The so-called “fricative vowels” are vocoids with unusually anterior tongue-palate constriction locations characterized by their light, fully voiced fricative noise, ranging in quality from [s]- to [ç]-like. Fricative vowels commonly develop from *i, *y in the Wú and Jiānghuái Mandarin dialects of the Jiāngnán region; they are absent in Standard Chinese, which is in intense contact with all Chinese varieties in this area. Using a newly collected ultrasound corpus of 44 speakers of Sūzhōu Chinese, I examine change in fricative vowel tongue shapes over 40 years of apparent time (1960–2000). While speakers born before 1980 use strikingly similar tongue shapes for the fricative vowels and consonantal fricatives such as /ɕ/, this structure decoheres in the group born after 1990, who use unrelated and more varied tongue shapes for these two sets of segments.

I interpret this group difference as contact-induced structural change manifesting mainly in the fricative vowels of the younger speakers. However, these changes cannot be reduced to a shift to Standard Chinese phonotactics. In fact, the innovative fricative vowel variants appear constrained to resemble other segments: an /s/-like variant prevails among some younger speakers, and an /i/-like strategy for others, with very few intermediate values. Each innovative fricative vowel variant observed in Sūzhōu Chinese can be connected to communitywide developments observed in other nearby dialects, suggesting that uniformity with existing structure constrains the outcomes of contact-induced sound change on a broader scale. Specifically, a set of /i/-like fricative vowels foreshadow the merger with /i/, /y/ found in Wú dialects of the Shànghǎi area, and a set of /s/-like fricative vowels anticipate the merger with /s/-like “apical vowels” in the Jiānghuái Mandarin dialects spoken in eastern Ānhuī province around Héféi.