As urban populations continue to grow, cities are faced with the challenges of managing increased traffic, overcrowding, displacement, and aging infrastructure, coupled with the need for continued economic growth. As is well documented to date, there is a homelessness and affordable housing crisis in the City of Los Angeles. According to the 2019 Point-in-Time Homeless Count, there are approximately 36,300 homeless individuals in the City, a 16 percent increase from 2018. Like other large cities across the country, the City of Los Angeles is facing an affordable housing crisis that is a complex and multi-faceted problem and has resulted in an increase in the number of homeless persons on our streets and an increase in the number of people on the verge of being homeless.

In response to the growing homelessness epidemic, Los Angeles voters in November 2016 overwhelmingly approved Proposition HHH (HHH), a $1.2-billion bond measure to help fund housing for homeless people with a goal of 10,000 new units in a decade. Now, after working to get as many housing projects started as soon as possible, the question the City faces now is how to stretch the funds so that the goal of 10,000 constructed units is kept. One potential solution to this ongoing crisis could be 3D printed housing.

In March 2018 in Austin, Texas, a prototype printer running at a quarter of its projected speed created the first fully permitted 350-square-foot home in 48 hours out of a mixture of cement, sand, and plasticizers, costing $10,000; it featured a living room, bedroom, bathroom, and office space. It was reported that, at full capacity, the printer will be able to execute a 24-hour print of a 600- to 800-square-foot home, costing as low as $4,000. Other reports and online videos have shown that a 5 story apartment building was built in China in a week.

The City of Los Angeles has always been a hub of technological innovation and should explore any technology that is going to help alleviate our affordable housing situation, especially one that might remove some of the barriers to construction, including cost and efficiency. In order to meet the goal of 10,000 units of supportive housing promised by HHH, the City of Los Angeles should look to 3D printing techniques as a possible way to save costs and increase the speed of production as it relates to HHH-funded housing.

HHH monies are finite and clearly 10,000 supportive housing units are helpful but fall short of what is needed to truly assist our homeless neighbors. With as many as 60,000 homeless individuals living in the County of Los Angeles, we should seek revenues that would put us on pace to build housing for that number of people. In May 17, 2016, the County Board of Supervisors approved a Resolution to seek State legislation that would authorize counties to levy a tax on personal income above $1 million per year, known as the “millionaire’s tax.” The County would use tax revenues generated to fund its homeless strategies. Currently, counties have no authority under State law to levy a local personal tax. State law would need to be amended to grant such authority. Under that County proposal, any county could seek authority from the voters to approve such a tax. A one-half percent millionaires’ tax would generate an estimated $243 million per year in Los Angeles County.

Lastly, the impacts of automation and artificial intelligence in the coming decades will vary across occupations, places and demographic groups. Most alarming are predictions that it could disproportionately affect already underrepresented communities in the workforce. African-Americans and Latino/a workers are more vulnerable to potential future automation given their overrepresentation in production, transportation and construction-related jobs. We should be thoughtful about how we incorporate new technologies into society and in particular into the workforce. Most importantly, we should prioritize ways that automation can help compliment human labor but not eliminate it entirely. 3D printed construction presents a unique opportunity to see if that goal can be achieved. Project Labor agreements and targeted local hiring should be utilized to ensure that a program of restoration should be created for employees in all industries whose jobs have been displaced.
as a result of technology and automation. This could be a program of job placement, apprenticeship training, job retraining, financial assistance, and potentially transitioning them into employment with the City of Los Angeles where work skills are transferable.

I THEREFORE MOVE to INSTRUCT the Chief Legislative Analyst (CLA) and City Administrative Officer to partner with the Los Angeles/Orange Counties Building and Construction Trades Council (Building Trades Council), with the assistance of the Bureau of Contract Administration (BCA), and report back on the feasibility of a policy and the necessary implementation steps needed to take by which 3D printed construction can be utilized for the purpose of building housing for homeless individuals in the City of Los Angeles, including the possibility of leasing or purchasing of a 3D printer. This shall also include instructing the BCA to partner with the Building Trades Council to negotiate a Local Hire and Project Labor Agreement to implement the use of 3D printed homeless housing construction in the City of Los Angeles.

I FURTHER MOVE that the City Council REQUEST the City Attorney to partner with the Los Angeles/Orange Counties Building and Construction Trades Council, the Municipal Construction Inspector’s Association, the Department of Building and Safety, the Housing and Community Investment Department, and any other relevant departments to draft language to mandate that any 3D housing construction meet all the necessary safety standards and State of California and City of Los Angeles building codes, including the seismic retrofit ordinance.

I FURTHER MOVE to INSTRUCT the CLA to draft a resolution to include in the City of Los Angeles’ 2019-2020 State Legislative Program SUPPORT for any effort to amend State law to grant counties the authority to seek voter approval of a tax on personal income above $1,000,000 per year as a means to fund additional homeless housing construction, including 3D printed housing.