	Circuit Breaker	Longtime Owner Occupant Program (LOOP)	
Trigger for Tax Relief	The threshold is dependent on the measure of property tax relative to household income (a sliding scale model adjusts relief relative to income brackets) e.g. income sensitive	The threshold is dependent on the amount of increase in property valuation, reflected in a percentage increase in property taxes e.g. sensitive to changes in property value	
Jurisdiction	Generally, circuit breakers are applied at the state level	LOOP is applied at the municipal or county level; In Ohio, this will require state language that enables localities to enact local property tax programs (as is the case in PA and VA)	
Precedent	WI pioneered circuit breakers in 1964; many other states followed suit throughout the 1970's	Philadelphia's LOOP was passed in 2013, enacted in 2014	
No. of Active Programs	18 states current offer circuit breakers, though different studies cite different numbers of active breaker programs, depending on the specifics of the program (18 is the conservative count)	There is only one existing LOOP (in Philadelphia), and legislation has been introduced for LOOP in Pittsburgh. Similar programs exist in 3 other cities, though they are not identical	
Existing Case Studies	Various case studies exist that review circuit breaker programs, as early as 1974 to a 2018 report by the Institute on Taxation and Economic Policy	LOOP has been indirectly reviewed by a Pew Charitable Trusts (2015) study looking at Philly's Actual Value Initiative, and by the Philadelphia Federal Reserve (2018) looking into gentrification	
How are foregone revenues made up?	In state-funded programs, the state will often reimburse local governments for the credited tax amounts	Unclear; the abated taxes in Philadelphia may just be treated as foregone revenue	

Table 4: Administrative Mechanisms used for Income-based Property Tax Relief

	Direct rebate check	Income tax credit	Property tax exemption or credit
States using this approach	California, Colorado, Connecticut (R), Illinois, Iowa (R), Kansas, Maine, Maryland (R), Minnesota, New Hampshire*, New Jersey, Nevada*, Oregon, Pennsylvania, South Dakota*, Vermont (R), Wyoming*	Arizona, District of Columbia, Massachusetts, Michigan, Missouri, Montana (E), New Mexico, New York, Oklahoma, Rhode Island, Wisconsin, West Virginia	Connecticut (O), Idaho, Iowa (O), Maryland (O), Montana (D), Nebraska, North Dakota, Utah, Vermont (O), Washington*
Administrative concerns about this approach	Requires an independent mechanism by which taxpayers document their income and property tax bills State must create an independent rebate administration mechanism	Awareness among taxpayers that the state is providing property tax relief tends to be low Cannot be used by states with no income tax Back loaded tax relief	Taxpayers must document their income to local assessor or other administrative officer State must create mechanism by which to reimburse local government units for lost property tax revenue

Paper. https://www.lincolninst.edu/ sites/default/files/pubfiles/

Left: Anderson, J.E. (2012). Income-Based Property Tax Relief: Circuit Breaker Tax Expenditures. Lincoln Institute of Land Policy Working

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Notes: R indicates program applies to renters, O indicates program applies to owners, D indicates program applies to under 62 and disabled veterans. \* indicates that the state has no broad based personal income tax.

