

# Health Impact Assessment (HIA): *Draft* 2018 UC Merced Long Range Development Plan (LRDP)

A Look at Housing Affordability, Health Impacts, and Strategies  
for Growth



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# Executive Summary

The Merced County Department of Public Health was awarded a grant to engage stakeholders in identifying social and economic issues that may affect overall community health through a Health Impact Assessment. Housing is assessed as it relates to the increase in the student population (from ~8,500 to 10,000 by 2020 and 12-15,000 by 2030) projected in the University of California, Merced (UC Merced) 2018 Draft Long Range Development Plan (LRDP).

UC Merced is the tenth University of California campus. The campus is strategically located to benefit many neighboring low-income regions in the Central Valley and serves a large Latino/Hispanic as well as a first generation student population. Additionally, the campus has contributed positively to economic investment with a total of \$1.33 billion invested with the 2020 expansion of UC Merced.

Previous versions of the LRDP and University Community Plan have a stated goal of accommodating 50% of UC Merced students in an off-campus university community center, while the other 50% of students would be accommodated on-campus. Currently, the university houses approximately 35% of the total student population (undergraduate and graduate students) on-campus as well as off-campus through a housing agreement with a property management group. With the completion of the 2020 project, UC Merced plans to increase student housing - bringing the total up to 47% of students housed on-campus. With this expansion, UC Merced will nearly meet the stated goal of housing 50% of students on campus, but will need to make housing accommodations to continue to meet the on-campus stated goal.

Merced County is fast growing with a higher proportion of residents that live in poverty when compared to California or the U.S. In addition, the home and rental vacancy rates are low, making it difficult to find affordable housing. Since the economic downturn, the City of Merced has issued proportionally more building permits as of late, but a significant amount of new housing units would need to be built to keep up with growth and housing demand. Additionally, UC Merced has the fifth most expensive University of California on-campus housing costs and has the largest gap between on-campus and off-campus housing (\$15,923 for on-campus, \$7,987 for off-campus).

Comparable to the state of California, 53.9% of Merced City residents are rent burdened, meaning they spend >30% of their income on rent and 25.1% are severely rent burdened, meaning they spending >50% of their income on rent. Moderate projections for 2030 indicate that the median family would spend 39.5% of their

income on rent – this means more than 50% of the population would remain rent burdened (paying 30% of their income or more on rent).

Rent/housing cost-burdened individuals and families have limited capacity for other essential items and services such as: food, clothing, health care and medication, utilities, and mental health services *which can lead* to intermediate outcomes of homelessness, poor nutrition, metabolic syndrome, diabetes, cardiovascular disease, chronic anxiety and depression. Therefore, it is recommended that 1) UC Merced lead a collaborative between the City of Merced, County of Merced, UC Merced, and relevant community partners to address housing needs on campus, in the City of Merced, and in surrounding communities and 2) UC Merced work to maintain the stated goal of housing 50% of its student population. When implemented, these recommendations will ensure that those most vulnerable (low income, students, residents of color) would be minimally impacted by the increase in student population and increased demand for housing.

# Health Impact Assessment (HIA) on the UC Merced Long Range Development Plan (LRDP)

## INTRODUCTION AND BACKGROUND

From January 2018 through December 2019, the Merced County Department of Public Health (Department) was awarded a grant for \$100,000 through PEW Charitable Trusts to engage stakeholders in identifying social and economic issues that may impact overall community health through a Health Impact Assessment (HIA). Not only would the HIA examine the health impacts of a policy, plan or program, but it would also allow the opportunity for the Department, as well as community partners, to build knowledge and capacity to do future HIAs in the region.

## HEALTH IMPACT ASSESSMENT

Much like an Environmental Impact Report, a Health Impact Assessment (HIA) is a practical approach that uses data, research and stakeholder input to determine potential impacts of a **proposed** policy, plan, or program on the health of a population. HIA is used to project impacts of health outcomes based on: 1) information in the proposed plan, 2) community data, and 3) stakeholder input. Stakeholders also identify strategies to amplify positive impacts and mitigate negative impacts. In order to effectively assess the proposed policy, plan, or program there are six steps to the HIA. These steps include<sup>1</sup>:

There are six steps needed to make progress in HIA, which include:

1. **Screening** - Determine the need and value of an HIA
2. **Scoping** - Determine which health impacts to evaluate, the methods for analysis, and the work plan for completing the assessment
3. **Assessment** - Provide:
  - a. A profile of existing health conditions; and
  - b. An evaluation of health impacts
4. **Recommendations** - Provide strategies to manage identified adverse health impacts
5. **Reporting** - Development of the HIA report and communication of findings/recommendations

<sup>1</sup> Human Impact Partners. (2013). *Health Impact Assessment Fact Sheet* [Handout]. Oakland, CA

- 6. **Evaluation and Monitoring** -Track impacts of the HIA on decision-making (processes and the decision) as well as impacts of the decision on health determinants

## SELECTING THE UC MERCED LONG RANGE DEVELOPMENT PLAN

Multiple plans, policies and programs were reviewed using a screening process in order to find the best plan that would benefit from the HIA process (see Appendix A for more details on screening). Thus, the University of California (UC) Merced Long Range Development Plan (LRDP) was selected for review, with outlined goals for the HIA process developed by stakeholders (Table 1).

With the help of community members housing was prioritized as a top area of interest (see Appendix A and B for more information on stakeholder engagement, screening and scoping). Therefore, the research question that this HIA seeks to answer is:

**Research question:** *How will the number of students and on campus housing units projected in the 2018 University of California, Merced Long Range Development Plan impact housing and community health in the City of Merced?*

HIA Goals
1. Highlight opportunities to unify and incorporate UC Merced planning with the city and county
2. Engage community on planning efforts
3. Discuss health and equity impacts of UC Merced expansion on diverse communities
4. Discuss health and equity impacts of UC Merced expansion on UC Merced community (i.e. faculty, students, staff)
5. Provide data on priority indicators
6. Develop strategies to address negative impacts and enhance positive impacts on health and equity
7. Enhance partnerships and reduce silos to build authentic bridges between community and UCM

Table 1. HIA stakeholder goals

# HIA ASSESSMENT

The next section will give a general background of the demographics of Merced County residents in order to give context to the assessment and impact of the plan.

## MERCED COUNTY DEMOGRAPHICS

Merced is a medium-sized, rural county (1934 square miles) in Central California comparable to the size of the state of Delaware, with 23 square miles belonging to the City of Merced<sup>2</sup>. Located in the heart of the San Joaquin Valley, Merced County is part of the world's most productive agricultural area, with six incorporated cities and 18 additional census-designated places. In 2015, the population estimate of Merced County was 268,455 people.<sup>2</sup> Since 2000, the population has grown by over 50,000 people, or 27%.<sup>2</sup> Though considered a rural county, the majority of the residents in Merced County (86%) live in urban centers: developed areas with high density housing, commercial buildings, and roads.<sup>3,4</sup>

The median age of Merced County residents is 30.2, which is younger compared to the US median, 37. Thirty-one percent of County residents are younger than 18 years old; only one out of 10 are 65 and older.<sup>5</sup> Merced County also has a lower rate of educational attainment, with 32% of residents aged 25 years or older having no high school diploma, compared to 19% in California, and 14% in the US. Lack of education disproportionately affects Latino residents.<sup>3</sup>

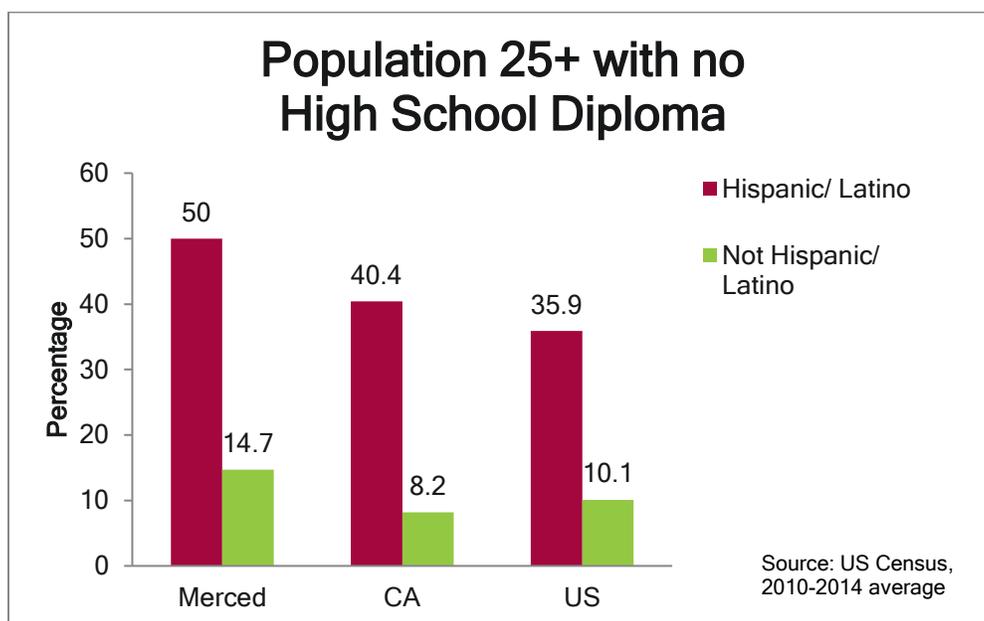


Figure 1. Population with no High School Diploma

<sup>2</sup> Census Bureau, Quick Facts, Merced County available here: <http://www.census.gov/quickfacts/table/AGE135214/06047>

<sup>3</sup> Community commons, [www.communitycommons.com](http://www.communitycommons.com), retrieved March 2016

<sup>4</sup> National Geographic, Resource Library, retrieved May 2019, available at <https://www.nationalgeographic.org/encyclopedia/urban-area/>

<sup>5</sup> Census Bureau, Quick Facts, Merced County available here: <http://www.census.gov/quickfacts/table/AGE135214/06047>

The proportion of people in poverty (<200% Federal Poverty Level, or FPL) is much higher in Merced County (53.1%) than California (35.9%) or the US (34.2%) with a majority of all residents, and 2 out every 3 children in Merced County, living in poverty (less than 200% FPL).<sup>6</sup>

Merced County is a diverse county with the Hispanic/ Latino population as fastest growing when compared to the general population of Merced County—46.7% between 2000 and 2010.<sup>3</sup> Additionally, Merced is home to one of the largest Hmong populations in the United States.

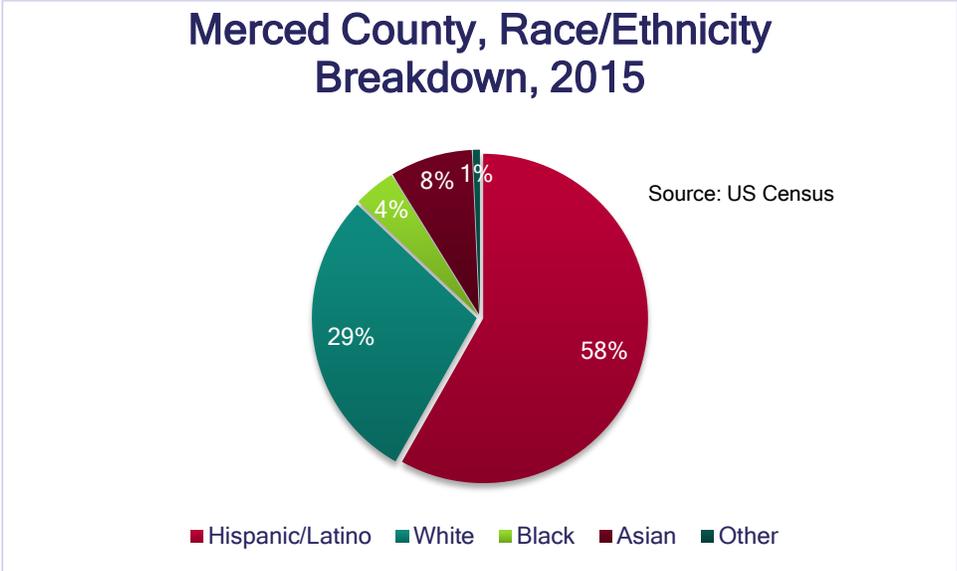
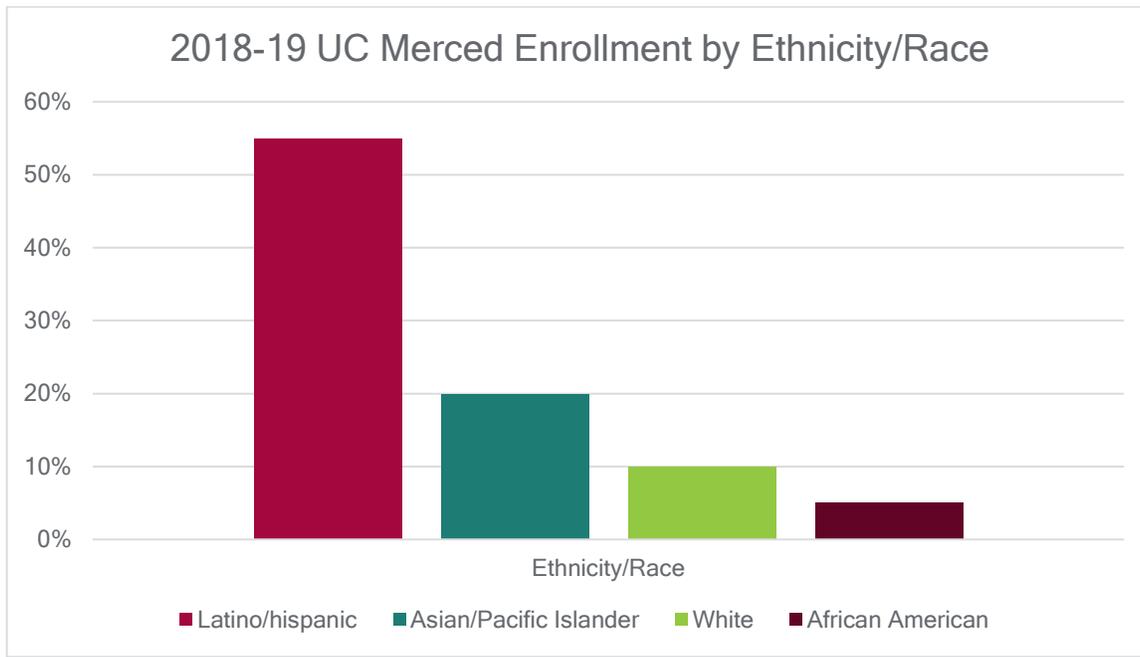


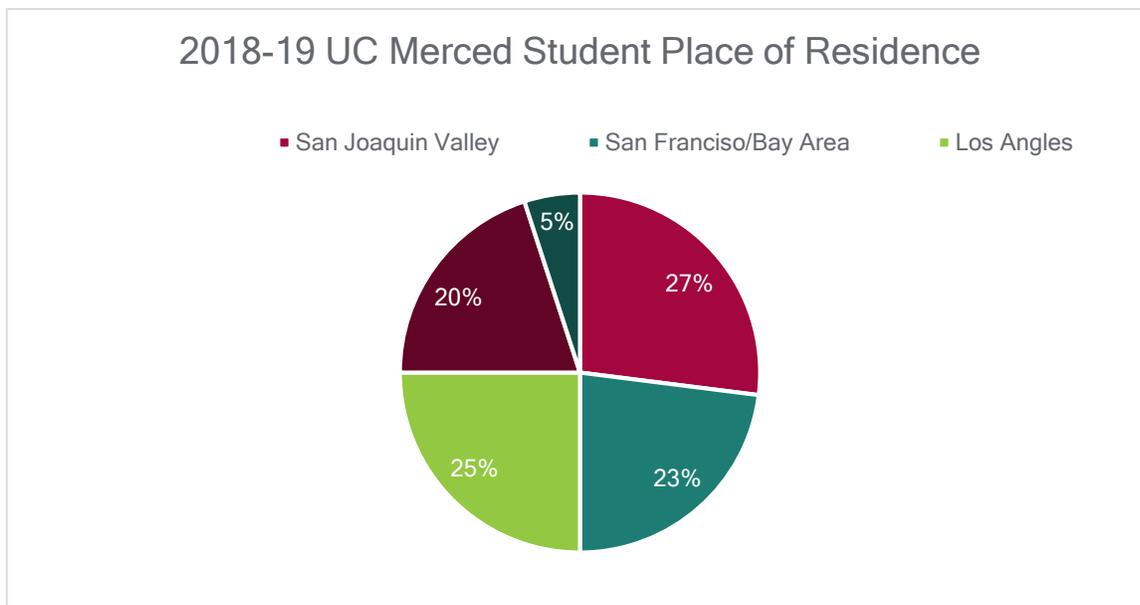
Figure 2. Racial demographics of Merced County

<sup>6</sup> Community commons, [www.communitycommons.com](http://www.communitycommons.com) , retrieved March 2016

## CONTRIBUTIONS OF UC MERCED TO THE CENTRAL VALLEY



**Figure 3.** UC Merced Enrollment by Ethnicity/Race for the academic year 2018-19



**Figure 4.** Places were students reported their home residence for the academic year 2018-19

UC Merced is the tenth University of California campus, strategically located to serve the Central Valley. This means the University is in the unique position to benefit many neighboring low-income regions. It has a diverse student body with a population that is primarily Latino/Hispanic and with a large (73%) first-generation student population.<sup>7,8</sup>

Thus, the University is already making a significant positive impact on communities in the state who have traditionally been excluded from the benefits of higher education

<sup>7</sup>University of California, Merced, Fast Facts 2018-19 available at <https://www.ucmerced.edu/fast-facts>

<sup>8</sup> University of California, Merced, Student Data, available at [https://irds.ucmerced.edu/sites/irds.ucmerced.edu/files/documents/Undergraduates/first\\_generation\\_students.pdf](https://irds.ucmerced.edu/sites/irds.ucmerced.edu/files/documents/Undergraduates/first_generation_students.pdf)

and has the opportunity to continue this mission as it plans for the housing needs of its students in the future as seen in Figure 3 and Figure 4.

The presence of universities typically helps transform the communities in which they are located. An education institution is positively associated with length of life, healthy behaviors, and clinical care<sup>9</sup>. For example, Merced City has seen an influx of economic investment since 2017, when the University of California decided to contribute \$1.33 billion into UC Merced's 2020 expansion.<sup>10</sup> Following this trend, Merced County took the lead in the San Joaquin Valley for annual job growth at 2.16% in 2018.<sup>11</sup>

Although UC Merced has brought many benefits to the region, community members and stakeholders have prioritized housing affordability and insecurity as a primary concern with the rapidly growing campus straining an already tight housing market. The purpose of this HIA is to examine how the 2018 LRDP will affect housing affordability, and how this will in turn affect health outcomes, to ultimately provide recommendations to mitigate any unintended health consequences within the next decade and beyond.

## UC MERCED LRDP AND BACKGROUND

Merced County is home to the newest University of California campus, UC Merced. Since the University opened its doors in 2005, the County's population has been growing rapidly and its economy has been changing. To understand UC Merced's current and projected development, it is worth briefly going over some of the historical context of the campus's initial LRDP. It is important to keep in mind that the LRDP is a land-use document that guides physical development; it is not a commitment to specific campus projects or student enrollment targets.

In 2002, the University Regents approved the original LRDP for the UC Merced campus, a plan that has been amended and updated since.<sup>12,13</sup> Around the same time, Merced County collaborated with the University to draft a proposed University Community Plan (UCP) that was adopted in December of 2004.<sup>14</sup> The UCP drafted a proposed multiple-use development project (including residential housing) adjacent to campus

<sup>9</sup> Spaulding, A., et al. (2018). "Are US degree-granting institutions associated with better community health determinants and outcomes?" *Public Health* 161: 75-82.

<sup>10</sup> Miller, Thaddeus, "Merced housing prices and homeless problem: What's the city going to do about it?" Feb. 2019, available at <https://www.mercedsunstar.com/news/politics-government/article225301495.html>

<sup>11</sup> California State University, Stanislaus, "2018 Business Forecast, Volume 8-Issue 1," Dec. 2018 available at [https://issuu.com/csustanislaus/docs/sjvbf\\_web](https://issuu.com/csustanislaus/docs/sjvbf_web)

<sup>12</sup> Board of Regents, University of California, Past Regents Meetings, 2005 and prior. Accessible at <https://regents.universityofcalifornia.edu/regmeet/mar05/111attach1.pdf>

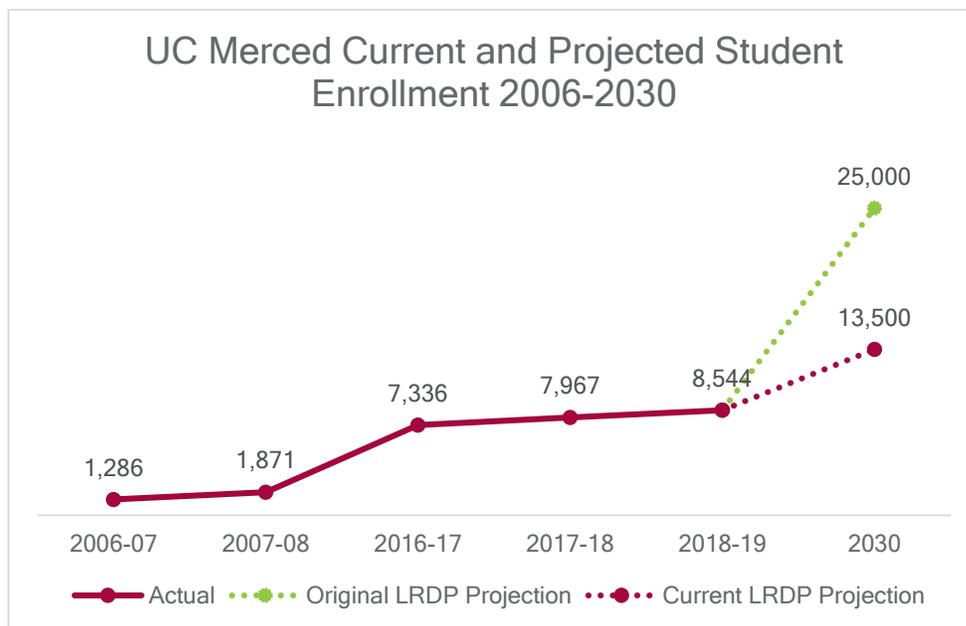
<sup>13</sup> Physical & Environmental Planning, University of California, Merced, Long Range Development Plan 2002, accessible at [https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2002\\_ucmercedlrpd.pdf](https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2002_ucmercedlrpd.pdf)

<sup>14</sup> Smith, Robert. Merced County UC Development Office, Merced County University Community Plan, 2004, accessible at <https://www.co.merced.ca.us/1415/University-Community-Plan-UCP>

that never materialized. There are no current plans for this development in the near-future.

Of note, in the 2004 UCP the development of 11,616 residential units (6,968 single-family units, and 4,648 multi-family units) were deemed necessary to keep up with University growth.<sup>15</sup> The plan states, “single-and multi-family residential units will be distributed among the villages to maintain an adequate density, and offer a variety of housing alternatives” (pg. 20).<sup>16</sup> Additionally, the 2009 LRDP states, “It is expected that this University Community will have the capacity to accommodate 50% of UC Merced student housing needs, while the other 50% will be accommodated on the campus.”<sup>17</sup>

UC Merced has experienced steady development since its inception, from 1,286 students in the 2006-07 academic year (AY) to 8,544 students as of the 2018-19 AY (see Figure 5).<sup>18</sup>



**Figure 5.** Actual and projected UC Merced Student Growth, 2006-2030

The University expects to reach 10,000 students by AY 2020-21, and 12-15,000 students by AY 2030-31.<sup>19</sup>

<sup>15</sup> Smith, Robert. Merced County UC Development Office, Merced County University Community Plan, 2004, accessible at <https://www.co.merced.ca.us/1415/University-Community-Plan-UCP>

<sup>16</sup> Smith, Robert. Merced County UC Development Office, Merced County University Community Plan, 2004, accessible at <https://www.co.merced.ca.us/1415/University-Community-Plan-UCP>

<sup>17</sup> University of California, Merced, 2009 Long Range Development Plan, pg. 24, available here [https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2009\\_lrdp.pdf](https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2009_lrdp.pdf)

<sup>18</sup> University of California, Fall Enrollment At A Glance available here: <https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance>

<sup>19</sup> University of California, Merced, Proposed 2018 Long Range Development Plan available here <https://ucmerced.app.box.com/s/je1k3nst4hw2p04mgqplngi9bqf1fbgo>

In 2009, the University released an updated LRDP to map campus growth throughout 2030, which primarily consists of what is now known as the “Merced 2020 Project,” a large construction project that will double the size of campus.<sup>20</sup> Currently, UC Merced has the ability to house 2,319 students on campus and 676 off-campus with a housing agreement with a property management group, which accommodates approximately 35% of the UC Merced 2018-19 total student population (undergraduate and graduate students). As part of the 2020 project, UC Merced plans to increase the number of beds available to students by adding 1,700 on-campus beds, which will house a total of 47% of the projected student body population of 10,000 students, both undergraduate and graduate. (P. Woods, Director of Physical and Environmental Planning, personal communication, September 06, 2019). With this expansion, UC Merced will nearly meet the stated goal of housing 50% of students on campus.

As the completion of the 2020 Project approaches, University officials and planners are thinking about expansion plans throughout 2030. The draft 2018 LRDP, which is available for public viewing, does not guarantee that the University will expand after 2020, since expansion is dependent on availability of funding; the LRDP simply provides insight on how the campus can accommodate 12-15,000 students in addition to faculty and staff in a sustainable manner by 2030 (see Table 2).

<sup>20</sup> University of California, Merced, 2009 Long Range Development Plan available here [https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2009\\_lrdp.pdf](https://planning.ucmerced.edu/sites/planning.ucmerced.edu/files/documents/2009_lrdp.pdf)

2009 LRDP for 2030	2018 LRDP for 2030
25,000 enrolled students 6,248 faculty and staff <b>Total: 31,248</b>	<b>12-15,000 enrolled students</b> <b>1,741 faculty and staff</b> <b>Total: 16,741</b>
<p>In 2002, the University and Virginia Smith Trust (VST) formed a limited liability corporation (LLC) called the University Community Land Company (UCLC)</p> <ul style="list-style-type: none"> <li>• <b>549 acres owned by University, 266 acres owned by UCLC</b></li> <li>• <b>Land-use plan to develop campus facilities on 715 acres, with 100 acres set aside for open space</b></li> </ul>	<p>University has acquired more land since 2009 LRDP, but plans to accommodate increased enrollment on smaller footprint. Land use designations have been revised from 2009 LRDP to include campus mixed use (which includes housing, see Figure 5, UC Merced LRDP, 2018, pg. 11).<sup>21</sup></p> <ul style="list-style-type: none"> <li>• <b>Development of campus facilities through 2030 limited to 274 acres within 1,026 acre campus site</b></li> <li>• <b>320 acres planned for development beyond 2030</b></li> <li>• <b>432 acres set aside for environmental research land/open space</b></li> </ul>
<p>Plan for campus facilities (715 acres) includes designation for “student neighborhoods”(225 acres), which includes</p> <ul style="list-style-type: none"> <li>• Student services (30 acres)</li> <li>• High Density Residential (25 acres)</li> <li>• Medium Density Residential (90 acres)</li> <li>• Low Density Residential (80 acres)</li> </ul>	<p>Up to an estimated 2.6 million square feet of building space would be added to the campus (which will include academic, housing, athletic, and support space)</p> <p><b><i>*No fixed details on housing for 2030 currently available in the draft LRDP</i></b></p>

**Table 2.** Comparison of 2009 and 2018 LRDP

<sup>21</sup> University of California, Merced, Proposed 2018 Long Range Development Plan available here <https://ucmerced.app.box.com/s/je1k3nst4hw2p04mgqplngi9bqf1fbgo>

## HOUSING BACKGROUND AND EXISTING CONDITIONS IN MERCED COUNTY

Housing and health are interrelated through infectious and chronic diseases, injuries, child development and nutrition, and mental health.<sup>22</sup> Most often, families living in substandard housing live in crowded conditions to be able to afford housing. Pests can cause asthma and link substandard housing and chronic illness. Other allergens also pose a risk especially for asthma.

Similarly, studies have analyzed the association between housing insecurity and the health of young children. 46% of 22,069 caregivers with young children were affected by housing insecurity, 41% experienced crowding, and 5% had multiple moves.<sup>23</sup> For these low income families, the attainability of basic necessities decreases and elevates the risk of developmental and health problems in children.

Mental health problems can also arise by inadequate housing. Various studies have seen the effects of behavioral problems among children by increased exposure to hazards that can affect physiological processes, stress from substandard housing, and noise which can cause sleep deprivation and stress through the activation of the hypothalamus pituitary-adrenal axis and the sympathetic nervous system.<sup>24</sup>

Gentrification and displacement occurs in low income neighborhoods. Gentrification has been used to define segregation in terms of color, race, and income.<sup>25</sup> Consequently, displacement occurs due to gentrification by separating poor communities from the rich. Both gentrification and displacement are detrimental to low income communities because costs increase for renters who may have to move out and in effect families may move out of the area or children may have to move schools. Many residents equate new buildings and businesses to better environments but an unintended consequence of new development means an increase in values on existing properties, and often rent.<sup>25</sup>

<sup>22</sup> Krieger, J., & Higgins, D. L. (2002). Housing and Health: Time Again for Public Health Action. *American Journal of Public Health, 92*(5), 758-768.

<sup>23</sup> Cutts, D. B., Meyers, A. F., Black, M. M., Casey, P. H., Chilton, M., Cook, J. T., ... & Rose-Jacobs, R. (2011). US housing insecurity and the health of very young children. *American Journal of Public Health, 101*(8), 1508-1514.

<sup>24</sup> Robinette, J. W., Charles, S. T., Mogle, J. A., & Almeida, D. M. (2013). Neighborhood cohesion and daily well-being: Results from a diary study. *Social Science & Medicine (1982), 96*, 174-182.  
<http://doi.org/10.1016/j.socscimed.2013.07.027>

<sup>25</sup> Zuk, M., Bierbaum, A. H., Chapple, K., Gorska, K., & Loukaitou-Sideris, A. (2018). Gentrification, Displacement, and the Role of Public Investment. *Journal of Planning Literature, 33*(1), 31-44.

**The Great Recession had a disproportionate impact on an already struggling community.**

As mentioned in the introduction, a higher proportion of residents in Merced County live in poverty than in California or the U.S. Though per-capita income in the county has increased over time, it has not kept up with the state of California, nor the nation (see Figure 6).<sup>26</sup>

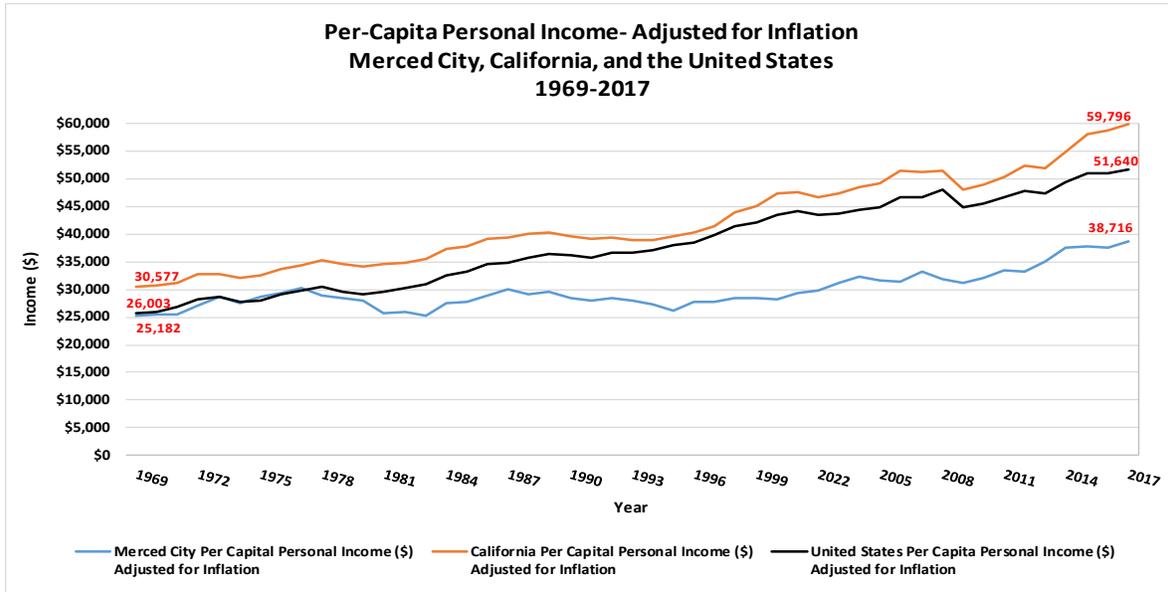


Figure 6. Per-Capital Personal Income in Merced City, California, and the United States\*

In addition, Merced County was hit hard by the 2008 housing economic crisis. At the peak of the crisis, Merced City was top five for the rate of foreclosures out of 229 metro areas.<sup>27</sup> Yet, median property sales prices have increased from a low of \$99,800 (\$113,852 when inflation is taken into account) in January of 2011 to \$251,000 in December of 2018 as the economy has slowly recovered post great recession. Median rent (from all home sizes and types) has increased from a low of \$962 (\$1,065 when accounting for inflation) in September 2011 to \$1,325 in December of 2018.<sup>28</sup>

**The City of Merced has a low vacancy rate: housing supply must keep up with population growth.**

As stated in the City of Merced Vision 2030 General Plan Housing Chapter, “The existing housing through the Housing Choice Voucher program (formerly Section 8) is

<sup>26</sup> United States Department of Commerce, Bureau of Economic Analysis, 1969-2017 available at <https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1>

<sup>27</sup> SBRANTI, J. N. (2008, March 13). Valley counties ranked 2, 3, 4 in the nation for foreclosures. *Merced Sunstar*. Retrieved May 02, 2019, from [www.mercedsunstar.com](http://www.mercedsunstar.com)

<sup>28</sup> Zillow, Merced Home Prices & Values available at <https://www.zillow.com/merced-ca/home-values/>

the only means the City has to subsidize families in rental apartments, and its continuation is critical for maintaining subsidized rentals for families”, with 344 multifamily units constructed using federal subsidies and offering Housing Choice Vouchers.<sup>29</sup>

In the years 2010-13, the city of Merced issued less than ten new single-family dwelling permits per year. While permits have increased in recent years (581 permits issued in 2018), the rate of housing growth is not keeping up with population growth.<sup>30</sup> The 2016 Merced County Housing Element report estimates that from 2015 to 2025, Merced County will have approximately **53,000** additional people.<sup>31</sup> Below is a table that summarizes projections based on assumptions.

Assuming that:	Then:
Merced City continues to comprise 31% of the County population	Merced City would be responsible for housing an additional 16,231 residents by 2025.
A housing unit can accommodate an average family size (4.2; 2 adults, 2.2 children)	Merced City would need an additional 3,865 new housing units between 2015 and 2025.
All 1,198 single family dwelling permits issued between January 2015 and May of 2019 were built <sup>32</sup>	1,546 units need to be built by 2019 to keep up with population growth and housing demand.  Note: This does not take into account the 17 multi-family unit building permits issued between 2015 and May of 2019.

**Table 3.** Per-Capital Personal Income in Merced City, California, and the United States\*

From 2015 to 2018, the City of Merced issued 985 single family dwelling building permits and 17 multi-family unit-building permits. As of May 2019, there have been 213 single family home permits and no multi-family unit building permits issued for the

<sup>29</sup> City of Merced, Merced Vision 2030 General Plan, Chapter 9 Housing Element available at <https://www.cityofmerced.org/mwg-internal/de5fs23hu73ds/progress?id=QKmPIQZRSmhsxoBSEFjpBZj5ZptJuXLOyFRMKvHTvQE.&dl>

<sup>30</sup> City of Merced, Building Permits Issued 2010-2018 available at <https://www.cityofmerced.org/civicax/filebank/blobdload.aspx?BlobID=20826>

<sup>31</sup> City of Merced, Merced Vision 2030 General Plan, Chapter 9 Housing Element available at <https://www.cityofmerced.org/mwg-internal/de5fs23hu73ds/progress?id=QKmPIQZRSmhsxoBSEFjpBZj5ZptJuXLOyFRMKvHTvQE.&dl>

<sup>32</sup> City of Merced, Building Permits Issued, accessed June 2019. Available at [https://www.cityofmerced.org/depts/cd/building/building\\_permits\\_issued/](https://www.cityofmerced.org/depts/cd/building/building_permits_issued/)

year.<sup>33</sup> Note that not all of these permits will result in construction and completion of dwellings, and no data exists for the number of units actually built. Regardless, to keep up with the projected demand, 1,546 units would need to be created by the end of 2019.

It seems unlikely that this metric will be met; building rates will need to increase in the latter half of the period 2015-25 decade to be able to support the influx of projected residents. If this does not occur, the availability of housing will decrease. The current vacancy rate (housing units that are available for rent) in Merced City is low – a decrease in housing availability is not sustainable.<sup>34</sup>

***Increased quality housing supply will provide low-income residents with more opportunities and reduce rent burden.***

In Merced City, 42% of units are occupied by owners; 58% are occupied by renters. Owner occupied homes tend to be newer (built in 2000-09) than renter occupied homes (built in 1970-1989).<sup>35</sup> However, the cost of rent remains stable across the age of the property.<sup>36</sup> This matters for low-income housing, because in healthy housing markets, as newer houses are built, higher income earners move to those homes and older homes are available at lower price points. This is not the case in the City of Merced because of the low vacancy rate. Older housing units do not depreciate in rent as much because of a lack of supply. Interestingly, according to a 2009 survey in Merced City, the majority of housing is sound (71%); however, 14% of the housing stock needs moderate repair to reach standards of health and safety, 3% need substantial repair, and 1% are dilapidated and need replacement.<sup>37</sup>

***Influx of UC Merced students, UC Merced housing costs, and outside investors will affect the local housing market, possibly contributing to rent burden in a high-poverty region***

Though it is rare for University of California campuses to house 50% of students on campus, UC Merced has a stated goal of housing 50% of students on campus; however currently houses approximately 35% of the total student population (undergraduate and graduate students).

<sup>33</sup> City of Merced, Building Permits Issued, accessed June 2019. Available at [https://www.cityofmerced.org/depts/cd/building/building\\_permits\\_issued/](https://www.cityofmerced.org/depts/cd/building/building_permits_issued/)

<sup>34</sup> Miller, Thaddeus, "Merced housing prices are growing the fastest in the Valley, report says. Here's why," December 2018, available at <https://www.mercedsunstar.com/news/business/article223111390.html>

<sup>35</sup> City of Merced Housing Element, Planning and Permitting Division. July 2016, pg. 59, available at <http://www.hcd.ca.gov/community-development/housing-element/docs/merced-5th-adopted092116.pdf>

<sup>36</sup>Salviati, Chris, "2018 Cost Burden Report: Despite Improvements, Affordability Issues Are Immense," September 2018, available at <https://www.apartmentlist.com/rentonomics/cost-burden-2018/>

<sup>37</sup> City of Merced Housing Element, Planning and Permitting Division. July 2016, pg. 71-72, available at <http://www.hcd.ca.gov/community-development/housing-element/docs/merced-5th-adopted092116.pdf>

It is very expensive to build on-campus housing that meets 21<sup>st</sup> century building standards. The UC Merced also contracts with apartment units in the city for students as an alternative to housing on campus;<sup>38</sup> however, these units were previously rented by non-student residents, so the influx of UC students to the complex removed rental units from the market for non-student residents. Currently, UC Merced is the fifth most expensive University of California campus to live on and has the largest gap between on-campus and off-campus housing (\$15,923 for on-campus, \$7,987 for off-campus).<sup>39</sup> It is nearly twice as expensive to live on campus as in the surrounding community, which could contribute to more students choosing to live off campus, further affecting the overall housing and rental market capacity and costs. Students pursuing higher education at UC Merced, particularly from areas outside of the Central Valley, may be willing to pay higher rent and participate in shared housing, further inflating the rents homeowners can charge, and further contributing to displacement and substandard housing. Another factor increasing local property values and rent is competition from outside investors, particularly from the Bay Area. Outside investors who are seeking an income property or secondary residence may be willing to outbid other offers on homes made by current residents or those who seek to become long-term Merced City residents.<sup>40</sup>

## HOUSING COST BURDEN

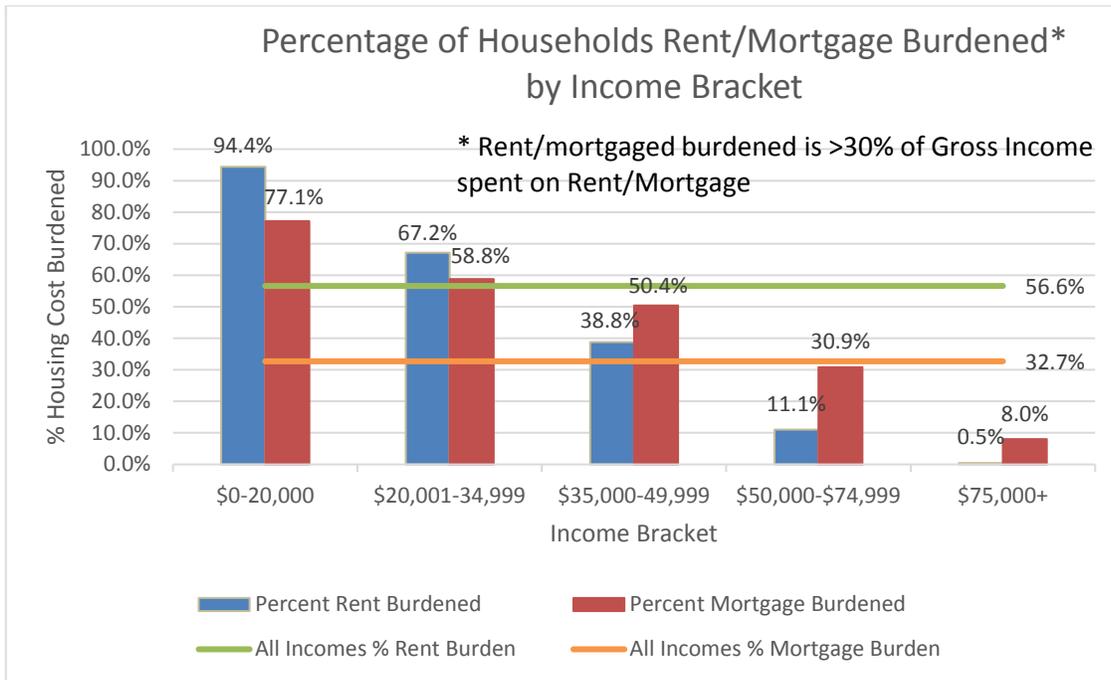
Primarily due to high poverty rates and stagnated per-capita personal income, insufficient housing as part of a state-wide epidemic, lack of new housing in recent years, and a quickly growing University of California campus, 53.9% of Merced City residents are rent burdened (spending >30% of their income on rent) and 25.1% are severely rent burdened (spending >50% of their income on rent). In California, 55.2% of residents are rent burdened, and 28% are severely rent burdened.<sup>41</sup> Thus, this issue is statewide. Housing cost burden rates are higher for lower income brackets, in both renters and homeowners (see Figure 7).

<sup>38</sup> Lowe, Gary. (March, 2019). In-person interview.

<sup>39</sup> Deruy, Emily, "UC Merced pricier than UCLA? The surprising cost to live on campus," June 2017, available at <https://www.eastbaytimes.com/2017/06/04/it-will-cost-more-to-live-at-uc-merced-than-at-ucla-next-year/>

<sup>40</sup> Ramirez, Abigail, "Are we making housing even less affordable in Merced?" Jan. 2019, available at <https://www.mercedsunstar.com/opinion/article224028860.html>

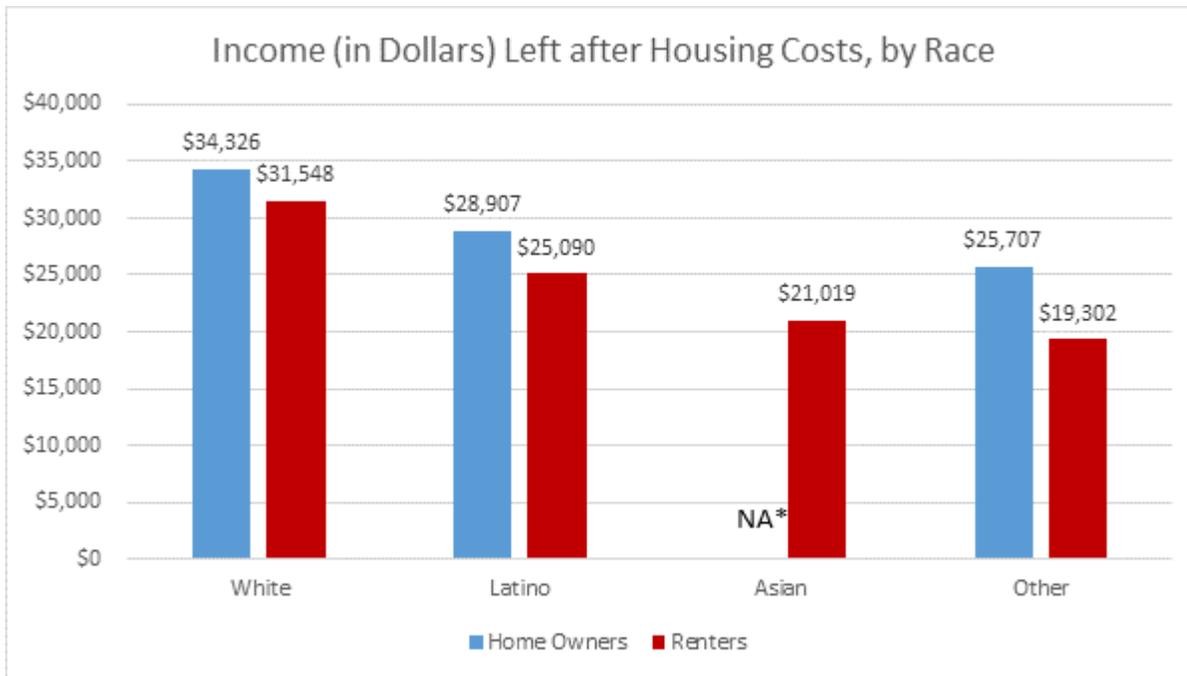
<sup>41</sup> Salviati, Chris, "2018 Cost Burden Report: Despite Improvements, Affordability Issues Are Immense," September 2018, available at <https://www.apartmentlist.com/rentonomics/cost-burden-2018/>



**Figure 7.** Percent of families cost-burdened, broken down by income bracket in Merced City

In general, homeowners are paying lower percentages of their paychecks to their mortgages—32.7% spend more than 30% of their income on rent. This could be due to homeowners having generally higher incomes, or to mortgages generally being cheaper than equivalent property rents (or both). Middle to high-income (>\$35,000 annually) homeowners are more likely to be burdened with housing costs than renters in the same income bracket. Highest income earners have very low rates of housing cost burden, both in the renting and owner populations. This shows that while housing cost-burden is a serious concern for low-income families and individuals, it also has important impacts for middle income homeowners as well.

The housing crisis and rent burden not only disproportionately affect lower income families, but also disproportionately affect people of color. In the City of Merced, people of color who both own and rent homes have less disposable income than their white/Caucasian counterparts (see Figure 8). For both owners and renters, white/Caucasians have the most money left over after paying housing costs – about \$6000 more than Latino people, \$10,000 more than Asian people (renters only), and between \$9-11,000 than people for people of other races. This means less income for preventative health interventions.



**Figure 8.** Income left for homeowners and renters after housing costs in the City of Merced between Native American, Asian, White, Latino and Other families. Housing costs include mortgage, utilities, taxes, and housing insurance.<sup>42, 43</sup>  
 \* N/A due to unstable data

***High rent-burden and housing affordability is a pressing issue in the City of Merced, but it's also an issue all throughout California due to a lack of affordable housing.***

Housing cost and availability is a timely concern: it is a common article topic in the Merced Sun Star (the local paper), with at least six stories published since September 2018. This highlights the importance of this issue to the City of Merced, but also provides a case-study of a pressing issue throughout California. Lack of housing affordability has been identified by the current state government as a crisis, and Governor Gavin Newsom has proposed to dedicate \$1.75 billion in funding for housing initiatives that include building new housing (including low-income housing), and expanding loan and tax credit programs.<sup>44</sup>

## HEALTH OUTCOMES OF UNAFFORDABLE HOUSING

### *Overview*

<sup>42</sup> American Community Survey 5-Year Estimates (2010-2014). Accessed at <https://www.racecounts.org/city/merced/>

<sup>43</sup> American Community Survey 5-Year Estimates (2010-2014). Accessed at <https://www.racecounts.org/city/merced/>

<sup>44</sup> Ashmun, Maddy, "Housing still costs a fortune in California. Will Gavin Newsom's plan fix that?" Feb. 2019, available at <https://www.sacbee.com/news/politics-government/capitol-alert/article225213730.html>

A search in public health literature will quickly reveal that housing affordability is known to be a strong social determinant of health.<sup>45</sup> Since the 2018 Long Range Development Plan (LRDP) focuses on UC Merced’s projected growth, there are two groups of interest in our HIA:

1) Non-Student Residents and

2) College Students.

This section provides a pathway diagram and an overview of how housing affordability affects health outcomes for both of these target populations (Figure 9). Housing insecurity is created through many mechanisms, but namely through housing cost burden. Housing cost burden is defined as a household spending more than 30% of their monthly income on housing costs (either rent or mortgage).<sup>46</sup>

Housing cost-burdened individuals (regardless of student status) and families have limited capacity for other essential items and services, such as:

- food
- clothing
- healthcare and medication
- utilities, and
- mental health services.

The *intermediate outcomes* resulting from an increase in rent and decrease in disposable income can lead to:<sup>47,48</sup>

- homelessness
- poor nutrition
- metabolic syndrome
- diabetes
- cardiovascular disease
- chronic anxiety, and
- depression.

<sup>45</sup> Maqbool, N., Viveiros, J., and Ault, M. “The Impacts of Affordable Housing on Health: A Research Summary,” 2015. Center for Housing Policy, accessible at <https://www.rupco.org/wp-content/uploads/pdfs/The-Impacts-of-Affordable-Housing-on-Health-CenterforHousingPolicy-Maqbool.etal.pdf>

<sup>46</sup> Salviati, Chris, “2018 Cost Burden Report: Despite Improvements, Affordability Issues Are Immense,” September 2018, available at <https://www.apartmentlist.com/rentonomics/cost-burden-2018/>

<sup>47</sup> Health Impact Project, Health Impact Assessment and Housing: Opportunities for the Housing Sector, available at [http://www.pewtrusts.org/~/media/assets/2016/03/opportunities\\_for\\_the\\_housing\\_sector.pdf](http://www.pewtrusts.org/~/media/assets/2016/03/opportunities_for_the_housing_sector.pdf)

<sup>48</sup> City and County of San Francisco Department of Public Health, The Case For Housing Impacts Assessment: The Human Health and Social Impacts of Inadequate Housing and Their Consideration in CEQA Policy and Practice, PHES Technical Research Report, May 2004, available at [http://clkrep.lacity.org/onlinedocs/2009/09-0967-s1\\_pc\\_6-28-16.pdf](http://clkrep.lacity.org/onlinedocs/2009/09-0967-s1_pc_6-28-16.pdf)

Additionally, residents and communities most at-risk, including those who primarily speak a language other than English, and who are cost-burdened, are not likely to receive the sufficient primary and preventative medical care needed to avoid the aforementioned health outcomes. This is primarily due to the fact that there are limited resources and the reality that all of Merced County is a Health Professional Shortage Area (HPSA).<sup>49</sup>

<sup>49</sup> Merced County Department of Public Health, Community Health Assessment, 2016 available at <https://www.co.merced.ca.us/DocumentCenter/View/12213/CHA-FINAL---V1?bidId=>

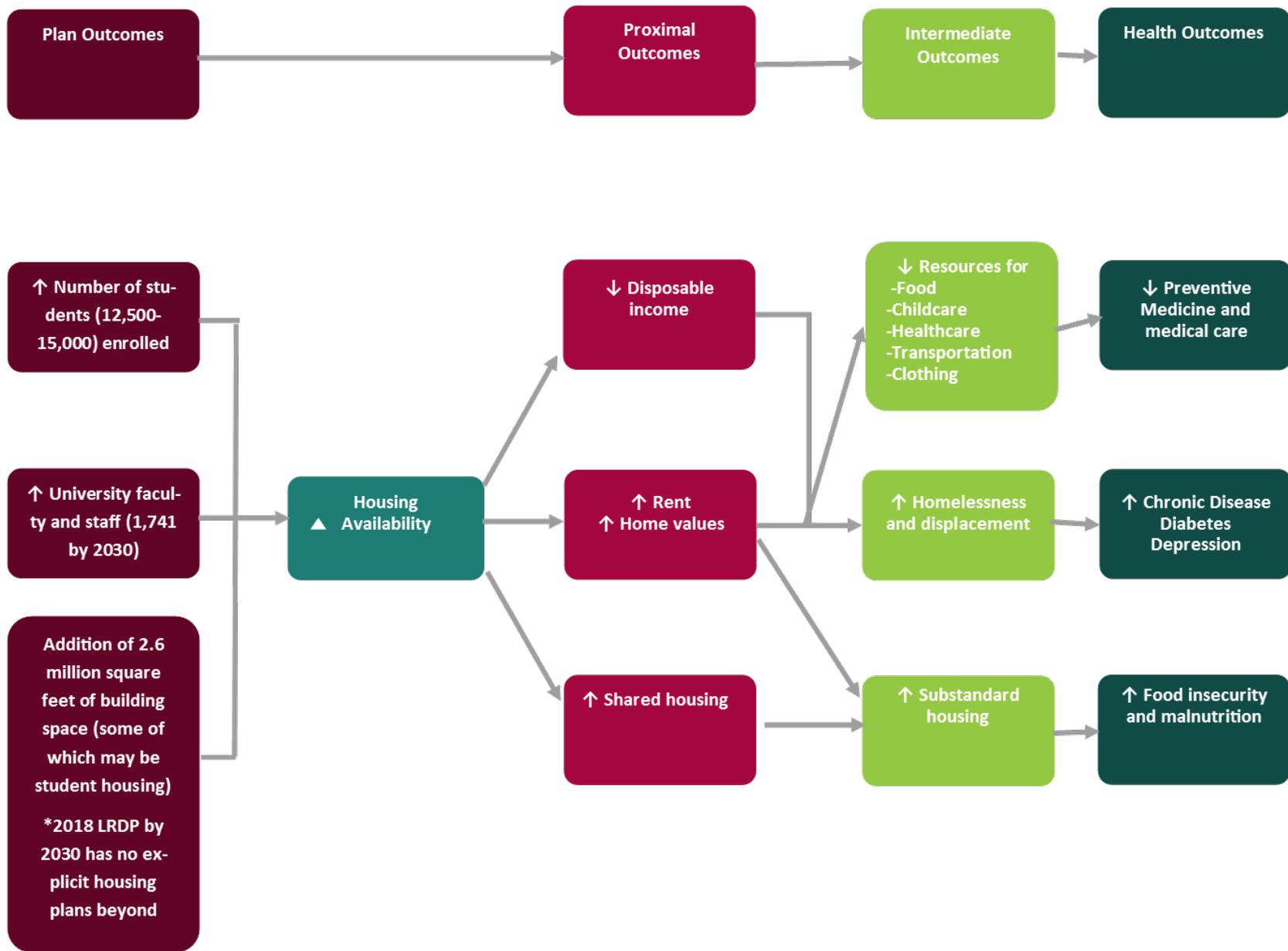


Figure 9. Pathway Diagram showing health outcomes resulting from 2018 UC Merced LRDP objectives.

## ***Impacts of living in a college town***

The impacts of living in a college town include:

- Residents of towns with colleges have better health outcome and longer life expectancy than residents of towns without a college or university in the long term.<sup>50</sup>
- Colleges and universities are stable economic drivers of communities (e.g., less likely to close than other businesses).<sup>51</sup>
- As communities grow and become more desirable, gentrification (displacement of original residents, often poor and often people of color, with more well-off residents) is a concern. Gentrification can be combatted/mediated by building/protecting low-income housing and thoughtful neighborhood/business planning.<sup>52,53</sup>
- Overcrowding is known to increase poor child development and hinder school performance, lead to higher rates of infectious and heart disease, and increase stress, thus contributing to many chronic conditions.<sup>54</sup>

## ***Health Effects of Unaffordable Housing Specific to Non-Student Residents***

Housing costs increase as housing building rates do not keep up with population increases, particularly in the City of Merced, with a low vacancy rate. University and college student population growth increases surrounding area population both directly (number of students, staff, and faculty) and indirectly (through economic stimulation of the area).

Affordable housing projects are crucial to alleviate crowding and for affordability as well as price stabilization. Thus, affordable housing for residents would free up resources for families to spend on health care, healthy foods, and other necessities for ideal health outcomes. For example, studies have shown that cost burdened adults are more likely to report failure to fill a prescription or adhere to health care treatments as

<sup>50</sup> Spaulding, A., et al. (2018). "Are US degree-granting institutions associated with better community health determinants and outcomes?" *Public Health* 161: 75-82.

<sup>51</sup> Lane, Jason E., et al. *Universities and Colleges As Economic Drivers: Measuring Higher Education's Role in Economic Development*. State University of New York Press, 2014.

<sup>52</sup> Merced County Department of Public Health, HIA Stakeholder Group Meeting #4 Notes, Jan. 2019., available as PDF.

<sup>53</sup> Centers for Disease Control and Prevention, "Health Effects of Gentrification," Oct. 2009, available at <https://www.cdc.gov/healthyplaces/healthtopics/gentrification.htm>

<sup>54</sup> National Center for Healthy Housing, "A Systematic Review of Health Impact Assessments on Housing Decisions and Guidance for Future Practice," March 2016 available at <https://nchh.org/resource-library/Guidance-for-Conducting-HIAs-on-Housing->

a result of cost.<sup>55</sup> Stable and affordable housing also supports mental health by limiting stressors related to financial burden or frequent moves, or by offering an escape from an abusive home environment.<sup>56</sup> This applies both to students and non-students. Studies continuously show that homeless children are more vulnerable to mental health problems, developmental delays, poor cognitive outcomes, and depression than children who are stably housed, and that stable housing is strongly associated with improved mental health outcomes and a reduction in the number of days hospitalized among formerly homeless adults.<sup>57</sup>

### ***Health Effects of Unaffordable Housing Specific to College Students***

Many of the issues that stem from a lack of affordable housing for non-college residents also apply to college students. However, college students are a specific target group because of the LRDP originating from a university institution.

Many students are vulnerable to living in close proximity to each other because sharing a room and/or splitting utilities is more cost effective. Individuals who live in a crowded setting may have limited ability to manage daily stressors and successfully maintain supportive relationships, which can lead to increased levels of psychological distress, feelings of helplessness, and even higher blood pressure.<sup>58</sup> In addition to the daily stress of coursework, this may negatively impact student performance.<sup>59</sup> Amongst students, it is worthwhile to distinguish some of the benefits and different outcomes between living on campus and off campus. Students who live on campus at universities tend to utilize wellness and mental health services at higher rates than those who live off campus.<sup>60,61,62</sup> In addition, off campus housing is associated with higher rates of

<sup>55</sup> Maqbool, N., Viveiros, J., and Ault, M. "The Impacts of Affordable Housing on Health: A Research Summary," 2015. Center for Housing Policy, accessible at <https://www.rupco.org/wp-content/uploads/pdfs/The-Impacts-of-Affordable-Housing-on-Health-CenterforHousingPolicy-Maqbool.etal.pdf>

<sup>56</sup> Maqbool, N., Viveiros, J., and Ault, M. "The Impacts of Affordable Housing on Health: A Research Summary," 2015. Center for Housing Policy, accessible at <https://www.rupco.org/wp-content/uploads/pdfs/The-Impacts-of-Affordable-Housing-on-Health-CenterforHousingPolicy-Maqbool.etal.pdf>

<sup>57</sup> Maqbool, N., Viveiros, J., and Ault, M. "The Impacts of Affordable Housing on Health: A Research Summary," 2015. Center for Housing Policy, accessible at <https://www.rupco.org/wp-content/uploads/pdfs/The-Impacts-of-Affordable-Housing-on-Health-CenterforHousingPolicy-Maqbool.etal.pdf>

<sup>58</sup> Maqbool, N., Viveiros, J., and Ault, M. "The Impacts of Affordable Housing on Health: A Research Summary," 2015. Center for Housing Policy, accessible at <https://www.rupco.org/wp-content/uploads/pdfs/The-Impacts-of-Affordable-Housing-on-Health-CenterforHousingPolicy-Maqbool.etal.pdf>

<sup>59</sup> Carlson, Corissa (2018), "The prevalence and needs of homeless undergraduates at a large, urban university." Dissertation Abstracts International: Section B: The Sciences and Engineering 79(1-B (E)).

<sup>60</sup> Derby, B. (2018). "Health and physical education student awareness and use of wellness services on South Dakota Board of Regents campuses." Dissertation Abstracts International Section A: Humanities and Social Sciences 78(10-A (E)).

<sup>61</sup> Kraaijvanger, D. K. (2018). Utilization of Integrated Behavioral Health Care among College Campuses: 1-67.

<sup>62</sup> Canto, A. I., et al. (2017). "College Students in Crisis: Prevention, Identification, and Response Options for Campus Housing Professionals." Journal of College and University Student Housing 43(2): 44-57.

food insecurity<sup>63</sup>, risky behavior<sup>64</sup> (e.g., alcohol, tobacco, marijuana, illicit drug use, unprotected sex, and number of sexual partners), drinking more frequently and/or larger quantities of alcohol<sup>65</sup>, and higher BMI.<sup>66</sup> Living on campus at UC Merced is more expensive than living off campus in the City of Merced as mentioned earlier in the report,<sup>67</sup> thus making some of the benefits of living on campus inaccessible to some students.

## PROJECTIONS OF INCOME AND HOUSING COSTS FOR MERCED COUNTY

Projections for both household income and rent were created based on average growth rates, as well as other potential growth rates. Household income has increased at an average rate of 5.1% between 2014-17 (however note, this was highly variable, from -4.7% to 13.7%). Because of variability and the devastation that the last economic downturn brought to the region, all income projections were based on conservative growth rates: 1%, 3%, and 5% (see Figure 8). 5% was the average growth rate of the most recent measures for 4 years; this was selected as the maximum sustainable growth rate. A higher growth rate over 12 years did not seem likely or sustainable. Merced County is one of the largest employers in the county, and cost of living raises for county staff are 2.5%; based on this 3% was selected as the moderate rate of growth. 1% was chosen to represent a stagnant economy; again, Merced County has been particularly hard hit by past recessions.

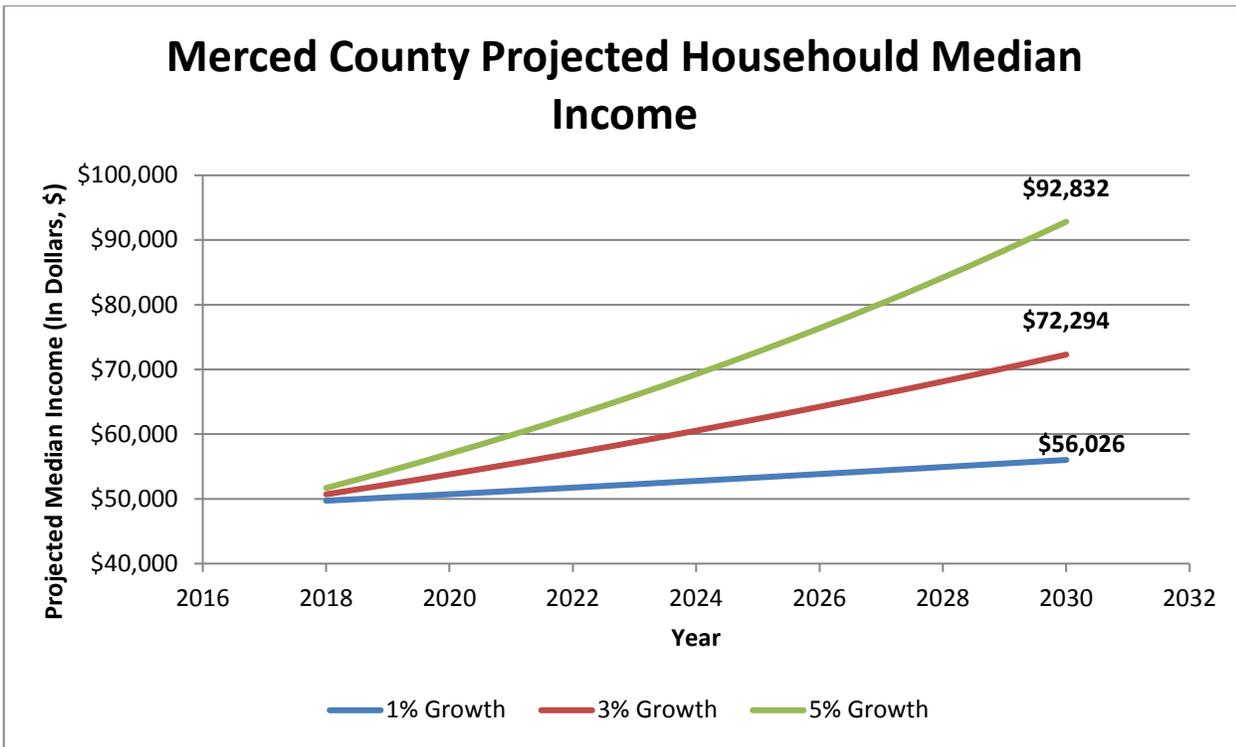
<sup>63</sup> Reynolds, E., et al. (2018). "Prevalence and Correlates of Food Insecurity among Students Attending a Small, Rural Canadian University." Canadian Journal of Dietetic Practice & Research 79(3): 125-128.

<sup>64</sup> DiBello, A. M., et al. (2018). "Examining residence status as a risk factor for health risk behaviors among college students." Journal of American College Health 66(3): 187-193.

<sup>65</sup> Benz, M. B., et al. (2017). "Off-Campus Residence as a Risk Factor for Heavy Drinking Among College Students." Substance Use & Misuse 52(9): 1133-1138.

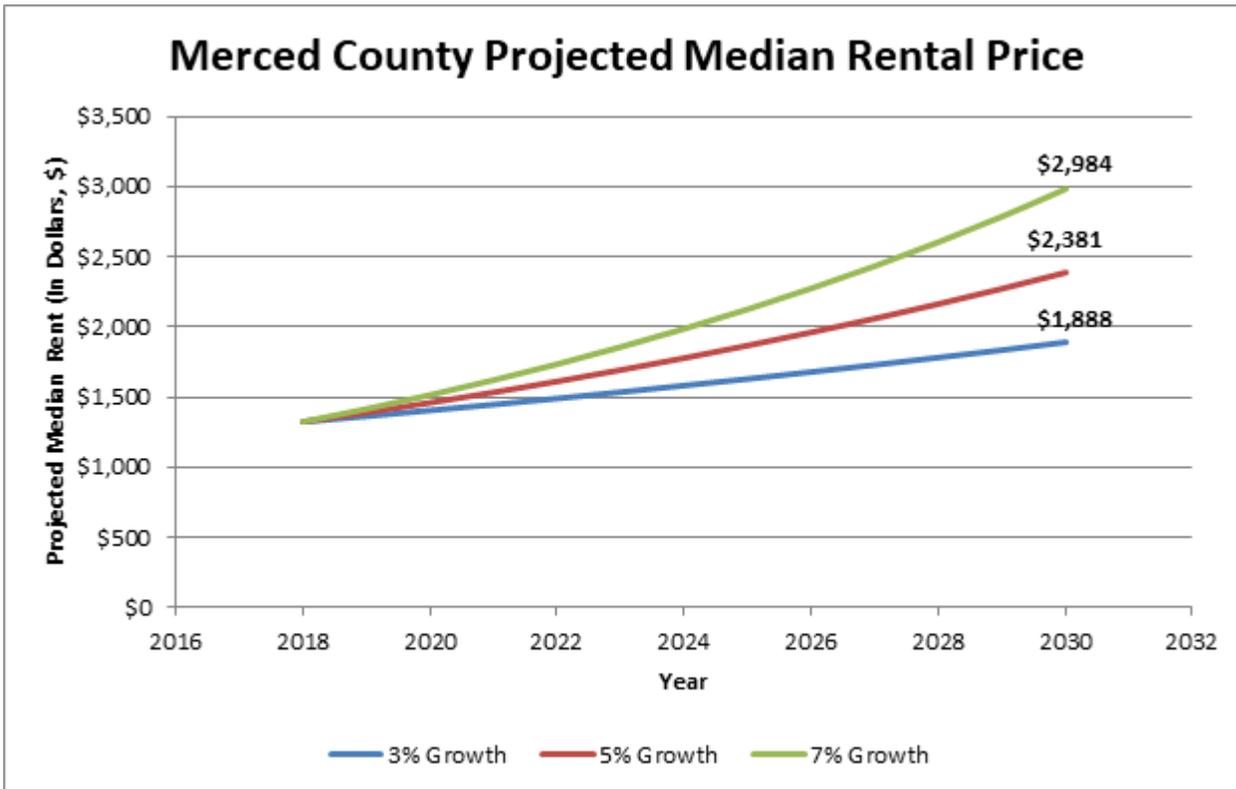
<sup>66</sup> Garcia, S. E. (2017). "Driving home: An analysis of obesity-related behaviors among U.S. college students living on and off campus." Dissertation Abstracts International: Section B: The Sciences and Engineering 77(7-B (E)).

<sup>67</sup> Deruy, Emily, "UC Merced pricier than UCLA? The surprising cost to live on campus," June 2017, available at <https://www.eastbaytimes.com/2017/06/04/it-will-cost-more-to-live-at-uc-merced-than-at-ucla-next-year/>



**Figure 10.** Projected Median Household Income

Median rent, over the same period, has increased at an average rate of nearly 2%; however, rental price change rates have been incredibly variable. The peak rental growth between 2011 and 2017 was 10% (from 2014 to 2015). The lowest growth rate was -17% from 2010 to 2011, while Merced County was still dealing with the housing market collapse. The high variability of this metric makes realistic projections difficult. The average growth rate (without the negative year outlier) of 5% was selected as moderate growth; percentages equidistant from this average (2% and 7%) were selected to represent a slower growth rate (if, for example, building rates increase) and rapid growth (if population growths continue to outpace housing availability). Family median income and median rent projections in 2030 vary dramatically based on the different growth rates. Household income projections range from \$56,026 (1% growth rate), to \$72,294 (3% growth rate) to \$92,832 (5% growth rate), see Figure 10.



**Figure 11.** Projected Median Rental Price

Median rent projections ranged from \$1,888 (2% growth rate), to \$2,381 (5% growth rate), to \$2,984 (7% growth rate), see Figure 11.

**ASSUMPTIONS BASED ON PROJECTIONS**

Based on these projections, the percentage of the typical (median) family’s income spent on rent is also possible to project (Figure 12). In the best case scenario (highest rate of income growth, lowest rate of rent growth), the median family would only be spending 21.7% of their income on rent. In the worst case scenario (lowest rate of income growth, highest rate of rent growth), however, the median family would be spending 63.9% on rent. Even with a moderate projection for both income and rent would result in the median family paying 39.5% of their income on rent – this means more than 50% of the population would remain rent burdened (paying 30% of their income or more on rent). If the majority of residents become rent burdened then it could mean less money for essential items and measurable impacts on health.

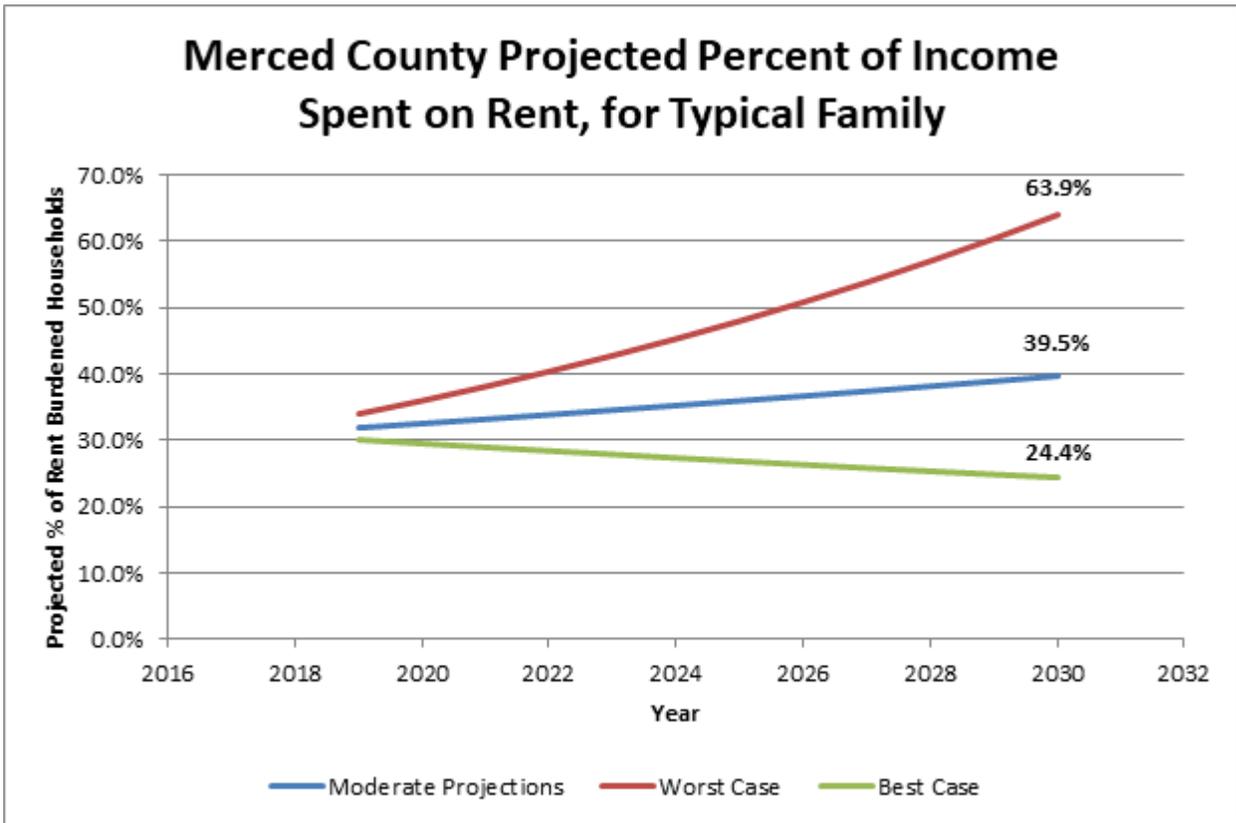


Figure 12. Projected Percent of Median Household Income Spent on Rent

## RECOMMENDATIONS

The initial assessment results were presented to stakeholders. Stakeholders asked clarifying questions; the assessment was updated to reflect this feedback. After the assessment was finalized, the stakeholder group discussed several recommendations found in Appendix C, but ultimately Department staff assessed each recommendation on four key criteria: 1) avoidance/mitigation of harm, 2) base of evidence, 3) enhancement to health, and 4) feasibility. Two recommendations were selected: 1) Form a collaborative partnership between the City of Merced, County of Merced and UCM to address housing needs in the City of Merced and surrounding areas; and, 2) Maintain or increase student housing on the UCM campus as the campus grows.

### **RECOMMENDATION #1: FORM A COLLABORATIVE PARTNERSHIP BETWEEN THE CITY OF MERCED, COUNTY OF MERCED, COMMUNITY BASED ORGANIZATIONS AND UCM TO ADDRESS HOUSING NEEDS IN THE CITY OF MERCED AND SURROUNDING AREAS**

Stakeholders identified the critical need for the formation of a collaborative partnership between the City of Merced, County of Merced, UC Merced, and relevant community partners to address housing needs on campus, in the City of Merced, and in surrounding communities. This is a key strategy for long term sustainability of this work once the HIA concludes and does not necessarily call for changes to the plan to be made but for housing strategies be coordinated by UC Merced with the inclusion of stakeholders. The collaborative partnership would be responsible for: 1) reviewing and assessing housing trends, 2) developing and implementing actionable strategies to mitigate negative and promote positive housing trends, 3) engaging community members, and 4) informing stakeholders of progress and outcomes.

Many stakeholders identified community engagement as crucial to the collaborative partnership. When discussed in community focus groups residents revered this strategy as “a great idea! It is important that we continue to have dialogue with all of those impacted from expansion of UC Merced. We want to grow alongside UC Merced.” Community engagement throughout decision making and the development of interventions is also supported with literature: if impacted communities are involved in the design, governance, and delivery of services it can improve health outcomes and make strategies more sustainable<sup>68</sup>. A systematic review of literature on the impacts of community engagement on health and social outcomes found that community

<sup>68</sup> Milton, B., Attree, P., French, B., Povall, S., Whitehead, M., & Popay, J. (2011). The impact of community engagement on health and social outcomes: a systematic review. *Community Development Journal*, 47(3), 316-334.)

engagement can have a positive impact on housing management, crime and neighborhood safety.<sup>36</sup>

## **RECOMMENDATION #2: MAINTAIN OR INCREASE STUDENT HOUSING ON THE UCM CAMPUS AS THE CAMPUS GROWS**

In the past, University of California (UC) campuses have had a heightened demand for campus housing and have implemented short term strategies (e.g., adding an additional bed to double rooms or converting study areas into temporary living spaces). According to the University of California Office of the President, in January of 2016 the President announced a housing initiative aimed at supporting current students and future growth across the UC System, including the addition of 14,000 affordable beds by 2020. This initiative resulted in the approval of one-time \$27 million allocation to address housing needs for students, staff, and faculty. As a result, nine campuses were given \$3 million dollars to provide assistance for existing or new housing programs, studies in support of advancing new housing projects, and/or capital improvements - although UC Merced was not included, but has received substantial investment in the campus 2020 expansion project.<sup>69</sup>

The HIA team recommends that UC Merced work toward the originally stated goal of 50%. As the campus grows, it will be critical to ensure that additional units are built to sustain the increase in student population.

## **CONCLUSION**

Literature shows unaffordable and insufficient housing impacts health by limiting individuals' capacity to meet other basic needs, such as medical care and food security. This can increase malnutrition, depression, anxiety, and chronic disease. This HIA assessed and projected the impact of student growth on housing in Merced City, and how increases in cost or instability of housing will impact health. Recommendations include the formation of a collaborative partnership and the agreement to maintain or increase on-campus student housing to mitigate the influx of students (and associated staff and faculty). When implemented, these recommendations will ensure that those most vulnerable (low income, students, residents of color) would be minimally impacted by the increase in student population and increased demand for housing.

<sup>69</sup> Student Housing Initiative. (n.d.). Retrieved May 02, 2019, from <https://www.ucop.edu/student-housing-initiative>

## Appendix A: Screening Process

In April 2018, the screening process was well underway and included several steps while engaging multiple stakeholders. The first step included convening the internal team to develop a process for choosing a policy. The team sent out a survey to key partners to help identify proposed policies, plans or programs existing in the community. Examples of policies (plans or programs) of interest from partners included:

- Welfare to Work Program implementation of CalWORKs 2.0 program
- Recidivism Reduction Class of ACE Overcomers
- VIPER Program
- Commercially Sexually Exploited Children (CSEC) Program
- LIGHT- WARRIORS Program
- Sacred Rok Program
- Recreational Master Plan
- Regional Transportation Plan
- Sewer Master Plan
- UC Merced 2020 Project/ housing and admin development
- Downtown City of Merced new development
- Cal Fresh Employment and Training Program
- City of Merced Safe Routes to School Plan
- Beachwood Franklin Community Center Development Project

First the team did an initial screening of all ideas, and identified eligible policies. Many policies were screened out initially because they were 1) not yet proposed, 2) already implemented, or 3) a health policy. Second, the team set up several key informant interviews to gather more information on the eligible policies, including confirming policy existence and timelines for implementation.

After key informant interviews, Department staff selected the top four viable proposed plans: Cal Fresh Employment and Training Program; City of Merced Safe Routes to School Plan; Beachwood Franklin Community Center Development Project; and the University of California, Merced (UCM) Long Range Development Plan (LRDP). The highest scoring plan was the UCM LRDP.

# Appendix B: Scoping

The primary objective of the HIA scoping phase is to create a plan and timeline for conducting an HIA that defines priority issues, research questions and methods, and participant roles. Key points to cover in this phase include:<sup>70</sup>

- Systematically considering potential pathways that could reasonably link the decision and/or proposed activity to health, whether direct, indirect, or cumulative.
- Considering both individual health outcomes and contextual health determinants.
- Focusing on impacts with the greatest potential significance, with regards to factors including but not limited to magnitude, severity, certainty, stakeholder priorities, and equity.
- Considering the expertise of health professionals, the experience of the affected communities, and the information needs of decision-makers.
- Being inclusive. Health impacts to be studied in the HIA should be informed by literature as well as stakeholders including community groups and residents, public health and other government agencies, project proponents and decision makers. Broad participation reduces potential bias related to interests of particular groups.
- Using diverse outreach methods to solicit feedback and participation from a variety of stakeholders by hosting a public meeting, receiving public comments, interviewing stakeholders and experts, or inviting input from local health experts.

HIA Goals
1. Highlight opportunities to unify and incorporate UCM planning with the city and county
2. Engage community on planning efforts
3. Discuss health and equity impacts of UCM expansion on diverse communities
4. Discuss health and equity impacts of UCM expansion on UCM community (i.e. faculty, students, staff)
5. Provide data on priority indicators
6. Develop strategies to address negative impacts and enhance positive impacts on health and equity
7. Enhance partnerships and reduce silos to build authentic bridges between community and UCM

Community residents were asked via convenience sampling (N=233) for their input on prioritizing research questions. 56.0% of residents surveyed identified housing as the most important issue facing the community has UC Merced expanded (28.3% chose access to health care, and 15.7% chose transportation). Of the community members who selected housing as their top concern (N=125), 73.6% felt that the UC Merced

<sup>70</sup> Human Impact Partners. (2018). *Health Impact Assessment 101 Training* [Handout]. Oakland, CA

expansion would have a negative effect on housing. The overwhelming majority (78.3%) of the respondents who felt there would be a negative effect (N=92) identified housing costs as the factor that would be most impacted. Community resident survey results were discussed with partners and thereafter a paramount research question was formed.

*Research question:* How will the number of students and on campus housing units projected in the 2018 University of California, Merced Long Range Development Plan impact housing and community health in the City of Merced?

# Appendix C: Recommendations

The initial assessment results were presented to stakeholders. Stakeholders asked clarifying questions; the assessment was updated to reflect this feedback. After the assessment was finalized, the stakeholder group discussed several recommendations listed below:

Recommendation	Rationale	Targeted proximal or intermediate outcome
Proactive rent inspections	<ul style="list-style-type: none"> <li>• Improve safety and prevent overcrowding</li> </ul>	<ul style="list-style-type: none"> <li>• Substandard housing</li> </ul>
Inclusionary zoning	<ul style="list-style-type: none"> <li>• Increase number of low income rentals/borrowers</li> </ul>	<ul style="list-style-type: none"> <li>• Homelessness and displacement</li> </ul>
Maintain student housing on the UCM campus (approximately 33% currently)	<ul style="list-style-type: none"> <li>• Avoid influx of students off-campus</li> </ul>	<ul style="list-style-type: none"> <li>• Homelessness and displacement</li> </ul>
Increase student housing on UCM campus to accommodate 50% of student population	<ul style="list-style-type: none"> <li>• Avoid influx of students off-campus</li> </ul>	<ul style="list-style-type: none"> <li>• Homelessness and displacement</li> </ul>
Decrease cost for student housing on campus	<ul style="list-style-type: none"> <li>• Attract more students to stay on campus</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> </ul>
Build more student housing off campus	<ul style="list-style-type: none"> <li>• Avoid influx of students off-campus</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> <li>• Homelessness and displacement</li> </ul>
Form a collaborative partnership between the City of Merced, County of Merced and UCM to address housing needs in the City of Merced and surrounding areas	<ul style="list-style-type: none"> <li>• Address broader housing concerns using more effective strategies through unity</li> </ul>	<ul style="list-style-type: none"> <li>• Homelessness and displacement</li> <li>• Substandard housing</li> <li>• Community engagement</li> <li>• Local resources</li> </ul>
Expand accessory dwellings to allow for student housing	<ul style="list-style-type: none"> <li>• Increase number of rental units for students</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> </ul>
Develop pilot to house students with older adults	<ul style="list-style-type: none"> <li>• Increase number of rental units for students</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> </ul>
Form a local affordable housing fund supported by UCM	<ul style="list-style-type: none"> <li>• Provide resources for community</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> <li>• Homelessness and displacement</li> </ul>
Provision of more resources for low income home borrowers (i.e. down payment assistance)	<ul style="list-style-type: none"> <li>• Provide resources for community</li> </ul>	<ul style="list-style-type: none"> <li>• Rental costs</li> <li>• Homelessness and displacement</li> </ul>