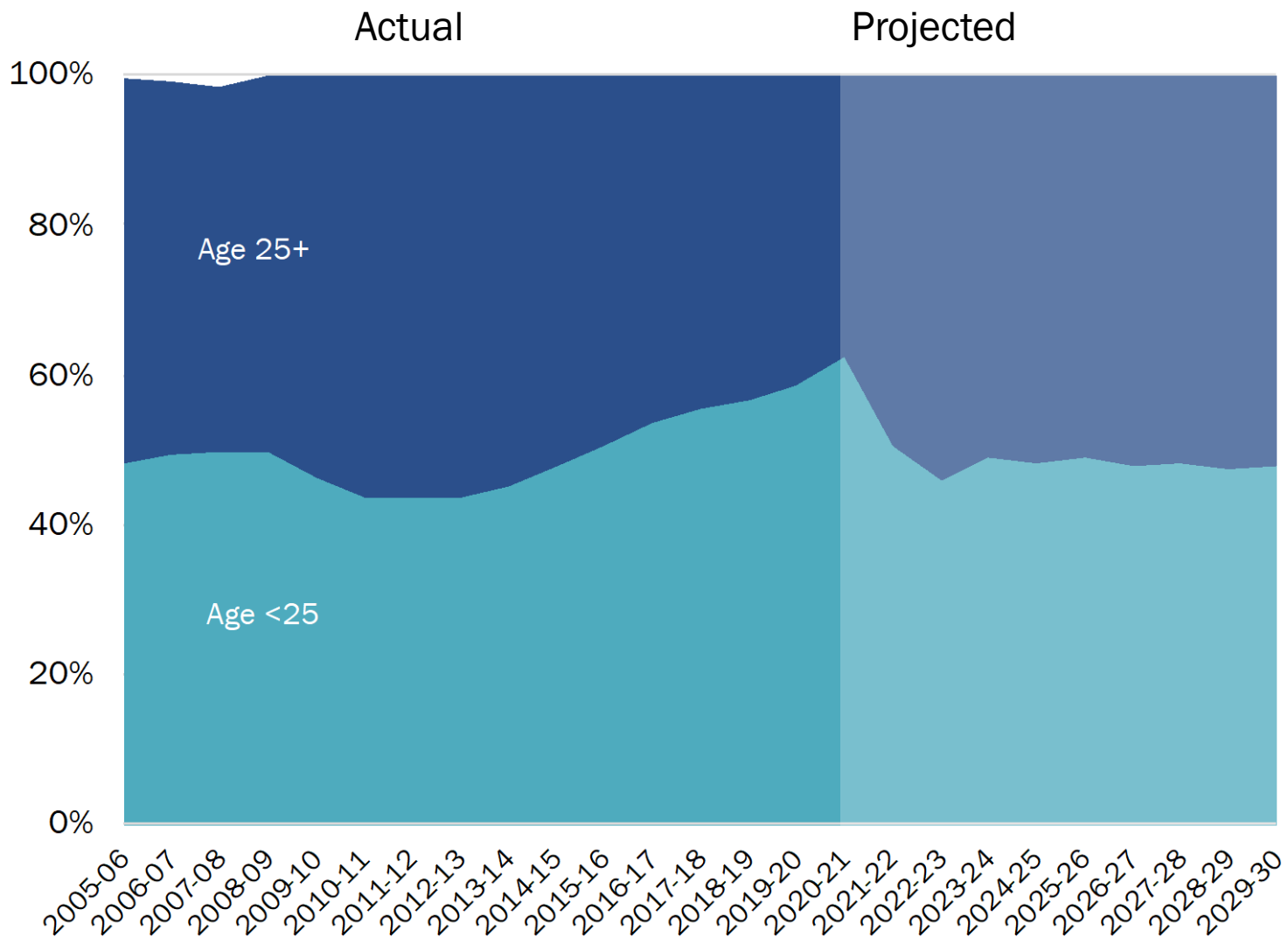
Source: ECONorthwest

Discussion

- FTE enrollment of BIPOC students has increased over time, mirroring demographic changes in the broader population
- We project that FTE enrollment of BIPOC students will reach parity with that of White students by 2030
- Hispanic students and students who identify as two or more races will drive this outcome

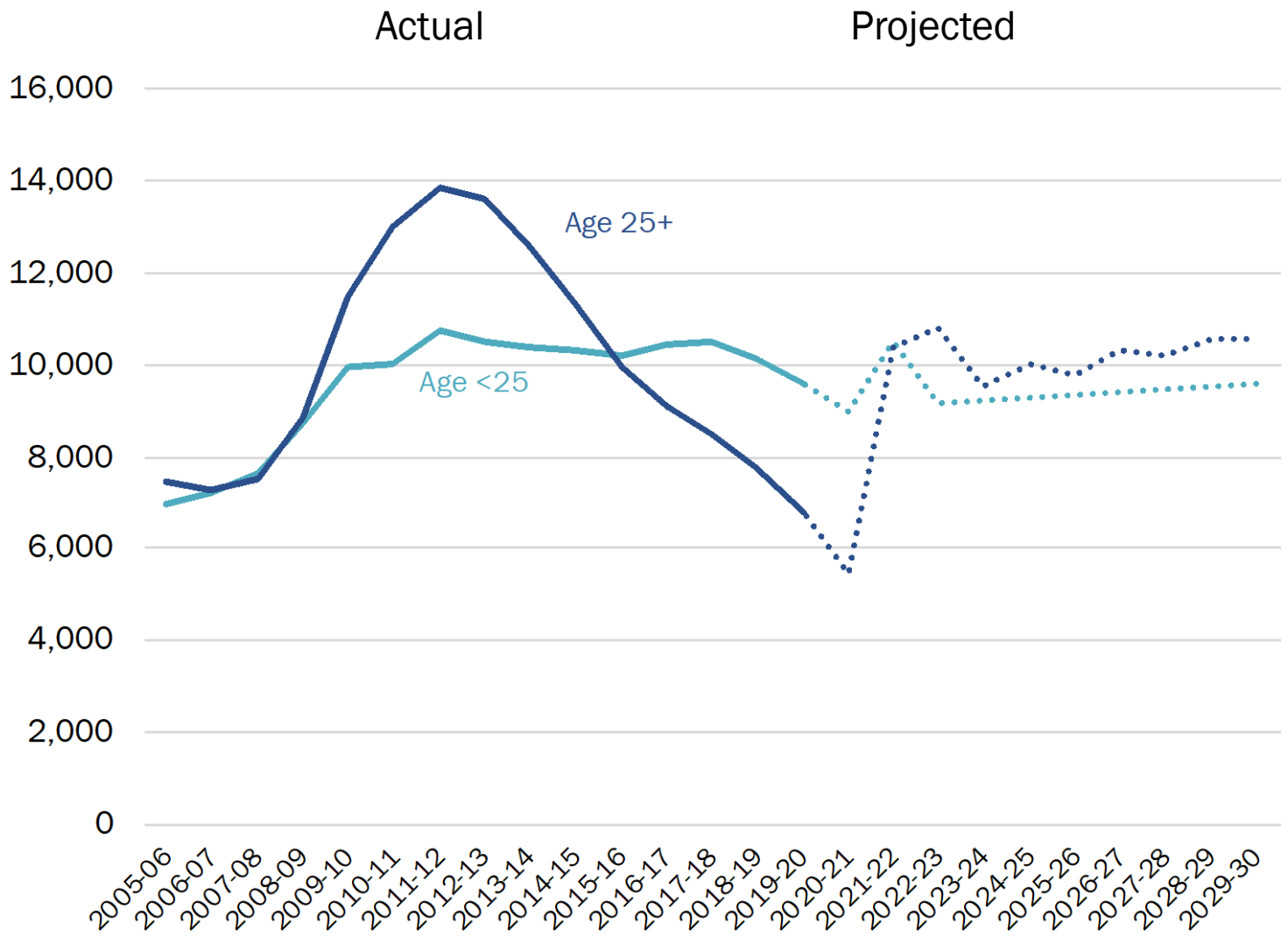
Projections by age

Projected FTE share by age group



Source: ECONorthwest. Note: some observations are missing birthdates in early years.

Projected FTE by age group



Source: ECONorthwest

Discussion

- Projected increase in enrollment between AY 2019 (pre-pandemic) and AY 2022 is similar in magnitude to that observed during the last recession, albeit over a shorter time period
- Increase in enrollment due to students who deferred college during the pandemic could increase the level and share of enrollment by 18-24 year-olds over the next one or two years
- The projections indicate greater enrollment of older (25+) students than of traditional-age (18-24) students throughout the projection period
- Several demographic and economic trends suggest increasing enrollment of older students in the coming years:
  - Pre-existing national and state focus on training/retraining adults
  - Pandemic-induced interest in career changes (short-term effect)
  - Enrollment of 18-24 year-olds is less responsive to the business cycle than that of older adults (short-term effect)
  - The 18-24 demographic will continue to shrink as a share of the population (long-term effect)
  - Biden administration's infrastructure plan (long-term)

Methodological notes

By campus

- Projected FTE enrollment shares by campus using an exponential smoothing method[1]
- Applied projected shares to totals derived from the initial projections

By pathway

- Projected FTE enrollment shares by pathway using an exponential smoothing method
- Applied projected shares to totals derived from the initial projections

By race/ethnicity

- Projected FTE enrollment shares by race/ethnicity using an exponential smoothing method
- Applied projected shares to totals derived from initial projections

By age

- Projected PCC enrollment per capita for enrollees 18-24 for the two-county region (Multnomah and Washington counties) using an exponential smoothing method
- Calculated projected enrollment using the projected population for 18-24-year-olds (adapted from Metro's population forecast) and projected PCC enrollment per capita
- Adjusted enrollment for 18-24-year-olds to account for the current recession, based on enrollment patterns observed during the last recession
- Allocated remaining enrollment from totals adapted from initial projections to enrollees 25 and older

Data sources

- All projections rely on the initial projections and on student-level enrollment data
- Age projections also incorporate information from the American Community Survey and Metro population forecast

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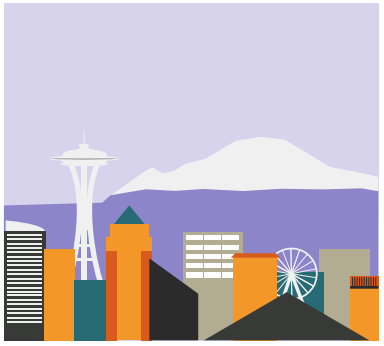
Los Angeles

Portland



Seattle

Boise

PCC enrollment by geography

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Background and purpose

- ECONorthwest conducted a study of Portland Community College enrollment patterns by geography using PCC-provided student-level data.

- Understanding enrollment patterns by geography can help guide future space needs planning and other College initiatives.

Data

- For the study, PCC provided ECONorthwest with anonymized student- and course-level data for academic years 2005-06 through 2019-20.

- These data included all credit, non-credit, and continuing education courses students had taken as well as student demographic characteristics, such as race, ethnicity, gender, birth date, Pell offered, and the zip code (either 5- or 9-digit, also known as zip+4) of the student's residence.

Definitions

- All student data, except for Pell, were recorded at the end of the last term the student was enrolled in the data set. An enrollee is granted Pell status if they were offered a Pell grant at any time during the study period.

- We assigned students to campuses and pathways based on the campus/pathway to which most of their credits are assigned.[1]

- Students taking solely community education, vocational supplementary (CEU) courses, and other non-reimbursable courses were excluded from the analysis.[2]

- The 9-digit zip+4 code is comprised of five digits that represent the destination post office or delivery area and four digits that indicate specific delivery route. We assigned students to the Census block group that includes the center point of the delivery route (Census block groups aggregate to Census tracts).

- Students with out-of-state zip codes or invalid or missing zip codes (less than 1 percent of observations) were excluded.

Notes

- The maps below display information about the distribution of students' assumed residences across the PCC district and beyond for 2018-19 enrollees. We choose 2018-19 instead of more-current data from 2019-20 to avoid displaying enrollment anomalies related to the COVID-19 pandemic.

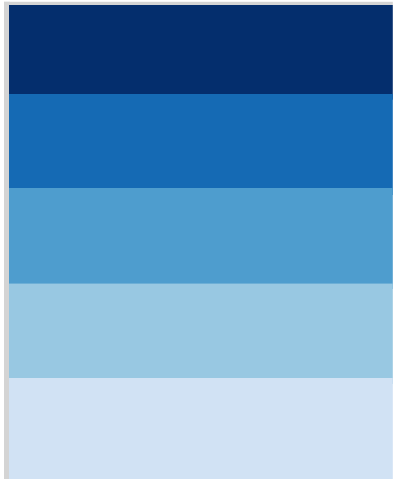
- About a third of student observations were missing zip+4 data in the 2018-19 academic year. These students were allocated to existing zip+4 codes based on their zip code and the distribution of other students across zip+4 codes. After this allocation, over 95 percent of PCC's 2018-19 students could be assigned to a Census block group for mapping.

- Student enrollment data do not identify a student's major or other aspects of their academic plans, limiting our ability to quantify enrollment by pathway.

- The College's taxing district encompasses all or part of five different counties: Multnomah, Clackamas, Columbia, Washington, and Yamhill counties. Students do not have to live in the district to enroll, however. ECONorthwest acquired files defining the taxing district from each county assessor department except Yamhill County (a relatively small portion of Yamhill County falls within the district and a data usage fee was required).

How to read the maps

In each map, block groups are ordered by density (enrollees per square mile) and then grouped into quintiles. The “top” quintile represents the smallest cumulative geographic area (in square miles); the “bottom” quintile represents the largest cumulative geographic area. Each bin (color) represents 20% of enrollees in 2018-19.



Smallest cumulative area (sq mi), 20% of enrollees

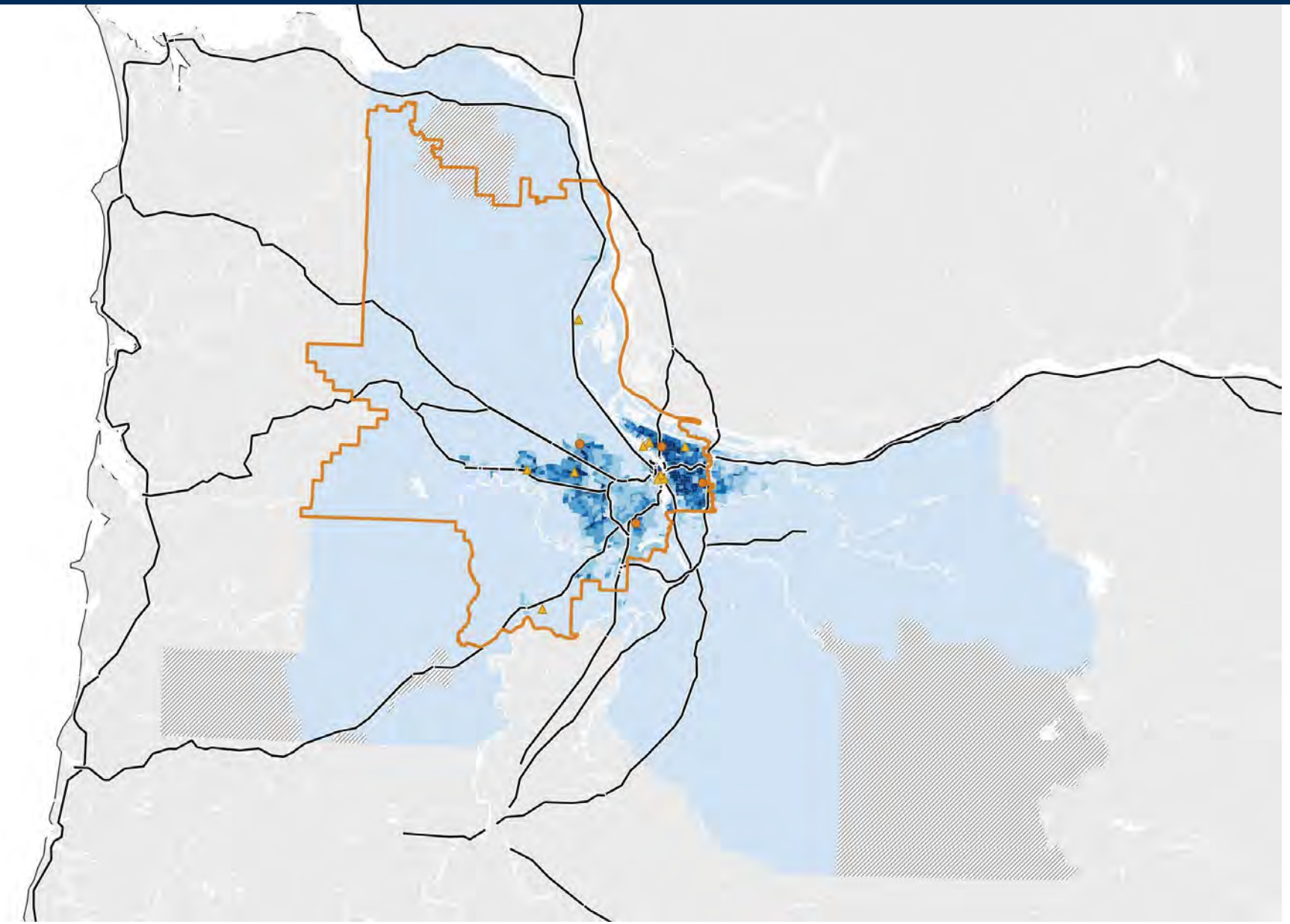
20% of enrollees

20% of enrollees

20% of enrollees

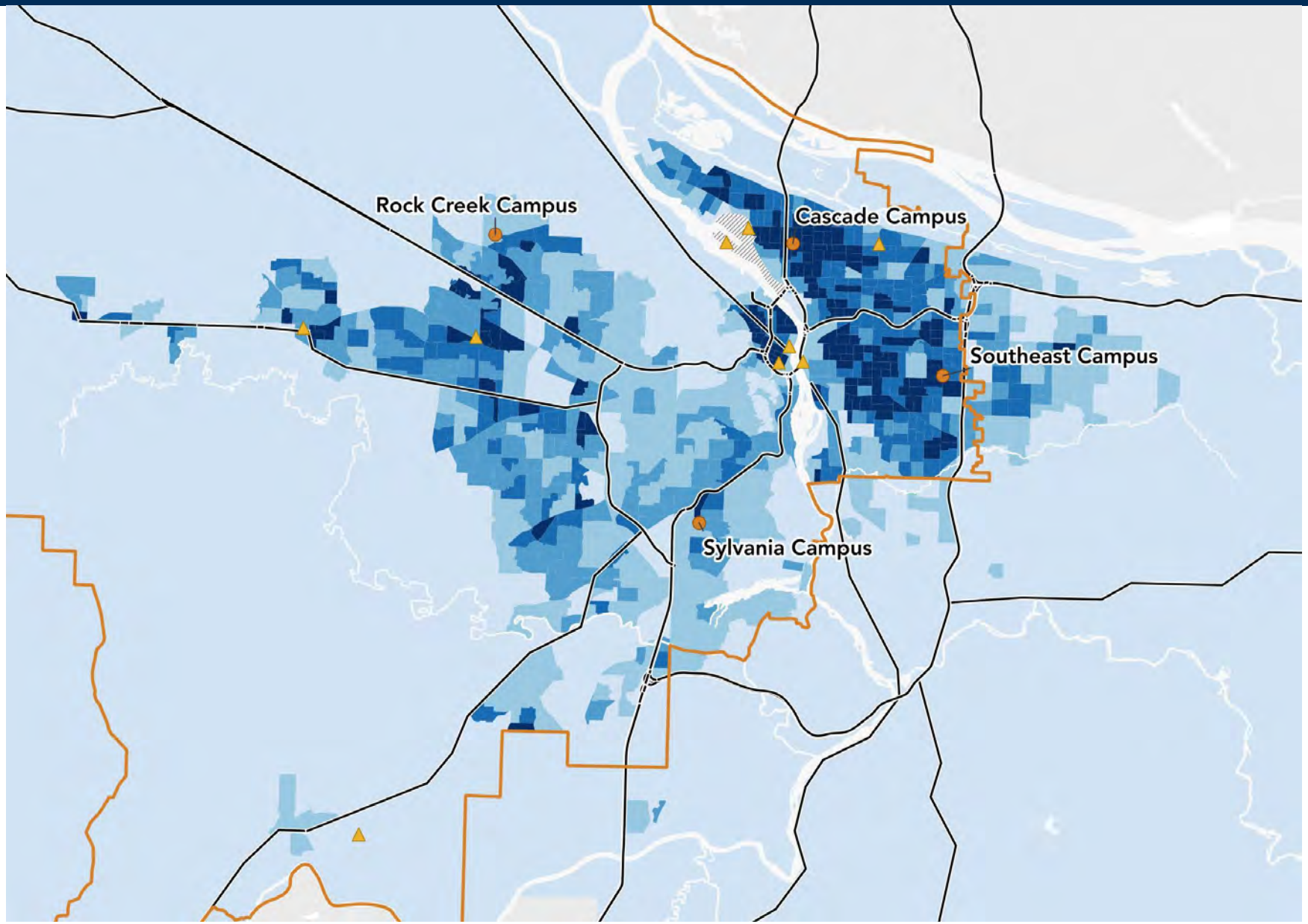
Largest cumulative area (sq mi); 20% of enrollees

All enrollees



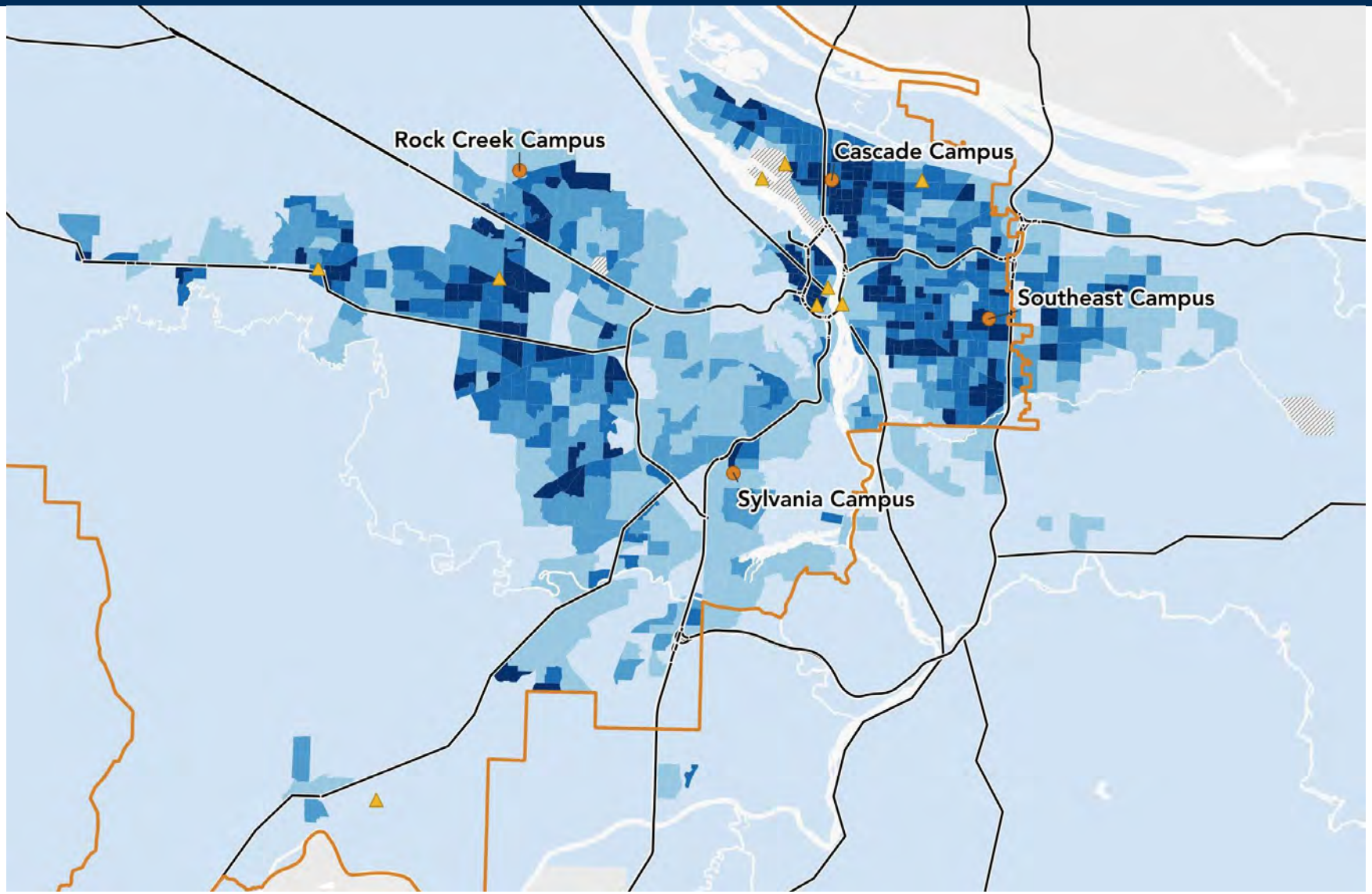
Enrollees in 2018-19 academic year. Source: ECONorthwest

All enrollees



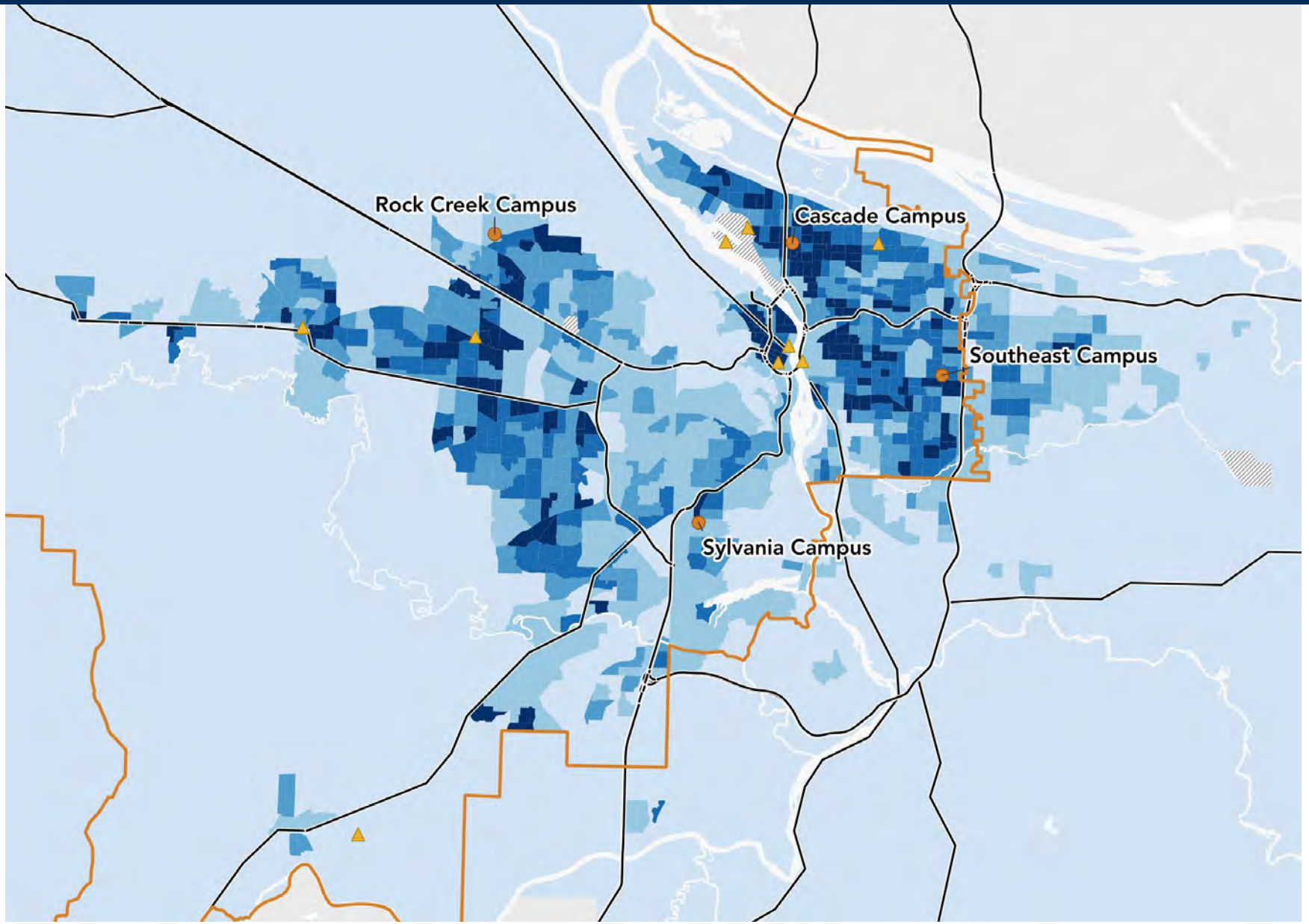
Enrollees in 2018-19 academic year. Source: ECONorthwest

All enrollees except those exclusively in community education, continuing education, and non-reimbursable courses



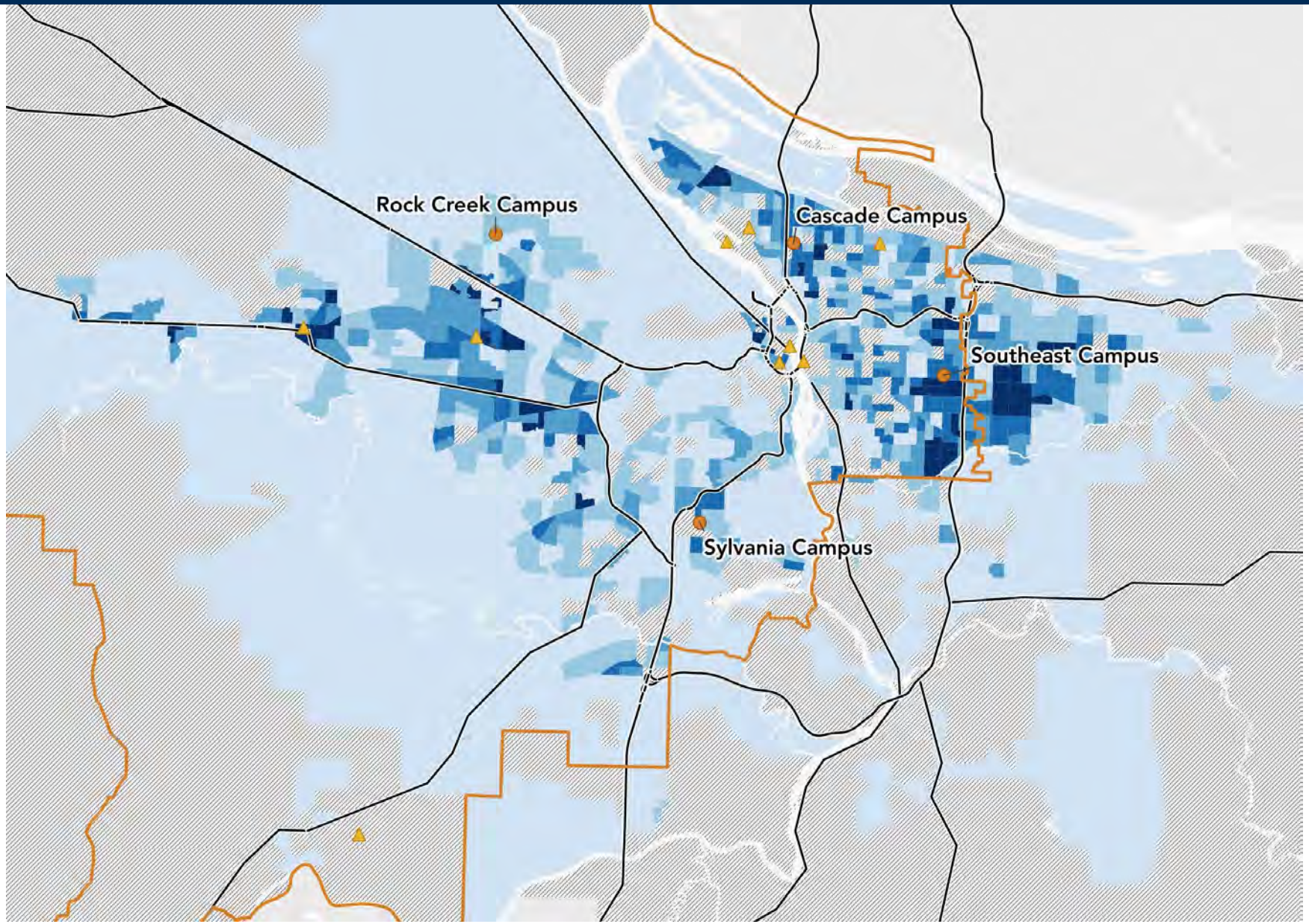
Enrollees in 2018-19 academic year. Source: ECONorthwest

Any credit-bearing enrollment



Enrollees in 2018-19 academic year. Source: ECONorthwest

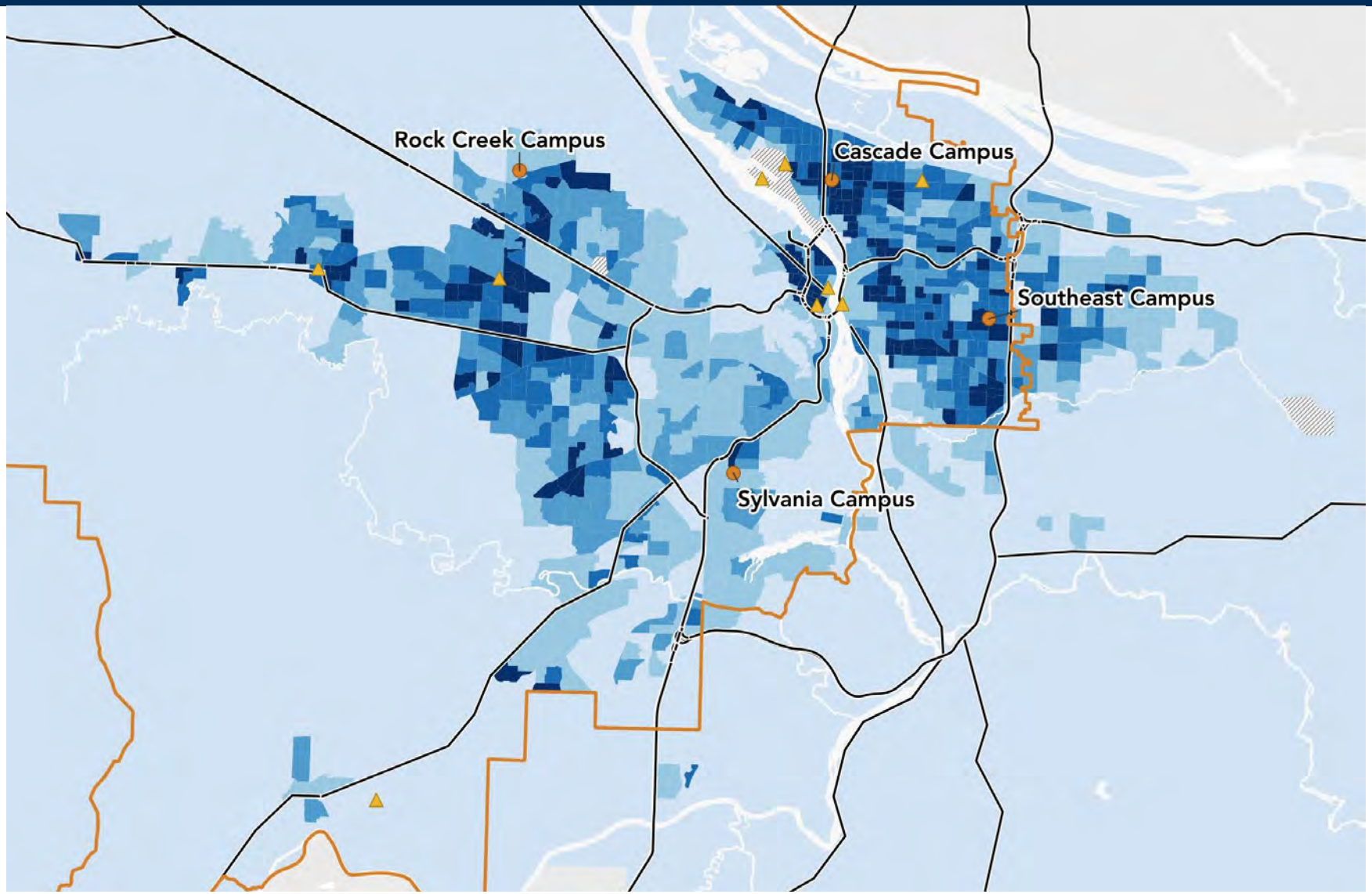
Only non-credit enrollment



Enrollees in 2018-19 academic year. Source: ECONorthwest

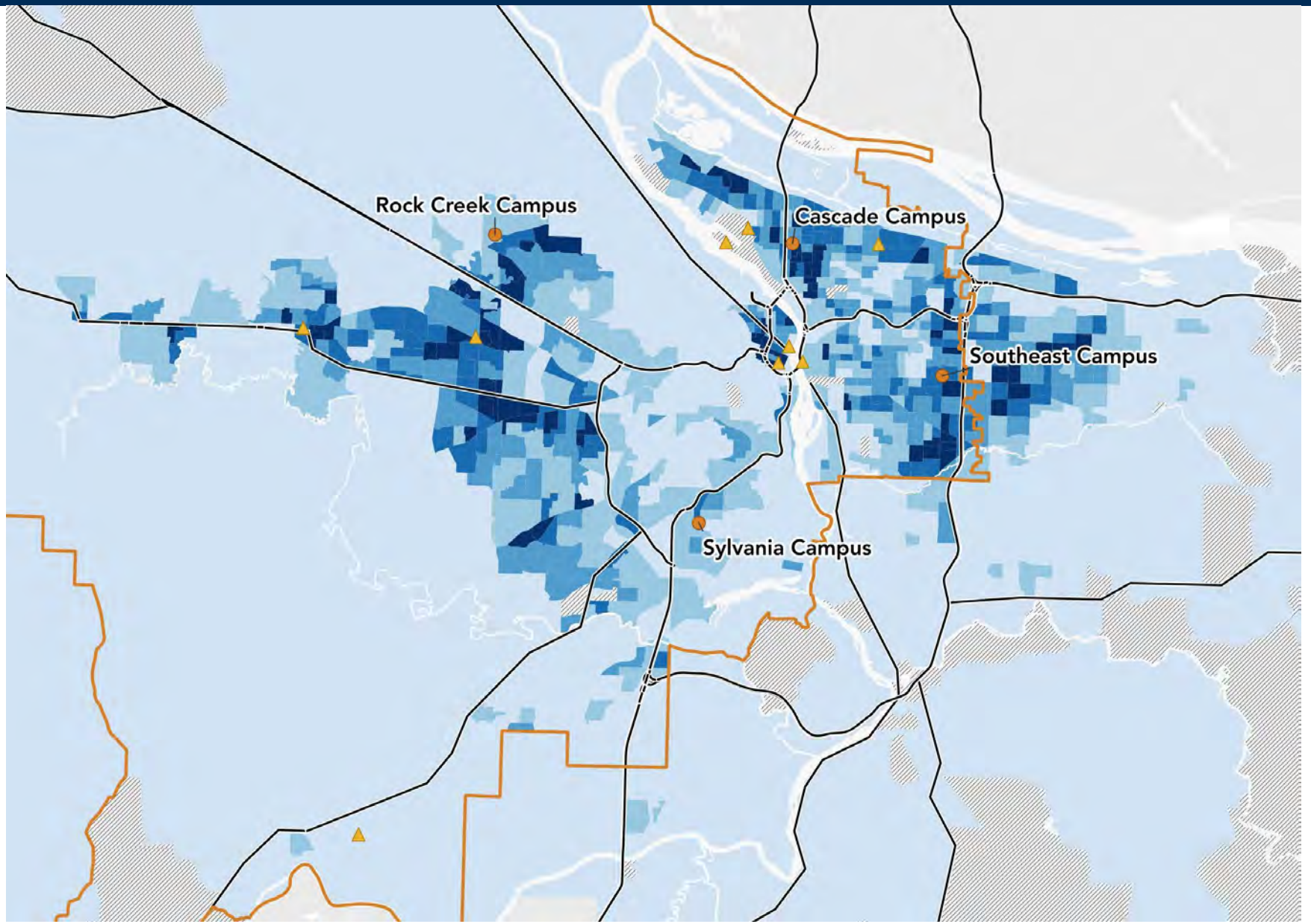
Enrollees by race/ethnicity, 2018-19

All enrollees except those exclusively in community education, continuing education, and non-reimbursable courses



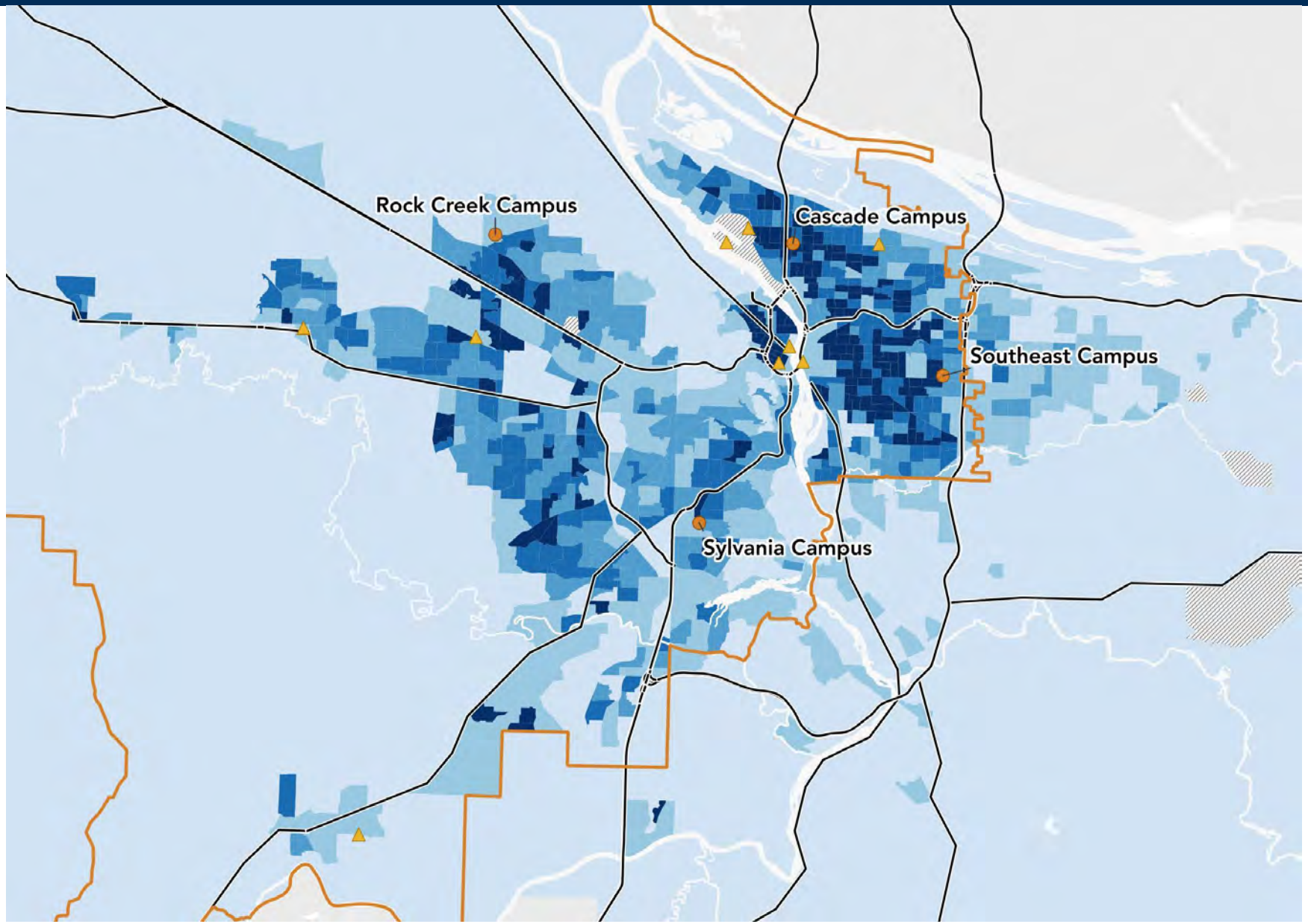
Enrollees in 2018-19 academic year. Source: ECONorthwest

BIPOC



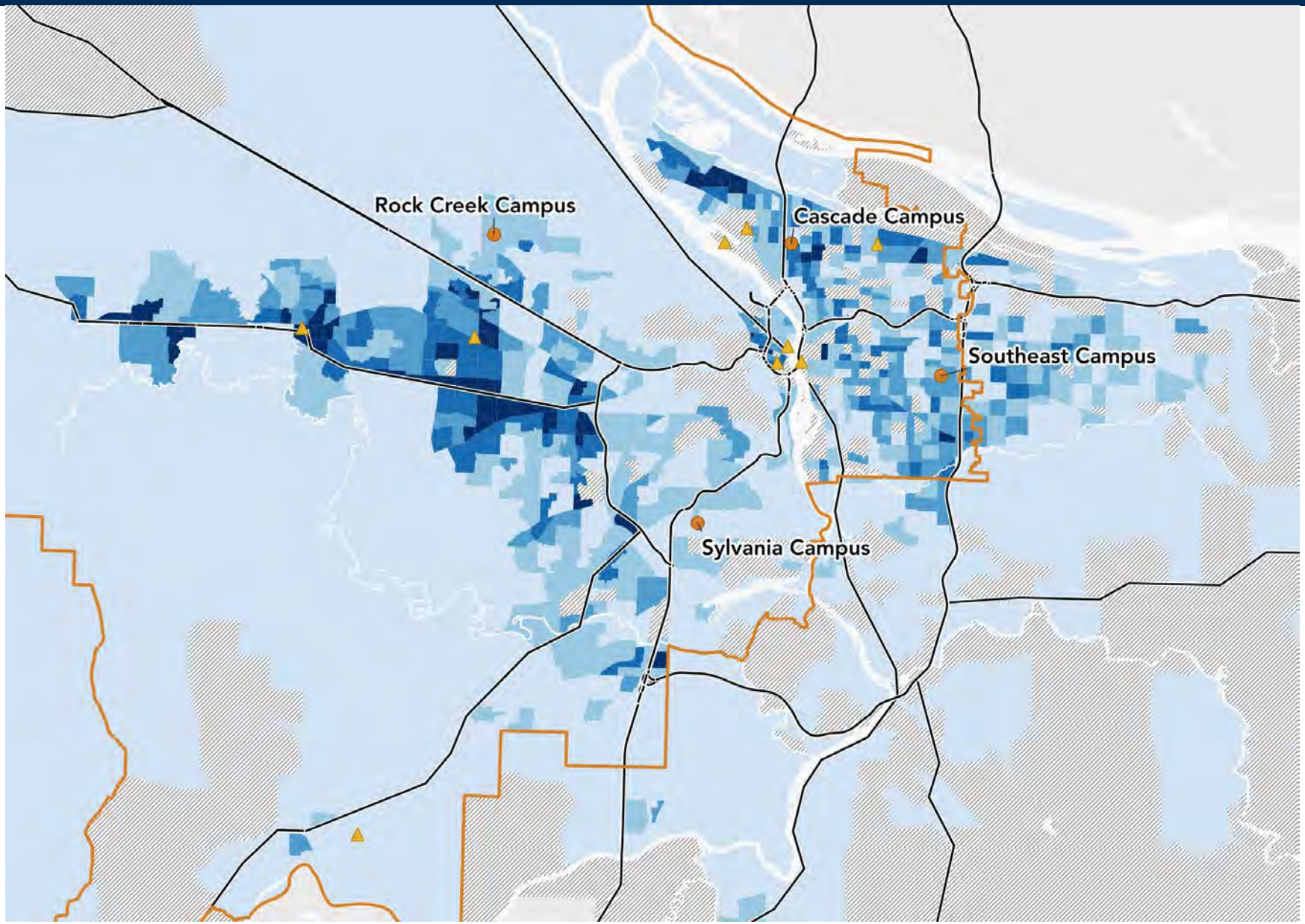
Enrollees in 2018-19 academic year. Source: ECONorthwest

White



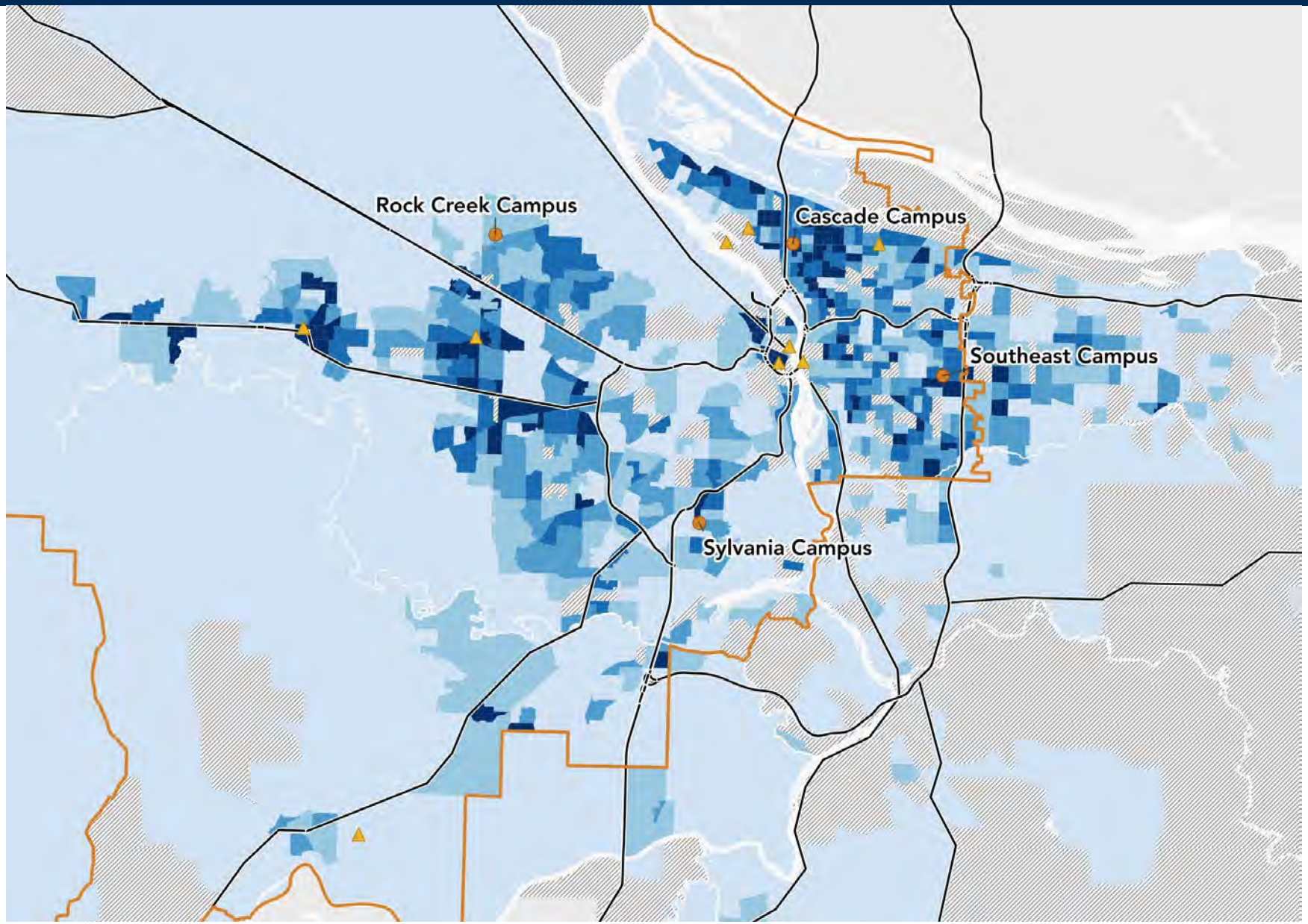
Enrollees in 2018-19 academic year. Source: ECONorthwest

Hispanic



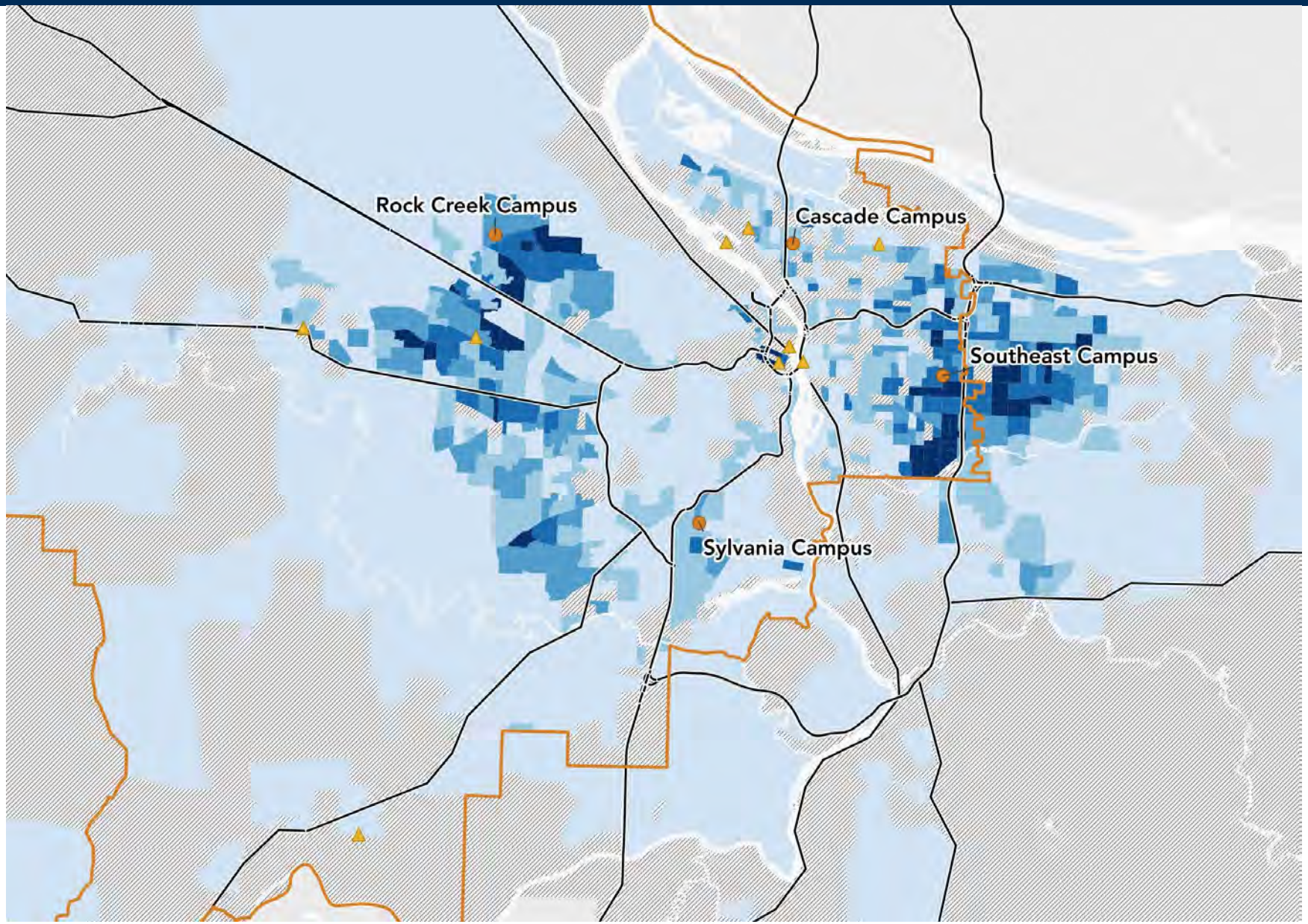
Enrollees in 2018-19 academic year. Source: ECONorthwest

Unknown race/ethnicity



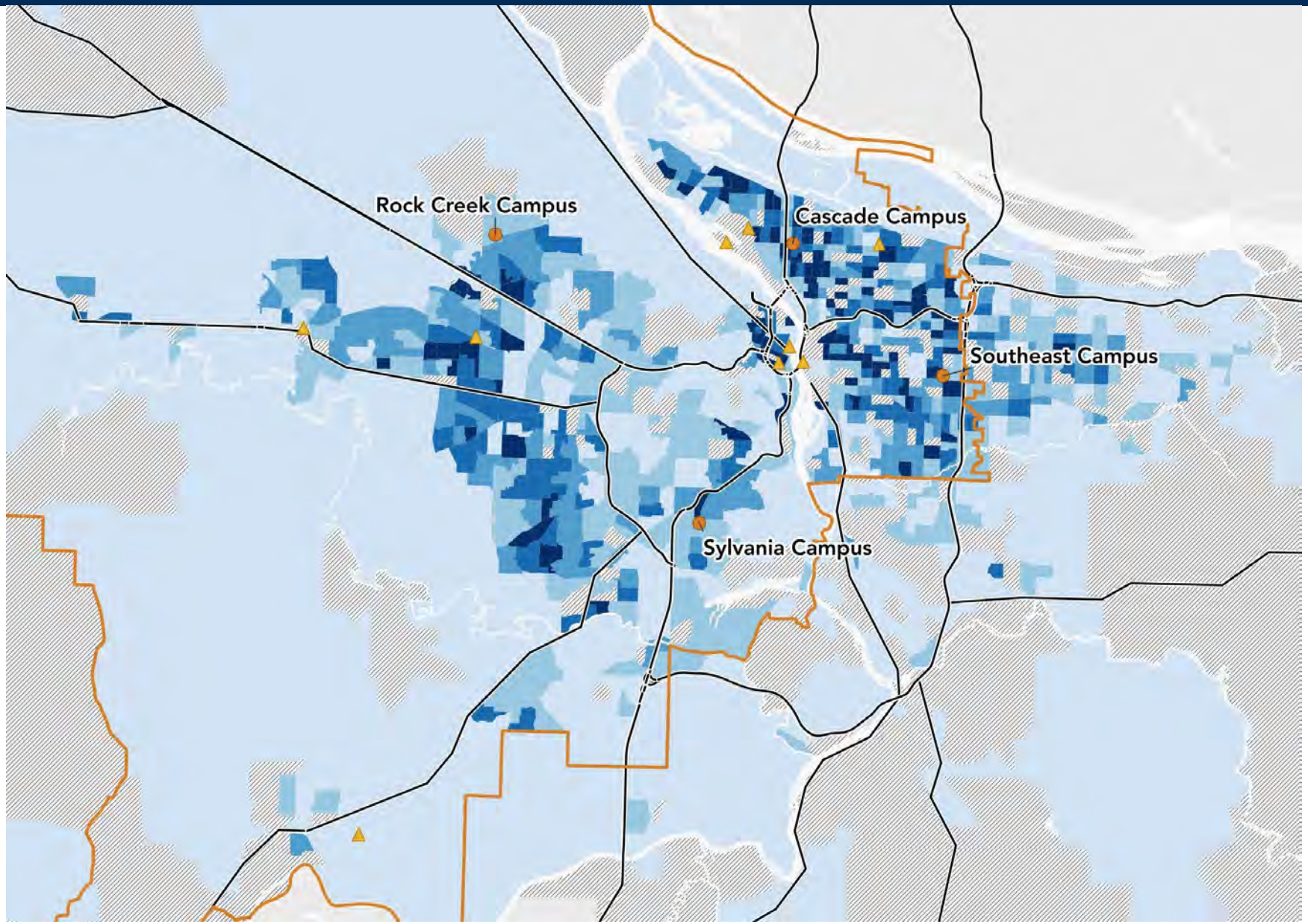
Enrollees in 2018-19 academic year. Source: ECONorthwest

Asian



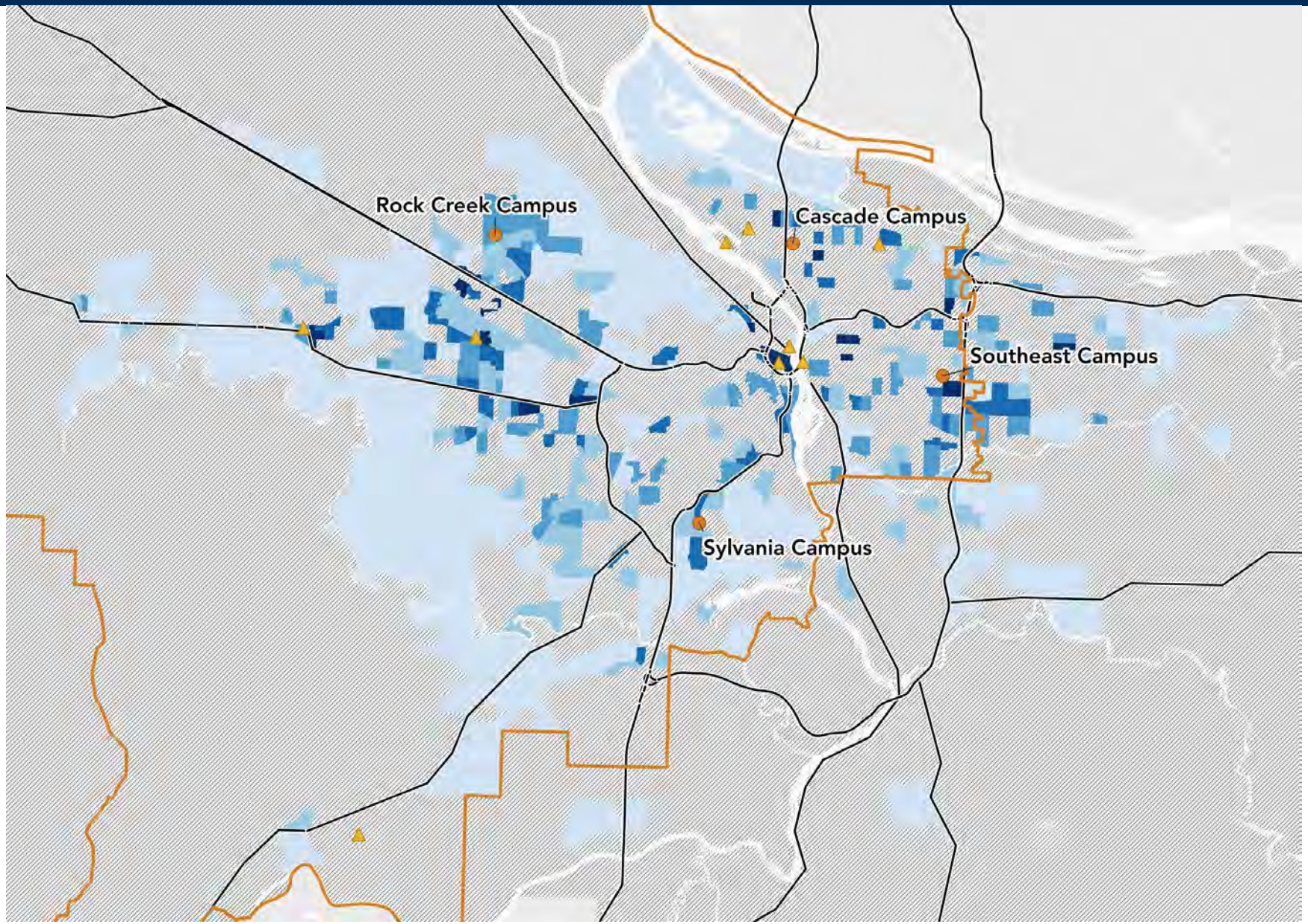
Enrollees in 2018-19 academic year. Source: ECONorthwest

Two or more races



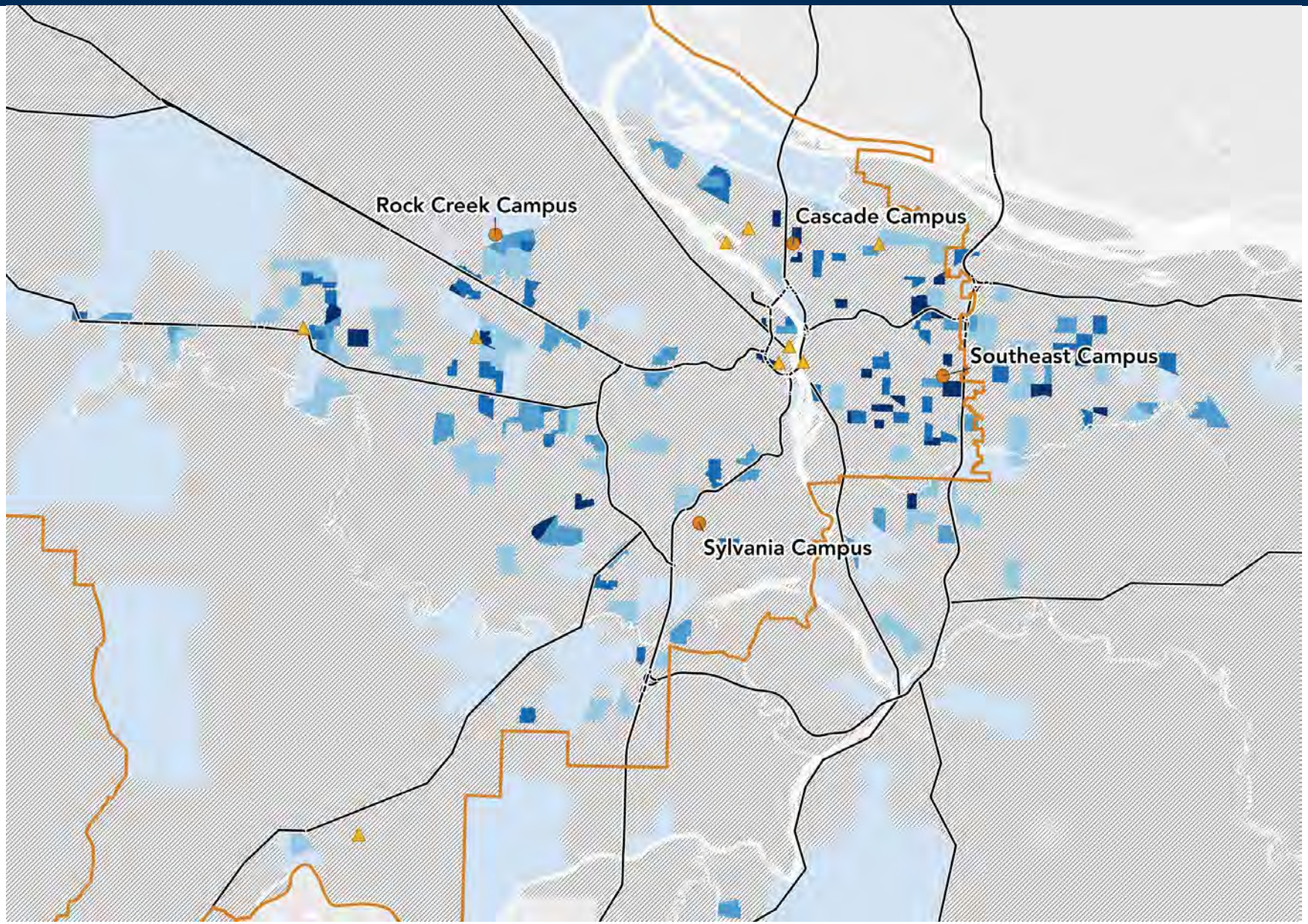
Enrollees in 2018-19 academic year. Source: ECONorthwest

International



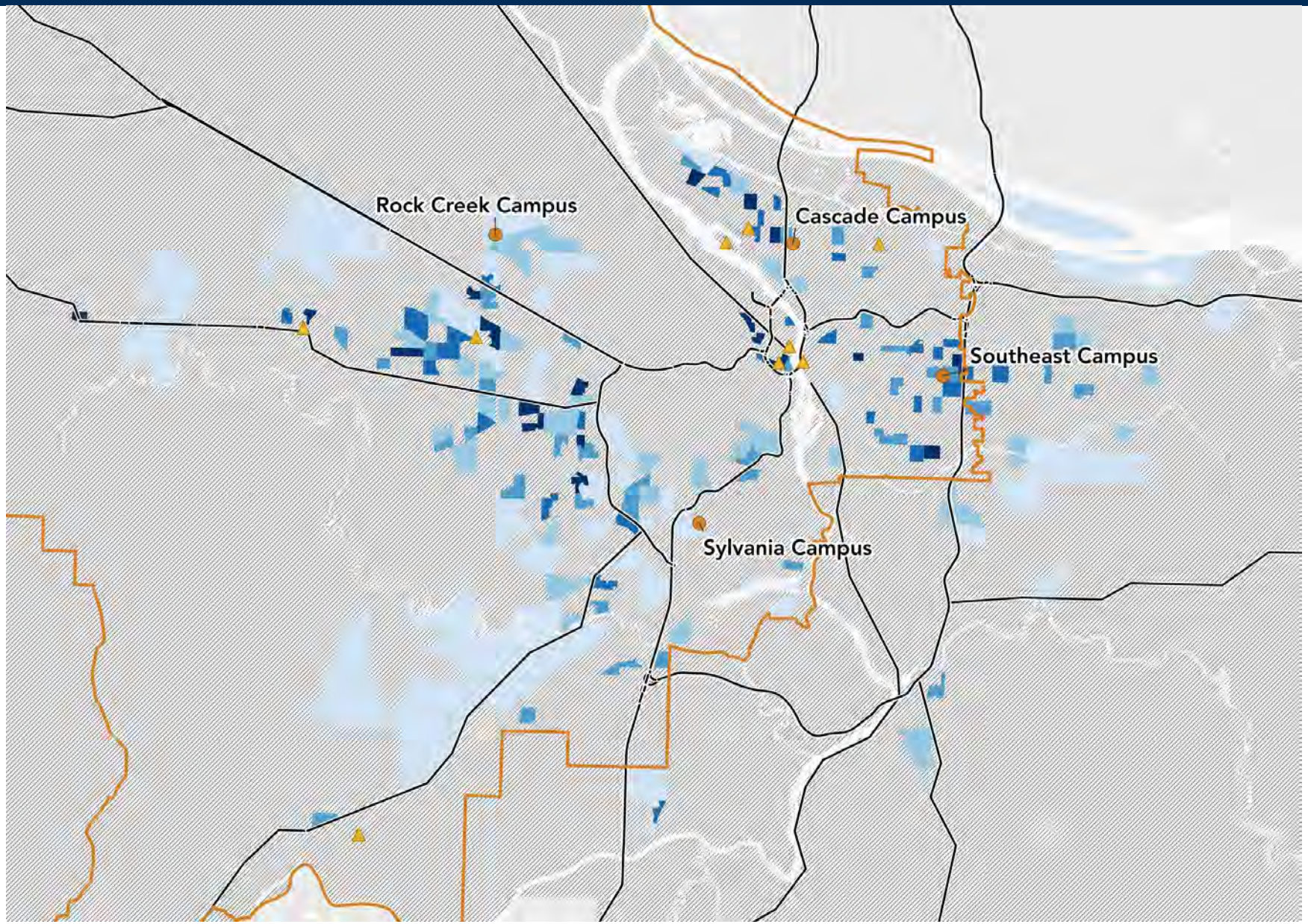
Enrollees in 2018-19 academic year. Source: ECONorthwest

American Indian / Alaska Native



Enrollees in 2018-19 academic year. Source: ECONorthwest

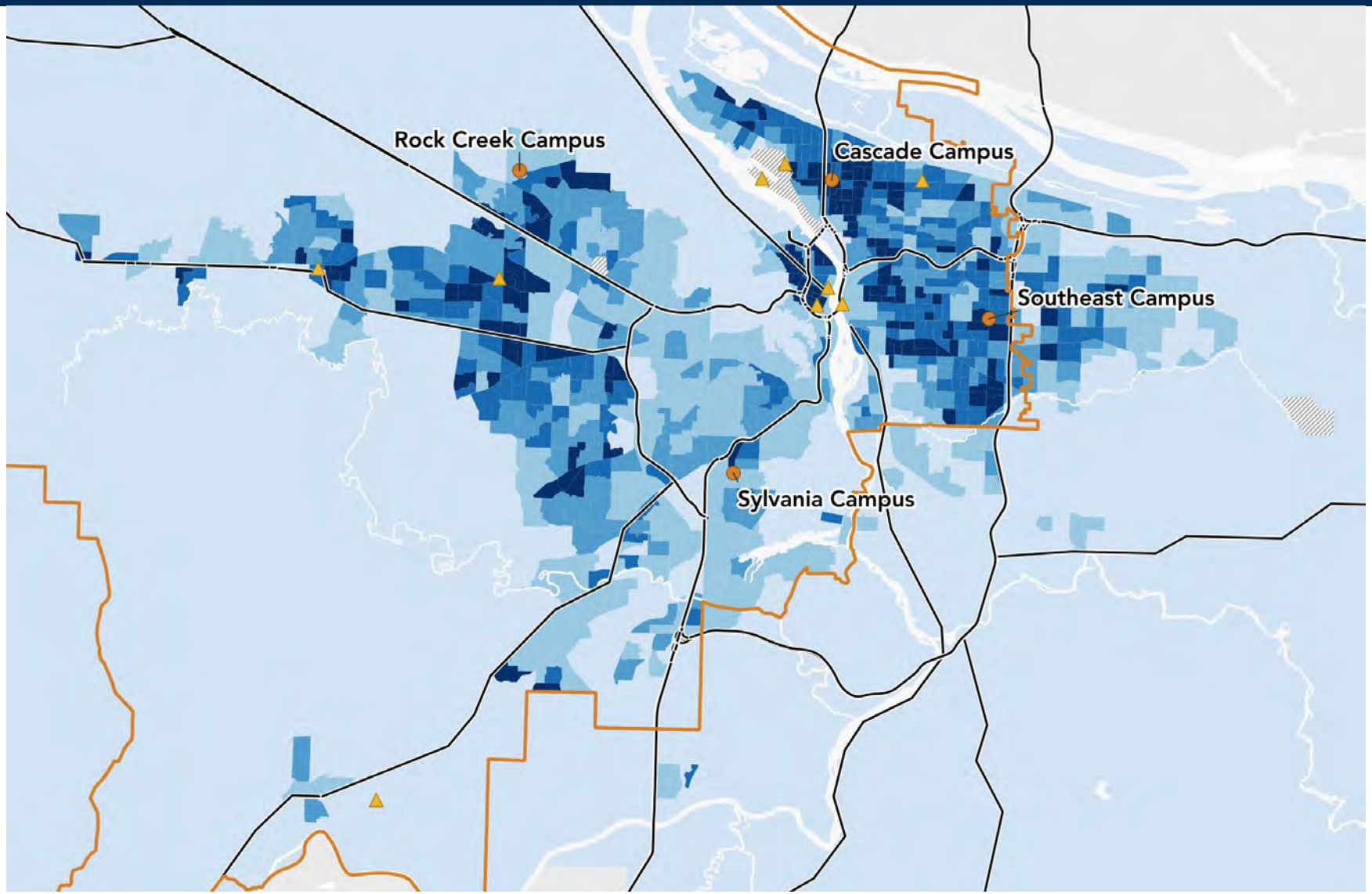
Native Hawaiian / Pacific Islander



Enrollees in 2018-19 academic year. Source: ECONorthwest

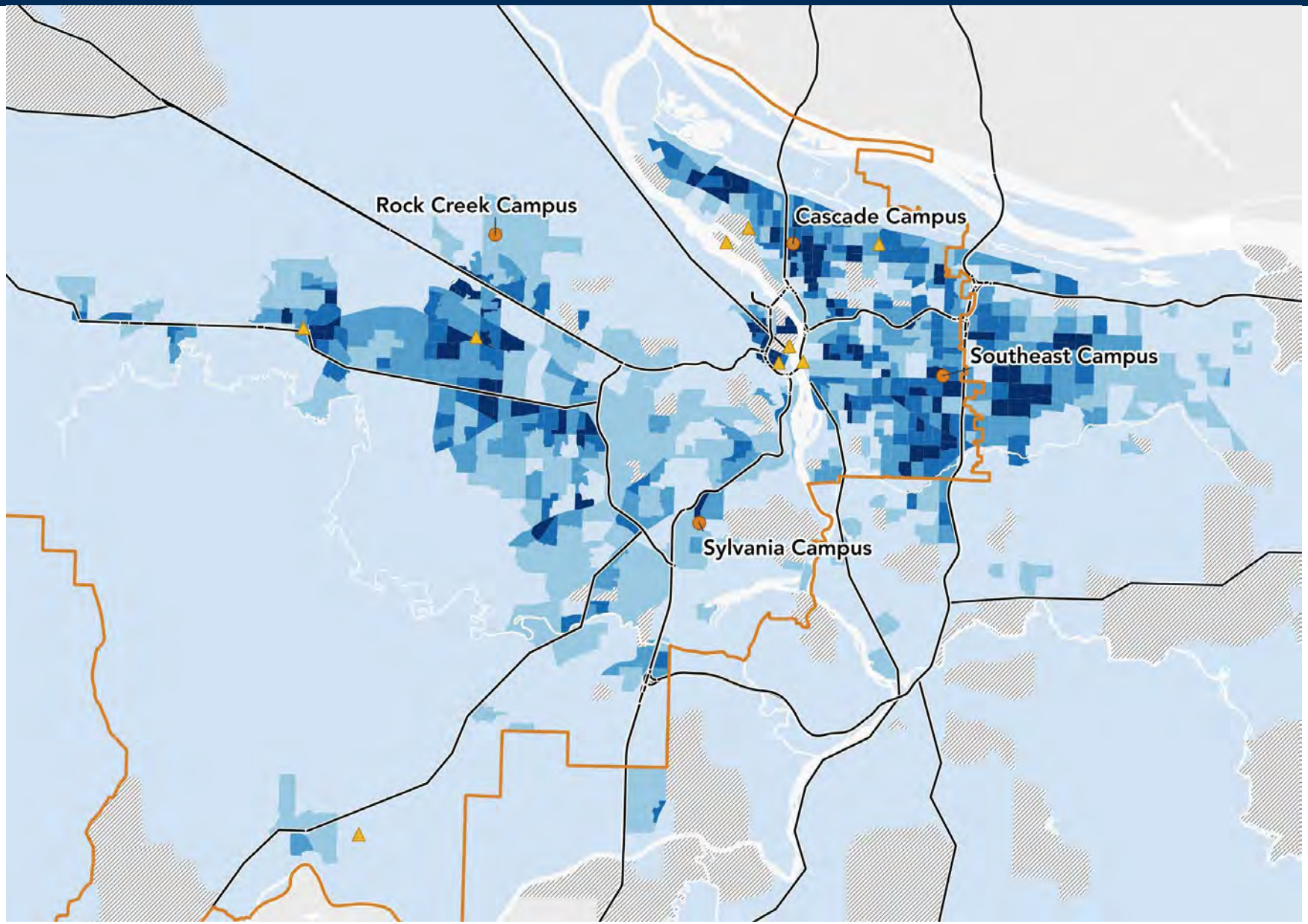
Enrollees by Pell status, 2018-19

All enrollees except those exclusively in community education, continuing education, and non-reimbursable courses



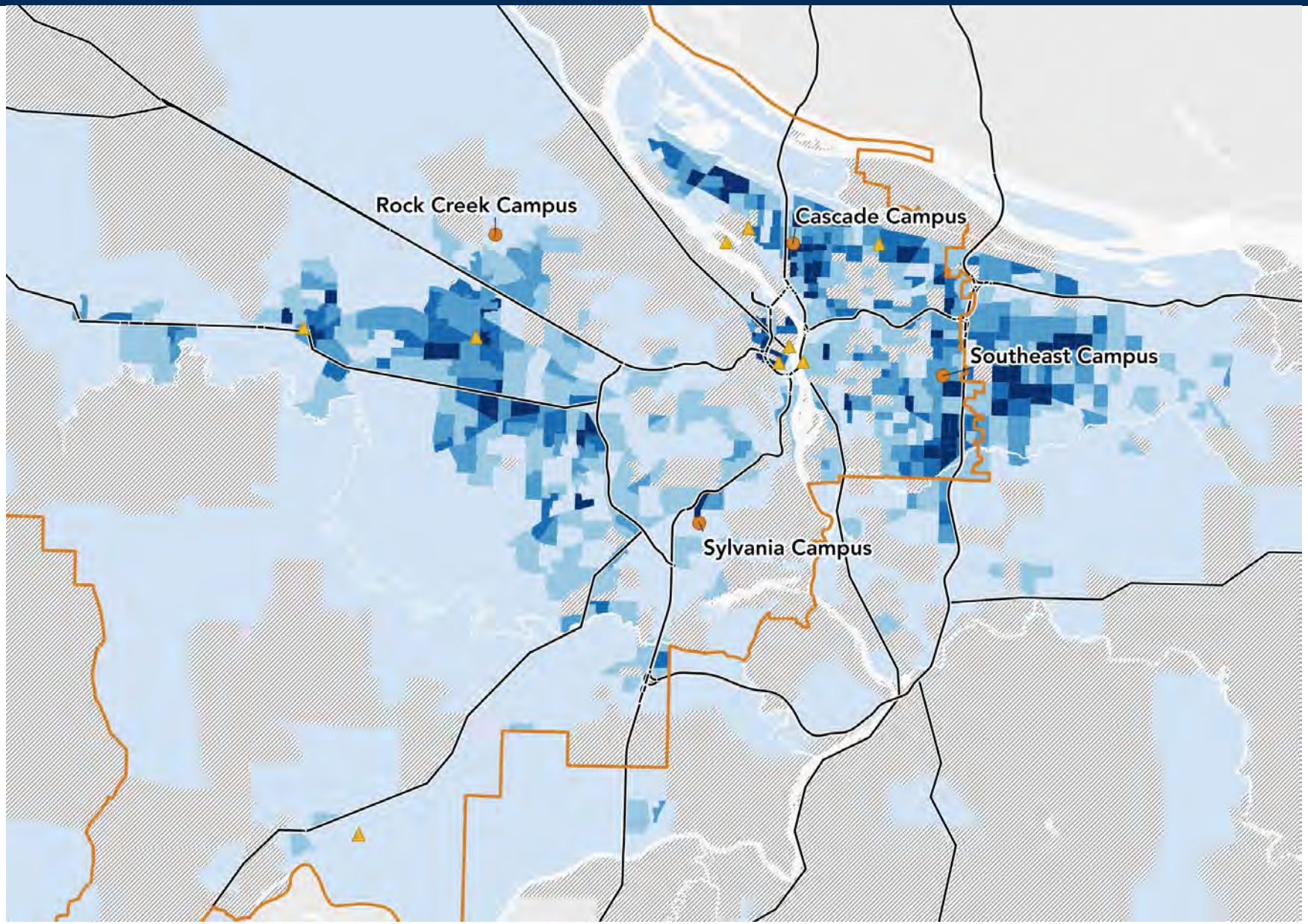
Enrollees in 2018-19 academic year. Source: ECONorthwest

Enrollees who were offered a Pell grant



Enrollees in 2018-19 academic year. Source: ECONorthwest

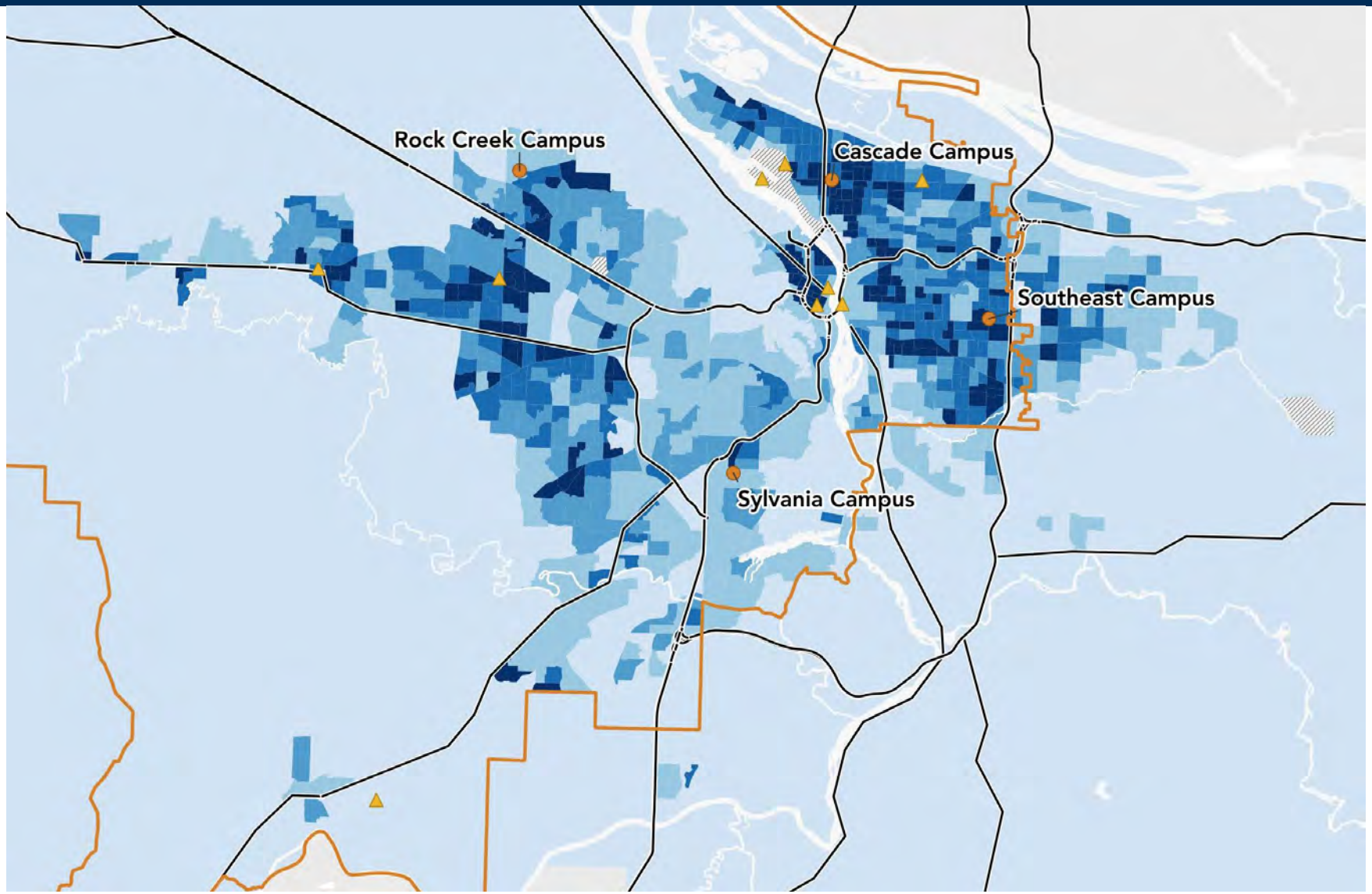
BIPOC enrollees who were offered a Pell grant



Enrollees in 2018-19 academic year. Source: ECONorthwest

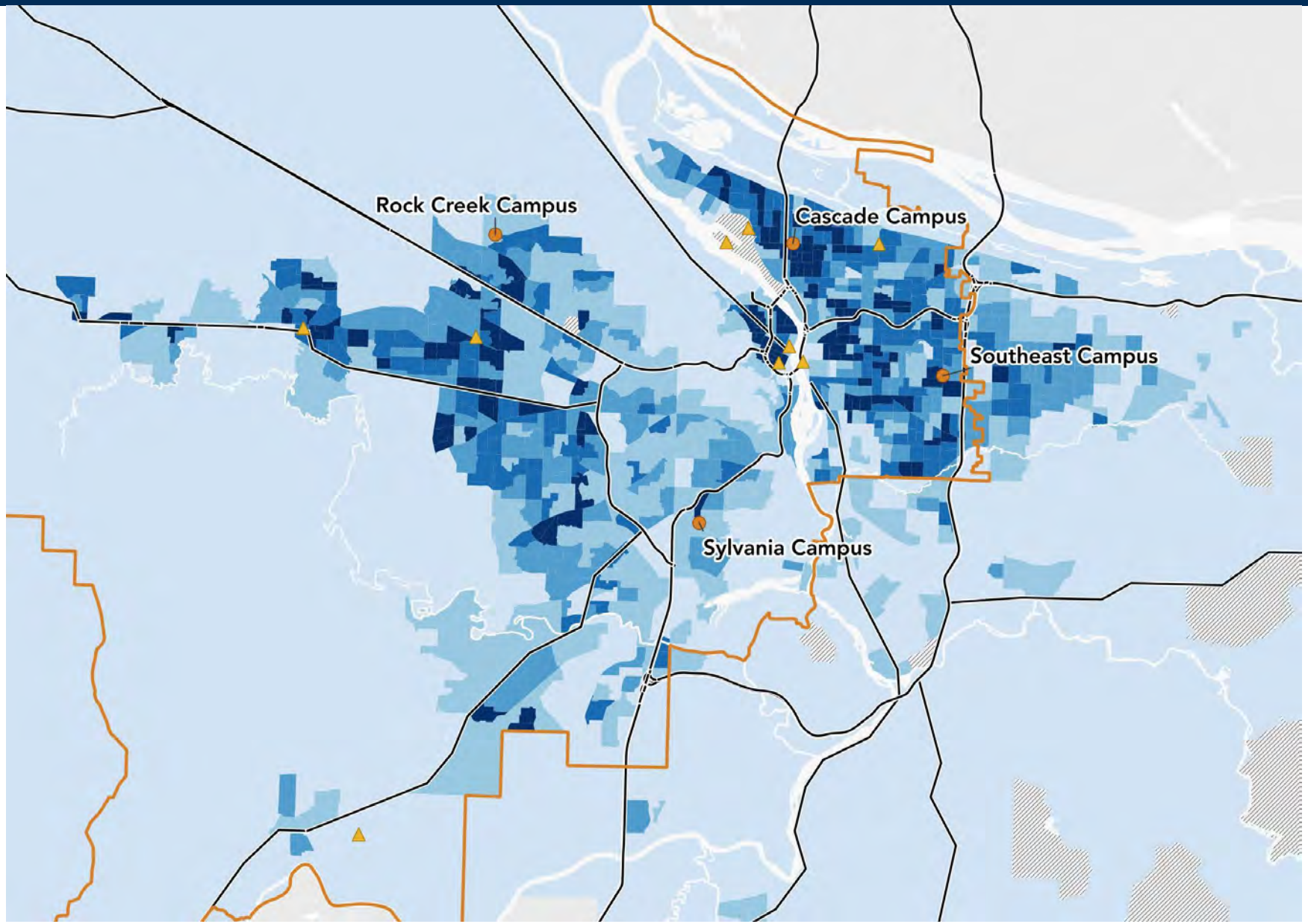
Enrollees by CTE and pathways, 2018-19

All enrollees except those exclusively in community education, continuing education, and non-reimbursable courses



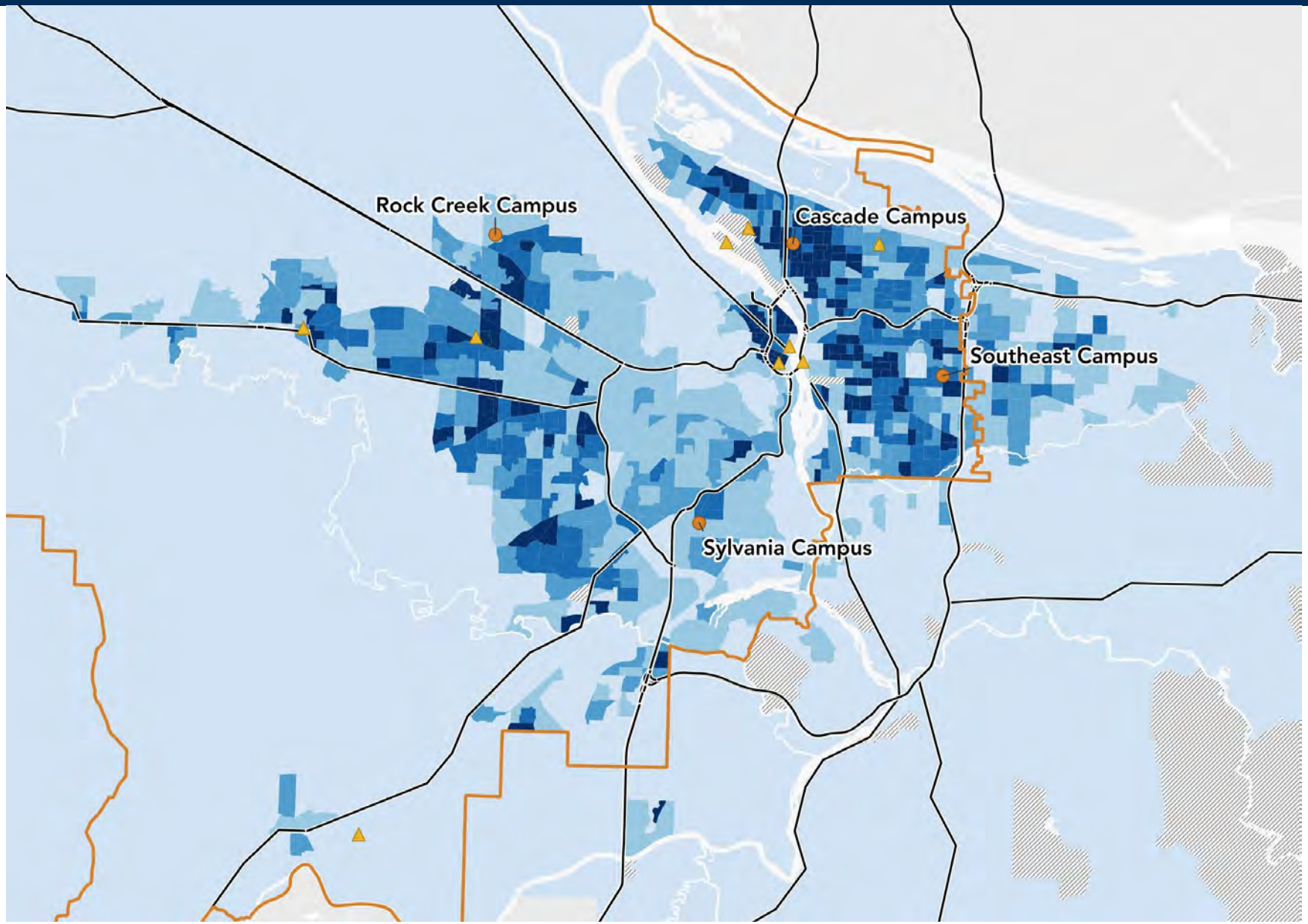
Enrollees in 2018-19 academic year. Source: ECONorthwest

Career and Technical Education (CTE)



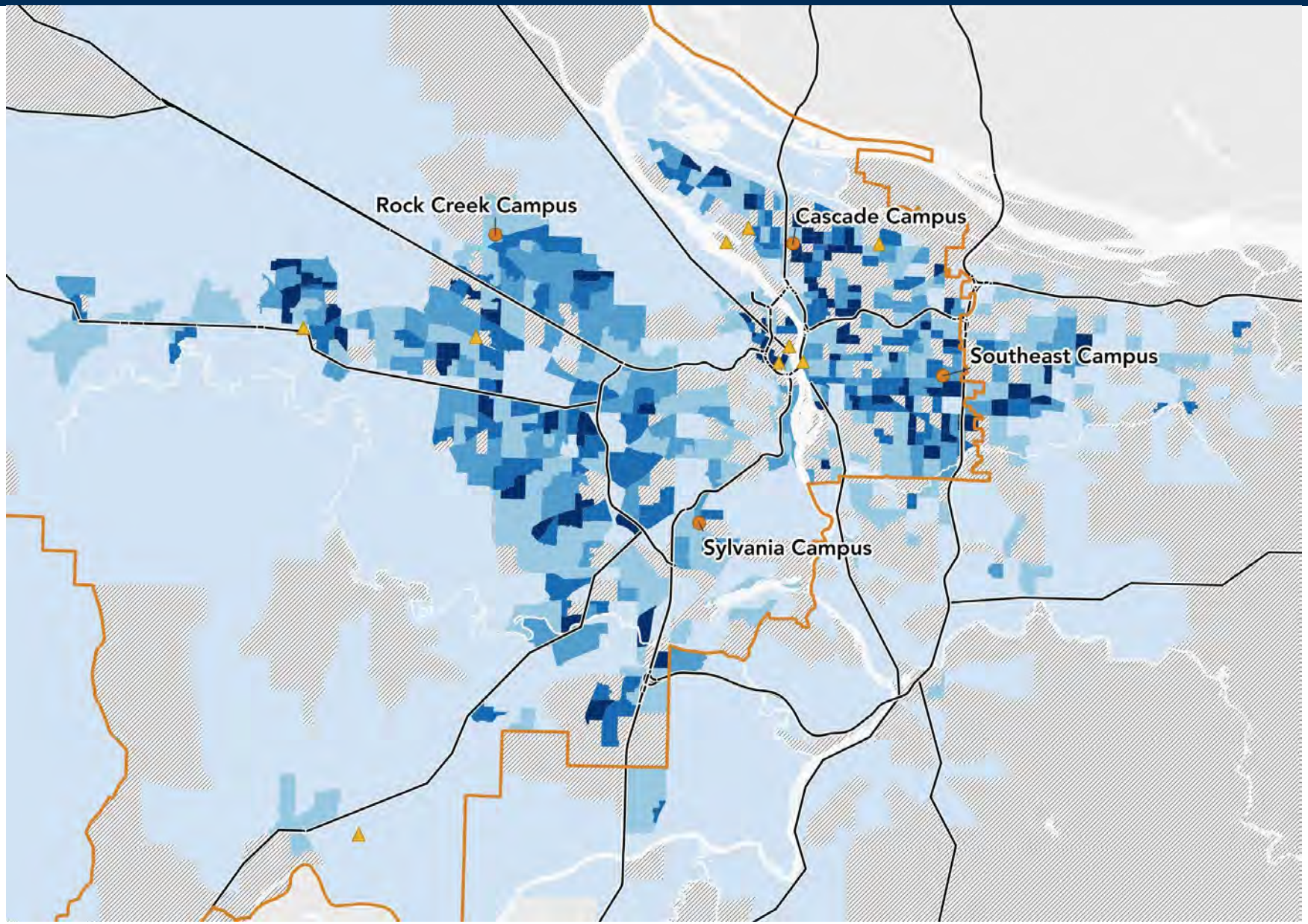
Enrollees in 2018-19 academic year. Source: ECONorthwest

Arts, humanities, communication, and design



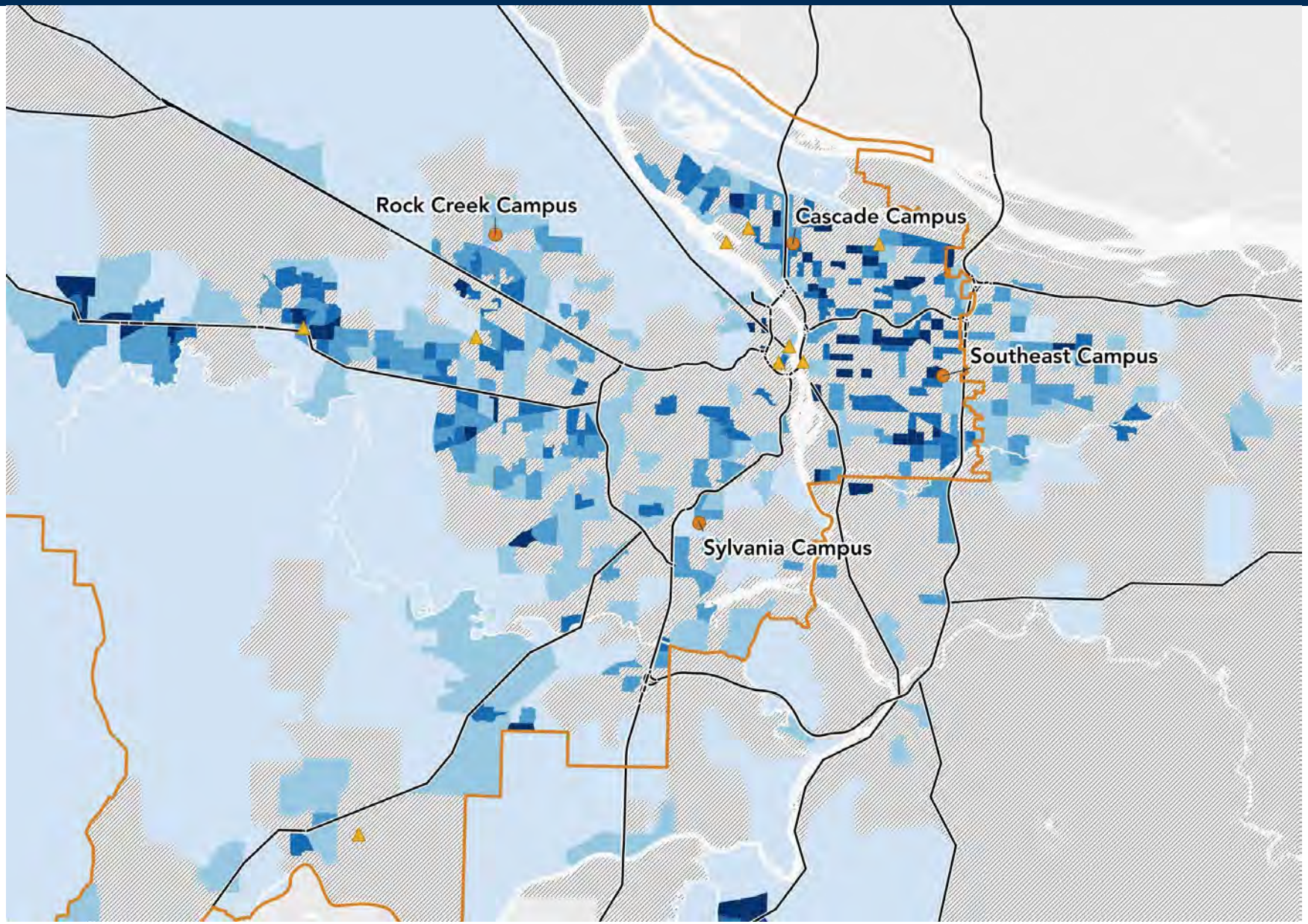
Enrollees in 2018-19 academic year. Source: ECONorthwest

Business and entrepreneurship



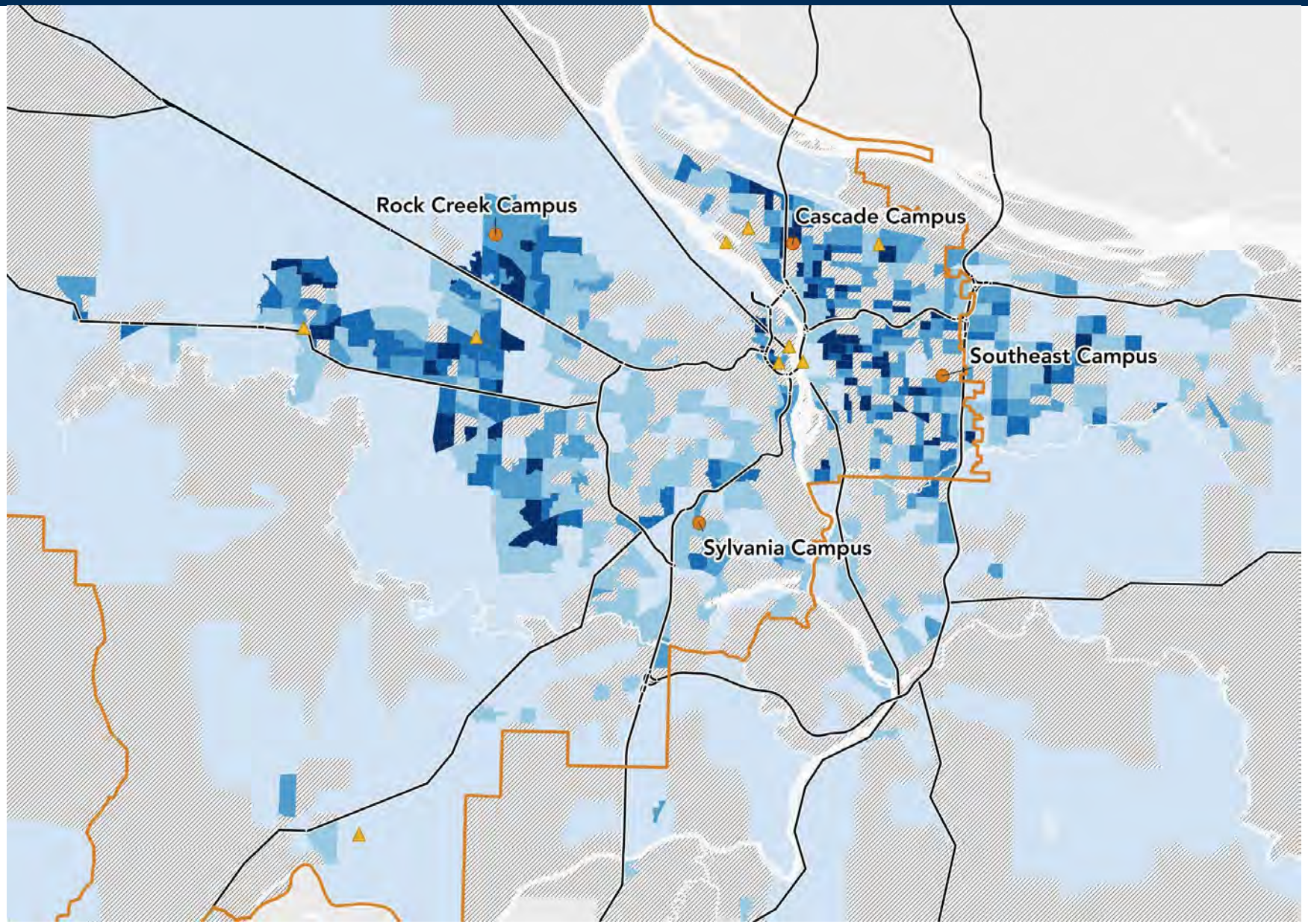
Enrollees in 2018-19 academic year. Source: ECONorthwest

Construction, manufacturing technology & transportation



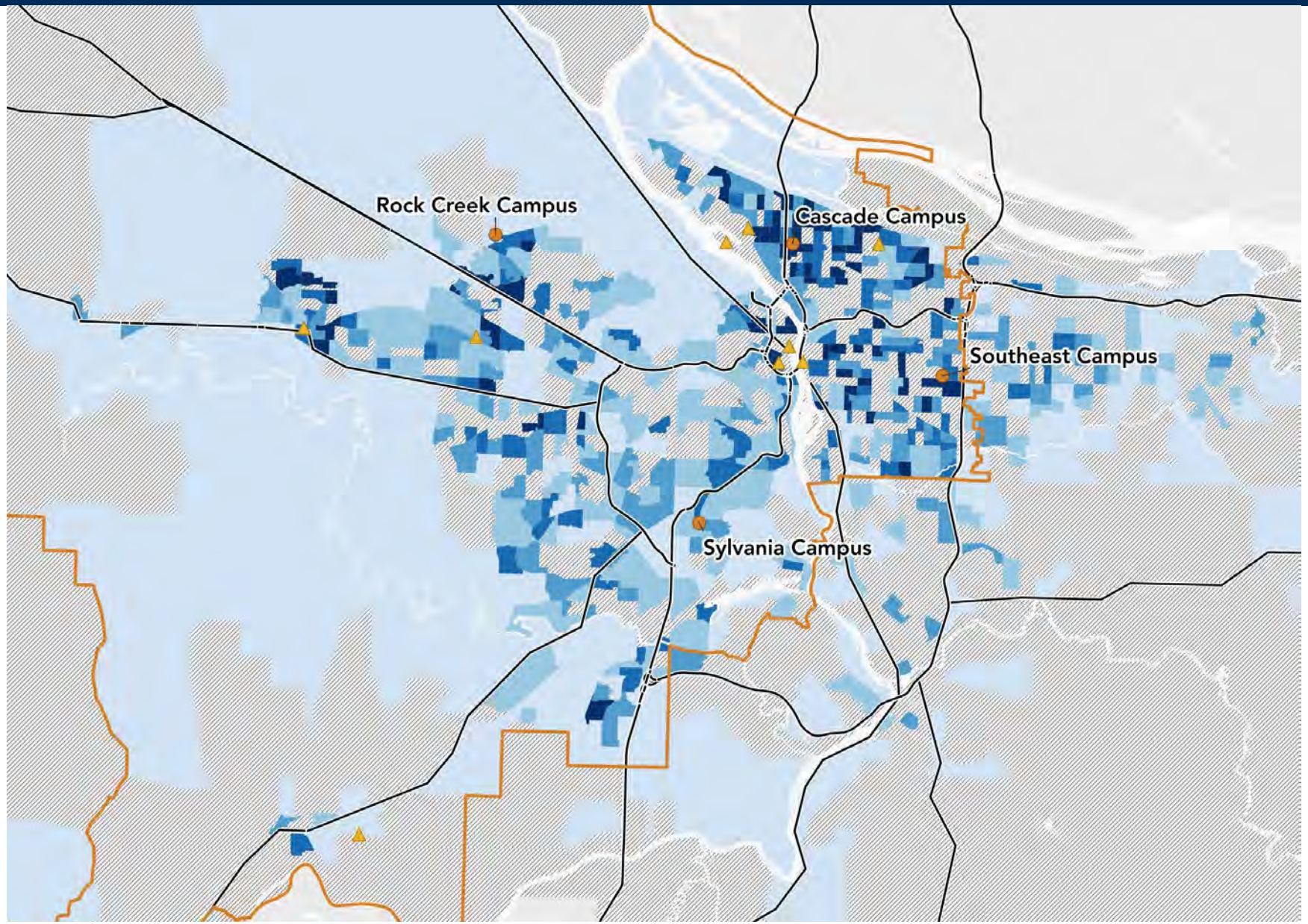
Enrollees in 2018-19 academic year. Source: ECONorthwest

Healthcare and emergency professions



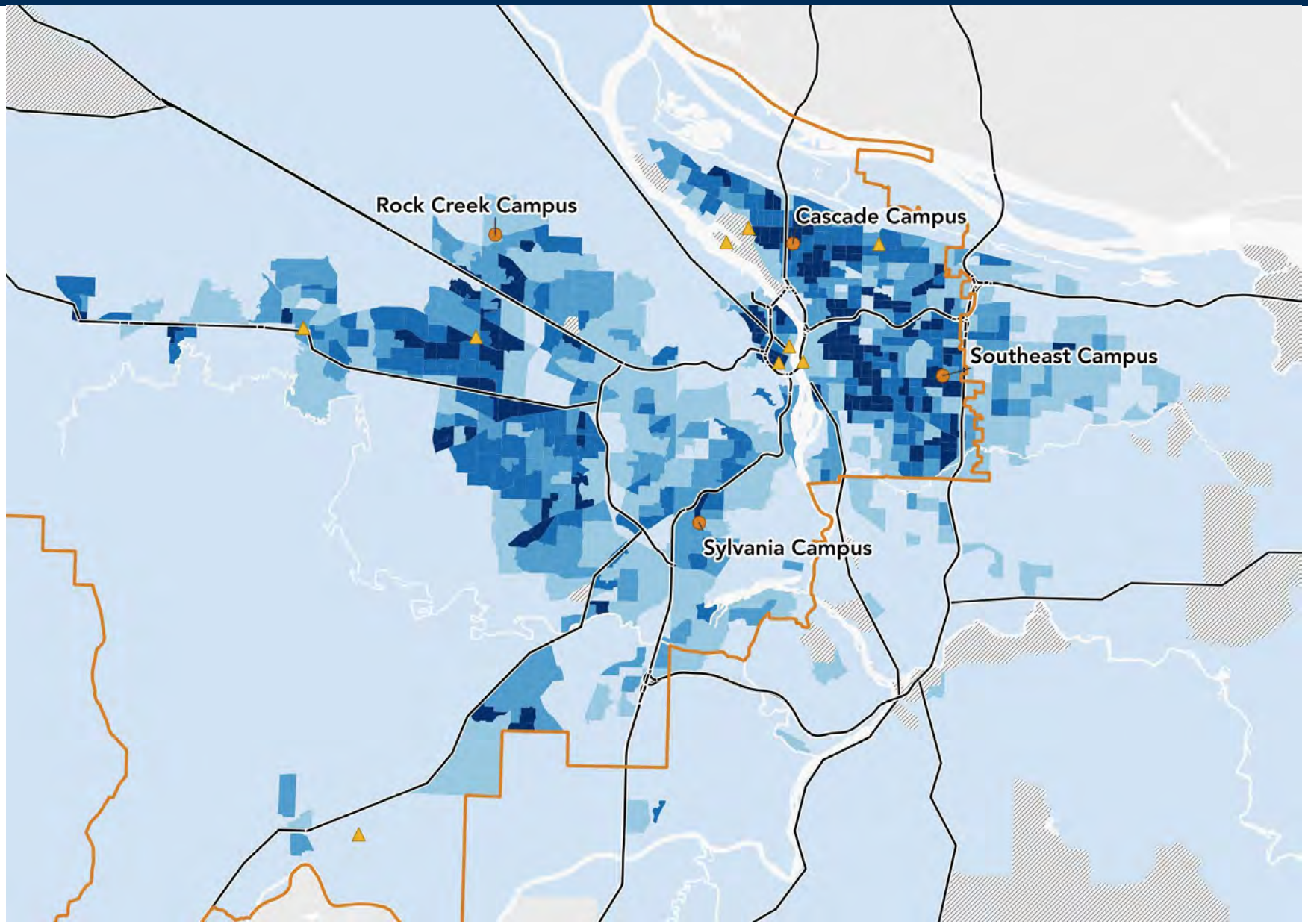
Enrollees in 2018-19 academic year. Source: ECONorthwest

Public service, education, and social sciences



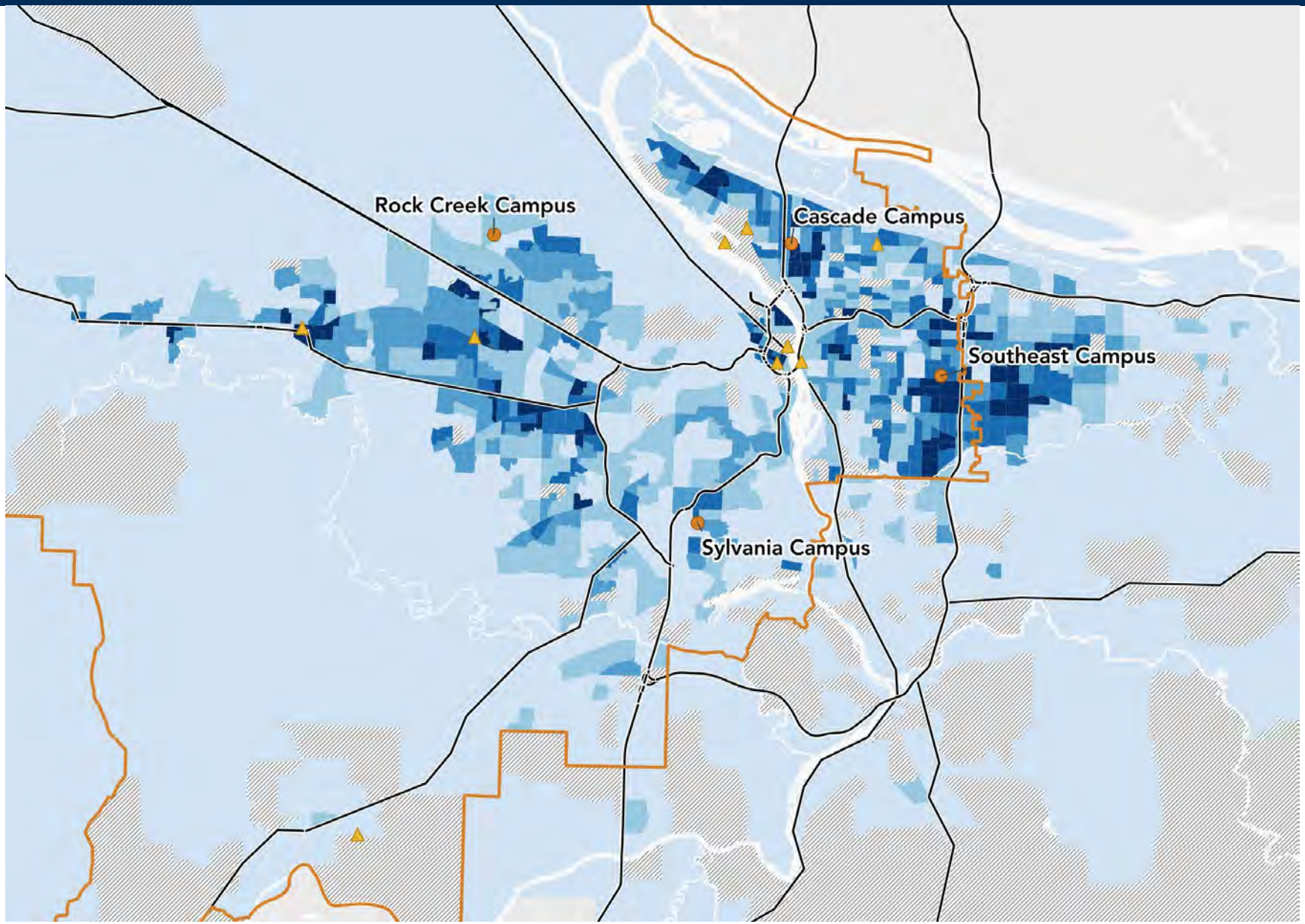
Enrollees in 2018-19 academic year. Source: ECONorthwest

Science, technology, engineering, and mathematics (STEM)



Enrollees in 2018-19 academic year. Source: ECONorthwest

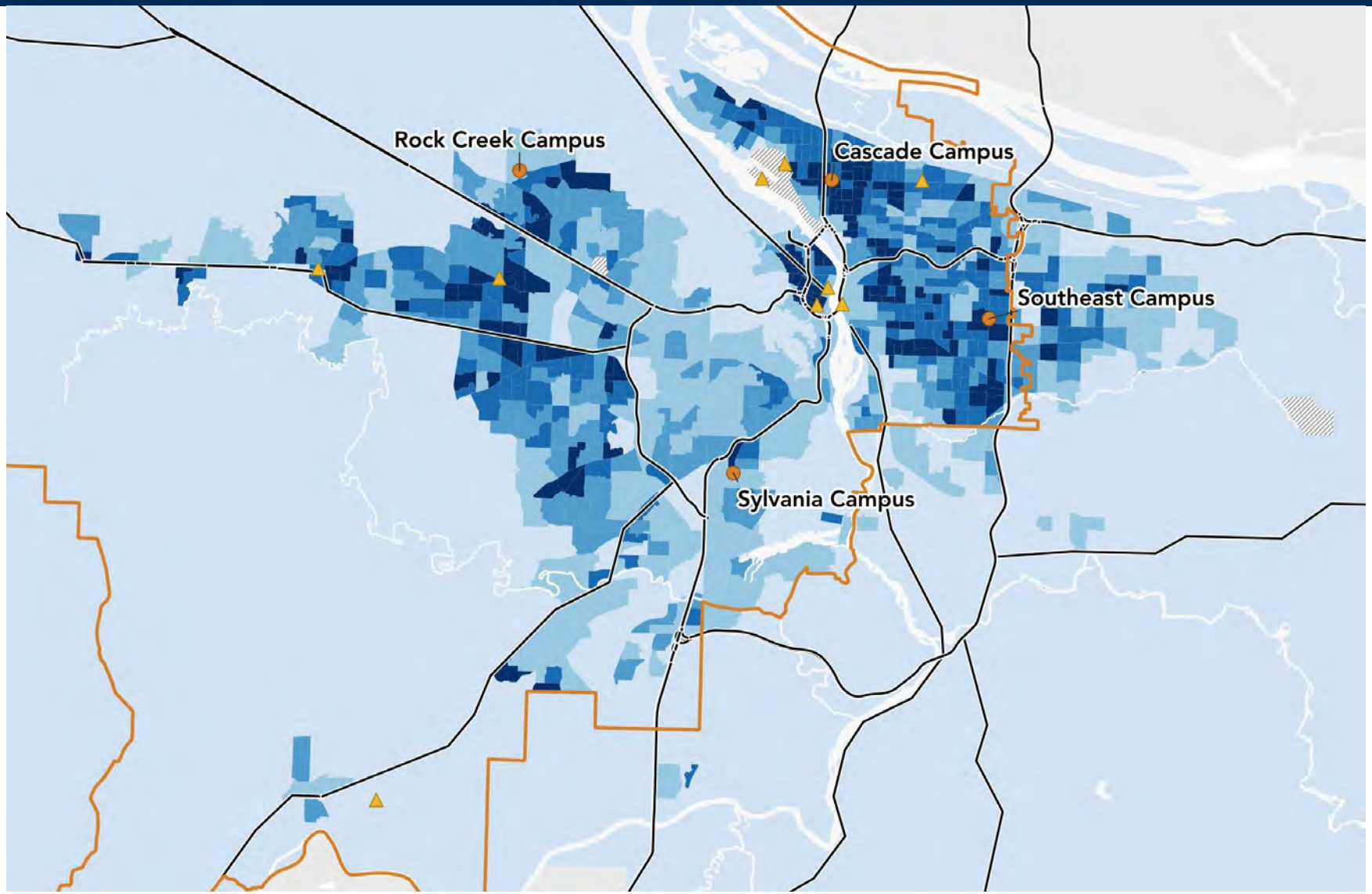
Enrollees not assigned to a pathway



Enrollees in 2018-19 academic year. Source: ECONorthwest

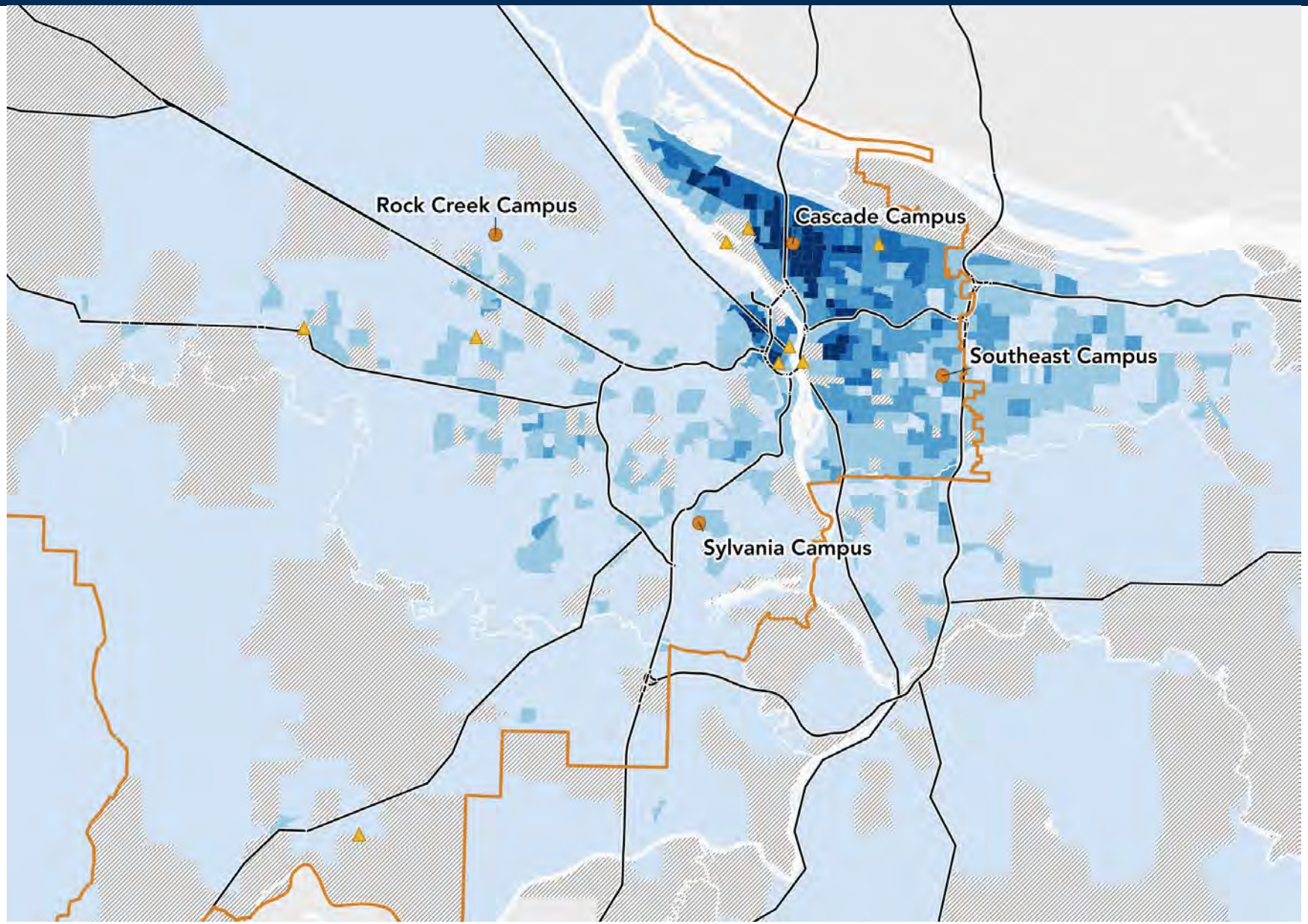
Enrollees by campus and modality, 2018-19

All enrollees except those exclusively in community education, continuing education, and non-reimbursable courses



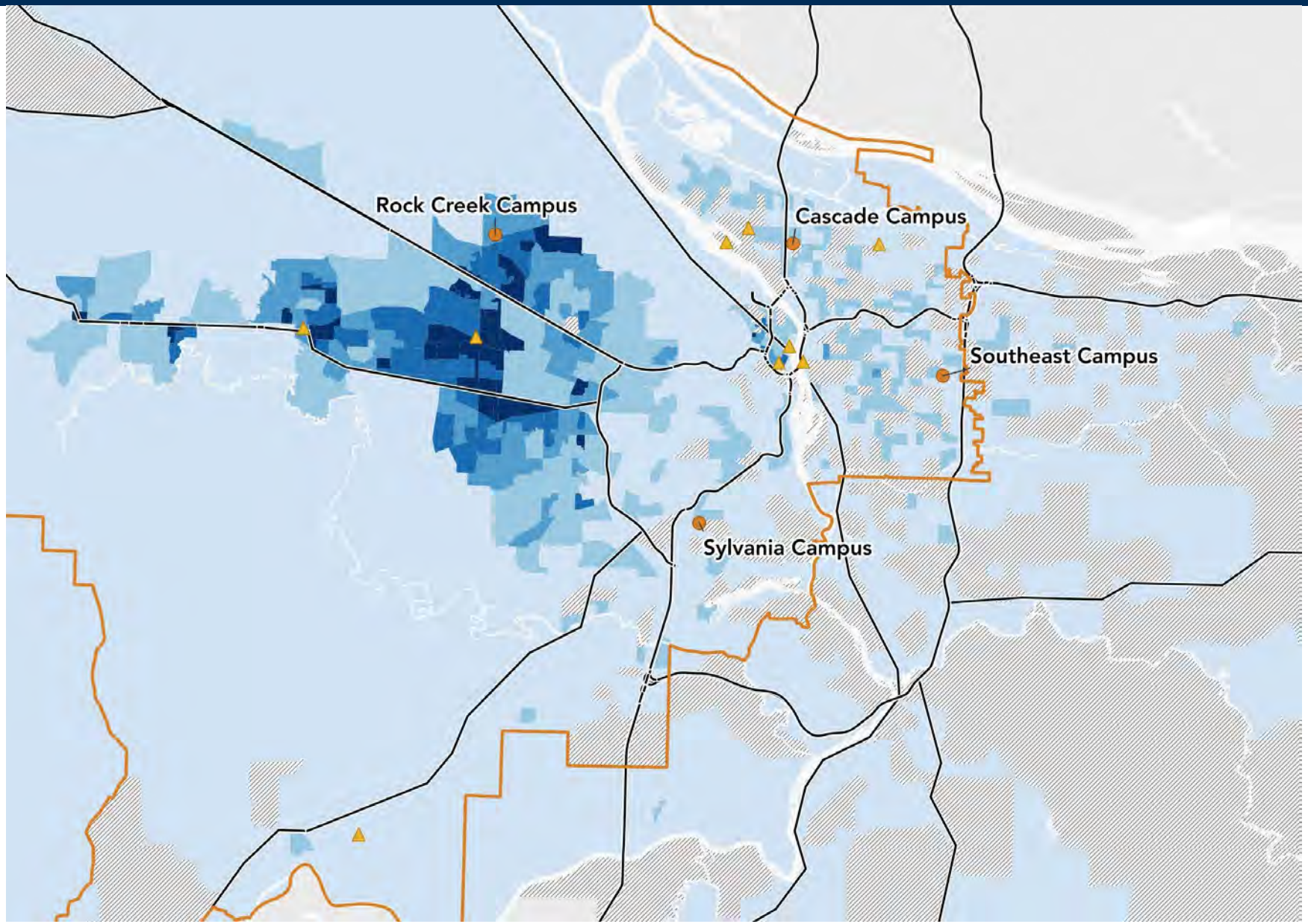
Enrollees in 2018-19 academic year. Source: ECONorthwest

Cascade Campus



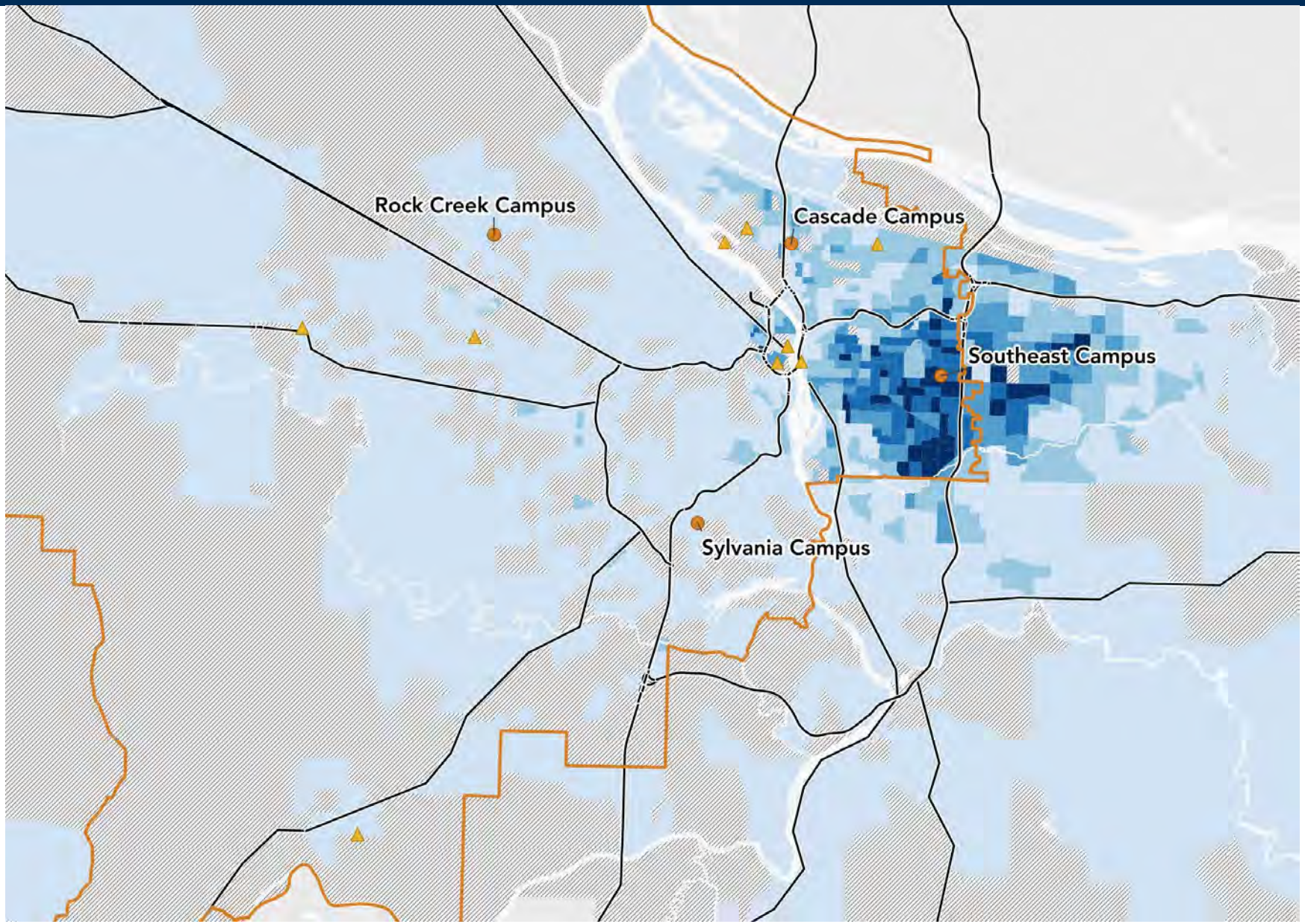
Enrollees in 2018-19 academic year. Source: ECONorthwest

Rock Creek Campus



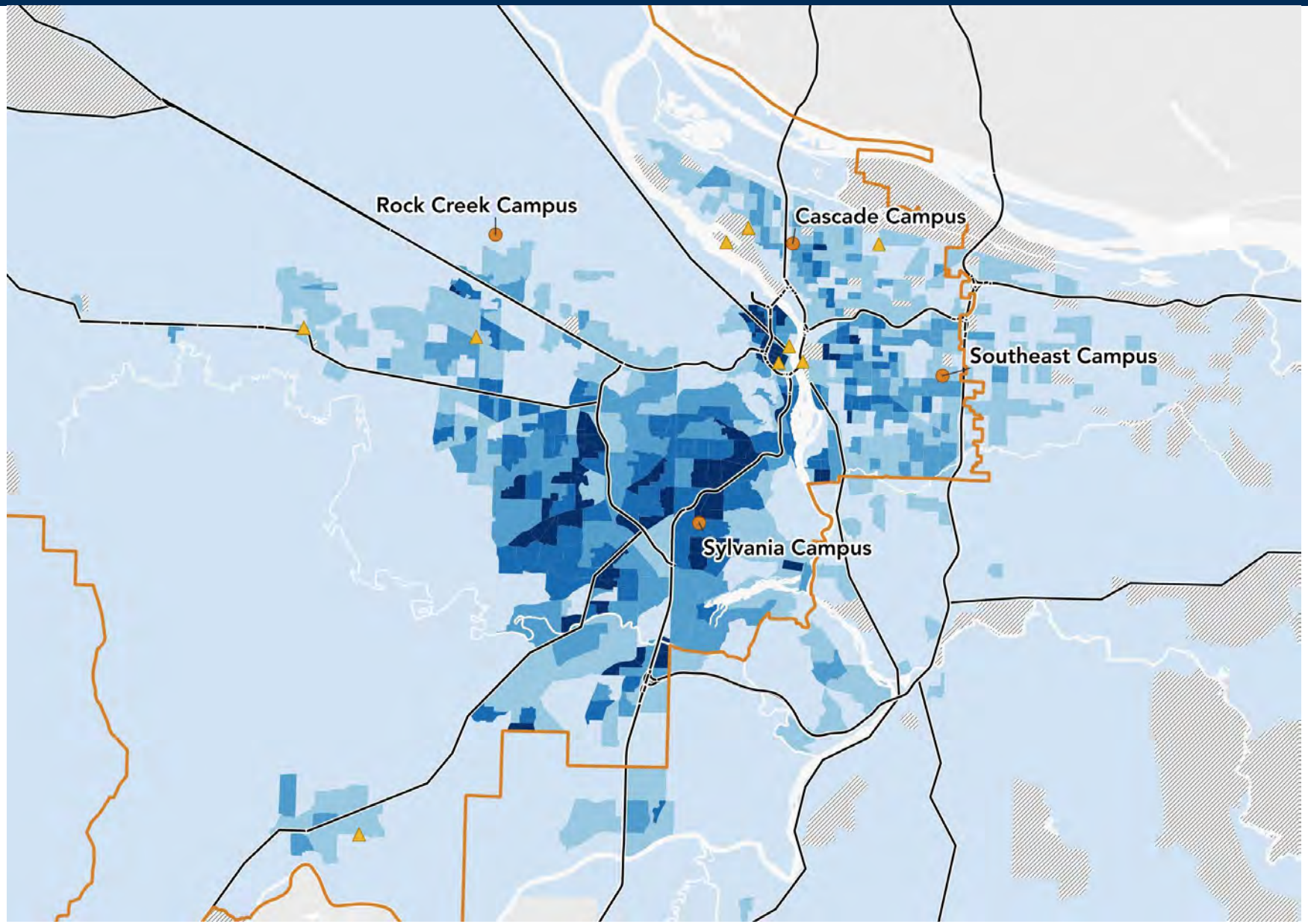
Enrollees in 2018-19 academic year. Source: ECONorthwest

Southeast Campus



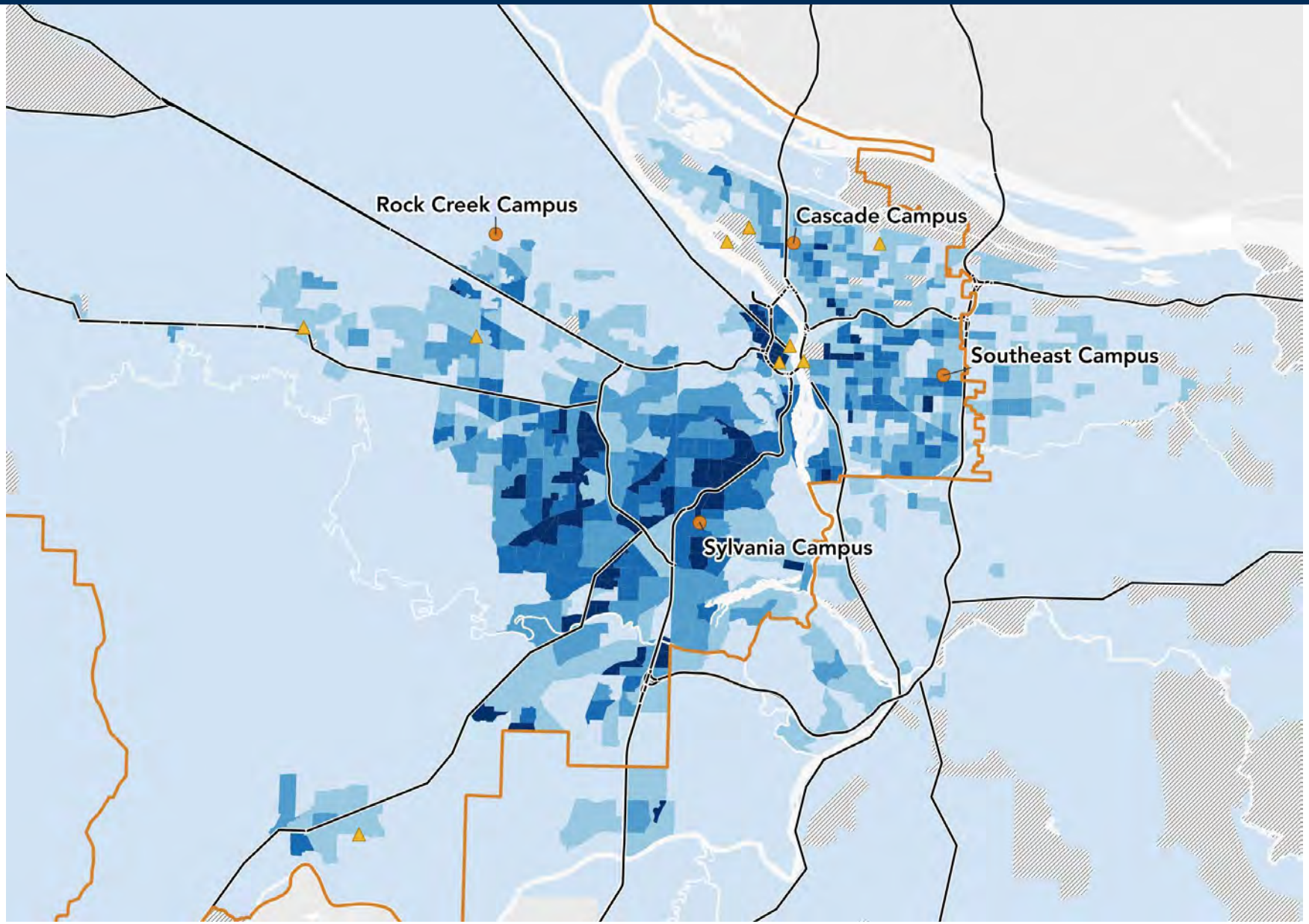
Enrollees in 2018-19 academic year. Source: ECONorthwest

Sylvania Campus



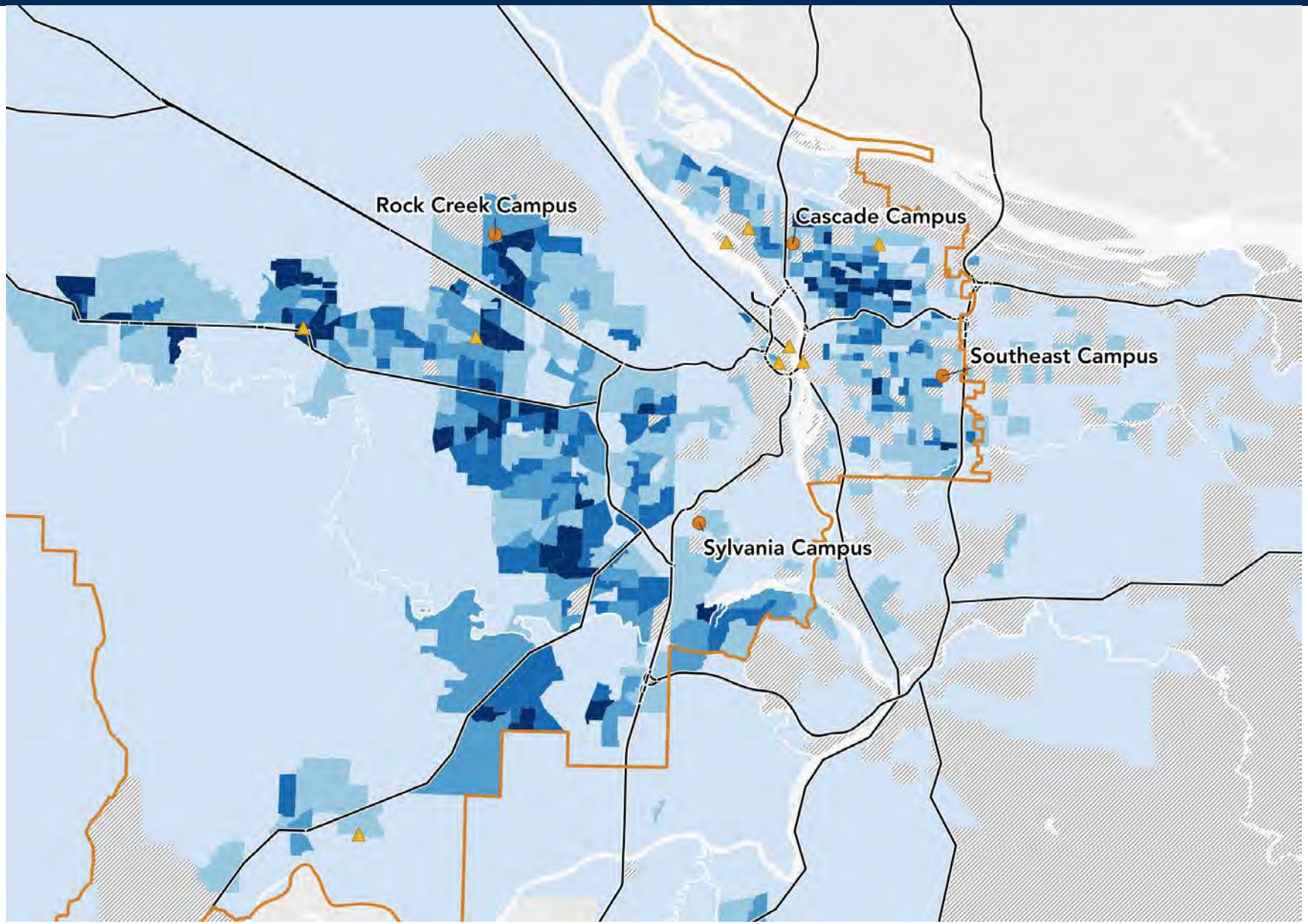
Enrollees in 2018-19 academic year. Source: ECONorthwest

Sylvania Campus enrollees based on budget data



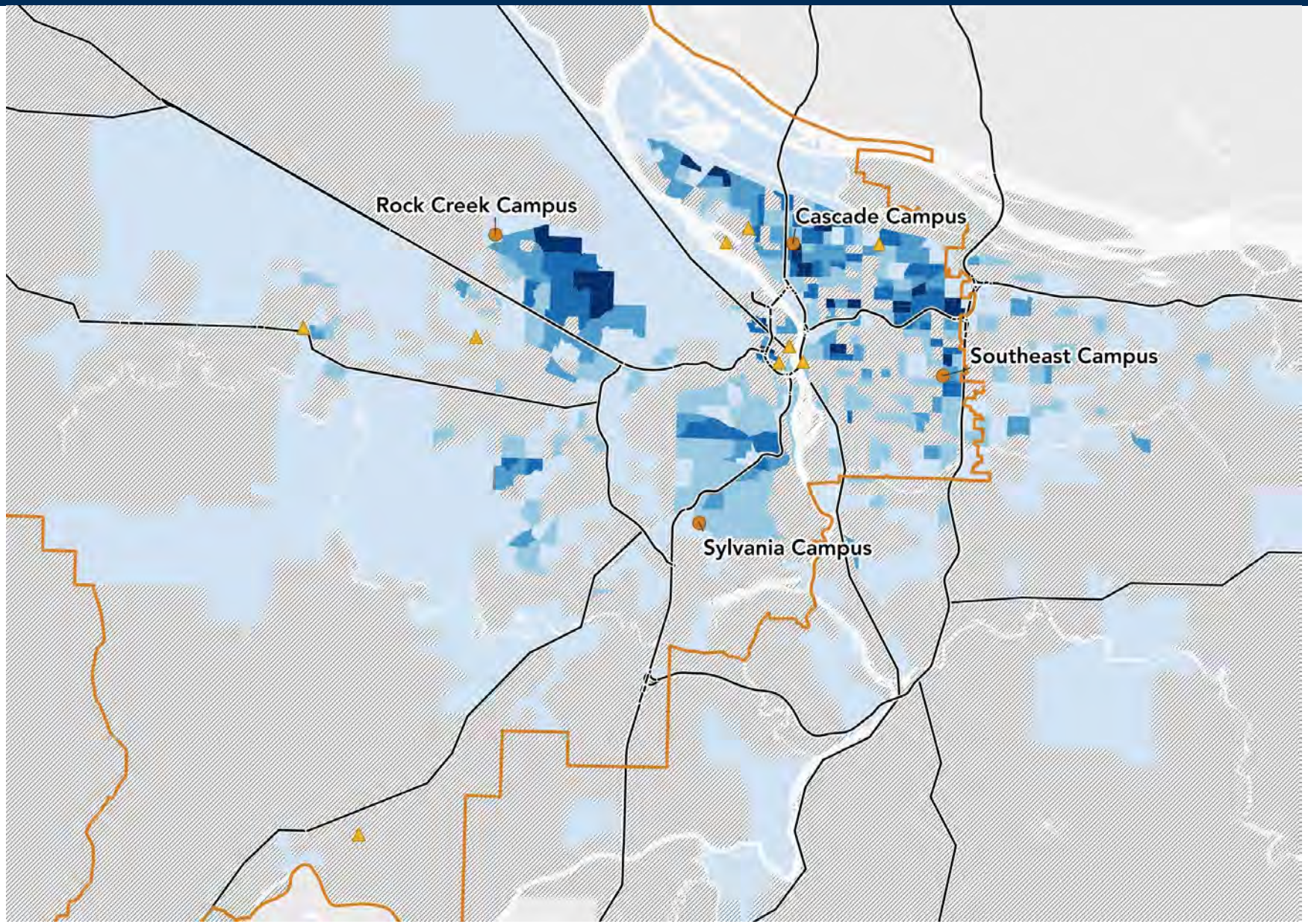
Enrollees in 2018-19 academic year. Source: ECONorthwest

Enrollees assigned to other locations



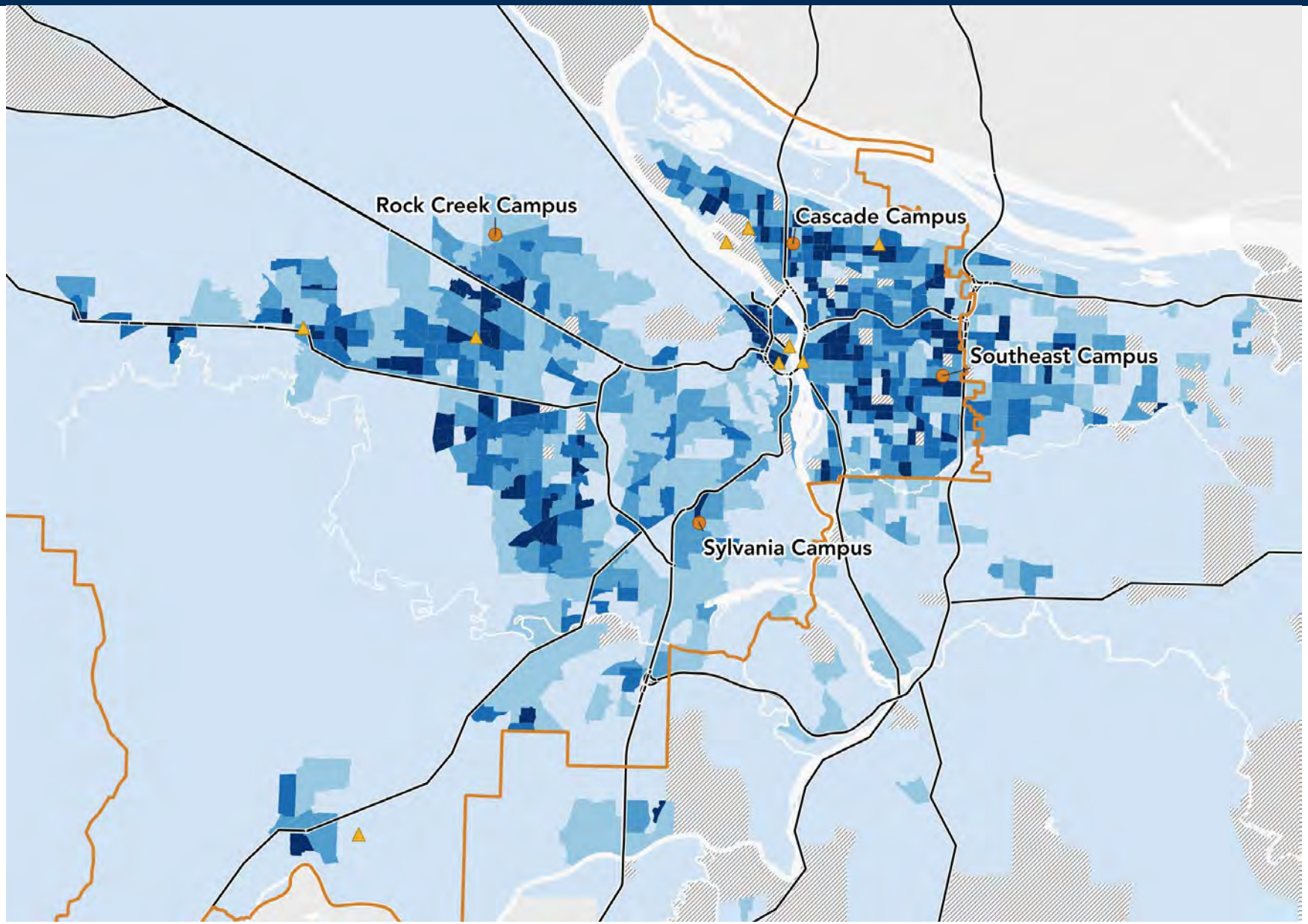
Enrollees in 2018-19 academic year. Source: ECONorthwest

Enrollees without campus location information



Enrollees in 2018-19 academic year. Source: ECONorthwest

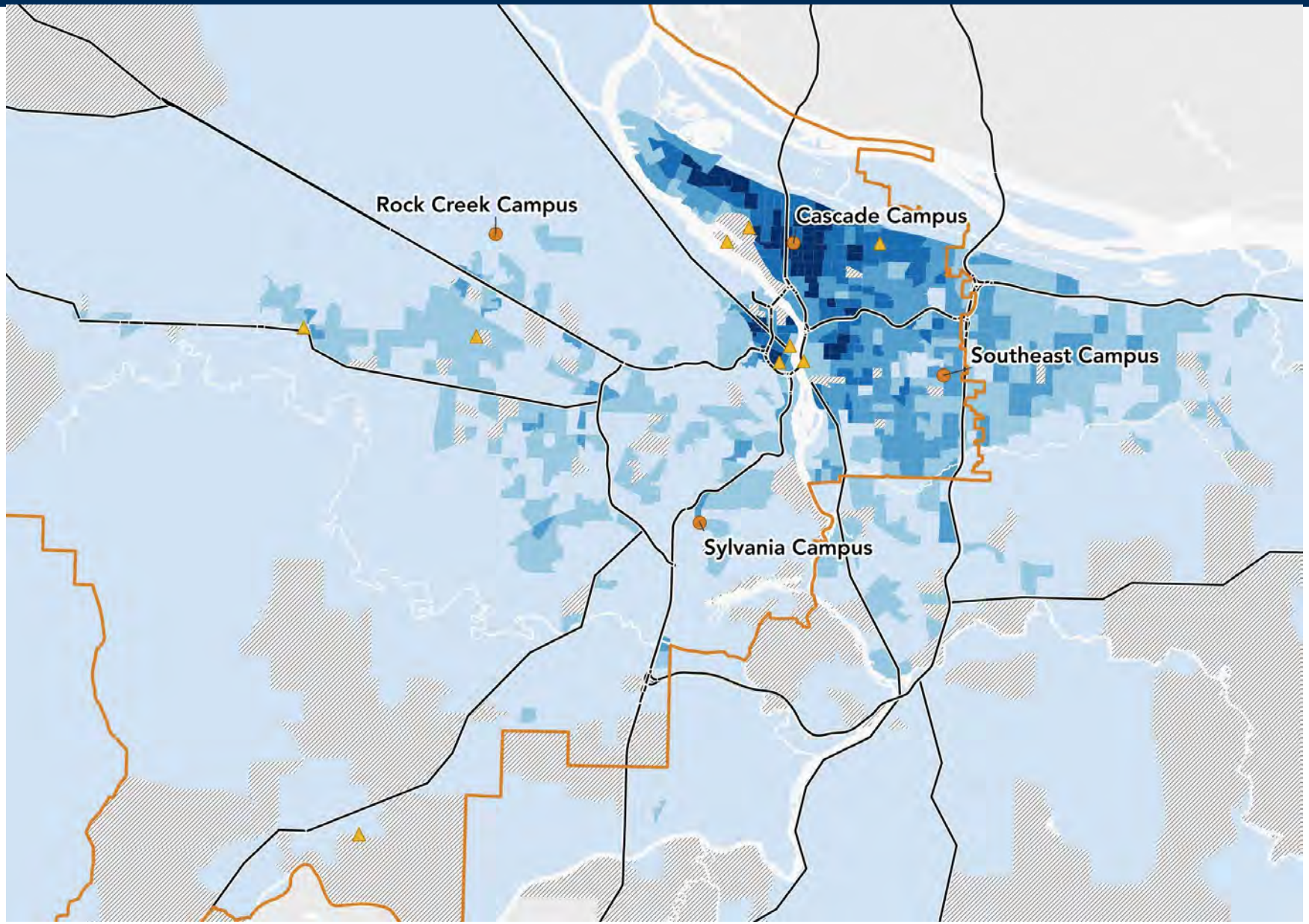
Online only



Enrollees in 2018-19 academic year. Source: ECONorthwest

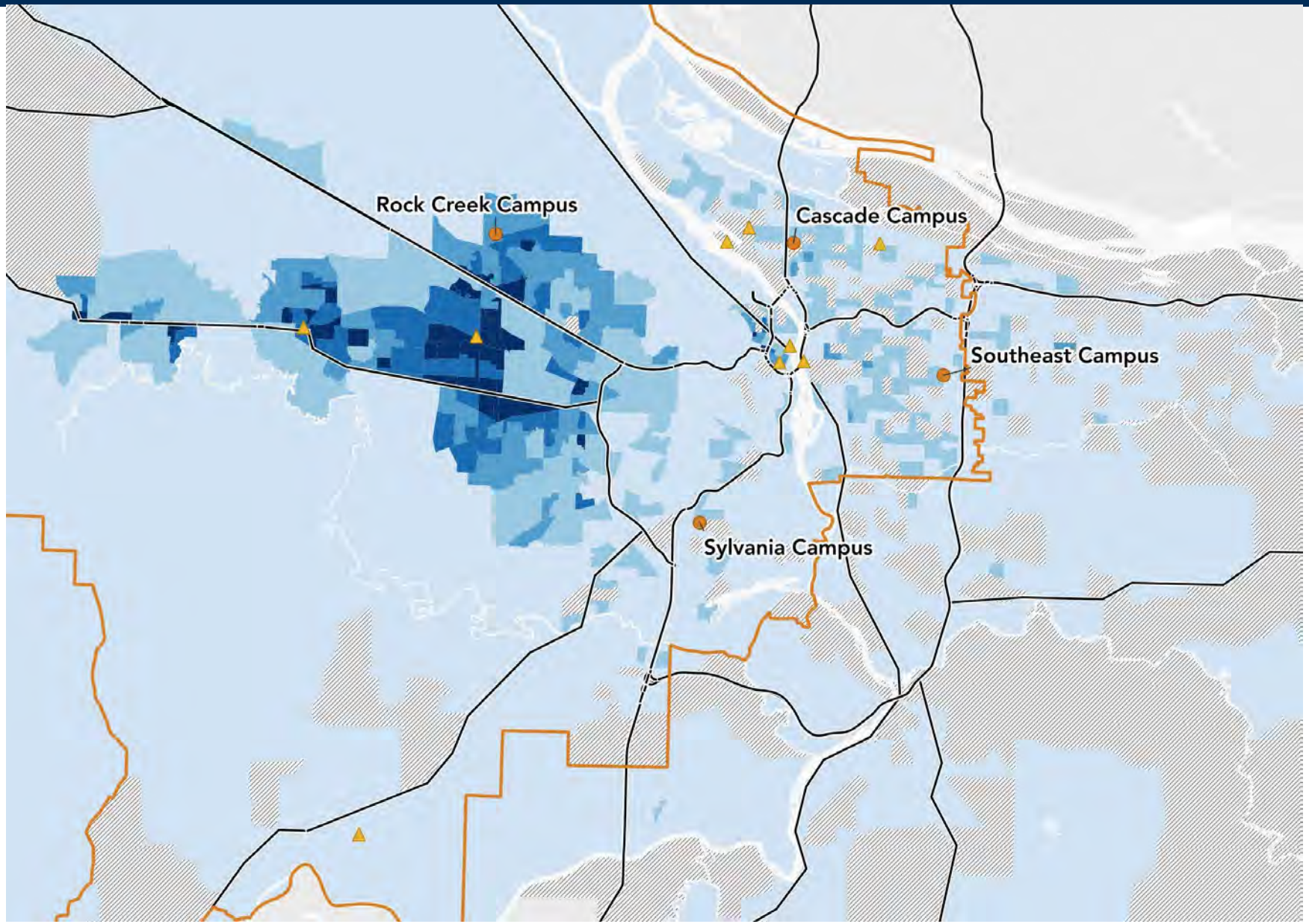
Appendix, 2018-19 data

Cascade Campus enrollees based on budget data



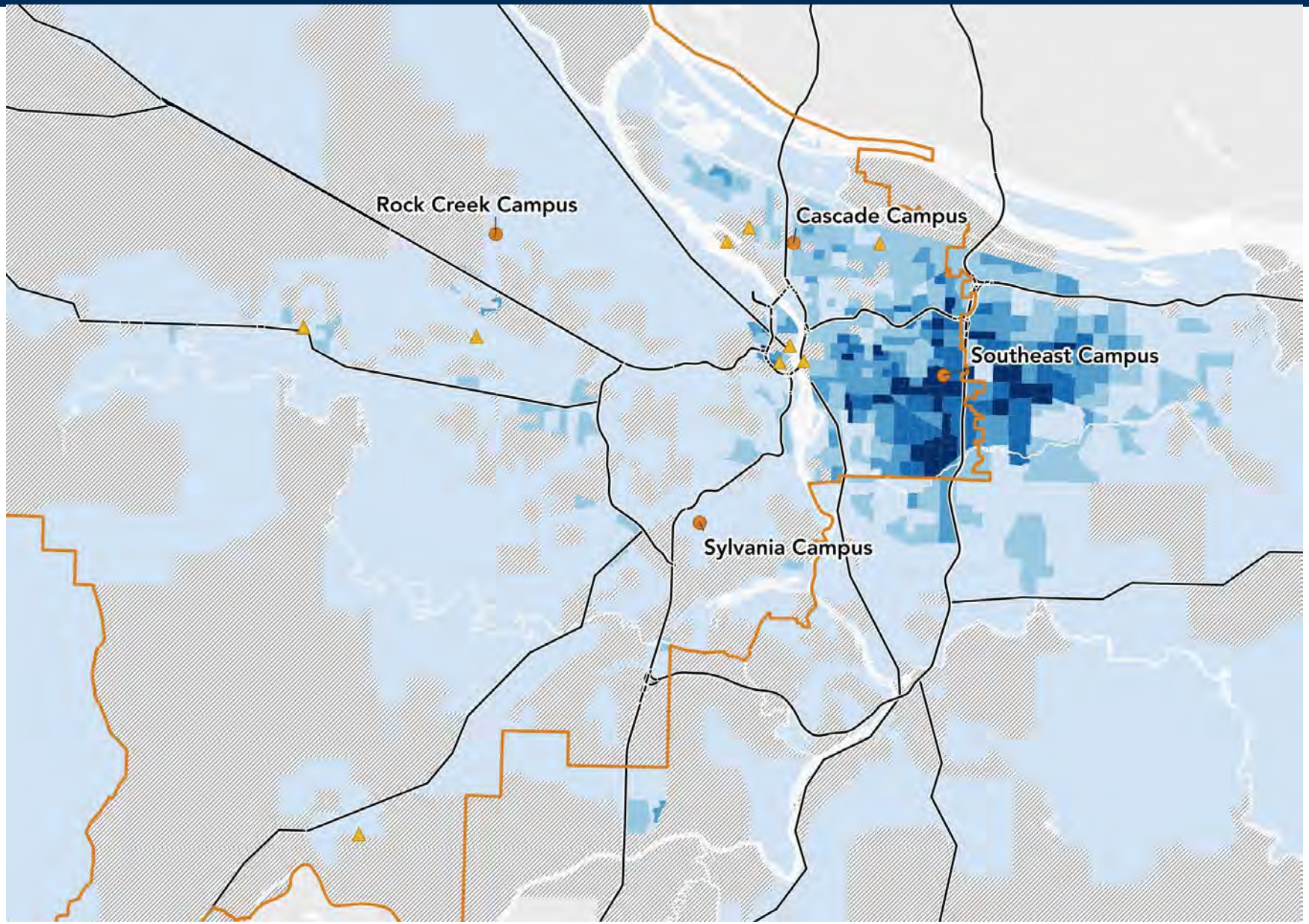
Enrollees in 2018-19 academic year. Source: ECONorthwest

Rock Creek Campus enrollees based on budget data



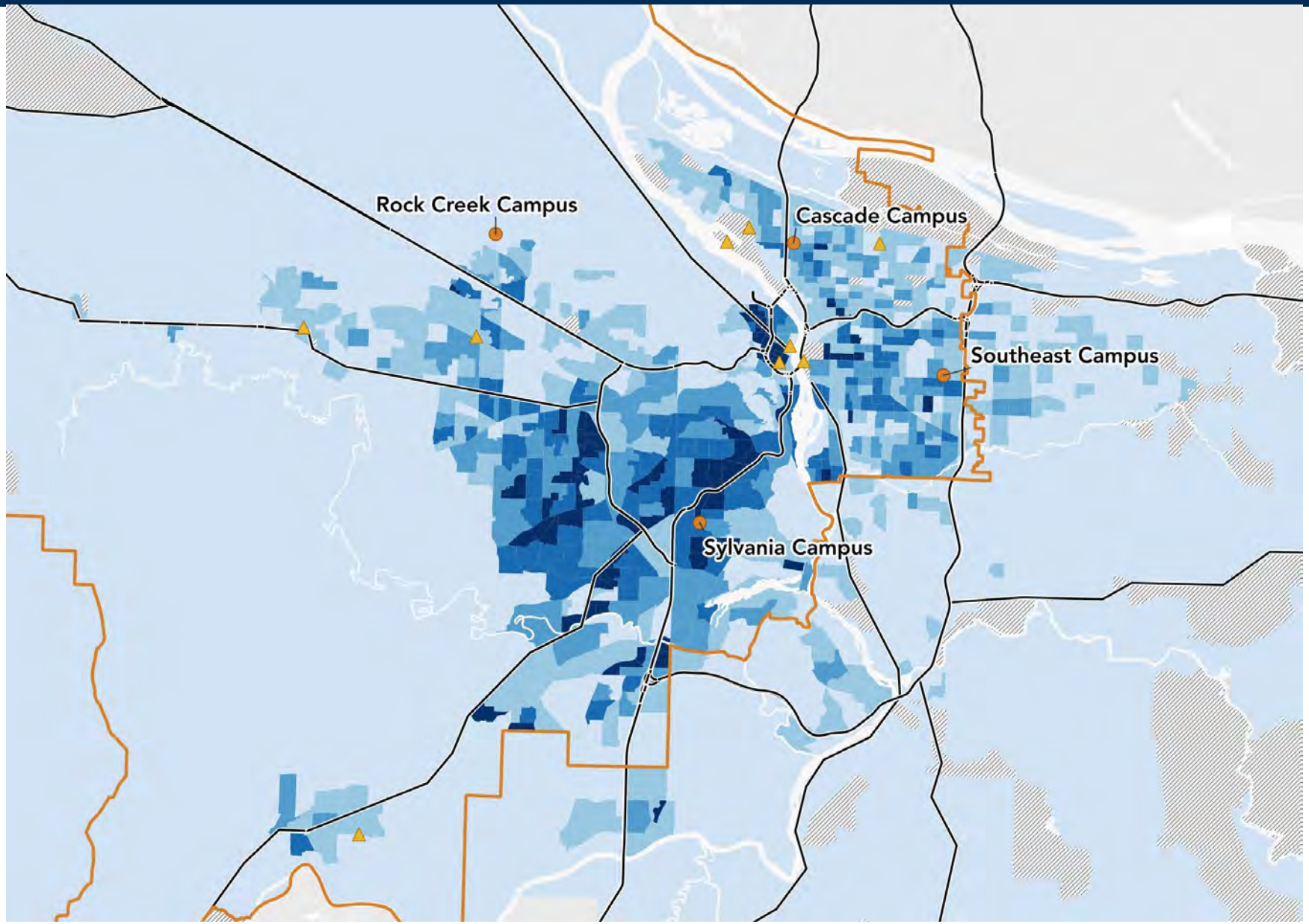
Enrollees in 2018-19 academic year. Source: ECONorthwest

Southeast Campus enrollees based on budget data



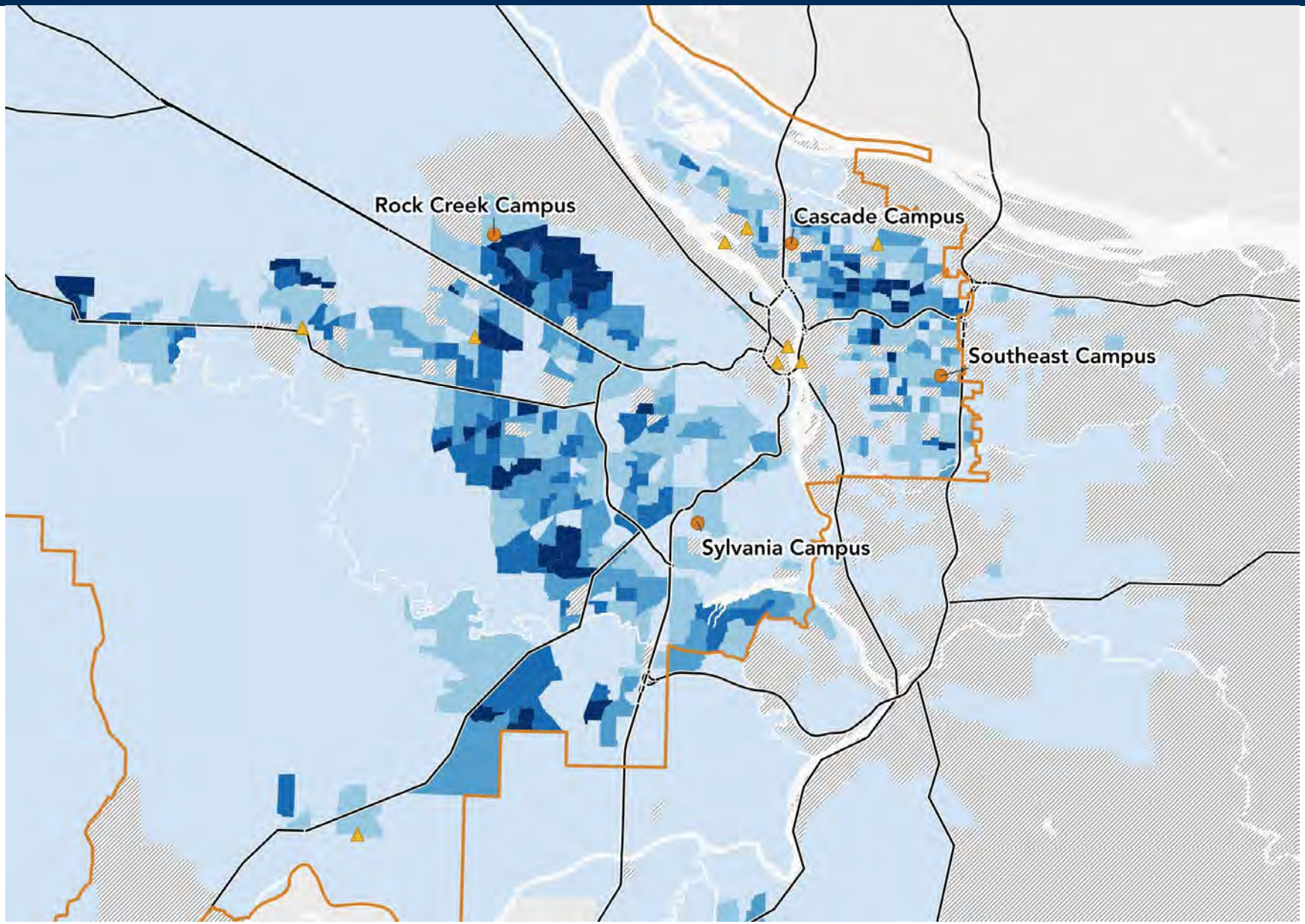
Enrollees in 2018-19 academic year. Source: ECONorthwest

Sylvania Campus enrollees based on budget data



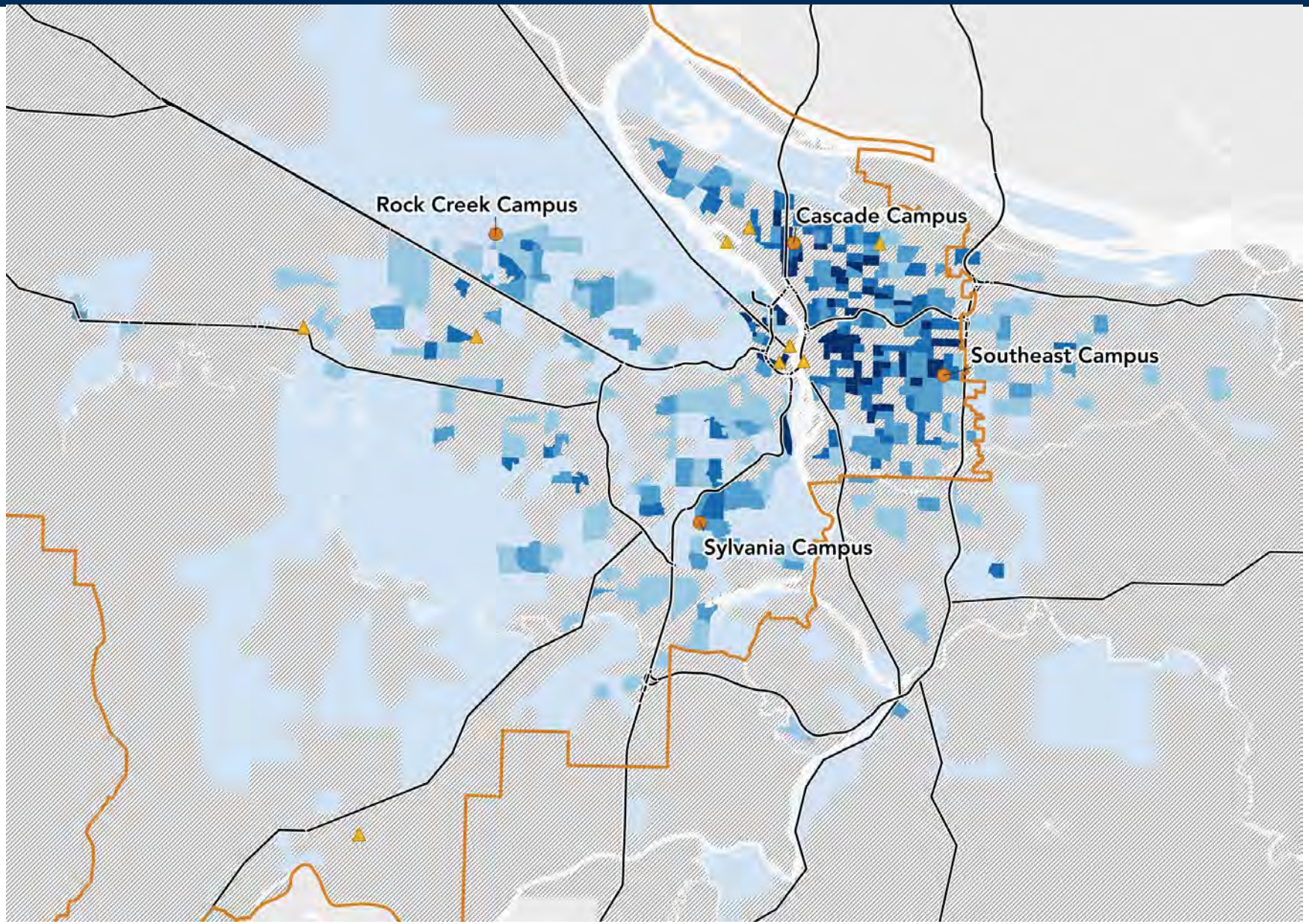
Enrollees in 2018-19 academic year. Source: ECONorthwest

Educational Service enrollees based on budget data



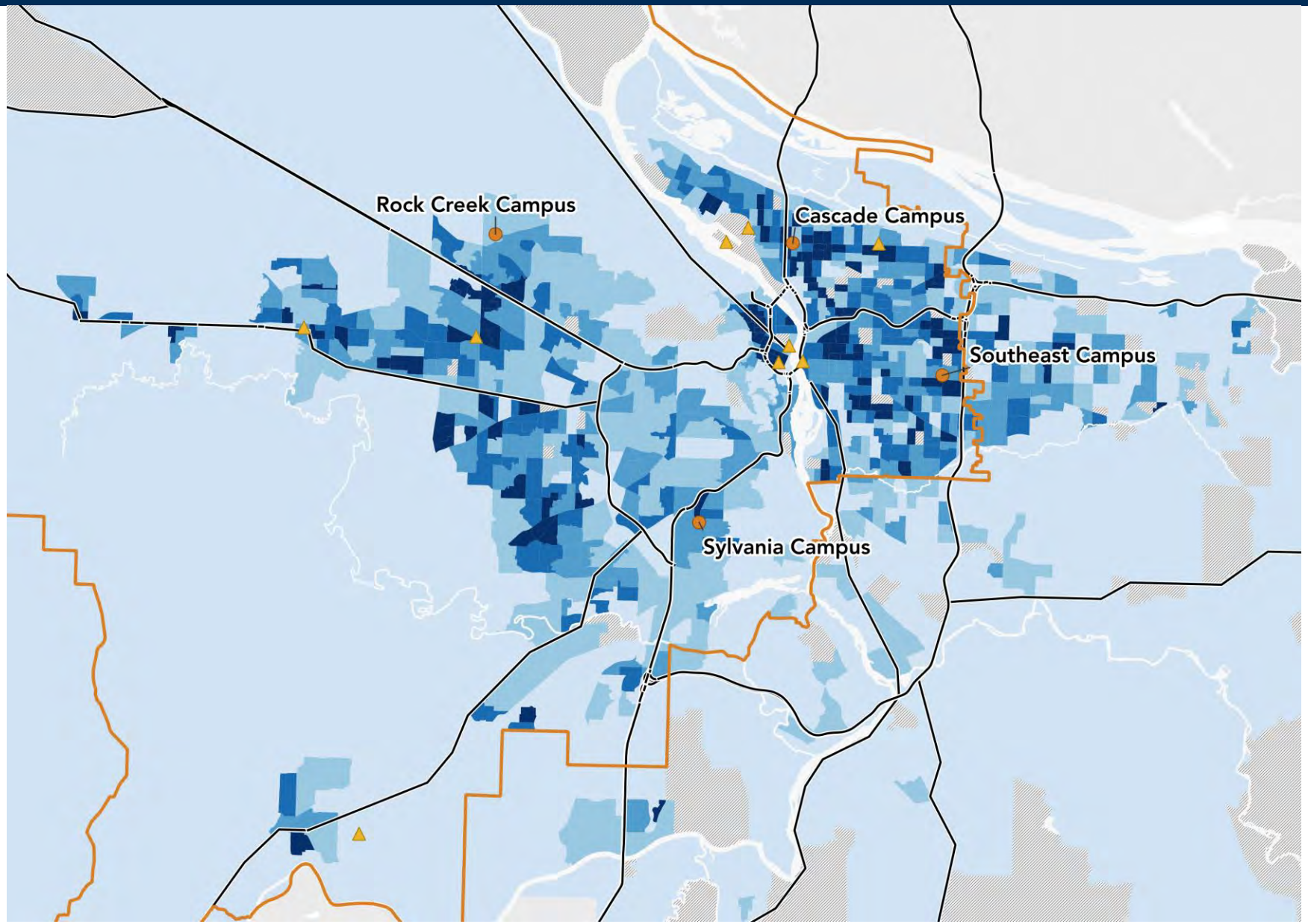
Enrollees in 2018-19 academic year. Source: ECONorthwest

Workforce enrollees based on budget data



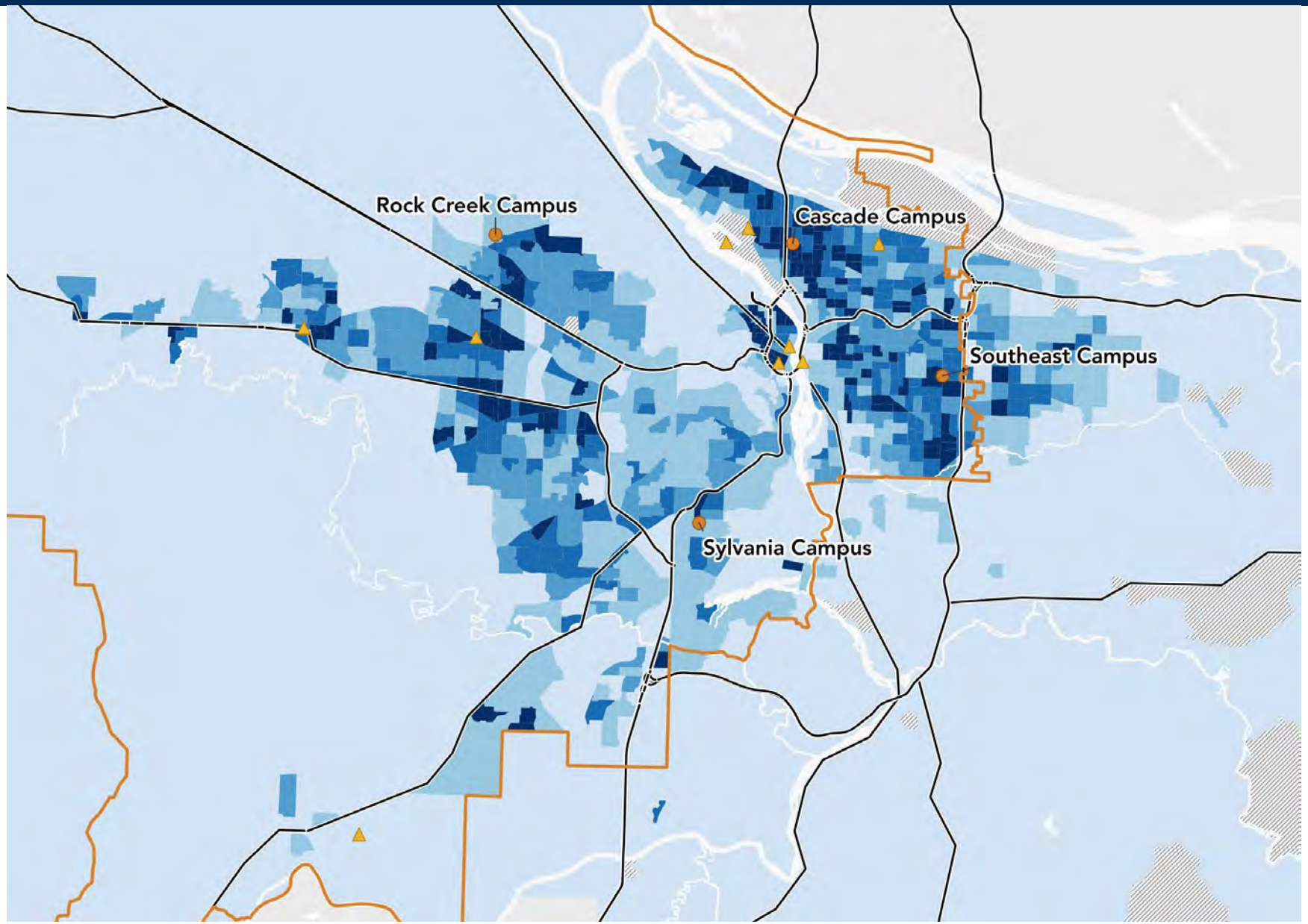
Enrollees in 2018-19 academic year. Source: ECONorthwest

Online-only enrollees based on budget data



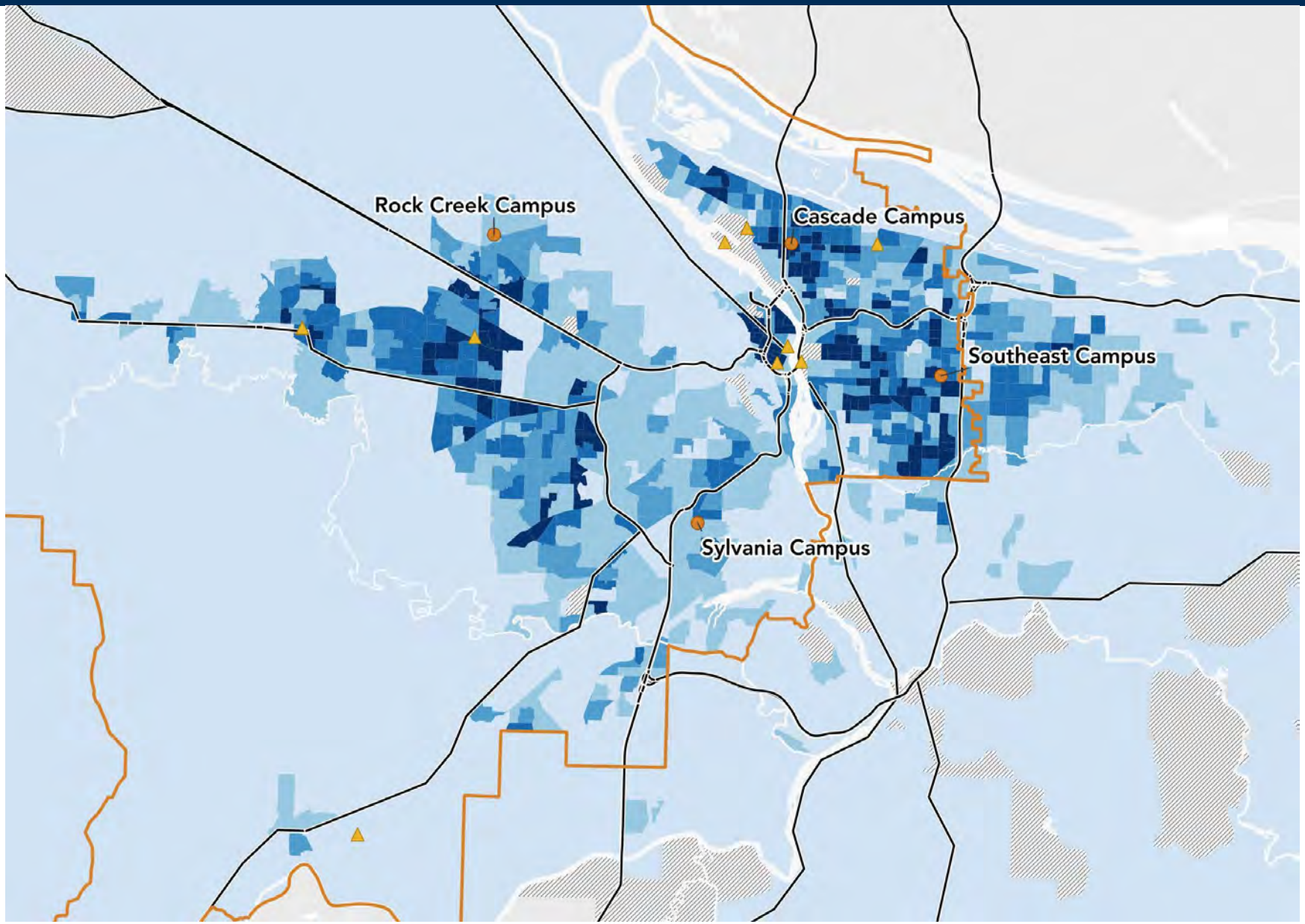
Enrollees in 2018-19 academic year. Source: ECONorthwest

On-campus-only enrollees based on budget data



Enrollees in 2018-19 academic year. Source: ECONorthwest

Enrollees in both on-campus and online courses, based on budget



Enrollees in 2018-19 academic year. Source: ECONorthwest

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