The successful walking neighborhoods that characterized cities into the 1920s was killed by the car, its many external costs, and sprawl. The historic change in the nature of neighborhoods can be traced back to the development of Shaker Heights, Ohio, the first auto-oriented subdivision by the Van Sweringen brothers in 1920 and the Country Club District by J.C Nichols in Kansas City, Kansas, in 1922. Nichols also built the first auto-oriented shopping center, County Club Plaza, in 1923. Only decades later have diverse and large external costs begun to be comprehensively recognized as a result of the auto-based system.

College Heights would be a modern version of the walking neighborhood killed by the car. The project is based on walkable neighborhood systems research to replace suburbia over time.

College Heights is a proposed walking-oriented community on a former quarry property owned by the City of Hayward. The project would have over 700 townhouses and condominiums designed to provide healthy, safe, affordable places to live while lowering dependence on privately owned cars. The walkway approach allows substantially more development per acre than typical suburban streets and is only possible because of the potential for non-auto modes to reach the nearby California State University East Bay (CSUEB) campus, downtown Hayward, and BART for the four markets College Heights will serve. Hayward City policy in support is already in place.

College Heights’ residential areas would be largely car-free, with small parks and walkways that lead to a Village Center. The Village Center will include a community center, busway, Village Square, small grocery store and café with a view of the Bay. The Community Center will offer an ATM, HOA business office, meeting rooms, fitness center, and library. Groceries will be within easy walking distance at The Corner Store. The Village Bus will
provide frequent, fast, and free service for Village residents, reaching the CSUEB campus in two minutes and downtown Hayward and BART station in six minutes.

**Walkable Neighborhood Systems and Transportation Pricing Reform**

College Heights is based on an analysis of the causes of auto dependency and sprawl which are major causes of the crisis of the Anthropocene. Auto dependency is caused by market pricing that excludes external costs. The automobile would be far less used if it were far more expensive, which would be the result of transportation pricing reforms (TPR). An artificially low price results from imposing non-monetized costs, creating excessive use and dependency.

Externalities are costs imposed on people and the environment which are not paid for directly in dollars. Pricing reform imposes a monetary cost on the externality, which both compensates for the cost and provides an incentive to reduce the externality. Another term for the concept is “taxing bads, not goods.” These reforms would make car users pay their own way, using the marketplace and consumer choice as policy.

The many externalities include dependency on cars because sustainable alternatives cannot compete, subsidies to the fossil fuel industry (there are about 17 of them); free parking, especially in parking structures; including parking cost in rent (bundling); street and road infrastructure, maintenance, policing, and traffic management; free freeways, time wasted in congestion; accidents, injuries and death; greenhouse gases and air pollution; job location externalities (jobs in excess of nearby housing); national security costs of defending oil supplies; adverse impacts on lower incomes, pedestrians and car-free households; loss of open space-wildlife habitat, ranches, and farmland; and wildlife killed by traffic.

Walkable Neighborhood Systems (WNS) consist of the interplay among land use, transportation, and transportation pricing. Lower per mile transportation costs induce land use dispersion; higher costs induce concentration. Major concepts include definition of neighborhood, delineation of neighborhood by walking distance, density over area, walk-in demand for routine household needs, travel time budgets, parking pricing, transportation demand management, land use as transportation, and an interdisciplinary approach.

We propose implementation of WNS in College Heights, a specific development near the CSUEB Campus in Hayward, California. Our College Heights report is organized around affordability, sustainability, mobility, health and safety, design, and community. The project would have walkways, 732 units, a Village Center, and a Village Bus, open space, and recreation. College Heights has advanced ideas on energy, housing, transportation, and pricing.

College Heights would be the rebirth of the walking neighborhood, a precedent to reverse historic trends that started in the 1920s. ([https://collegehts.org/](https://collegehts.org/))

**The Vision and Six Goals**

College Heights will be a community, not just a housing project. College Heights will have the look and feel of a traditional walkable neighborhood. The project pulls together proven but often isolated ideas into an integrated whole. All the components exist; the combination is new.

An historic quarry, located in the Hayward foothills near CSUEB, is the right place for this project: a walkable neighborhood system. Since March 2006, The Hayward Area Planning Association (HAPA) has been incorporated in California as a 501(c)(3) non-profit corporation. HAPA proposes College Heights on the 29.6-acre former quarry site with creek habitat.
preservation, the Foothill Trail, 732 residential units in a walking area, a Village Center, and limited parking in a podium below the walking area. The Village Center includes a Village Square, Community Center, Corner Store, café, e-bike parking, resident services, and Village Bus service to the University campus and downtown Hayward and BART.

We have six complementary goals:

**Affordability.** Lower living costs for high quality housing, energy, and mobility without needing car ownership.

**Sustainability.** Reduced greenhouse gases and pollution, conservation of farmland, habitat, water and other resources; passive and active solar energy, net zero on the grid.

**Mobility.** Mobility comparable or better than a car, Varied and convenient alternatives using Transportation Demand Management: Village Bus, Village Van, car share/rental, taxi, Uber/Lyft.

**Health and Safety.** A clean environment, safe streets, more walking and recreational opportunities.

**Design.** Attractive landscaping, streetscapes and building facades; visually interesting architecture.

**Community.** Professional Homeowners Association, a secure and friendly community, involving residents in governance and community activities.

“College Heights proposes that for the first time in Hayward's history, people be given a chance to live without needing a car, to save money, and to live more sustainably.”

**Project Summary**

“Traditional residential planning practices force Americans to own and rely on their cars, to consume electricity and natural gas at unsustainable levels, and to live in isolation and fear of break-ins. The design of community itself has to change, if Americans can ever break free of these limitations and embrace a better way of living...”

—David Jacobson, Bay Area Development Consultant

**Suburbia** is a system with low-density single-family housing and auto-dependency. It consumes excessive building material and mineral resources and large land areas of agricultural land and wildlife habitat. It is based on unsustainable burning of fossil carbon and is subsidized by large external costs. Suburban American residential neighborhoods are inefficient when considering external costs.

College Heights will have a high quality of life, affordability, high mobility, environmental sustainability, neighborly social life, and its own special identity. It is based on proximity, efficiency, and amenity, a planned neighborhood with its own small grocery store, café, and private bus service. The system is inherently more efficient economically, environmentally, and socially. The project has economies of scale, fewer inputs, lower costs, and a different system of pricing, land use, energy, and mobility.

College Heights achieves mobility equal to or better than suburbia. The project is based on the functionality of enough density over enough area. With about 1,800 residents, the project will have enough purchasing power from short walking distances and walk-ins to
support businesses serving daily needs and alternative mobility. College Heights liberates residents from dependence on the automobile with no loss of mobility and travel times comparable to suburbia. Cars play a role, but in competition with many other choices.

College Heights improves health with a less sedentary lifestyle, increasing walking and other modes of travel. It supports health with a fitness center, trails, and nearby large fields and tennis courts.

This system is not well understood in the United States, where the dominance of suburbia limits thinking about large, complex, alternative systems. Even newly constructed transit-oriented development pays homage to the car with subsidized, underpriced, bundled, expensive parking.

The Site
Location
The site is located about 1000 feet east and uphill from the intersection of Carlos Bee Boulevard (Bee) and Mission Boulevard in Hayward, California on the way to CSUEB. The campus is half a mile further up Bee. The site is accessible by walking from the dead ends of Overlook Avenue and Palisade Street. See Area map and Village Bus route in blue below.

Planning Tools
The original project name was Quarry Village, and the name still has its partisans. The ultimate name is to be decided by what sells the best. R&R Surveying did an aerial survey with contour lines at two-foot intervals, property lines, and dozens of other layers of information which were then used in Design CAD research. TERRASEARCH (now AGS) prepared a Preliminary Geologic Hazards Evaluation and added layers to our aerial survey.

We consulted with Lea & Braze Civil Engineering, particularly Jim Toby, a partner in the firm. They prepared many analyses for us: an AutoCAD cut and fill volume analysis, phasing of site development, site development costs, wet and dry utilities cross sections and specifications, fire and disability compliance, storm water regulation compliance for the State Water Board with underground storage and metered release into the creek and storm drains,
slope and drainage, City of Hayward right-of-way requirements like maximum slope and minimum width, utilities, and general feasibility, culminating in an Engineer’s Report.

Lee & Braze determined a precise grading limit for the buildable area. The limit is particularly important on the north and west, where a steep slope starts down to Crevice Creek and Redstone Place. The top of the grading starts on the north side just short of the steep slope and descends south to Palisade Street.

We used Design CAD and Excel to design floor plans and the site plan. The spreadsheet “CH parameters.xlsx” has tabs with

- A proposal by Dave Jacobson (Encore) for a rentals project with unit types, rents, NRSF (net rentable square feet), and ROI (return on investment)
- Unit types, unit counts, and unit sizes, unit dimensions, stories, the increments
- Various site dimensions
- Existing Conditions
- Site Areas
- Floor Plans

<table>
<thead>
<tr>
<th>Parking Podium Dimensions</th>
<th>Property Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel number</td>
<td>Location</td>
</tr>
<tr>
<td>445-0180-001-00</td>
<td>“Overlook Ave” North Palisade Street</td>
</tr>
<tr>
<td>445-0170-020-06</td>
<td>1175 Overlook, lot at Palisade Street</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

The property is owned by the City of Hayward and consists of one very large parcel and one very small parcel. The City of Hayward intends to sell the land for development. Zoning is already Sustainable Mixed-Use.

**Existing Conditions**

The site has 29.6 acres and features steeply sloped open space perimeters around 18.6 acres of developable area, giving the project strong geographical separation from adjacent land uses and its own special character. The north side of the site has a long arc of heavily wooded deep ravine with “Crevice Creek,” an unnamed drainage on USGS 7.5 minute maps. North of the creek is a single-family neighborhood along Highland Boulevard.

On the east side of the site is a steep rock slope left by quarrying, a part of which will be recontoured. Further east is a PG&E utility corridor 200 feet wide and then the existing City View Apartments. The site narrows down to the south, stopping short of Bee. On the west side, the site connects to Palisade Street with houses down to Mission Boulevard and then drops down steeply to the single-family neighborhood on Redstone Place well below the site.

The narrower south side has higher ground and a long pile of overburden. On the west side is a knoll with views of the Bay and the quarry floor.
### Existing Conditions

<table>
<thead>
<tr>
<th>Undevelopable Area</th>
<th>sq ft</th>
<th>acres</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crevince Creek Riparian Corridor. Ravine, creek on north side</td>
<td>230,000</td>
<td>5.28</td>
<td>17.8%</td>
</tr>
<tr>
<td>Steep Cut Slope on east side, existing</td>
<td>176,940</td>
<td>4.06</td>
<td>13.7%</td>
</tr>
<tr>
<td>Steep Rock Slope on east side, proposed</td>
<td>36,500</td>
<td>0.84</td>
<td>2.8%</td>
</tr>
<tr>
<td>West Area. steep drop off and slope over 25%</td>
<td>35,930</td>
<td>0.82</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Undevelopable</strong></td>
<td><strong>479,370</strong></td>
<td><strong>11.00</strong></td>
<td><strong>37.2%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Developable area</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>main flat pit</td>
<td>470,724</td>
<td>10.81</td>
<td>36.5%</td>
</tr>
<tr>
<td>deep pit, northwest corner</td>
<td>66,163</td>
<td>1.52</td>
<td>5.1%</td>
</tr>
<tr>
<td>Knoll</td>
<td>90,290</td>
<td>2.07</td>
<td>7.0%</td>
</tr>
<tr>
<td>from middle high ground to south end</td>
<td>183,610</td>
<td>4.22</td>
<td>14.2%</td>
</tr>
<tr>
<td><strong>total developable area</strong></td>
<td><strong>810,787</strong></td>
<td><strong>18.61</strong></td>
<td><strong>62.8%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total property</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>1,290,157</strong></td>
<td><strong>29.62</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
The Site Plan

The undevelopable area, already shown above under Existing Conditions, consists of a large riparian area on the North side, a rocky slope on the East side, and steep land on the West side. The developable area of the quarry floor will host housing, walkways, pocket parks, the Village Center, and The Foothill Trail, a large regional and recreational trail. The buildable/walkable area will sit on top of a podium, with the area for private car parking underneath.

There is a need for public parking, but it needs to be kept out of the walking area. We are planning a small public parking lot south of Palisade Street where it is close to the Village Center without imposing on the walking areas. There is also a need for parking for car share, car rental, taxi, and ride share (Uber, Lyft), and can be used for the same purposes as private cars. For short-term parking, public cars could use the bus lane and 10 parking spaces by the Community Center.

There will be a new intersection with a traffic signal on Bee. College Heights Avenue will cross the PGE right-of-way (ROW) to reach the parking podium. The intersection will accommodate all turning movements.

S. Lewis and A. Weinberg, 2023
Project area acreage

<table>
<thead>
<tr>
<th>Project Area Acreage</th>
<th>sq ft</th>
<th>acres</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foothill Trail</td>
<td>127,730</td>
<td>2.93</td>
<td>16%</td>
</tr>
<tr>
<td>Model Homes</td>
<td>8,652</td>
<td>0.20</td>
<td>1%</td>
</tr>
<tr>
<td>Residential lots</td>
<td>474,579</td>
<td>10.89</td>
<td>59%</td>
</tr>
<tr>
<td>4 pocket parks</td>
<td>11,872</td>
<td>0.27</td>
<td>1%</td>
</tr>
<tr>
<td>Walkways</td>
<td>122,344</td>
<td>2.81</td>
<td>15%</td>
</tr>
<tr>
<td>Village Center</td>
<td>20,566</td>
<td>0.47</td>
<td>3%</td>
</tr>
<tr>
<td>Center parking</td>
<td>13,807</td>
<td>0.32</td>
<td>2%</td>
</tr>
<tr>
<td>Busway</td>
<td>6,720</td>
<td>0.15</td>
<td>1%</td>
</tr>
<tr>
<td>Landscaping</td>
<td>7,717</td>
<td>0.18</td>
<td>1%</td>
</tr>
<tr>
<td>College Heights Avenue</td>
<td>15,316</td>
<td>0.35</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>809,303</strong></td>
<td><strong>18.58</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

The PG&E right-of-way

The PG&E property has an easement for a road from Bee to the property. The PG&E property is a power line right-of-way 200 feet wide. We will also work with PG&E to get a small area for a community orchard and garden, and for the Foothill Trail at the north and the south ends. The PG&E corridor on the East side will have an access road to the parking podium named College Heights Avenue. Palisade Street will extend to College Heights Avenue as a busway.

<table>
<thead>
<tr>
<th>PG&amp;E areas</th>
<th>sq ft</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Busway on PG&amp;E</td>
<td>6,720</td>
<td>0.15</td>
</tr>
<tr>
<td>New grading to create a smooth rock face</td>
<td>5,790</td>
<td>0.13</td>
</tr>
<tr>
<td>Community garden and orchard</td>
<td>20,000</td>
<td>0.46</td>
</tr>
<tr>
<td>Foothill Trail easements, north and south ends</td>
<td>3,354</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Floor Plans

One philosophy of College Heights has been to plan for people in general—all kinds of households, renters, owners, all ages, all incomes, all ethnicities, and all kinds of families. Large houses that upper income people tend to want are not included, so that the largest unit is 2,112 sq ft. Rentals and condominiums tend to be small, but we want to also serve the for-sale market, so we include larger units typical of single family detached houses. The unit sizes mostly increase in roughly equal increments.

We anticipate the demand for two beds will be the biggest, so we have two types: a larger and a smaller, with a size difference of about one room.

The three-bed townhouse is significantly larger than the three bed flat because it has a large flex room as the third bedroom. It is on the ground floor with flexible uses, such as an auxiliary unit, home office, work room, family room, rec room, playroom, study, guest room, storage, or even as a bedroom.

We made estimates for eight unit types: studios, one-beds, small 2-bed, large 2-bed, 3-bed flat, and three-, four-, and five-bed townhouses. The floor areas of each type are based
on a spreadsheet supplied by Encore and on previous research on townhouses. Floor areas are gross outside dimensions, not inside livable area. Walls and non-livable space like closets reduce area by about 5 to 8 percent. Floor plans of the same type all have same depth, 32' for studios and one beds, 38' for 2 beds, and 32' for townhouses.

The floorplans will accommodate bicycle parking in or by the units and provide a drop box for deliveries. A drop box is big enough to hold two or three bags of groceries. It can be opened from the outside and loaded up. When closed, it locks. Residents can then open it from the inside to get their groceries.

**Studios and One Beds**

For the two smaller units, the studio and the one-bed, the depth is 21 feet.

Main rooms need sunlight and so cannot be too deep. There are a limited number of rooms that do not need sunlight— stairways, hallways, closets, kitchens bathrooms, washer/dryer/linen. The studios and one-bedroom units are the only types small enough to require just one window wall.

The logical layout seems to us to use hallway buildings with units left and right along the hallway, with the same efficiencies of rectangles for more units per length of hallway. The studios and one-beds have the same depth of 32 feet. The studios are 16 feet wide with 512 square feet, and the one-beds are 22 feet wide with 704 square feet.

**Small and Large Two Beds**

The 2-bedroom is laid out as a six plex with three stacked flats on either side of a staircase serving both sides. The overall cross section for the 2-beds has 15 feet of backyard, 38 feet of building, and two feet of setback from the walkway, for a total of 55 feet.

**Three-bedroom: Flats and Home-Work Townhouses**

The townhouses are big enough to go to three stories within the unit. The three-bed townhouse is 16 feet by 32 feet for an area of 1,536 square feet. The living-dining-kitchen area is on the second floor, allowing the first floor to have a room that is large and can be considered a flex-space for non-bedroom uses, like a home office or workshop.
Three bed 34x40 flat, left side
Four- and Five-Bed Townhouses

The four-bed townhouse is 20 by 32 feet for an area of 1,728 square feet. The five-bed townhouse is 24 by 32 feet with 2,112 square feet, which is typical for a detached house but large for a townhouse. It could be revised to 22 feet wide without changing the overall conclusions.
### Unit types

<table>
<thead>
<tr>
<th>Unit types</th>
<th>width</th>
<th>depth</th>
<th>floors</th>
<th>sq ft/unit</th>
<th>sq ft increments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studios</td>
<td>16</td>
<td>32</td>
<td>1</td>
<td>512</td>
<td>base</td>
</tr>
<tr>
<td>1 bed</td>
<td>22</td>
<td>32</td>
<td>1</td>
<td>704</td>
<td>192</td>
</tr>
<tr>
<td>2 bed small</td>
<td>26</td>
<td>36</td>
<td>1</td>
<td>936</td>
<td>232</td>
</tr>
<tr>
<td>2 bed large</td>
<td>30</td>
<td>36</td>
<td>1</td>
<td>1080</td>
<td>144</td>
</tr>
<tr>
<td>3 bed flats</td>
<td>34</td>
<td>40</td>
<td>1</td>
<td>1360</td>
<td>280</td>
</tr>
<tr>
<td>3 bed THs</td>
<td>16</td>
<td>32</td>
<td>3</td>
<td>1536</td>
<td>176</td>
</tr>
<tr>
<td>4 bed THs</td>
<td>18</td>
<td>32</td>
<td>3</td>
<td>1728</td>
<td>192</td>
</tr>
<tr>
<td>5 bed THs</td>
<td>22</td>
<td>32</td>
<td>3</td>
<td>2112</td>
<td>384</td>
</tr>
</tbody>
</table>

### Site Plan Density and Unit Count

The unit count was estimated based on the depth and width of the lots containing the units. The studio and one bed units are in hallway buildings and have narrow widths, which provide the most access for the least amount of linear walkway and hallway distance. The depth of the studios and one beds is shown below.

<table>
<thead>
<tr>
<th>Studios and One Beds Depth</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>back setback</td>
<td>10</td>
</tr>
<tr>
<td>depth of front units</td>
<td>32</td>
</tr>
<tr>
<td>hallway</td>
<td>4</td>
</tr>
<tr>
<td>depth of rear units</td>
<td>32</td>
</tr>
<tr>
<td>Front setback</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
</tr>
</tbody>
</table>

The depth for the six-plex 2-bedroom units is two feet of setback, 38 feet of building, and 15 feet of backyard, for a total of 55 feet. The depth for the 3 bed flats is 2 feet of setback, 40 feet of building, and 15 feet of backyard, for a total of 57 feet. The depth for the townhouses is 2 feet of setback, 32 feet of building, and 15 feet of backyard for a total of 49 feet.

These four depths of lot were implemented as double lines along the walkways.

Next, we considered the width of the lots and divided the width into the length of the double line. For example, if a unit type were one unit per 18 feet, and the walkway length was 180 feet, we estimated the number of units at 10. We had 35 walkway lengths yielding an estimated unit count of 732. The estimate included a reduction to accommodate four pocket parks at 56 feet each in the six-plex area.

### Units Overview

<table>
<thead>
<tr>
<th>Unit type</th>
<th>area</th>
<th>count</th>
<th>% of units</th>
<th>total area</th>
<th>bedrooms</th>
<th>total beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studios</td>
<td>512</td>
<td>24</td>
<td>3%</td>
<td>12,288</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>1 bed</td>
<td>704</td>
<td>181</td>
<td>25%</td>
<td>127,104</td>
<td>1</td>
<td>181</td>
</tr>
<tr>
<td>2 bed small</td>
<td>936</td>
<td>97</td>
<td>13%</td>
<td>90,819</td>
<td>2</td>
<td>194</td>
</tr>
<tr>
<td>2 bed large</td>
<td>1080</td>
<td>97</td>
<td>13%</td>
<td>104,791</td>
<td>2</td>
<td>194</td>
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<tr>
<td>3 bed flats</td>
<td>1360</td>
<td>110</td>
<td>15%</td>
<td>150,195</td>
<td>3</td>
<td>331</td>
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<tr>
<td>3 bed THs</td>
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<td>80</td>
<td>11%</td>
<td>123,072</td>
<td>3</td>
<td>240</td>
</tr>
<tr>
<td>4 bed THs</td>
<td>1728</td>
<td>108</td>
<td>15%</td>
<td>186,432</td>
<td>4</td>
<td>432</td>
</tr>
<tr>
<td>5 bed THs</td>
<td>2112</td>
<td>35</td>
<td>5%</td>
<td>74,496</td>
<td>5</td>
<td>176</td>
</tr>
</tbody>
</table>

**Total/average /per cent**

<table>
<thead>
<tr>
<th>area</th>
<th>count</th>
<th>% of units</th>
<th>total area</th>
<th>bedrooms</th>
<th>total beds</th>
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</thead>
<tbody>
<tr>
<td>1,187</td>
<td>732</td>
<td>100%</td>
<td>869,196</td>
<td>1,772</td>
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</tbody>
</table>
The density is based on the buildable area, which includes the Village Center, but not the Foothill Trail. While the density is high by US standards, it is actually a middle-level density. The population density of 114 per acre is more than enough to achieve walk-in purchasing power to support a small store and café, and the Village Bus.

<table>
<thead>
<tr>
<th>Density</th>
<th>developed area sq ft</th>
<th>acres</th>
<th>number</th>
<th>density per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>unit density</td>
<td>674,405</td>
<td>15.5</td>
<td>732</td>
<td>47</td>
</tr>
<tr>
<td>population density</td>
<td>674,405</td>
<td>15.5</td>
<td>1,772</td>
<td>114</td>
</tr>
</tbody>
</table>

**Village Center**

The Village Center is to be located on the north side of the Palisade Street extension at an elevation that provides easy access to the units. It consists of a Village Square, a Community Center, The Corner Store, Café, the busway and bus stops, e-bike parking, and public parking for visitors, trail users, patrons of The Corner Store, and café.

**HOA Management and Security**

As sales take place, management of the common area would gradually transition to a professional Homeowner Association (HOA) management firm retained and managed by the Board of the HOA. Costs are reduced by offering apartments to the onsite managers.

There would be some security cameras, careful lighting, and defensible space, but much security would be provided simply by knowing neighbors, walking around, and listening. The HOA management would manage issues among residents before they became serious. On-duty staff, regardless of specific function, would also be trained in some security functions.

**The Community Center**

The Community Center will have four floors:

**Fourth floor**: manager apartments.

**Third floor**: meeting room/fitness center small kitchen, small locker room and café. The Café balcony has sweeping views of the Bay, Mount Tam, downtown San Francisco, and, on clear days, down the peninsula to San Jose. Ideally, it could somehow be a combination of coffee shop, bakery, pastry shop, café, ice cream parlor, restaurant, pub, takeout, and delivery.

The second floor is level with the walking area. It has a lobby, ATM, restrooms, HOA office and service desk, and a small library quiet room.

First floor: bicycle rental and repair shop, Village Van and electro cart parking, potentially childcare or other resident-related services.

The first floor is not a full floor because it is on a slope with half underground. The entrance is from the downhill side on Palisade Street.

The Corner Store.

The Corner Store will work like other such stores which thrive in older dense areas by having a large walk-in demand and a higher travel time to reach the competition. The store is owned by the residents and is to be managed with competitive prices and a modest profit for
the HOA budget. To be profitable, it must be open enough hours, sell enough goods to support its employees, and have enough items to meet weekly to monthly needs. The density of College Heights seems sufficient to support the Corner Store. The location is on the main walkway in from the bus stops. Passers-by can easily stop in for what they need. Residents of surrounding housing areas could also find it close enough and well-stocked enough, so they stop in also.

Our early research revealed the project was too small to support a grocery store, but we believe that with our design revisions, it is large enough to support a “Corner Store,” because we anticipate a very high “capture rate” of the people living in the surrounding community because of the convenience versus the extra time it will take to reach a competing store off site. (See travel time budgets below.) It will be about 44 feet by 34 feet and 1500 square feet. We put it on the corner of the Village Square and Main Walk. A Parking area is located south of the busway with access from College Heights Avenue.

**E-bike parking is located above the Community Center.**

The Village Square will be a place to meet friends and visitors or relax in warm weather. It will have sitting benches, flowers, and native trees (redwood, live oak, laurel, sycamore, buckeye) in the corners. A small, circular fountain in the center will use recycled water. It will have a small spillway and a water shooting device (smaller than the Bellagio).

**Open Space and Trails**

The unbuildable area includes three open spaces: The Crevice Creek Riparian Corridor on the north, the rocky slope remaining from quarrying on the east, and the steep slopes with a small quarry cliff above Redstone Place on the west. Within the buildable area are the Foothill Trail and the pocket parks. In addition, the south facing slope of the PG&E right of way will have an orchard and community garden and may even service the café with fresh produce.

**The Crevice Creek Riparian Corridor**

By far the major area of open space with 10.6 acres is the riparian corridor that arcs over the north part of the property. It is natural and wooded, slopes very steeply to Crevice Creek. The area will be annexed to and protected by the Hayward Geological Hazard Abatement District (GHAD), a state entity with localized districts which own, manage, and maintain open space. The GHAD will assume responsibility for conservation and maintenance, restoring the area, removing trash from the creek bed and slope and has an assured source of funding. Information on the Hayward GHAD can be found at [http://haywardghad.org/](http://haywardghad.org/)

**The Regional Foothill Trail**

The Regional Foothill Trail is planned to be five miles long starting at Foothill Boulevard near I-580 in Castro Valley. The trail crosses
the Ward Creek Greenbelt and the trail that runs from the municipal swimming pool and band shell on Mission Boulevard up into the high hills. The Foothill Trail then crosses Highland Boulevard, just west of the traffic barrier, crosses Crevice Creek and College Heights, and goes south to Garin Dry Creek Park and Industrial Parkway near Mission Boulevard in South Hayward. It follows the route of the old State Route 238 Bypass proposal.

The trail crosses Crevice Creek on PG&E property where the riparian corridor is extremely steep and will require a footbridge to cross, very narrow to minimize the impact on habitat and to enhance the feeling of closeness to nature. The bridge will span about 160 feet. The tread will be a foot wide, similar to the trail on the CSUEB Research Foundation property on the south side of the campus.

The creek crossing needs security gates on Highland Boulevard and at the entrance to College Heights. The area is remote and difficult to monitor. There is a need to protect sensitive habitat and the security of residents of the Community. The crossing will be closed at night with gates that allow exit and with wireless CCTVs monitored by the HOA in coordination with the GHAD, HARD and PG&E.

The trailhead will be on Highland Boulevard where there is room for ample new parking for trail access. The trail slopes down to the Crevice Creek bridge.

PG&E, the GHAD, and the Hayward Area Recreation and Park District (HARD) will agree on how to manage this section of trail.

**The College Heights Foothill Trail**

The Foothill Trail, built in compliance with the City’s plan in the SD-7 Overlay Zoning and the HARD Trail Plan, will cross through the site and, at an average 20-foot width, have room for many recreational features. It will be an asset for residents and a way for new people to learn about the project. It will accommodate a parcour, a picnic area, outdoor games, bocce ball, pickle ball, seating overlooking the Bay, planting buffers, and native trees and plants. The trail narrows as it comes through the project and the Village Center, making it easy for hikers to visit the store or café.

The HOA will manage the trail based on a trail-use easement and an agreement with PG&E, the City and HARD to meet specific requirements for public use during daylight hours. HOA management will save taxpayer money. Residents and trail users will have access to onsite HOA managers to deal with problems quickly. HOA management will provide security for residents and trail users. A single management avoids needing to coordinate between the HOA and HARD and allows the HOA to manage the trail and adjacent landscaping at the same time. The HOA has an incentive for good management as part of the value of the property.

Except for the footbridge area, the trail will be wide enough to serve as a fire access road, which will connect into Overlook Ave and the walkways, meeting fire department requirements.

**The Picnic Trail**

In addition, the project will build the Picnic Trail, climbing up from the Village Center to a picnic spot high enough to have a spectacular three-bridge view of the Bay Area. The trail then gradually descends to the north to merge into the Foothill Trail.

**Pocket Parks**

College Heights will have four pocket parks within the residential area with play areas, tot lots, BBQ grills, and fire terraces. The landscaping will include flower boxes on windows along the main walkway, and an entry monument. The project will use pleasant street lighting on
the ground for nighttime walking without glare. There will be decorative statuary (think library lion) and the city logo, or some other distinguishing decoration.

**Six Goals**

![College Heights](image)

**Affordability**

**Cost of Right-of-Way (ROW)**

Suburban ROWs run from 40 to 56 feet wide. College Heights ROW is all walkways 20 feet wide, reducing land needs from 50 feet by 60 percent.

**Cost of parking**

Parking, and the streets to reach it, takes up land area, and is costly to build.

Of particular interest, is the high cost of “parking under,” which is parking built within the unit, like a garage, which gets parking off the street and into the house. HAPA’s analysis quantified these issues, testing various street parking, surface parking, and parking under concepts. We compared a Cars Plan with narrow streets (36 feet wide; 8-foot parking lanes; 10-foot travel lanes) to a Walkway Plan with walkways 20 feet wide. The areas for parks, setbacks, floorplans, and building height were otherwise kept the same. We also considered a plan with parking under, with one space per unit for 2-bedroom condominiums, and with two spaces for townhouses. Streets with parking and parking under caused a 36 percent reduction in the number of units possible—468 units versus 732 for the walkway plan.

Construction cost per square foot for parking under is higher than for living space, raising the cost of living space and reducing its area. An analysis of building costs using BuildingCost.net for 2019 found that parking under increased costs for a three-bedroom townhouse for the same living space. The unit cost went from $460,800 to $653,400, a 42 percent increase.

College Heights addresses the parking issue with podium parking. First, no land area is taken away from housing and other amenities. Second, stairways down to the parking area create convenient access points. Third, the volume of the parking structure reduces the
amount of cut-fill needed. Fourth, residents pay the cost of parking through leases, reducing the cost of living space – voluntarily paying only for parking they need.

**Cost of Lot and building**

**Linear infrastructure, number of lots and units**

Wider lots typical of suburbia increase linear ROW and utility costs per unit. College Heights lots have row housing with abutting walls or common walls and no side yards. These features, combined with narrow lots, increase the number of units per mile of ROW and reduces the costs per unit for ROW and street utilities.

**Double loading**

College Heights has units on both sides of the walkways, reducing linear costs per unit, compared with building on only one side.

**Cost of Building construction**

**Three-story construction** is not only efficient for energy but also for construction. Wood frame construction up to five or six stories is less expensive than other technologies as well as being strong, fast, and versatile. Wood frame from three stories has an optimal cost for amount of living area covered by a roof. College Heights uses three stories because it is more aesthetically acceptable than higher buildings and avoids the need for elevators. Three story townhouses have become acceptable in the Hayward area housing market.

**Computer-aided design (CAD)** will be used to increase efficiencies in construction and reduce waste of lumber and other building materials.

**Common utility chases** for co-locating plumbing, electrical, and HVAC.

**Common walls of** row houses, unlike the exterior walls, can be thin, using 2x4 stud framing with no loss of insulation between units for soundproofing.

**Four-square foundations** reduce costs compared to building extra corners in non-rectangular units.

**Switchback stairways** in some floor plans deliver people to a central hallway midway between the units, avoiding the extra space needed by a straight “shotgun” stairway that delivers people to one end and requires a long hallway to bring people to the other end.

**Two-foot dimensions** reduce waste when using eight-foot studs.

**Simple floor plans** minimize the footprint of interior walls within the overall floor area, getting more living space than floor plans with extra walls. The wall area is kept to about five percent of the gross floor area.

These features discussed above save about 20 percent on housing construction costs.

**Cost of Energy**

The passive and active energy systems have high capital costs, but low operating costs with significant life cycle savings and benefits for the environment. The cost of energy in College Heights will be lower than typical PG&E energy costs.

**Location efficiency reduces income needed for mortgage**

The “Location-efficient mortgage” lowers the income needed to qualify for a loan by recognizing that lower mobility costs free up income to pay the mortgage if the lender gives credit for the reduced costs.

**The project pro forma**

All the costs go into the project. The pro forma is the financial analysis of the project. The tabs of the spreadsheet are:
The project pro forma is frequently used to test assumptions and to keep up with the best available information on prices. The purchase price for market housing is usually based on comparables. For this project, however, there are no comparables the price was set on achieving an internal rate of return of 20%.

**Cost of land.** The cost of land indicated below is subject to change. There are two properties involved, a small corner lot already owned by the City and the large quarry the City bought from Caltrans in 2017. The figure for the quarry was negotiated between the City and Caltrans in 2017. They appraised the value for 732 multiple 3 story units at $25,000 per unit. The price for the whole quarry was 18,302,741, or $617,961 per gross acre and $989,337 per developable acre. A real estate consultant told me he thought the land was over-valued considering current market values. In November 2023 a large lot on Clay Street was on the market at $250,000 per acre. The City of Hayward told me they would cooperate with Caltrans to get a reappraisal if there were evidence of over-valuation.

<table>
<thead>
<tr>
<th>College Heights</th>
<th>total units =</th>
<th>732</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Category - Item</strong></td>
<td>Subtotal</td>
<td>Total</td>
</tr>
<tr>
<td><strong>REVENUE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit sales</td>
<td>$500,440,285</td>
<td>Revenues</td>
</tr>
<tr>
<td>Energy sales</td>
<td>$22,470,219</td>
<td>Revenues</td>
</tr>
<tr>
<td><strong>Subtotal: Revenues</strong></td>
<td></td>
<td>$522,910,504</td>
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<tr>
<td><strong>COSTS</strong></td>
<td></td>
<td></td>
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<tr>
<td>Land Acquisition</td>
<td>$18,485,769</td>
<td>Land</td>
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<td>Project Team</td>
<td>$3,862,800</td>
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<td>Project Fees</td>
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<td>Project Fees</td>
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<td>Podium</td>
<td>$9,351,803</td>
<td>HOA assets</td>
</tr>
<tr>
<td>Site Improvements</td>
<td>$15,926,014</td>
<td>Site Improvements</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Podium</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Project Fees</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Site Improvements</strong></td>
<td></td>
</tr>
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</table>
## Land Development

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Building Team</td>
<td>$1,501,416</td>
<td>9.9%</td>
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<tr>
<td>Building Fees</td>
<td>$23,752,602</td>
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<tr>
<td>Residential Units</td>
<td>$357,457,346</td>
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<tr>
<td>Energy</td>
<td>$16,050,157</td>
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</tr>
<tr>
<td>Community Center</td>
<td>$6,920,000</td>
<td></td>
</tr>
<tr>
<td>Store, van, electocart</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>Village Bus</td>
<td>$2,300,000</td>
<td></td>
</tr>
<tr>
<td>HOA Assets</td>
<td>$9,320,000</td>
<td>1.9%</td>
</tr>
<tr>
<td>Advertising, 16 quarters</td>
<td>$200,000</td>
<td></td>
</tr>
<tr>
<td>Model Homes</td>
<td>$4,581,816</td>
<td></td>
</tr>
<tr>
<td>Sales Incentives</td>
<td>$366,000</td>
<td></td>
</tr>
<tr>
<td>Sales Commissions</td>
<td>$9,412,389</td>
<td></td>
</tr>
<tr>
<td>Broker Coop Fees</td>
<td>$5,229,105</td>
<td></td>
</tr>
<tr>
<td>Sellers Closing Costs</td>
<td>$2,091,642</td>
<td></td>
</tr>
<tr>
<td>Selling Expenses</td>
<td>$21,880,952</td>
<td>4.5%</td>
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<tr>
<td>Property Taxes</td>
<td>$526,204</td>
<td></td>
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<tr>
<td>Insurance</td>
<td>$3,660,374</td>
<td>Summary .007% value</td>
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<tr>
<td>Developer Overhead</td>
<td>$1,000,000</td>
<td>$50,000/qtr, 20 qtrs</td>
</tr>
<tr>
<td>Warranty Reserve</td>
<td>$5,229,105</td>
<td>.01% of unit revenue</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>$10,415,682</td>
<td>2.1%</td>
</tr>
<tr>
<td>HARD COSTS</td>
<td>$440,378,155</td>
<td>$488,768,103</td>
</tr>
<tr>
<td>Loan Interest</td>
<td>$5.0%</td>
<td>$4,289,420</td>
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## Financial Highlights

<table>
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<tr>
<th>Description</th>
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<td>Gross costs</td>
<td>$493,057,523</td>
</tr>
<tr>
<td>Net operating income</td>
<td>$ 29,852,980</td>
</tr>
<tr>
<td>Net operating margin</td>
<td>6.1%</td>
</tr>
<tr>
<td>Equity investment</td>
<td>$21,213,747</td>
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<tr>
<td>Maximum Debt Exposure</td>
<td>$45,249,344</td>
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<tr>
<td>Asset cost: Equity plus loan</td>
<td>$66,463,091</td>
</tr>
<tr>
<td>Gross Margin: revenues over asset cost</td>
<td>44.9%</td>
</tr>
<tr>
<td>Leverage (LTV)</td>
<td>68%</td>
</tr>
<tr>
<td>Equity IRR, (goal seek)</td>
<td>21.3%</td>
</tr>
<tr>
<td>Asset IRR</td>
<td>15.2%</td>
</tr>
<tr>
<td>First Payout to equity</td>
<td>Yr. 6 Qtr 4</td>
</tr>
<tr>
<td>Last Payout to equity</td>
<td>Yr. 7 Qtr 4</td>
</tr>
<tr>
<td>Positive Cash Flow starts</td>
<td>Yr. 4 Qtr 1</td>
</tr>
<tr>
<td>years of sales</td>
<td>4</td>
</tr>
<tr>
<td>weeks of sales</td>
<td>208</td>
</tr>
<tr>
<td>Sales per week</td>
<td>3.5</td>
</tr>
</tbody>
</table>
The HOA pro forma

The pro forma for monthly HOA dues uses a spreadsheet required by the California Department of Real Estate. It includes income from parking leases, income from short-term income, income from the café, store, and meeting room. This income reduces the dues and offsets the increase in expenses by building the parking podium. Dues are higher by about $100 per month because of the cost of the Transportation Demand Management (TDM). Dues to the HOA will run from $156 to $204 per month.

There are, however, some complications discussed below under Leases.

Affordability and comparables

We looked at 13 comparable units for sale in Hayward with 2023 prices, the same as in our analysis. We had a sample ranging from 1B to 4B units and we could not find any pattern. The comparables came out above and below our price, for example, we found a 4B at $1,026,000, well above our price, but also one at $849,000, about the same as our price. For 2B2B, we found four comparables that ranged from $590,000 to $700,000, with our price high within the range.

<table>
<thead>
<tr>
<th>Building ID #</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>B8</th>
<th>Total</th>
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<tbody>
<tr>
<td>Unit Type</td>
<td>studio</td>
<td>1 bed</td>
<td>2 Bed 1 bath</td>
<td>2 Bed 2 bath</td>
<td>3 Bed Flat</td>
<td>3 Bed TH</td>
<td>4 Bed TH</td>
<td>5 Bed TH</td>
<td>Total</td>
</tr>
<tr>
<td># Units by Type</td>
<td>24</td>
<td>181</td>
<td>97</td>
<td>97</td>
<td>110</td>
<td>80</td>
<td>108</td>
<td>35</td>
<td>732</td>
</tr>
<tr>
<td>sq ft</td>
<td>512</td>
<td>704</td>
<td>936</td>
<td>1080</td>
<td>1360</td>
<td>1536</td>
<td>1728</td>
<td>2112</td>
<td></td>
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<tr>
<td>Total sq ft</td>
<td>$12,288</td>
<td>$127,424</td>
<td>$90,792</td>
<td>$104,760</td>
<td>$149,600</td>
<td>$122,880</td>
<td>$186,624</td>
<td>$73,920</td>
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<table>
<thead>
<tr>
<th>Unit</th>
<th>2</th>
<th>1</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total unit</td>
<td>$7,939,938</td>
<td>$80,277,120</td>
<td>$55,426,770</td>
<td>$62,684,758</td>
<td>$85,991,231</td>
<td>$68,812,800</td>
<td>$101,494,745</td>
<td>$37,812,923</td>
</tr>
<tr>
<td>Energy</td>
<td>$20,950</td>
<td>$21,457</td>
<td>$24,979</td>
<td>$25,436</td>
<td>$31,996</td>
<td>$35,370</td>
<td>$47,596</td>
<td>$48,686</td>
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<tr>
<td>Energy total</td>
<td>$502,808</td>
<td>$3,883,658</td>
<td>$2,422,974</td>
<td>$2,467,281</td>
<td>$3,519,506</td>
<td>$2,829,621</td>
<td>$5,140,370</td>
<td>$1,704,000</td>
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<tr>
<td>Unit plus energy</td>
<td>$351,781</td>
<td>$464,977</td>
<td>$596,389</td>
<td>$671,670</td>
<td>$813,738</td>
<td>$895,530</td>
<td>$987,362</td>
<td>$1,129,055</td>
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<tr>
<td>Total both</td>
<td>8,442,746</td>
<td>$84,160,778</td>
<td>$57,849,744</td>
<td>$65,152,038</td>
<td>$89,510,737</td>
<td>$71,642,421</td>
<td>$106,635,115</td>
<td>$39,516,923</td>
</tr>
</tbody>
</table>

Comparables, however, is complicated because College Heights provides more amenities and services than the comparables. Affordability and comparables.
Affordability for moderate incomes

The project is designed for middle- to upper middle-income households. In addition, some units can meet City affordability requirements for moderate incomes based on HUD guidelines. The income limit for moderate incomes is 120% of the median income in Alameda County. The guidelines define housing costs as mortgage, property taxes, insurance, and HOA dues. The mortgage assumes 10 percent down, 30 years, and 7.61 percent interest.

The City of Hayward Affordable Housing Ordinance requires that 15 percent of units be affordable to moderate income households.

Inclusionary Housing Ordinance

To provide housing for low- and moderate-income households, California adopted the Community Redevelopment Law in the early 1970s. The law requires new developments to set aside percentages of the project’s housing as affordable, with restrictions on resale to preserve affordability. The law also wanted to intermix affordable units with market rate units so low-income families could become better integrated into the local economy.

Income levels are established each year based on income data for each urban area from the U.S. Department of Housing and Urban Development. The urban area is the Primary Statistical Metropolitan Area (PMSA). State regulations are implemented at a regional level by the Association of Bay Area Governments (ABAG), the Council of Governments for the 9 counties and 101 towns and cities of the Bay Area. Each city is responsible for establishing its own inclusionary policies and demonstrating to ABAG a realistic plan to reach affordable housing goals.

The City of Hayward Inclusionary Housing Ordinance requires that 15 percent of the units in College Heights be affordable for moderate income households, defined as those with incomes below 120 percent of urban area median income for a given size of household. Affordability includes mortgage, HOA fees, taxes, and house insurance, with a total cost no more than 35 percent of income. In addition, a deed restriction limits increases in the resale price to inflation for at least 45 years.

In 2011, in the Oakland PMSA a one-person household income limit was $77,500, of which 35 percent or $27,143 per year ($2,262 per month) could be used for housing. For five persons, the income limit was $128,450, and the housing limit was $44,958 per year ($3,746 per month). The inclusionary unit pricing is based on family size and number of bedrooms in the unit: the bigger the household, the larger the unit.

Based on current data from the California Department of Housing and Community Development, and assuming 10 percent down, 7 percent interest, and a 30-year mortgage, all College Heights units qualify for moderate incomes. For example, a one-bedroom unit for one person would cost $1,476 per month. A five-bedroom unit for a five person household would cost $3,054 per month. The project would need to qualify prospective buyers for 15 percent of the units. This analysis uses assumptions on the high side for housing cost and is documented in a spreadsheet. The affordability is surprising, so the analysis has been reviewed several times trying to find some error, but it holds up. Affordability could be a major marketing draw.

At current interest rates only studio units qualify for moderate income buyers.

We looked into what a lower interest rate could do for affordability. We calculated the housing prices based on 5% mortgage interest rate and discovered that all the units from
studios to four-bedroom qualified for moderate income buyers. Obviously, interest rates make a difference for affordability and vary more than the price of the house, the insurance, or the property tax.

There are also many amenities and services compared with single family ownership. The HOA provides maintenance that a homeowner will otherwise have to do but may not want to do, or be able to do, or will prefer to save the time and expense. Sinking funds cover repainting and reroofing. (Sinking funds are created by some of the dues being accumulated to cover future capital costs.) The HOA takes care of landscaping, litter pick-up, and other day-to-day maintenance. One of the most important advantages of College Heights is that residents can walk out the door and go on a trip with no need to arrange for anyone to watch the house or take care of the yard.

No closely comparable projects could be found because College Heights is so different from the market. However, many market factors seem relevant.

Hayward area real estate brokers and the Meyers Group, a regional expert market research firm in residential studies, provided important information. These experts compiled listings of recently sold comparable properties in Hayward. Additional pricing data was obtained from websites like Zillow. These websites provided opinions regarding how listed sales were not comparable to the units proposed for College Heights.

There is a 10 percent price increase for the “New Construction Price Premium,” a well-documented preference to buy a new home versus a used home. The percentage increase from the “New Construction Price Premium” varies by location. It increases: (1) with the limited availability of new homes in the area, (2) if the existing housing stock is older, and (3) if demand for housing in the area is strong.

Housing prices are likely to rise with inflation in the region. For real estate development, price inflation improves profits and material cost inflation lowers them. College Heights pro formas do not consider inflation and thus have a conservative bent.

The table below is frequently adjusted; here are the numbers from 5/20/2024:

<table>
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<th>College Heights Affordability and HUD limits</th>
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<td>5-bed TH</td>
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</table>
off-site improvements, but has offsetting costs for the Village Bus, community center, café, store, landscaping, and HOA fees.

Given the lack of comparability, pricing of units in College Heights is based on cost plus a markup to achieve industry-preferred internal rates of return. Prices in the main pro forma are based on costs, a moderate absorption rate of 32 units per quarter, equity share of 25% of investment, and a return on equity investment of 30 percent over 12 years.

To compare these prices to the market, we look at rental equivalents for the smaller units and home prices for the larger ones. To increase comparability, we add the parking cost into the College Heights prices.

The College Heights rental prices include amortization of the sales price, insurance, property taxes, and parking space cost. College Heights seems unlikely to be competitive with second-tier, older complexes in Hayward, but generally competitive with the two top-ranked rental complexes, City View and City Centre, and with single-family houses. Buyers can own for about the same cost as renting. College Heights prices would come down if costs for HOA transportation were removed where they duplicate car costs, so the comparison above includes redundant transportation systems. College Heights and the rentals have different sets of amenities. City Centre has a locational advantage by BART; while City View is adjacent to the project. These comparables, then, must be understood as comparing apples and bananas with apples and oranges.

Selling the whole College Heights project to one firm for rentals is unlikely to be profitable because the extra costs of rentals push the price up too high. The plan is to sell all the units to individual buyers, but also facilitate other options. In addition to owner-occupied, the project could have rental by an individual owner, the HOA manager may serve as rental agent for the owner, ownership of several units by a housing agency rented as affordable housing, sale of several units to a cooperative housing group, lease purchase by renters/owners, and purchase with leased transitional parking. One requirement, however, should be to support social interaction by all residents of all kinds of households and ownerships, with no units having some special status getting in the way of social cohesion of the neighborhood as a whole.

The economics of renting are different for ownership by one large firm for rentals, and ownership by individuals. Single buyers may decide that operating costs would be lower than usual assumptions, that costs may mostly be covered in the HOA fee, and that they would have no vacancies or short vacancies. Such owners may want to rent to family members; to sell in the future, counting on rising prices; to hold the property to live in at some future date; or to have the prestige of owning part of a paradigm-changing, sustainable project. These owners should be encouraged to use the HOA managers as their rental managers to assure that tenants fit into the community. (Unfortunately, a few tenants give a bad name to renters in general, when most renters are very responsible.)

Some owners offer tenants a lease with an option to purchase at a fixed price while tenants recover income, repair credit ratings, and save for a down payment. The lease purchase option also gives the tenants hope for ownership and a stake in maintaining the property. In College Heights, the lease purchase option would be restricted to those with
adequate income, an interest in buying, a trip pattern supported by alternative mobility, and supportive attitudes. The lease purchase option gives renters the chance to find out if College Heights works for them, perhaps giving up a car, reducing use of a car, or living car-free altogether for maximum savings.

Rent would ideally be a little more than lease purchase option, and lease purchase option a little more than owning. However, the willingness of residents to fit in to the community lifestyle is more important than whether they rent, lease purchase, or own. Units will be marketed and sold in three connected pieces: the house, the green energy package, and the typical upgrade options. A buyer may also lease carport parking, use off-site parking, or no parking.

The capital cost of green energy is high, but the operating cost is close to zero. Including energy costs in the base housing cost would make College Heights units appear uncompetitive, but creative financing—leasing, energy mortgages—is becoming available, allowing energy systems to be financed separately from the base mortgage. These two mortgages—one for the house itself and one for energy systems—allow homebuyers to compare the cost of the house to other houses and compare the amortization of green energy to their PG&E bill. An energy mortgage and a base house mortgage would also clarify things for the banks, which are familiar with considering energy costs in qualifying buyers for loans, but no energy-efficient mortgages.

The table is based on unit type, household size, price, price after 10% down, the current fixed interest rate over 30 years, the resulting mortgage amortization, HOA dues, property taxes, homeowners’ insurance, total living expenses, the income limit for moderate income.

The discussion above assumes the resident owns a car and leases a space. College Heights is designed to have ample mobility without a private car, encouraging walking, bicycling, transit, and public cars/car share. The project makes it easy to live without a car. If a resident can use the TDM for their mobility and does not own a car, the savings are substantially greater from not having to pay for a car and from not paying to lease a parking space. The average cost of a car per month is about $800 but with wide variation. Using the College Heights project pro forma and the College Heights HOA pro forma, I estimated the monthly parking lease at $60, for combined cost of $860.

| Monthly savings from not leasing one parking space | $ 60 |
| Monthly savings from not owning a car | $800 |
| Monthly cost for 8 to 10 local rides for public cars | Minus $200 |
| Net monthly benefit | $660 |
| Yearly benefit | $7,920 |

The cost of public cars will be much lower than the cost of car ownership. If public cars cost a resident $200 per month, they could save a net of up to $660 per month. Residents also receive vouchers for health car rides and guaranteed rides home, reducing public car costs.

Combining lease savings and avoiding car costs reveals the full incentive:

The parking lease rate alone is not a big deterrent to car ownership, but the cost of a car is. For many young urbanities, it’s too expensive, unnecessary, and even inconvenient. A large number of people in the central Bay Area rely on walking, biking, and transit. In short, College Heights has a cost of mobility below that of suburbia but provides comparable access.
In a larger context, less car ownership has benefits for society: reduced car infrastructure costs, public services costs for police, fire, accidents, and roads, and reduced external costs. College Heights will provide 732 affordable units. The project accomplishes this from dramatic cost reductions in design, from moving parking costs out of housing costs, and from green energy. These savings are much greater than the increased costs of enriched TDMs.

Sustainability

College Heights achieves high sustainability in its buildings, energy systems, landscaping, water use, open space and habitat protection, and reduced fossil fuel use for both transportation and housing. The project will be the most sustainable development built in California to date, reaching the equivalent of a platinum rating by LEED (Leadership in Energy and Environmental Design), which is the highest standard for sustainability in buildings and neighborhoods. The project will also score very high with the Green Building Rating System.

C.3 Provisions

The California State Water Resources Control Board (SWRCB) regulates storm water management. As related to construction, for many years the SWRCB focused on preventing pollution from entering runoff as it exited the site during construction; even silt was considered a pollutant. In the past five years, SWRCB has stepped up pollution prevention to regulate runoff exiting the site after the construction is complete, the “C.3 Provisions” in reference to its State law section number. Not only must pollutants be removed, but the volume of runoff exiting the site cannot exceed the volume, pre- construction. This project would satisfy its C.3 requirements by building the underground trickle-out system described elsewhere.

Green Building Code

In January 2011 the State of California took its first step toward regulating green building by adopting the California Green Building Standards Code (Title 24), which College Heights will exceed. Independent organizations such as the U.S. Green Building Council (LEED certification) and Build It Green (Green Point Rated certification) provide guidance, training, and incentives for green building. The City of Hayward requires Green Point Rated certification. The new code requires:

- Installing Energy Star appliances
- Providing energy monitoring subsystems
- “Commissioning” buildings, which prepares and tests system-level specifications for green buildings
- Installing insulating covers on whole-house fans
- Providing at least 1 percent of electrical power consumed by a household from renewable sources
- Installing low flow water fixtures
- Not using potable water for irrigation
- Using efficient framing methods such as lining up studs spaced 24” on center under joists or trusses also spaced 24” on center
- Using locally supplied building materials
- Using Forest Stewardship Council sustainable lumber
Installing only direct vent gas fireplaces or sealed wood burning fireplaces
Using Low Volatile Organic Chemicals paints, adhesives, caulking, and flooring
Providing individual room comfort controls (such as thermostats, operable windows, fan speed controls)
The College Heights project would meet or exceed all pertinent codes.

**Energy**
“Green energy” buildings cost more upfront but provide long-term savings. Energy efficiency results from a combination of passive energy built into the house and active energy for creating thermal energy and electricity. The system supports “net zero,” - taking no net electricity off the grid over the course of a year, with electricity use in winter balanced by solar electricity generation during summer.

**Passive Energy**
Heat retention is built into the building envelope. Passive energy design reduces the cost of active energy. It keeps warm air inside in cold weather and hot air outside in hot weather.

**Three-story cross section.** Three story row townhouses have the best cross section of depth and height for energy conservation. The **depth** of a building is influenced by how far sunlight can penetrate into a room, which, in a row house, is from the windows in front to those in back. Rooms not needing light, like bathrooms, closets, laundry rooms, hallways, and stairways, can be in the center, while living, dining, and bedrooms which need light from the outside are designed to be in the front and back. Room depths in the project range from 12 to 16 feet, with overall building depths of about 32 feet.

All units are three stories and 32 feet high, creating a square cross-section of depth to height. A square building is more energy conserving than a tall rectangular building which loses heat off the sides, and shorter rectangular buildings which lose more heat through the roof.

**Solar roof area and living space.** The roof area used for solar energy can serve about three floors of living space below. One- and two-story units have surplus roof area and higher buildings do not have enough for net zero.

**Insulation.** Abutting side walls provide insulation from side-by-side construction, allowing for thicker walls and more insulation. The building code allows 2x6 inch studs on two-foot centers. Radiant barrier roof sheathing can reflect heat both ways, keeping heat inside in winter and reflecting heat outward in summer. The total result of these measures is high insulation, R-30 or higher.

**Windows and doors.** High-efficiency windows avoid major heat-loss or gain. College Heights’ design calls for high-quality, double-paned, sound-rated windows with Low-E coatings and fiberglass frames.

**Tight construction** seals leaks and stops air from escaping. Tight construction of the building envelope is assessed with a blower door based on the amount of resistance to air pressure.

**Heat Recovery Ventilators.** Tight construction results in stagnant air and excess humidity, requiring Heat Recovery Ventilators to circulate with outside air. Then, to recover heat, the ventilators have baffles for heat exchange. Recovering heat from the out-going air reduces the ventilation energy requirement by up to 80%. The ventilators also filter dust from indoor air.
South windows. Large windows face south so the sun shines on the floor inside. The flooring would be a thermal mass designed to absorb heat. Solar panels outside above the windows increase shade in summer while letting the lower winter sun come in.

Active energy
The underpricing of fossil fuels until recently put solar energy at a disadvantage, but over the last few years improvements in technology, declining prices, new systems made viable by declining prices, concern for climate change, more expensive fossil fuels, and tax breaks have made solar so competitive that there are now supply chain problems.

Electricity for air conditioning, hot water, and cooking is usually more expensive than natural gas, however, because the energy system is much more efficient than traditional systems, this all-electric system saves money. There is so much efficiency in the overall system that the project is likely to consume 30% less electricity compared to traditional style developments of comparable size.

Active energy: thermal
The active energy system divides between thermal-electrical and electrical only. The thermal components are: 1. PVT modules, 2. central thermal plant, 3. heat pumps, 4. central thermal storage, 5. distribution pipes, 6. domestic hot water, 7. unit hydronic air conditioning, 8. heated towel racks.

1. PVT Modules
PV = photovoltaic, conversion of sunlight into electricity.
T = thermal.
Module = flat panel equipment installed on a roof for PV and thermal energy, also called a panel, collector, or array.
The PVT modules within the system produce direct current (DC), which is converted to alternating current (AC) by an inverter. The modules on the roof will be oriented south and at an optimal angle for sun exposure.
PVT provides electricity from the top and heat from the bottom. The bottom gets heat reflected up from the roof below.
PVT works by day and by year. By day, PVT provides electricity topside and heats backside water, and by night it cools water. This cooling is important in summer for air conditioning.

2. Central thermal plant
The density of the development makes it cost effective to have a central thermal plant using heat pumps and distribution pipes to circulate water among the components of the system. Project wide HVAC (heating, ventilation, air conditioning) for all the units means that the units do not need their own HVAC equipment, saving space. Maintenance of hundreds of unit HVACs is reduced to maintenance of a few heat pumps at the central thermal plant.

3. Heat pumps
Large water-source heat pumps use electricity to heat water as needed as it moves among thermal storage, PVT modules, and residential units. This approach is more cost effective than small heat pumps in each unit and a major reason for the central thermal plant. Air-source heat pumps can heat water by cooling air and cool water by heating air.

4. Central thermal storage
The central thermal storage uses water, which has a high specific heat, that is, it holds a lot of heat relative to its volume. It uses Borehole Thermal Energy Storage, the most cost-effective technology for storing thermal energy. Boreholes will be drilled into the granite below the project. Granite is a good conductor of heat and is relatively easy to drill into. A
cylindrical design stores new heat first in the center, creating a thermocline toward cooler peripheral temperatures on the periphery of the borehole. Extracted heat is taken first from the periphery, allowing 100% of the injected heat to be recovered. For summer, it works in reverse, with a cold periphery by the end of winter, which is ideal for summer cooling.

5. Distribution pipes

An insulated 4 pipe district distribution system will connect all the thermal components in a closed loop of almost constantly circulating water.

6. Domestic hot water

Domestic hot water uses a small thermal storage tank in each unit to reduce the amount of central thermal storage, heat pumps, and piping needed. The tank meets short term spikes in load e.g., for showers. The tank is about ¼ the size of a conventional hot water tank. It uses a “phase change material (PCM)” which Wikipedia defines as, “A phase-change material is a substance which releases/absorbs sufficient energy at phase transition to provide useful heat or cooling. Generally, the transition will be from one of the first two fundamental states of matter - solid and liquid - to the other.” These materials store a lot more heat than water and take up little space. One example is Sunamp’s Thermino.

7. Unit hydronic air conditioning

Each room has a small “fan coil” air conditioner. For space heating, a hot water pipe from the heat pumps and heats fins on the pipe. A fan blows air across the pipe. Cooler water returns to the system. For cooling, it works in reverse with cooler water comes in and cools room air and returns warmer water to the system. The system reduces the size of the main distribution pipes and reduces the power needed from the heat pumps.

Air ducts are not needed. See video on fan coil units: https://youtu.be/6UWEVuie1_84

8. Heated towel racks

Towel racks filled with hot water, dry towels and heat bathrooms. There is some flexibility in temperature regulation for seasonal adjustment.

Summer-winter balance

Summer. In summer, the cool thermal storage is used for air conditioning and gradually heats up to provide warmth for winter. As the PVT modules get hotter, even up to 140°, they get seriously less efficient.

As it turns out, cool water from thermal storage significantly increases efficiency by cooling the backside of the module. The modules yield nearly double the annual electrical energy if operated at a temperature of 41° Fahrenheit. Data based on the Dualsun PV/thermal module reveals that the cooler module produces 911 kWh per module compared to 574 kWh at 50°. The results are especially dramatic during the summer. In July, for example, a module produces 112 kWh at 41° compared to only 74 at 50°. To lower the water temperature sufficiently requires additional cooling of stored water by the heat pumps.

On summer nights the PVT backside cools water for air conditioning. As summer progresses the heat from the summer sun on the PVT heats water to accumulate in thermal storage for use in winter.

Winter. During the cooler winter months, cold water is stored in the thermal storage for air conditioning use in summer.
In short, the need to increase the temperature of storage water for winter coincides with the ability of the cooler water coming into the PVT module to make much more efficient for generating electricity.

Sometimes electricity from the grid may be needed, but the heating of the central storage can be put off until off-peak hours when electrical rates are low.

Overall, usage and electricity should balance out to be net zero on the grid.

**Active energy: electricity**

**Cost of PV electricity**

The need for electricity is measured in annual kWh, ranging from 6,000 kWh for studios to 14,000 kWh for 5 bed townhouses. The need in the project is less, based on efficient LED lighting, induction cooktops, and other appliances.

In solar modules, kWp means kilowatt peak, which is the maximum amount of electricity produced during the noon hour, if it is sunny. An installed kWp of one (100%) in Hayward produces on average 1,679 kWh (kilowatt hours) per year. Module electricity production is calculated as a percentage of that 100%.

Solar radiation is measured in Watts per square meter. Hayward receives 2,163 Watts per square meter per year, allowing a good estimate of how solar PV energy will work in the project.

PVT modules produce direct current, (DC) kW\textsubscript{DC}, shown in the table as kWp and kWh. An inverter converts DC to alternating current (AC) for use in the home.

The average cost of rooftop solar PV for single residential customers in California is $2.97 per Watt. The current investment tax credit will reduce the cost to $2.20 per Watt.

The cost for a larger project will be even lower.\(^1\) We estimate for our pro forma it will be $1.89 per Watt, far less than for smaller projects.

<table>
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<th>Unit types</th>
<th>sq ft/unit</th>
<th>annual kWh</th>
<th>cost per unit</th>
<th># of units</th>
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<th>cost all units</th>
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<td>35</td>
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</tbody>
</table>

6,170,757 $11,662,731

James Bererton estimate of April 2023 average cost for College Heights $1.89/W.

The need for electricity is measured in annual kWh, ranging from 6,000 for studios to 14,000 for 5-bed townhouses. It is based on less electricity needed for efficient LED lighting, induction cooktops, and other appliances.

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The electrical only components are 1. Bifacial PVT modules, 2. LED lighting with occupancy sensors, 3. Induction cooktops.

1. Bifacial PVT modules

The project, however, will use bifacial PVT modules, which have PV cells on both sides. The bottom of the module is glass and the module gets reflected and diffused light, with an increase in annual energy collection of up to 20%.

These modules don’t lie on the roof; but are tilted up by metal frame mounting racks. Import tariffs do not apply to bi-facial modules, lowering their cost. One such module is the LONGi LR5-72HBD-565M 565W Bifacial module.

An annual energy need of 6.17 million kWh will require 4,555 LONGi modules needing a module-only area of 11,617 m2 or 125,000 sf.

2. LED Lighting with occupancy sensors

LED lighting will be standard. Daylight sensors in rooms will require adequate darkness to turn on the lights. Motion sensors or Passive Infrared (PIR) sensors will turn off lights if a room is unoccupied for too long. These sensors can even differentiate pets from people, supporting different control settings when unoccupied by humans.

3. Induction Cooktops

Induction cooktops are the most energy efficient cooking option and have faster heating than natural gas, and with better controls. Induction cooktops use much less electricity than electric resistance cooktops. New induction cooktops can be specified which include batteries which reduce the connected load requirements while providing high power rapid heating capabilities. Electric resistance cooktops are about 65% efficient whereas induction cooktops are around 85% efficient. Children in homes with gas ranges are 42% more likely to develop childhood asthma.

Designing and managing the energy system


1. Design

Solar data for Hayward:

The components of the system must be sized to balance with each other to achieve the goal of net zero and life cycle cost-effectiveness. Computer modeling using a Balanced Design Approach can be used to get there.

PVT vs. bifacial PV. More PVT modules are needed than bifacial PV modules. Thermal storage is sized for winter warmth demand, which is much greater than the demand for unit electricity or for coolth in summer. In Hayward over the past three years there were an average of 2920 Heating Degree Days (under 65° Fahrenheit) and only 536 Cooling Degree Days. The need for hot water adds to the total heating demand. Bifacial PV modules are then added to meet the remaining annual electricity demand.

All the components are sized to meet the peak demand.

2. Microgrid and Continuous commissioning

The project will operate as a microgrid within the PG&E system with the HOA as power manager.

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2 https://www.impulselabs.com/
3 https://www.channingcopper.com/
4 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266016/
The HOA management coordinates central thermal storage, Bifacial modules, PV modules, and residential needs. The HOA manages heating and cooling loads of the system using “continuous commissioning” to optimize energy use. The HOA can monitor each residence’s energy use and help residents manage their systems. Continuous commissioning saves 15 to 45 percent by improving resident awareness, identifying improvements in operations and management, and continuing attention.

3. Submetering

California’s Title 24 law to promote electrical conservation requires electrical submetering. College Heights will have submeters on every unit and one main meter for the whole project. Individual users will pay PG&E based on the submeter. District HVAC within the project will also use submetering for use of thermal energy. Submetering reports energy and thermal use to computers in each unit, allowing residents to manage their energy use. Residents are responsible for their own energy consumption.

4. Smart Thermostats

A Smart thermostat with occupancy sensors combined with submeters enable residents to save money with efficient energy use. “Geofenced” occupancy sensors can detect when...
the home is unoccupied and reduce energy use. When the geofencing detects that residents are near to returning home, the thermostat automatically increases energy use back to occupied mode in advance of their arrival. (More detail on occupancy sensors elsewhere.)

The cost of active energy is included in two different ways. The table on cost of electricity above covers the cost of project-wide components of the energy system as well as the cost of electricity running the components shown in the table below.

The cost of other components of the active energy system are shown in the table below. The cost runs from $14,106 for a studio to $31,120 for a 5-bedroom townhouse.

**Domestic Water Consumption**

The project will have low domestic water consumption. It will use EPA WaterSense certified fixtures, e.g., dual flush toilets using 1.6 gallons per big flush, showerheads restricted to two gallons per minute, and washing machines using 14 gallons per load.

**Landscaping irrigation and storm water**

Landscaping with native plants and the utilization of water conservation techniques, there will be no need for water from off-site for irrigation. There will be no private use of water outdoors, no over-watering of the yard, no hosing off sidewalks, and no onsite washing of cars. Landscaping is to be comprised of native drought resistant plants and trees. No potable water will be used for landscape irrigation, it will be entirely by storm water and greywater.

Storm water is retained on site. The storm water system will meet “C.3” requirements for on-site “bioretention” for a hundred-year storm. Storm water will be stored in retention pipes running under walkways. Water is slowly trickled out through one-inch outlet pipes to percolate to landscaping. If an extremely severe storm occurs, there will be some metered release into Crevices Creek consistent with historic runoff, or into storm drains. This system is less costly than using buildable land for surface ponds.

**Grasscrete.** Walkways will have permeable grasscrete, which is porous paving that allows rainfall to come through for irrigation.

**Greywater.** Rain barrels will retain rain from roofs for irrigation. Sink water will go to toilet tanks. Washing machine water will go to landscaping.

Grey water recovery and treatment is more economical when applied to multi-unit residential applications. A centralized collection system may be designed to gather light grey water from showers, bathroom sinks, and laundry. This water can then be filtered and treated in a central location for re-use in toilet fixtures and for irrigation needs. This can save up to 40% of water and wastewater needs.

Low flow fixtures and low water consumption appliances will also be specified to further reduce the total water needs of the site. This provides an economic benefit to the city as there is a lower per unit requirement to provide water and treat wastewater.

These green water policies greatly reduce sewage volumes.

**Environmental Impacts**

CH reduces drive alone vehicle trips, vehicle miles traveled, vehicle hours of travel, and congestion compared to the suburban alternative.

**Heat island effect**

There is less paved area relative to the amount of housing. Less paving and more trees reduce the heat island effect from asphalt.
**Greenhouse gases, air and water pollution**

Transportation and water systems in College Heights greatly reduce pollution, fossil fuel consumption, and GHG. College Heights will have no natural gas. Building materials will not have off-gassing formaldehyde. Paints will have low or no Volatile Organic Compounds (VOC).

**Resource conservation**

As discussed, the housing construction methods minimize waste. Building materials will be sustainable, such as FSC Certified Lumber, which comes from sustainably managed forests and helps to protect old growth forests.

**Land conservation, and biodiversity**

The plan protects five acres of existing habitat in the Crevice Creek Corridor. The barren quarry floor is to be replaced with trees and other landscaping, creating new habitat for birds and other arboreal life.

College Heights saves agricultural and natural land. It greatly reduces land used per person compared to suburbia, considering not only the lot but also roads, parking, and local commerce. Suburban density ranges from a half person per acre to 12 per acre. College Heights achieves a density of 114 persons per acre, including lots and right-of-way.

**Mobility**

College Heights is large enough to achieve economies of scale that support mobility without car ownership for its major markets. A number of policies combine to make this possible: short walking distances based on compact development and mixed use (café, store, parks, community center); a fast, frequent Village Bus free for residents, the Village Van, e-bikes, and public cars; unbundling, and parking charges.

**Travel Time Budgets**

A travel time budget is the time people expect to spend for various trip purposes, broadly divided between short trips for frequently needed goods, services, meals out, and other; longer times for commuting; and longer trips for high-end goods, professional and governmental services, dining out, and special events. Short trips take about 10 minutes median, 15 minutes average, and can be walking trips. Anchor trips like commutes run about 25 to 30 minutes on average, and typically use transit and car modes. Longer trips over 30 minutes usually use cars. Each person has their own travel time budget but statistics on large numbers of people can be used for planning.

People decide where to live considering how long it will take to make the most important trips they make frequently. They may not take a job too far away if they like where they are living. They debate the cost of places to live vs. the travel times of those places and optimize among many factors. They may make the decision to move if some travel time becomes too big of a persistent aggravation.

Travel time budgets are more important than mode of travel, distance, or speed. A short, ten-minute slow walk can beat out a long, 15-minute fast drive.

College Heights is designed for major markets that have travel time budgets met by the project. The project as a whole and its TDMs make sustainable modes faster and more attractive than the car.
Our research on how dozens of different kinds of trips could be made in the project finds them consistent with common travel time budgets. Travel times for all destinations, from getting to work, shopping, or a cup of coffee, will be comparable to, or better than, those of suburbia.

An important issue to consider: at what point a person can benefit from not owning a private car? The research shows that the major markets living in College Heights with no car will have travel times comparable to suburbia. They will have all the mobility they need, with economic and environmental benefits.

This is not just theory. At the Vidanta resort at Puerto Nuevo, Mexico, patrons park their cars outside and exclusively walk and ride buses inside. In Back Bay in Boston, European city centers, and many other places show that affluent people are willing to walk a lot.

**Transportation Demand Management (TDM)**

TDMs are policies that make sustainable modes faster than cars for many trips. They make it possible, even easy, to live without a car. TDM is usually an anemic add-on that does not work to get more than 5% mode shift away from cars. For College Heights we propose the most effective TDM ever built in California. We believe our TDM strategy can achieve a mode share for sustainable modes of 60% or more. TDM in College Heights includes many features discussed below.

**Walkways and walking**

The walkways are designed for convenient walkability and fire access. They make it more difficult to reach a car compared to the usual pattern of a car by the front door. These walkways will use a green paving system, grasscrete, to maintain the aesthetic of the Village and absorb water for landscaping.

The walkways are all 20 feet wide with an additional two feet of setback to the buildings for a façade distance of 24 feet. The walkway funnels pedestrians south to the Village Center, a short walk away. Stairways on the walkways provide access to the parking podium. No private cars are allowed on the walkways, only public safety vehicles, moving vans, sanitation, and HOA (Homeowners Association) vehicles as needed.

In the project, proximity, density, and design make walking a major form of transportation. Walking increases when supported by design, the critical features of which are density, safety, aesthetics, and direct routes which support short walking distances. College Heights tries to balance the need to get people to walk more with their varying resistance to doing so. Five minutes at three miles an hour is a widely acceptable walk time and goes a distance of 1,320 feet. The maximum walking distance from the most remote front door to the Village Center is 1,400 feet. The majority of residents will have travel times under three minutes.

Walking also provides access to the trails, local parks, and the nearby Hidden Hills Health & Racquet Club with a swimming pool above the City View Apartments. The University campus has sports fields and tennis courts.

**Parking for private vehicles**

**Residential parking**

The SMU zoning has an unusual parking requirement:

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5 Lewis et al., The Mismeasurement of Mobility in Walkable Neighborhoods, Mineta Transportation Institute, November 2000, transweb.sjsu.edu/research/2060.
“Residential Parking Ratios. Residential units are allowed a maximum of 1.3 off-street parking spaces per studio or one-bedroom unit and a maximum of 1.5 spaces for units with two or more bedrooms.” [Bold added] There is no minimum requirement. The project is well under these maximums (732 leased spaces for 732 units).

The project complies with the zoning, and more parking would be permitted. The temptation is to increase the parking to appeal to dominant cultural preferences, but the more parking, the more loss of systemic efficiencies: less walking means decreased health; fewer units and more cars means reduced commercial viability, lower bus ridership, and less interaction for community. That would reduce the need to develop innovative market education strategies and less demonstration effect for the nation. There would be less excitement and less media coverage. College Heights would be just another condominium complex.

Amount of parking
College Heights residential parking is limited by Sustainable Mixed-Use (SMU) zoning to a maximum of 1.3 spaces for studios and one bed and 1.5 spaces for two beds and larger, with 1,035 spaces allowed for 732 units. We are planning for less parking, one space per unit, or 732 spaces. The parking area will also have space for stairwells and maintenance.

The Podium
Unit parking will be in a podium accessed from Bee. Parking spaces are 9 feet wide and 18 feet deep for head-in parking. The aisle for access needs to be 20 feet wide. An access aisle with parking on either side is 56 feet wide for two spaces. At a width of 9 feet and a cross section of 56, two spaces take up 504 square feet.

In our analysis, we looked at three ways to provide parking: on the surface, in a parking garage, or in an underground parking podium. We rejected surface parking close to the units because travel lanes 20 feet wide reaching all of the units with parking 18 feet deep plus two more feet on either side for setbacks will take
up 261,000 square feet, preempting space needed for housing and allowing traffic onto the
site.

We rejected a conventional parking structure. A parking structure three tiers high is
unsightly, expensive to build, preempt 87,000 square feet needed for housing, is
inconvenient to access for drivers on the second and third tiers, and leaves drivers a greater
distance from their units.

A parking podium was the best solution to maximize living space and provide the most
convenient access to the units. The parking podium is shown in the figure as a dotted outline.
It is a single level with stairways to access the surface. The podium will be less expensive to
build than a surface structure with three tiers and replaces the need for cut and fill equal to
the volume of the podium. It can be located where it best reduces the need for cut and fill.

The quarry floor is gabbro, a kind of granite, which is expensive to excavate, so the
parking structure saves considerable volume of excavation. The podium will be surrounded by
fill to the top of the podium.

In a related matter, the overburden of topsoil is valuable and should be preserved on the
PG&E corridor for use as topsoil on the podium and surrounding fill.

The podium and its surrounding fill will create a level walkable site that can be developed
with no vehicles, no parking, no traffic, and no streets. The buildable area will slope with a 2%
grade for drainage with the high elevation on the north and the low elevation on the south.
The quarry floor has an average elevation of about 304 feet, and the podium will be 10 feet
high with an eight-foot-high ceiling, and two feet of topsoil and foundations. It will have a
volume of about 82,000 cubic yards. A civil engineering estimate based on AutoCAD for the
College Heights proposal of several years ago required about 115,000 cubic yards of cut, so
the podium avoids a need for about two-thirds of the hard rock excavation otherwise needed.

The podium will need about 276,000 square feet of quarry floor. At a cost of $45 per
square foot it will cost about $12,500,000.

**Unbundling**

American culture hides the cost of parking, so people do not know what it is. Typically,
for-sale housing bundles the cost of parking in with the cost of the house, so that homebuyers
purchase the parking with no way to know a separate price. Rentals bundle the parking with
the living space. Many renters have to pay for parking whether they use it or not. It is a
sunken cost, reducing the marginal cost per car trip, increasing driving, and reinforcing car
dependency. It is anti-environmental and anti-economic.

Unbundling separates the cost of housing from the cost of parking so that, added
together, they equal the bundled cost. In College Heights, residents will have a choice few can
make - not to pay for parking. Notice that it is our car culture habit of language that “not pay
for parking” means “free parking.” In this case, however, it means not paying, and not
parking. Unbundling is a great incentive toward not owning a car and living more sustainably.

There are four ways to unbundle: full cost, economic cost, market price, and green
scamming.

**Full cost** unbundling includes the costs of greenhouse gases, pollution, accidents, and
other indirect costs not paid for in dollars.

**Economic cost** includes the capital cost of construction and management (lighting,
cleaning, maintenance, and security), and managing the underground parking podium.

**Market price** is what people are willing to pay for a space based on demand or some kind
of bidding for leases.
**Green scamming** occurs when a developer claims to have unbundling but charges so little that it does not cover the economic cost and, as result, the living space cost subsidizes the parking.

**Leases**

Residents will be able to lease one space and to sublease it to others within the term of the lease. They could also give up the lease with no penalty. Podium spaces will be leased at the economic rate. Our latest estimate is $89 per month. The spaces will have EV chargers, which will be paid for separately from leases.

<table>
<thead>
<tr>
<th>Parking pro forma for unit leases</th>
</tr>
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<tbody>
<tr>
<td>leases (732 spaces) and central thermal plant (2 spaces) pay for podium</td>
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<table>
<thead>
<tr>
<th>per space</th>
<th>capital cost</th>
<th>monthly lease</th>
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</thead>
<tbody>
<tr>
<td>Capital cost (CH pro forma)</td>
<td>$12,776</td>
<td>$90</td>
</tr>
<tr>
<td>Operating cost</td>
<td>$5</td>
<td></td>
</tr>
<tr>
<td><strong>Economic lease rate</strong></td>
<td></td>
<td>$95</td>
</tr>
<tr>
<td>operating costs (lighting, cleaning, maintenance, and other)</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HOA Revenue from leased parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assume 30% of owners unbundle 30% of assigned spaces</td>
</tr>
<tr>
<td>After initial lease out, HOA may manage lease rate through bidding</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>monthly</th>
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<tbody>
<tr>
<td>total unit spaces</td>
</tr>
<tr>
<td>70% of spaces</td>
</tr>
<tr>
<td>revenue per month to HOA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spaces</th>
<th>Total Cost</th>
<th>Cost per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost revenue at 70% occupancy:</td>
<td>220</td>
<td>$20,926.50</td>
</tr>
</tbody>
</table>

**Complications**

College Heights owners, in effect, have invested in a parking business where they are also the primary customers. As a result, the HOA may eventually get considerable income from parking leases. In fact, it seems likely that there will be too many spaces than residents need due to having a parking ratio far below the usual rate.

If there is too much demand at the economic rate, the HOA could lease newly available spaces based on a market rate determined by bidding. Too much demand will mean a willingness to pay a market rate greater than the economic rate. There will need to be a bidding process managed by the HOA. When spaces have no vacancies and leases expire, residents will bid on them. Leases above the economic rate will lower the HOA dues.

On the other hand, if the parking spaces are not leased at the economic rate as planned, the expected revenue will not be there, which means increasing the HOA dues to cover the shortfall. The HOA may want to lower the lease rate based on achieving 80% or so occupancy. To be fair, it will also have to lower the rate for those paying more. The HOA may also find a market for using the spaces for storage, for non-residents, or other purposes to achieve revenue. The more unbundling works, the less revenue, so it is important for buyers to understand the trade-offs. If, for example, 30 percent of spaces were not leased, the shortfall will impact dues by $27 per month.

**Short-term public parking**
There will be public parking off College Heights Avenue on a triangular lot with about 39 spaces for the café, trail users, visitors, and guests. The HOA will charge a market rate for parking using a modern system like SFPark. We do not want the lot to be filled by CSUEB personnel, so there will be an enforced time limit.

**Off-site private parking**

The project may want to try to provide some off-site parking. One area is within walking distance on the south side of Bee on sloped land in the Alquist-Priolo Earthquake zone. Another area could be by arrangement with a car business along Mission Boulevard, close to Bee. Some people have a car they like to use for vacations or weekend trips. They will be able to store a car at market cost and reach it by walking or Village Bus.

**Spillover parking**

Spillover parking might need to be regulated. It might occur nearby on Palisade Street and Overlook Avenue. Spillover parking will occupy spaces needed by fronting homeowners.

Hayward already has several successful neighborhood parking permit programs. Signs warn outsiders that they need a parking permit or cannot stay longer than two hours at risk of towing. Signage for spillover parking for College Heights will also include information about how they can get access to the project.

**The Village Bus**

Instead of buying living space bundled with parking space, College Heights residents buy a home with a small bus system, the Village Bus. The cost of the Bus is shared by everyone in the community through home purchase for capital cost and condominium fees for operating expenses. It is a small system serving a short distance with two small buses so the cost is low.

The HOA owns and manages the system. The HOA will contract with an operator, using a system which is widely used, including by CSUEB. The campus has an existing shuttle service which is very slow by modern standards. AC Transit buses are oversized, slow, expensive, and too infrequent to support travel time budgets.

Downtown Hayward and the campus are major destinations and activity centers. Many people need to go to these places, but the downtown-campus connection is very limited. Downtown Hayward has City Hall, eateries like Buffalo Bills, Buon Appetito, Acqua E Farina, and The Bistro, the Dirty Bird Lounge, a multi-plex cinema, many different banks, a library, a post office, Books on B, Lucky Grocery Store, liquor store, CVS drugstore, cleaners, the Odd Fellows, a pawn shop, the Historical Society, churches, furniture stores, and more. B Street is often closed for community events and there is a Farmers Market every Saturday. The Hayward BART station provides access to downtowns in San Francisco, Oakland, and Berkeley, AMTRAK, and major airports of the area.

**The route.** The route connects CSUEB to BART via the busway. Going from campus to BART, the route starts between the Music Building and Robinson Hall. It goes down Bee and turns right onto the new College Heights Avenue, left onto the busway and left down Overlook back to Bee. It then goes right on Mission, left on Fletcher, right on Watkins, left on B Street, and into the Hayward BART station.

Going from BART to campus, the bus exits BART on C Street, then turns right on Mission. There should be a left turn from Bee onto Overlook coordinated with the signal at Bee and College Heights Avenue just a few feet up Bee.

**The stops.** The Bus will make 5 stops along the way. It will have bus stops on the busway at the Village Square. Traffic on the busway will be limited to the Village Bus and public cars, therefore, there will be very little traffic. The busway combines the shortest possible route.
from campus to BART with the greatest convenience for pedestrian access from College Heights. The stops give access to businesses on Mission Boulevard, downtown Hayward, and support transit-oriented development along the route.

To complete with the car, the Bus will be fast, frequent, and free.

**Fast**
The bus will take two minutes from inside the CSUEB campus (0.70 miles away) to the busway, and six minutes from there to reach the entrance to Hayward BART (1.53 miles away). These short distances and times support ten-minute headways and will integrate BART, downtown Hayward, College Heights, and the campus.

The buses will use numerous modern rapid bus technologies to make the route fast. Buses will be small (30 feet) for nimbleness in traffic. They will be electric vehicles, with electric motor torque for climbing Bee at 40 mph and fast acceleration in traffic. They recover energy when braking, especially when going down Bee. The system could use two Movitas electric buses (28’x8’) for no emissions, regenerative braking, hill-climbing speed, low fuel costs, and modest maintenance costs.

The buses will have traffic signal priority preemption and right-lane queue jumping at Highland Boulevard and Sycamore Street. Queue jumping means that all the lights turn red for about five seconds and the bus uses the right turn lane to go straight through and get ahead of traffic.

The Bus will have wide doors, low floors, there will be a raised sidewalk at door level for fast, no-step boarding, guided docking to get close to the stop, and no fare collection. Fare enforcement will be by “proof of purchase,” where an inspector checks tickets on a random basis, as is done in Europe. The driver does not collect fares, fares will be paid via cell-phone app or other electronic method. These features speed up dwell time to one or two seconds.

**Frequent**
The buses will run every ten minutes throughout most of the day.

**Free**
The HOA will provide an Ecopass for all residents paid for by HOA dues. Ecopasses could be purchased by others. The bus will serve not only residents but provide transit access for guests, visitors, trail users, café patrons, and the campus. Occasional riders will ride free; frequent riders will be encouraged and eventually required to purchase an Ecopass.

**A Bus bridge**
The Village Bus will coordinate with a campus-sponsored bus, the Beeline Bus. There will then be a bus every five minutes creating a bus bridge between BART and the campus. The campus will provide a class pass for students and Cal State faculty and staff, paid for by parking fees, parking funds, and privately. Our research shows that CSUEB can support a two-bus system with 10-minute headways, and development along Mission Boulevard can support one more, with all three, the project, campus, and Mission Boulevard, providing service every four minutes—a bus bridge supporting non-car mobility.

**Other TDMs**

**The Café and Corner Store**
The Café and Corner Store are land uses that act as TDM by replacing car traffic to competing venues that take longer to reach. They will be easily reachable by about 1,800 residents - typically a five-minute travel time. The Foothill Trail comes by the café, inviting
trail users. Early walkers could start their day with a meal at the café. Patronage will also come from nearby neighbors, bus access, and public parking.

**Wheelchairs, Deliveries, etc.**

Some disabilities need a single level unit and no step entry. One-third of the studios, 1-beds, and 2-beds have this. Some disabled people in suburbia to use a wheelchair to reach a car while in College Heights the wheelchair can make the whole trip. Wheelchairs and similar devices will be part of College Heights mobility with the advantage of reaching more destinations in a shorter distance. The other devices include strollers, bicycles, tricycles, skateboards, Segways, motorized scooters, roller skates, shopping carts, two-wheel carts, and mail carrier carts. There will be a 5 MPH speed limit, as is common in mobile home parks. Most units will have space for a bicycle and personal shopping carts just inside the front door. Bicycles could have baskets and be European style, which are convenient and easy to use.

The density of the project supports efficient deliveries direct to the units. The units will have lock boxes that allow secure delivery of, for example, groceries and prescription drugs to inside the unit. The HOA will arrange package delivery and meal delivery services using the walkways without vehicles.

The extra-large, deluxe, high-end, rolling utility cart costs $72, weighs 9.74 pounds, carries 100 pounds, replaces the car, strengthens the body, rescues the budget, saves the planet, and nurtures the soul.

**E-bikes**

The area is too hilly for most biking, but e-bikes to the campus will work well. There will be parking for e-bikes at the Village Center, and a bike rental and repair service on the first floor of the Community Center, off Palisade Street. There will be a segregated bike path up to the campus on the south side of Bee.

**Village Van**

The HOA will own and manage a Village Van that seats 8 to 12 people. It will be prioritized to take children of residents to and from school and after-school activities. The local schools are Stonebrae Elementary School, Bret Harte Middle School, and Hayward High School. The van will be used for HOA-sponsored special trips: to sports and other events, theater performances, restaurants, museums, downtowns, shopping (Costco, Trader Joe’s, Walmart, and similar places), education, parks, outings for families, etc.

**Elecrocart**

An electro cart, like a golf cart but designed to carry freight, will be kept at the Community Center and used to carry heavy objects to the units and eliminate any need for trucks on walkways. It can also be used for maintenance by the HOA.

**Public cars and vouchers**

College Heights supports public cars so that residents can have a car when they want one. The HOA will have arrangements with service providers for easy pick-ups and use. The small number of trips needing a public car can make it easier not owning a car.

Our research indicates that sometimes a car is the most feasible way to make a trip versus taking a bus or other transit. Two important trip purposes could be subsidized with vouchers. “Guaranteed ride home” is a voucher for a ride home when bus transit has stopped, and
BART is still running. The current cost of Lyft between BART and College Heights is about $8. For health care, residents will get a few vouchers per month for trips within Union City (e.g., Kaiser), Hayward (Sleepy Hollow Kaiser, Saint Rose Hospital), Castro Valley (e.g., Eden Hospital), and San Leandro (e.g., Kaiser).

The HOA dues will finance vouchers and the HOA will manage them. The HOA will develop a policy to avoid going over budget or benefiting too few people. The vouchers could be accumulated to some extent.

The HOA
The HOA managers will help residents learn new ways of getting around and how the College Heights cell phone app works. HOA managers and employees will look for unanticipated problems and create innovative solutions. They will be the extra glue needed to hold things together; the real person who answers the phone.

Longer Trips
The issue here is how to compare travel time in suburbia with a walkable system for longer trips. Longer trips have a different character from the shorter trips considered above. They are infrequent, go long distances, take more time, and lack travel time budgets, that is, they are so infrequent that travel time has little or no influence on the decision to make the trip. They are sui generis; so hugely varied they are hard to analyze.

An example of a longer trip is to the airport as part of an even longer trip. Residents in the project will have about the same travel time to Oakland Airport as people in surrounding suburbia. They could take a public car or take the Village Bus, BART, or the BART airport shuttle. Similarly, they could reach the Hayward Amtrak station and the major Amtrak station in Oakland’s Jack London Square in similar travel times.

Sum-up
Sustainable mobility in Seattle. An example of success comes from Seattle, in the dense Capitol Hills neighborhood. It had local shopping and had residents with nearby destinations, but it lacked the transit needed to make it all work. The Seattle Times, March 7, 2021, Gene Balk: ”Seattle area's most-changed neighborhoods of the decade," pp. C1-C3, "In the census tract in the heart of Seattle's Capitol Hills, the number of cars dropped from a rate of 577 per 1,000 residents to 399. That's a 31% decline, the largest of any census tract. This area includes the Capitol Hills light-rail station that opened in 2016. It shows that when people live in walkable neighborhoods with good transit and car-sharing options--and when owning a car becomes a big enough expense and hassle--many are willing to go carless." They may have no private car, but they are still using a car with car share. With no car costs and comparable mobility, residents save money. The cost of sustainable mobility is less than the car. It is not one thing, but all combined into a system of density, walkability, design features making the density attractive to live in, mixed use, and transit access to the Seattle city center.

I estimate that TDM in College Heights will reduce private car traffic by about 60 percent. Residents will have the same or better mobility as a car-oriented project with less cost. There could be more trip reduction over time as the system improves and residents learn how to use it. Mobility in College Heights is far more sustainable than the suburban model.

Health and Safety
Major health problems of a sedentary car-dependent lifestyle are less walking, poor aerobic health, over-weight, and heart disease.

More walking and exercise
To say that College Heights encourages walking would be an understatement. Three story buildings without elevators encourage stair climbing and are acceptable in American culture. The walking impaired will have many ground floor units available. Three story construction has been successful in many town house developments in recent years and is common in large houses.

The design encourages walking outside: walking to the Village Center, a pleasant walking environment, close-by parks, a fitness center, cars parked further away. Walkways are designed to be wheelchair-friendly, which means strollers and bicycles will be easy to use.

**Pollution**

With little traffic there will be less air pollution from ozone and particulates. The project supports EVs (electric vehicles). Buildings will be designed for health. Building materials will not contain formaldehyde, preventing off-gassing and interior air pollution. Floor coverings will be from sustainable sources, such as natural fibers like wool, cotton, or hemp, with minimal stain repellants, and installed with tacks instead of adhesives. Wall paneling will avoid plywood and particle board which use formaldehyde-based glues and resins. Paints, adhesives, and sealants will be low in volatile organic compounds (VOCs) and be Green Seal certified.

**Noise pollution.** Noise within buildings will be prevented by soundproofing between units, which is not expensive for new construction. Without cars there will be no traffic noise. Given the closeness of the units, the HOA will have to have clear rules about noise and the power and ability to enforce them.

**Security**

With more people walking, the project must offer higher security than suburbia and have features that make that possible. College Heights will have a European level of security that creates a feeling of personal safety for walking at night. It will have the functionality of a gated community without obvious gates or guards.

The project will have security following best CPTED practices (Crime Prevention Through Environmental Design). Public areas, parking access and walkways will have CCTV (closed circuit television) surveillance and monitoring from the Community Center. The HOA will manage a soft closing of the trail at dusk, both the trailhead on the north and the entrances into the residential area on the south. The podium will have a gate opened by a Bluetooth device or cell phone used by residents with parking leases. For the most part, security will be invisible, but will detect and address problems right away.

Security measures along the walkways include “defensible space” (strategic fencing, long sight lines, windows on the walkways, lighting, no hiding places). The on-duty manager will be available by cell phone and will walk around the site on an unpredictable schedule. A cell phone app for all residents will make it easy to call management and security.

As in most places, the primary source of security will be social networking and community ties—neighbors looking out for one another, catching potential problems small and early.

**Safety**

Without cars, safety will be improved; “walking streets” are inherently safe. Cars are used in many crimes, and a no-car design makes casing a target and getting away more difficult.

**Design**

A major challenge of College Heights is to create a perception of spaciousness in a high-density neighborhood. The issue is not how dense to build it, but how to build it dense. The
streetscape would look inviting, familiar, and comfortable, like an up-scale old neighborhood. The systemic aspects and economies of scale for the Village Bus, café, and store, which are not visible, need to be complemented by high quality design, which is visible. A major reason College Heights could achieve density without feeling dense is that it needs hardly any space for vehicles. There are four components: building mass and setbacks, trees, facades, and longer views.

**Building mass and setbacks** are defined by the shape, height and lengths of building facades and their distance across the street or walkway from each other. The project plans to use rectangular foundations for cost control, broken up by offsets among frontages, internal balconies, bay windows, and pushouts. Landscaping and ornamentation of facades would be added for visual appeal.

Buildings three stories high need enough separation for low-rise aesthetics, i.e., a feeling of openness and less density, which would be created by setbacks and walkways 32 to 34 feet wide, about the height of the buildings.

**Landscaping** breaks up the views of the buildings and is attractive in its own right. Tree spacing would avoid too many trees that could darken the street, hide the buildings, and overpower the rest of the design. At intersections, College Heights could have statuary lions opposite old-fashioned looking streetlights on short brick pillars to create entry ways. Six feet of width between the walkways and building fronts would be landscaped.

**Facades** would have ornamentation; nothing creates a feeling of oppressive density faster than a big blank wall. College Heights would use neo-Victorian design structural ideas such as lapped siding, roof cornices, transoms, slanted and square bay windows; balustrades, porches and porticos; building corners, decorative elements on blank walls, etc. College Heights would use selectively ideas such as window hoods, window shields, and other window trim; nine-light windows, cornices and gables, quoins, finials, bargeboards, spindle work, and sawn decoratives; decorative sticks and shingles; rosettes, buttons, bullets, and sunbursts; dentils and beading; brackets; pilasters, columns, and colonnettes with caps and capitals; friezes and panels with wreaths, rinceaux or garlands, balusters, and newel posts. I like the idea of window flower boxes at ground level. The plan does, however, draw the line at towers, witches’ caps, and external balconies.

One unresolved issue is exterior window shades, such as a set of slats that slide on an outside wall to cover a window, or a protruding flat rectangle sloping down from above the window. These modern shades help let in heat in winter and fend off sun in summer, but do not fit with the neo-Victorian concept.

From this cornucopia of possibilities, College Heights would incorporate a limited, coherent, and affordable set of design choices and test them in focus groups. Buyers would be offered some choices within the theme. The result should be affordable with enduring eye appeal and great variety within a consistent theme—a gift to the street.

**Longer views** down the walkways would be varied, such as a long, graceful curve, views into a park, or facades at an angle from the viewpoint. Some views should be a short distance, others long. A major reason for four small parks is to provide varied views. Two plazas on the main walkway would also help increase visual appeal.
The Mixed-Use Block has linked buildings around a courtyard and access from a main entrance on the busway, going to wide central halls and stairways. The design would be similar to the walkway areas, and also visible from Bee, Overlook, and Palisade streets.

Good Design: The project will have an appealing design for the Village Center, streetscapes, building façades, and open spaces. The design will not be for an architect to make a statement, but for residents to feel comfortable and uplifted. The design creates a perception of spaciousness and visual interest in such a high-density neighborhood: “not how dense to build it, but how to build it dense” (and not look dense).

Few people realize how much ROW (right-of-way) and parking is built for housing. This research quantified what happens when cars take area from housing on the same site. With walkways and reduced parking, there was more housing. There was less car dependency and household living costs (transportation, energy, and living space) would be far lower. The walkways approach was more sustainable and healthier and would have comparable mobility for its markets.

Walkway widths and Façade separation

We laid out the building lot areas, streets, parking, and walkways on the site to try to reach City Planning targets. The City of Hayward also had ROW estimates from BkF Engineering. They assumed a ROW of 42 feet: four feet of landscaping and four feet of sidewalk on both sides of a street 26 feet wide. We consider the BkF dimensions far too wide for efficient use of land in high density development. The Master Development Plan (MDP) had wall-to-wall widths of 70 feet (42 feet ROW and 28 feet of setbacks) in one drawing and 64 feet (42 feet ROW and 22 feet of setbacks) in the other. ROW consisting of travel lanes, sidewalks, and landscaping; parking lanes 8 feet wide for parallel parking; parking spots 8 feet wide and 12 feet deep for head-in parking; setbacks between ROW or parking and building facades, and distance between building facades.

With two-foot setback and 20-foot ROWs, the building facades are 24 feet apart, which is a result of optimizing the number of units with attractive design. There is enough walk-in demand to support the Café and Corner Store. Going to four stories, 24 feet apart risks creating a tunnel aesthetic if over a large area. Should back yards be ten feet deep instead of the planned 15 feet? That moves the issue from the street width to the back yard. It would allow a walkway width of 32 feet, aesthetically more open. The plan now calls for a deeper back yard as they will get more direct use by residents.

Attractive façades

The need for affordability seems to require simple boxy buildings with large flat walls. The problem is solved with internal balconies, pushouts, bay windows, insets, decorative features like, color, window flower boxes, stylish streetlamp columns, and the Hayward City (or some other) logo “H” here and there. The facades will be pleasant and interesting to look at, “a gift to the walkway.”

A snip from Integral with solar roofs added:
The Integral design shown above gives an idea of three-story row housings which is acceptable but not appealing. The facades are typical of recent trends, pastel bland blah slabs.

Hail, Britannia! I have done extensive research on Victorian design (Italianate and Queen Anne above) and would like to see it considered.

Here is a long list of Victorian design elements: lapped siding, roof cornices, transoms, slanted and square bay windows; balustrades, porches and porticos; decorative elements on walls, window hoods, nine-light windows, window shields, and other window trim; cornices and gables, quoin, finials, bargeboards, spindle work, and sawn decoratives; decorative sticks and shingles; rosettes, buttons, bullets, and sunbursts; dentils and beading; brackets;
pilasters, columns, and colonnettes with caps and capitals; friezes and panels with wreaths, rinceaux or garlands, balusters, and newel posts.

College Heights could use Victorian colors, probably sets of three-color palettes consisting of a light toned main color, a stronger contrasting trim color, and a flashy highlighting color used with restraint.

More ideas about façades in high-quality multiple-unit projects are in the College Heights archive.

**Streetscapes**

The streetscape is the view down the street. For walking, visibility of destination is helpful at least up to a point. The design has mid-length views, with a bend at Midway Walk. It also has magnificent, graceful curves along Crescent Walk and Foothill Trail. Other streetscapes have vistas into parks and the Foothill Trail, at buildings at various angles, and short views. A few units will have views of the Bay to the west.

**Landscaping**

Trees and greenery on the walkways will add visual appeal. Trees will be spaced to avoid an overabundance of trees that could darken the street, hide the buildings, and overpower the rest of the design. At intersections, the project could have statuary lions on short brick pillars opposite old-fashioned streetlights to create entry ways. Widths between the walkways and building fronts will be planted and maintained by the HOA. The main walkway will have two small plazas.

**Community**

**Social ambiance**

In spread-out suburbia, people pass each other in cars behind windshields. Seniors often have few close neighbors and may feel isolated from social interaction. Others may have empty nests and are tired of rattling around in an empty house. College Heights will support a strong sense of community among residents. People will be running into each other instead of driving past each other.

College Heights will be a quiet oasis where walking makes it easy to get to know people, with contact along walkways, in parks, and in the Village Center, which will be a veritable hotbed of social interaction. The design invites people outside in good weather to visit, walk, jog, or sit on the porch. Also, those who want privacy will have it.

**Pets** are a boon to the community and will be allowed within limits. College Heights will allow two per residential unit maximum, with cats inside, and dogs leashed except in a fenced dog run along the Foothill Trail.

**HOA Assets**

Residents are homeowners and project asset owners. Their common assets include the walkways, the Community Center, the Corner Store, the café, the Village Square, Village Bus, Village Van, electrocart, podium parking, short-term parking, security system, and landscaping including the pocket parks and Foothill Trail.

**HOA governance**

College Heights takes what we have learned about condominium owner associations and improves on it. HOA reputations based on past problems is no longer deserved, as reforms have made dues adequate enough to cover on-going needs and professional management firms have become more effective.
Condominium bylaws will implement best practices and innovation in HOA governance to foster community. The Board will be elected and have overlapping terms plus some seats for unelected owners to participate in governance if they wish. These seats will be rotated among residents for training purposes, leadership development, and involving shy residents, so every few years a resident could become involved and get to know their neighbors and the issues. This type of Board construction will balance the need for institutional memory, turnover, and competence from experience with new voices, and those reluctant to speak up.

With about 1,800 residents, College Heights will be large enough to need professional management. The HOA Board will retain a professional HOA management firm and on-site managers. The Manager could be paid $100,000 per year and the Assistant Manager, $75,000, in both cases including the value of their apartments. The elected Board will collaborate with HOA managers on personal conflicts, which are difficult for a volunteer board.

Management responsibilities

Managing bad neighbors

Any neighborhood will inevitably have problems from time to time. The HOA will have clear “good neighbor” rules for common nuisances. The HOA management will have power to manage problems caused by absentee owners, renters, and for that matter, occupying owners. Some problems can be prevented in advance. The management will have an explicit responsibility to be acquainted with residents informally and to manage problems before they escalate. Some problems can be solved by conflict resolution procedures.

Other problems may require more serious actions by the HOA. Concerning absentee owners and renters, the HOA management will have some of the powers of a rental agent. The management will have the authority to veto prospective tenants with bad records and, with the consent of the Board, to evict tenants for bad behavior. There have in the past been condominiums with problems attributed to renters, but the vast majority of renters are responsible and should not get an automatic bad rap.

The by-laws would have detailed, special procedures for dealing with problem owners, should any need arise. The HOA would have elected members and a small number of owners selected at random who were willing to serve, with terms of office balancing the need for turnover with the need for institutional memory and competence from experience. The City of Hayward would back up the HOA in emergencies.

The HOA management will have the power and authority to deal with all problems to maintain the value of the project. As with noise issues, there are some aspects of a dense neighborhood that need more careful management than single houses scattered along a street. It’s not about renting or owning, low or high income; it’s about behavior.

Conflict resolution procedures will be clear to prevent and manage conflict with explicit and known procedures. New residents will have a conversation, not just read a check-off list, with the HOA manager and a Board member so they know what they are getting into.

Managing the businesses

The management will manage five businesses: the café, the Corner Store, the Village Bus, leased parking, and short-term parking. Ownership by the residents provides a strong incentive for good management for revenue that impacts on the HOA dues.
Managing other responsibilities
The management will sponsor four holiday-related community events per year, probably on MLK, Fourth of July, Labor Day, and Thanksgiving with music, movies, and cookouts. Managements other responsibilities include:
- Support for Board meetings and administration
- Accounts and HOA dues collection
- Security and safety
- Public car trip vouchers
- Maintenance of open space, landscaping, and the outsides of buildings
- Answer the phone and email
- Manage the meeting room for meetings, banquets, performances, parties, clubs, movies, and other events and for fitness.

Risk reduction
The biggest risks are unexpected increases in costs, delays in construction, and the absorption rate. The absorption rate is the biggest risk factor. The pro formas test three absorption rates: fast, moderate, and slow. Prices are based on cost and are estimated to be below comparables. A fast absorption—selling units faster than expected, at the planned price—would be very profitable, while selling units more slowly below the planned price would reduce returns. The real estate market when the project comes online and the potential for sales from extra buyer education are impossible to predict.

Pre-sale years are those for due diligence, control of the land, entitlement, design, initial land improvements, and the first buildings. Sale years start with the sale of the first building and go to the end of the project. Pre-sale years plus sale years equals project years. Slow, etc., refers to the rate at which units are sold.

<table>
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<th></th>
<th>Pre-sale years</th>
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College Heights, Absorption timetable, 732 units

The absorption rate is particularly difficult to predict. Four risk reduction strategies are proposed: market research, reservations, phasing, and a fallback plan.

For these reasons, College Heights should be funded by a patient, green developer committed to the values of the project, willing to wait for a return, and confident that an imaginative buyer education program can recover sales during some slumps through a five year selling period.

Risk reduction: Market Research

Conventional market research looks at the past and at the auto-based, detached single-family market, not at small, latent markets, therefore, the kind of market research that
conventional investors usually want cannot be done. This project is different from what the marketplace usually offers.

Market research to date by the Hayward Area Planning Association has involved a website, surveys, and buyer profiles. Our research has produced a long list of enthusiastic people hoping to live in College Heights.

HAPA launched a website in December of 2006 for several purposes: (1) to build an interest list of potential buyers, (2) to test the market to verify interest in the concept, and (3) to identify market segments that a developer should target. The website provided detailed information about the project, including early versions of the site plan, floor plans, description of benefits, and preliminary pricing.

An email address was provided for submitting requests to be put on an interest list or for further inquiries. The project was on Craigslist for about two years and publicized in other ways. Respondents were asked to write profiles explaining their interest, or profiles were written by the Hayward Area Planning Association based on the survey answers and approved by the respondents.

Response from some people has been enthusiastic. For example, a San Diego urban planner said he will move to the Bay Area just to embrace the pedestrian lifestyle. He said, “I am very excited to be part of this. Keep me informed!” We found about 125 people interested in living in College Heights, but this research did not have the credibility needed with developers and investors. See also the box with comments from Ben below.

College Heights will tap into an underserved market.
Email from Ben, ben <wordsforben@gmail.com>, October 2018, commenting on documents sent about College Heights. Edited for brevity.

I have a lot of feelings on car-free living. I’m still so baffled how the US can’t really shake their attachment/obsession with them. Even reading this article, https://en.wikipedia.org/wiki/List_of_car-free_places, I find myself so embarrassed how few opportunities we have to get a break from it all. The areas that do go on a car-diet or eliminate them always end up thriving, so it’s really sad to see how many communities and leaders continue to resist that way of life.

Thanks for sharing all of those documents. It’s nice to know that more effort has been put in. If it comes to fruition, I’d want a property as far away from the parking lot as possible. Like one of the townhomes that back up to the green space on the outer limits.

I’m eager to get way from traffic and everything that comes with it. A few years ago, I was walking around the streets of Brussels and I couldn’t stop thinking ”HOW HARD IS THIS?!” Small low/no traffic streets work. People are safer. Public areas are peaceful.

Anyway, I’m pretty excited about what you’ve conjured up. The location is an 18 min bike ride / 45 min walk to my partner’s relatives house. We are also big fans of the frequency of the shuttle bus that will take folks to the BART, market, etc. I totally support implementing solutions that discourage car-ownership. Make walking/biking/transit the more attractive/affordable/convenient/less stressful option for everyone.

I’ve spent the last 10-15 years keeping my eyes peeled on various car-free communities (realized and proposed). I’ve always said that it’s probably the only thing that could convince me to ever get a mortgage. The standard noise/chaos/lifestyle of car-centric neighborhoods is just something I will never sink six figures into.

I feel like communities are so much more vibrant when people aren’t always hiding inside of big metal cages all of the time. Please know there are people that appreciate that the concept even being discussed. It’s nice to know other people would like to someday find the same thing. I’ve lived and traveled all over the globe. I love the weather and the job opportunities out here, but I don’t want to spend my life stuck in traffic, commuting hours each day, staring at all of the trash on the side of 10 lane highways, and surrounded by other angry and stressed out people.

New market research will be based on a proposal by InterQ, an innovative San Francisco market research firm (https://interq-research.com/). The market research will use travel diaries, interviews, and focus groups composed of the specific markets. For example, CSUEB people can be recruited by email, with arrangements made to meet on campus. The groups can discuss the concept in general, and then comment on floor plans and facades based on a few design choices using style sheets. Group comments on what has the most market appeal will eventually be offered to buyers. Focus groups will comment on the viability of the plan. The research will find ways to improve marketability and to educate people about the project.

Risk reduction: reservations

After project entitlement, buyers can put money down to reserve specific units. Developers will obtain a Subdivision Public Report Application Guide (SPRAG) Preliminary Public Report from the state Department of Real Estate. The report allows reservations which allows buyers to make a deposit to guarantee being able to buy a unit. The City could
cooperate on expedited entitlement and getting a Preliminary Public Report. Reservations will indicate a strong intent to buy. A target for reservations can be stipulated before significant investment in site improvements begins. Falling short on reservations will alleviate the developer’s obligation to build the project.

**Risk reduction: phasing**

The College Heights project would have several stages.

Preliminary organization. The developer performs extensive due diligence. The work should include some land appraisal and some assessment of the geomorphic break and might include some legal and organizational work.

The estimate of land value is about $14.5 million, but the peculiar SMU zoning and depressed market may mean bidders won’t go that high. A buyer should not offer more for the land than its value for a conventional project even though College Heights might support a higher land value, so that if College Heights fails, the owner could still build an alternative project.

Securing financing. The developer is likely to get some probable source for the Development loan during due diligence but will need to nail it down.

Entitlement. Entitlement requires several consultants to work with the City on a large and complex application. Transparency about the pro forma, economies of scale of the store and bus, and cost-based pricing will be important to help city staff understand the project and avoid nickel and diming it to death, especially concerning the store. The project has solid political support with the City Council, but there are likely to be some specific bumps on details, specifically, how to signal the intersection of Bee with Overlook and the busway, and how to meet the overlay zoning requirement for the Foothill Trail. Entitlement should take about a year, and if the risk of being late to market is there, some pressure should be maintained on city staff to not sit on the paperwork.

Design. Design involves consultants preparing detailed plans and documents to meet City and State requirements but is relatively predictable. At the end of design, all elements must be in place for the next stage. The developer pays all costs through design. For land purchase, at some point during design the developer would probably buy the land with 30 percent equity and 70 percent from an Acquisition and Development (A and D) loan. The A and D loan also finances site improvements. Building loans finance residential building construction, and funds from sales would fund the HOA assets.

Sales and marketing consultants and managers would determine the mix of housing types and design to appeal to the targeted homebuyer segments. Preliminary construction management begins.

Land Improvements. Only at this time do significant outlays begin. The developer posts performance bonds with the city and pulls permits for site improvements. Construction management operations increase to run many contracts for improvements and coordinate with city inspectors. Land improvements in five grading phases support building phases. The pro forma delays grading to be close to building in order to delay expenditures as long as possible, thus saving on the interest charged on loans. The first phase requires only a little grading at the south end, allowing an early start on the Mixed-Use Building.
Building construction. Five grading phases support 11 building phases; grading and building overlap in time. Both grading and building are designed to respond to sales, thus reducing time between outlay and revenue.

Phase One at the south end requires a minimum of grading and utility work. First built is the Mixed-Use Building for studios and one beds, with temporary space for the construction office, a sales office, and HOA operations. Phase Two, just north, requires extensive grading and would have two-bedroom six plex condominium and three-bedroom townhouses. The condominiums and townhouses include model homes and units for sale.

The developer initially manages HOA functions until there is enough cash from owners to cover a full-time employee and related operating costs. Since the developer continues to own most units, he or she controls the HOA Board, which in turn controls the employee and HOA operations. The developer has every incentive to involve the new owners in governance and activities to get the help from owner enthusiasm to sell the rest of the project.

Building phase 1 has studios and one-bedroom units. The Mixed-Use Building is one of five surrounding a park. When its units are sold, the next building begins. Phase 2 includes two types of two-bedroom condominium flats and three story townhouses, so that five building types come early to market. The mix of unit types should depend on market demand.

The grading and building are planned to minimize interference between construction activities and residents. Initial residents would be on the southeast part of the site while construction access is from Overlook on the southwest. Occupancy moves counterclockwise following construction, which closes out on lower Overlook at the end of building phase 11.

Close-out. As units are sold and an HOA fully established, the developer gets final pay out and control of the property fully shifts to the unit owners.

Phasing site improvements can delay costs while sales bring in revenue, bringing income closer to outgo. The first sales may not generate enough cash flow for all the HOA expenses, some of which may have to be delayed. Scaling up HOA expenses with sales needs to be carefully planned for the bus and the community center, which are expensive. However, of course, we do not want residents living without the amenities promised to them. If the phasing approach is used, this will need to be worked out.

Risk reduction: A fallback plan
If absorption falls short of a three-year target starting from first occupancy, and if lack of parking is the problem, a fallback plan will allow shifting to more suburban parking. For example, a reduced unit count with suburban parking could be planned off Overlook Avenue.

The Market
From this, other research, and the logic of the situation, four major market segments were identified: retirees and seniors; CSUEB students, faculty, and staff, BART users, and home office workers. A fifth category is a list of buyer interests that alone or in combination with others could make the sale.

Overlapping Markets
Where other markets overlap with the four major markets described above, College Heights becomes even more attractive. While the four market groups are mostly distinct from each other, several additional markets overlap with them and with each other: families,
environmentalists, health-seekers, disabilities, community-seekers, coop housing groups, and moderate-income households.

Families
Experience from car-free projects elsewhere shows that safe walkways are a magnet for families. The HOA staff will have support for families as a high priority. It is a fundamental goal to serve all kinds of families and all ages. College Heights can meet typical family needs. For example, the three-bed townhouse flex space is big enough to work as an auxiliary unit, a home-within-a-home. College Heights has four tot lots and small parks. Neighbors might want to do some babysitting. Traveling with a baby on site in a baby carrier in your shopping cart is easier than in suburbia with a car using a car seat and stroller. Ground floor units allow the shopping cart to roll into the kitchen. Traveling offsite will not be more difficult than using a car. The Village Van can chauffeur children to schools and children's activities. There is potential for childcare to be offered at the Community Center.

Families include multigenerational households. College Heights can meet their needs in the townhouses. Multi-generational homes increased by about 30% from 2000 to 2010. Causes include the cost of housing, a relative who can help with childcare, the need to take care of an adult dependent like an aging parent, helping a boomerang kid (out of college/veteran/lost job/back in school), and cultural preferences, especially for Asians and Hispanics, who are about 17 percent of households. The three-bed townhouse is designed to have about 340 square feet of flex space for a possible ground-floor unit with patio. Key features of the four and five bed townhouses are second master bedrooms, and floor plan flexibility within the outside walls.

Environmentalists
Many people are willing to make changes in their lifestyles to be more sustainable. Environmentalists are a growing market in the Bay Area. College Heights is super-green, the greenest possible development in the United States. College Heights achieves goals for greenhouse gases, passive solar, net zero solar energy reduced vehicle emissions, and habitat enrichment. In College Heights, environmentalists can not only find a personal lifestyle to live their values, but also demonstrate to the larger development world that an alternative system can provide sustainability, affordability, mobility, and profitability. I am part of this group.

Health Seekers
Health seekers, fitness enthusiasts, recreationists, bird watchers, dieters, and people under doctor's orders to reduce stress will have low pollution and free access to a fitness center, parks, and hiking trails.

There is a swimming pool and tennis courts nearby at Hidden Hills Health and Racquet Club, and playing fields at CSUEB.

Health-seekers have many interests. Some people want to walk more for health by putting themselves in an environment where walking more is necessary: they must walk to their units, climb stairs, and have reduced temptation to drive. Others might want to escape safety problems created by traffic where they lived before College Heights.

People with Disabilities
Wheel-chair users, those with impaired vision, and those restricted from driving will benefit from no car traffic and no curbs. Walkways are designed for wheelchair use. Ground entries have no steps. The Bus will have no-step entry with wide doors.
People with disabilities have various concerns. For the archetypal person in a wheelchair, College Heights has the Mixed-Use block with all units accessed by halls and no curbs. Ground floors of other units will not have steps, but not just for wheelchairs; they will be usable by shopping carts, baby carriages, bicycles, and other wheeled devices. In fact, except for Overlook and lower Palisade, which will have curb cuts, the project will have no curbs. Shopping carts should be able to roll to and from the store with ease. Blind and vision impaired would find College Heights attractive because of no curbs and no traffic. Finally, some people can’t, should not, or do not want to drive a car.

Community-seekers
Community-seekers value the kind of easy sociability College Heights provides along walkways, in little parks, and at the Village Centers, while in suburbia people pass each other in cars and may only be acquainted with a few neighbors.

Community-seekers are not necessarily Age of Aquarius hippies but may just be people who value having a bunch of neighbors they like and have a good relationship with. Suburbia can get spread out - people are passing each other in cars, and people can feel isolated from easy social interaction. College Heights makes interaction easy, concentrating daily movement along walkways and in the Village Center. Even picking up the mail you can run into people.

Co-housing groups are a manifestation of a desire for community. Groups of a small number of families live in one contiguous area, either multi-family or small-lot singles, but also have a common space for meals and shared work assignments. The major problem for co-housing is the lack of land for groups who are ready to invest. College Heights could accommodate one or more co-housing groups.

There are also related markets that reinforce the main markets: moderate income households, families, people with disabilities, environmentalists, health seekers, and community seekers.

Moderate income households
For the target markets, College Heights offers substantially lower cost of living for housing, energy, and transportation. Some people are willing to make changes in their lifestyles in order to live affordably in a high-quality home. Some buyers will seek protection from energy costs. You don’t have to be a survivalist to see gas prices ratcheting up.

Affordability. College Heights is not going to appeal to the traditional market for single detached houses. It will appeal to many buyers who now have few or no options in the marketplace for this kind of neighborhood, which offers them strong benefits not available elsewhere in the Bay Area or even in the whole country. However, because there is so much that is special about College Heights, one may lose sight of the single most important factor in selling homes: affordability. This project is in Hayward, not Berkeley or San Francisco, and many people who like its features are not interested in living in Hayward. Affordability will sell the project more than the special features. My sense is that perhaps about 20 percent or fewer will have the special considerations as a major reason to buy, while about 80 percent will be buyers seeking a good price in a good location, and figuring out how it would work for their travel pattern. Their mode of travel would change, but their general lifestyle would continue. This mass market appeal means that College Heights could be an inflection point in the evolution of neighborhood systems.
Affordable housing agencies could take some of the units in College Heights to manage as rentals for moderate to low-income people. Such agencies can bring credibility to the project as a whole because of their project management experience and their ability to reach a demographic that otherwise could not afford to live in College Heights.

Retirees and seniors
About 26% of Alameda County population is 55 and older. Retirees and seniors are attracted to a peaceful, safe, and walkable neighborhood, no yard or exterior house maintenance, security, and ease of leaving home for travel. This group is mostly active and involved in the community, where day-to-day activities are social and recreational rather than work-related. They would have other seniors to associate with as well as other ages. Furthermore, this group has tended to live in the Bay Area for many years and wish to continue to do so because of ties to family, friends, various group activities, and attractions.

Often, this buyer group has given up or greatly reduced its driving because of age and the stresses and expenses that go with a car. For them, living in College Heights would improve their mobility. For example, my wife and I are both retired, we want a five-bedroom townhouse at the top of the project, and we can afford it.

Life in College Heights will be free of house and yard maintenance, which makes travel easy—lock the front door and you’re on your way. Retired people do not need a car for commuting. If driving skills are declining, College Heights offers alternative mobility.

College Heights could have some features of a “Continuing Care Retirement Community,” independent living without higher levels of care, i.e., assisted living and nursing home care. Some private arrangements for assisted living will not be obtrusive.

Cal State East Bay
Administrators, staff, faculty, students, and others who want to live close to a university would be attracted to this project because of its proximity to the campus. Residents can hop on a free bus and get to campus in two minutes. Similarly, other employees along the Mission Boulevard corridor and downtown, including City Hall, would reach work in about six minutes once on the bus. Local employees would have the ability to get to work without a car, saving on both the cost of driving and car ownership.

College Heights will have a segregated bike lane to the campus for e-bikes. People come to the campus for many reasons—classes, events, a large library, bookstore and eating places; it is a major cultural center.

Affordable rentals for students are an ongoing major market. We have completed two market surveys of CSUEB students. The first survey had 81 respondents and found about 22 percent of students will probably rent in the project, similar to the adjacent City View Apartments. Probable movers had positive attitudes, wanted to save on rent, and could get where they needed to go without routine use of a car. The estimated student market alone showed enough demand to fill the project. The students will be able to reach the campus quickly and do daily shopping in an acceptable travel time. Rent savings were the most important reason, followed by improving personal health and benefits to the environment and national security.

BART users and downtown workers
Residents can easily reach the Hayward BART station, regional buses, downtown Hayward, and other local employment in the Mission corridor. The Village Bus reaches the
Hayward BART station in six minutes with an estimated total travel time including walk from home to wait on BART station platform of 15 minutes. The time is comparable to many driving times, without taking time to hunt for parking, park and walk in. The Hayward BART station is also an AC Transit hub and has a special express bus to San Mateo with stops in Foster City and the Oracle worksite, its travel time is 45 minutes.

At many transit villages on former BART parking lots, renters are noted for paying a premium ($100 to $300 per month) over other rental options to get a short walk to BART. Vacancy rates in these villages tend to be very low. These renters ultimately save money by avoiding car ownership. Condominium developments near Hayward BART have sold well. Though College Heights is not walkable to BART, the fast (six minutes), frequent, and convenient bus shuttle service to BART makes it comparable to BART transit villages. Bus commuters can live in College Heights and have work trips competitive with, or better than, those of drivers.

**People who work from home**

Over the years from 2021 to 2022, the pandemic led to a large increase in the number of people working from home, which was already increasing because of improved telecommunications, helping workers avoid long commutes, and congested freeways. There is likely to be a continuing increase in this kind of work and very little has been built outside of San Francisco for this market.

College Heights has a unit designed especially for work at home, a three-bed townhouse with a ground floor room specially designed as a flex space. Floor plans showing bedrooms could also show them as workspaces, and there is some flexibility within the outside wall perimeter to meet buyer needs such as home office, den, study. It has 340 square feet with a patio and space for many kinds of uses.

Empowered by inexpensive computer systems and high-speed internet access, businesses are finding that it is cheaper and more productive to employ people working out of their homes. For home workers, living at College Heights would allow working while being part of a peaceful, pedestrian-based community. Such an environment fosters opportunities for social interaction with neighbors, something telecommuters would especially appreciate, for they often complain about feeling isolated as much as they prefer working from home.

College Heights challenges developers to consider the viability of smaller markets. College Heights will primarily sell to four main markets: CSUEB faculty, staff and students, retirees and seniors; BART users and downtown workers; and people who work at home.

Developers must take into consideration housing growth rates and competing supply. Hayward city reports for economic development, employment, commerce, and the Housing Element indicate steady growth ahead for the City. The updated Housing Element for 2022 is at https://www.hayward-ca.gov/sites/default/files/City%20of%20Hayward%20Draft%202022-2031%20Housing%20Element%20286th%20Cycle%202023.pdf. A number of three to five story apartment buildings have been built on Mission Boulevard. in recent years. Any NIMBY problem for College Heights is reduced by the unusual isolation of the location and by keeping traffic off Palisade Street.
Marketing

Long term projections for demand for housing in Hayward, Alameda County, and the San Francisco Bay Area are bullish. A recent study by ERA|AECOM evaluated demand for Hayward: “ERA projects demand for approximately 8,900 new residential units in the City of Hayward between 2010 and 2030. Of this total, about 5,700 would be single-family units and another 3,170 would be multi-family units.” (ERA|AECOM, South Hayward BART Area Market Analysis, ERA project #18355” by, September 2009, p. 3) A similar study for Hayward projects 8,620 more households over the next 20 years (Table IV-1, AECOM, Mission Blvd. Market Analysis and Economic Development Strategy, May 24, 2010, for the City of Hayward).

Based on the City of Hayward’s Housing Element, which was updated in June 2010, there are 23,824 owner-occupied housing units and 20,980 renter-occupied units in Hayward. (City of Hayward, 2009-2014 Housing Element, p. 17, for 2000. http://www.hayward-ca.gov/about/generalplan/Chapter05-Housing.pdf)

On a regional level, ABAG completed an internal study in May of 2009 that projected the need to add 635,000 new homes for 1.7 million people for the nine counties over the next 25 years. (Regional Housing Needs Determination Plan, Part B, Regional Profile, p. 1, http://www.abag.ca.gov/planning/housingneeds/pdf/RHND_Plan/RHND_Plan-Chapter_1B.pdf)

ABAG planners are pushing for denser growth near transit as a way to accommodate growth without adding to freeway congestion or losing open space. The ABAG study projected that Hayward would have the 10th largest growth as a percent of base population, or 35,600 more people.

Much detail on market conditions is provided in Susan State’s College Heights Market Study of July 2011. She reports (p. 8):

College Heights “would introduce a level of sustainable living unlike anything in the CMA, resulting in potential upside for absorption among residents seeking this lifestyle. There is considerable support on the part of the development team which suggests that the community outreach program has the potential to be marketed to an untapped audience and may well have a level of “celebrity” endorsements unlike any conventional new-home community. These endorsements could include people and entities tied to sustainable living, green living, co-housing, and other contemporary thinking individuals which could result in a tremendous number of public relations articles reaching a broad range of potential buyers/renters.

News articles written and endorsed by celebrities all across the nation could result in an absorption rate that far exceeds a typical subdivision.

For this reason, we are projecting a potential for absorption rates that could be double (or more) that of a typical community. The more optimistic absorption rate, based on extraordinary efforts on the part of the development team could yield ...For-Sale Program: 10 per month (2015) and 12 to 15 per month in 2016, moving forward.

Pre-sales

Buyers may reserve units upon approval of a preliminary Public Report, the pink report, by the California Department of Real Estate. Units can be sold after the Department approves a Conditional Public Report, the yellow report (DRE, Subdivision Public Report Application Guide [SPRAG]). The project will generate enough interest for some pre-sales, which should be encouraged but not stressed. To the extent possible, the emphasis should be on pioneers
who are likely to be patient with a possible long build-out and who can help sell the project to others.

**Model homes**

The initial model homes would be one beds and studios in the Mixed-Use Building and two beds and three beds in phase 2. Really nice model homes are major selling points and are backed up by high quality literature in the sales office. Many lifestyle buyers are sufficiently committed to buy pre-sales, but the bulk of the market will be ordinary buyers trying to figure out how College Heights will work for their day-to-day life. A model home helps them envision the choice.

**Point of Sale Choices**

Point of sale choices can improve sales. A home may have to be 95 percent “steak” to get a buyer’s attention but need five percent “sizzle” to make the sale. College Heights would have displays, brochures, a sales office, and the upgrade options typical of the industry. Model homes would also help buyers visualize their preferences. Buyers would get the ability to pick carpet colors and countertops; maintenance-free living for the first few years; the latest thinking in architectural flair, features, and functionality; and a consistent, pleasant look of the surrounding neighborhood.

College Heights would also provide some flexibility in floor plans. The rectangle of exterior walls, front door, and plumbing core would be fixed, but the modular external framing would allow for windows and interior walls to be moved around. For example, a buyer might prefer a big walk-in closet and a bigger bathroom instead of a larger master bedroom or may want a downstairs room sized for a home office and thus could adjust the living-dining area. A buyer might want a small nursery off a bedroom, large storage area instead of a bedroom with a bath, a study nook, or mud room. Some units may allow for a front porch. Some of these options could have the same price, while others would be upgrades.

College Heights would also provide initial buyers with a structured choice of decorative elements and of color schemes. For example, there might be several choices for a blank wall, for window trim, or for an entry area. A salesperson would collaborate with a client using computerized visualization to display upgrades, floor plans, and decorative ideas to the buyer. The display would show changes and compute costs to respond to buyer preferences and budget.

In the sales office, the choices shown on the computer screen could support production of documents for sale, financing, and construction. “Confirmation tool” software can handle the process from choices, customization, pricing, commitment, loan approval documents, money transfers, escrow documents, factory specifications, and probable timeline, executed electronically. Hard copies would be used only when necessary.

**Buyer Education**

CH’s affordability will probably be the most important initial feature of the project for marketing. It will draw people to the site, who will then have to study how their mobility pattern could work—or not. Salespersons need to be trained in how to work with clients to review the trips they make and even keep a home travel diary and list special trips. Oddly
enough, infrequent special trips are least changed; it is the everyday pattern that is affected the most. MTC has a well-tested form for a diary. College Heights documents already have extensive analyses of kinds of trips, travel time budgets, and reachable destinations. The work trip is the most important but also the easiest to analyze. Shopping and recreational trips are quite varied but generally doable. Trips that are both special and routine are likely to be the most difficult, such as the need to see a relative in a car-accessed location, or a frequent health trip to a car-accessed location more than taxi vouchers should cover.

The initial absorption is likely to be strong but may be misleading. Given an eight-year sales period, absorption of pent-up demand, and somewhere along the way a slump in the housing market or the economy, sales could at that time fall below those expected in the pro formas. At that point, conventional strategies of price cutting, bonuses, and more promotion may have limited utility compared to innovative consumer education.

Several ideas for more creative marketing include:

- Humorous YouTube videos, which could go viral, that act out travel times for a trip to the coffee shop in the morning, more amenities for the same cost, use of savings possible from car-free living, something fun that is easy in College Heights and hard in suburbia, a comparison shopping trip, getting to work faster, easy retirement living, or a flex space use that zooms in from a suburban setting then zooms out to the College Heights setting.

- Using an ad firm that has been very successful in selling some other product—milk, cars, whatever—to bring some creativity to home sales. Dial House, for example, sells to geeks and educated people (http://vimeo.com/17680669).

- Market development would screen people to find probable buyers based on desire to buy a house in the East Bay, an accessible work location, retirement, or home office situation, and probable income. Prospects would be paid $50 for an hour at College Heights to see if their travel needs can be met in College Heights and for a tour of a model home. The visit should start from Hayward BART on the rapid shuttle. This strategy would have the advantage of providing specific information to likely buyers.

- Advertising energy savings when energy prices shoot up.

**Initial Services Implementation**

What can easily be done at build-out is impossible at the start. The HOA assets and services require capital financed by sales and operational income financed by HOA dues. The amenities cannot be implemented all at once toward the end, and so some scheme for providing early services from early HOA dues is important, perhaps essential, in making early buyers happy and getting their help in selling the project to others.

The next section concerns financing and stages by the developer; this section considers financing and stages by the HOA management, which initially involves dues and management by the developer and initial buyers.

A contract passenger van costs about $45 per hour. The monthly dues from the first 100 units on average for phase 1 and 2 units total $13,724, enough to support 9 hours per day of van service. The service could carry residents by pre-arrangement and on-call when not scheduled. It would probably have to be off duty for part of the day during low demand, with the schedule based on resident needs.
The van drivers would also be trained in helping residents get some approximation of the services possible in the full development. That might involve an office where the café is planned that would have some simple breakfast and lunch service, even self-service, and grocery items requested by residents, held in the office or delivered.

Planning for initial services should include many possibilities, and implement those which residents need. The services should be based on conferring with residents individually and collectively, informally and by schedule. The balance of needs might require a small van running for a few hours with many other services, or a large van running many hours with fewer other services. As more residents move in, the system can be expanded and rebalanced. The HOA would establish some priorities to provide a framework for development of the system.

As sales continue, capital accumulates to establish the bus service and then build the community center. The dues then shift from a contract van to a longer term, more structured bus operator, but with the same level of extra communication and flexible service above just driving a bus. Similarly, the community center is designed to have HOA staff offices and two staff apartments, and, by the time it is done, the cash flow from dues should be enough to make it work.

Several financial analyses of College Heights that cover hard costs, revenues, equity and financing requirements, and anticipated returns are in pro formas. They are frequently adjusted, most recently to include transitional parking. They provide projections given varying absorption rates, aggressive 9 years, reasonable 12 years, and conservative 15 years. The pro forma allows “what if” testing of key inputs that then automatically ripple through the pages. The estimate for IRR requires only two entries at the end of the series by the user on the Cash Flow page and a macro estimates the IRR. The most important assumption is the absorption rate at the assumed prices. The cost of the land also has a major impact. Changing absorption rates are also a proxy for other factors that could speed up or slow down the project.

The pro formas have 18 Pages: Transitional Parking, Inputs, Sales, Summary, GMA (Gross Margin Analysis) by Construction Phase, GMA by Unit Type, Cash Flow, Timing, Land, Project Team, Project Fees, Site Improvements, Site Improvements by Phase, Building Team, Building Fees, Residential Buildings, Energy, and HOA Assets. The HOA Assets are the Community Center, store, café, and Village Bus. (The pro formas are far more elaborate than usual, largely because we could not figure out how to get investors, but we could work some more on the pro forma.)

The reasonable project pro forma (College Heights Pro Forma 12 Years 732 units.xlsm) shows, for a medium absorption rate of 32 sales per quarter (2.5 per week), a 30 percent return on investment. Equity is planned at 25% of the investment, totaling $7.2 million. The pro forma shows that the project would require a maximum debt exposure of $21.7 million. Payouts to equity would start at the end of year five. Gross costs and financing total $275 million and total revenue equals $326 million, for a gross pretax profit margin of 15.6 percent. Pretax profit margin and gross margin analysis provide an impression of profitability but are not as useful as return based on the Excel goal seek function.
There can be no assurance the project would perform as estimated in the various pro formas. It could do better; it could do worse; there are no guarantees. Pro forma assumptions are believed to be reasonable based on the best available current information.

The project allows the sale of units with parking to the general market, some of whom may find the podium parking to be sufficiently convenient to live a near-suburban lifestyle. Marketing, however, focuses on major markets willing, even eager, to live more sustainably and affordably using the TDM and possibly not owning a car.

**The Affordability Incentive**

Most owners will probably buy for practical reasons, mainly affordability and good enough mobility. The affordability incentive is the low inclusive price. It is a hook to get their attention. College Heights gives them a choice not now available in the market for a more affordable and environmentally sustainable lifestyle but the non-traditional plan for parking could be a problem. Each buyer will have to figure out if a parking lease works for them.

“College Heights provides a market choice now denied to homebuyers.”

The great affordability incentive to live without owning a car could also inspire more thinking on the part of potential buyers previously unaware of the possibility. One estimate of savings was about $660 per month. People with moderate incomes who can’t qualify at market prices could qualify in College Heights.

**Interest list, then reservations**

As soon as there is funding, we will publicize the project and the affordability incentive, and invite interested people to sign up on an “interest list” submitted over the web or sent by email. As soon as possible, we will sell reservations.

**Model Homes**

Model homes will be crucial for selling homes in advance of construction. The City owns a finished lot at the corner of Overlook and Palisade Street which is separate from the main residential area and where model homes should be built upon entitlement and concurrently with site development. There is hardly any sitework needed; these are finished lots with utilities in the street. These homes and on-going construction will confirm the reality of the project and allow buyers to see what the units will really look like. A sales office in one of the model homes will clarify wait times before units are available for occupancy and all the details of a complex proposal. The sales office would help buyers analyze their utility costs, showing that green energy is affordable and is protected against future price increases. The pro forma is based on current prices, not expectation of less expensive PV panels.

**Buyer education**

The affordability incentive leads some buyers to want to know what the “catch” is, and that leads to buyer education. In addition to educational materials, salespersons will suggest that buyers keep a two-week travel diary to see how trips will work in the project. Buyers may actually discover travel time advantages considering all the TCMs. They may even see a path to go car free. The salesperson will help the buyer determine ways those trips will be made
while living in College Heights, how TDMs work, how visitors get access, and other features of College Heights.

Salespersons will need to explain how parking is paid for by lease.

Sales agents will also need to present how buying a unit is much more than just buying a unit; it is buying into a neighborhood, a special neighborhood.

**Marketing: Paying for active energy.** Prospective buyers need to know that the active energy is paid for separately from the units. The active energy is either purchased or leased. If purchased, the buyer can buy it outright or get an energy mortgage to buy it over time. Alternatively, the active energy will be owned by an investor and paid for by the owner. In any case, the cost of green energy is comparable or less than a PG&E bill.

Green energy will be marketed in a particular way, to separate the cost from that of the house and to have comparability with a PG&E bill. Buyers will have a choice of how to pay for the capital cost of the active energy system by paying all at once, leasing the system, or taking out an energy mortgage. The salesperson will explain how the passive solar lowers energy costs over the long run and makes the solar energy more affordable, and how the amortized cost is like what the PG&E bill will be. They will explain how PG&E will bill for electricity used and pay, but at a lower rate, for energy supplied to the grid.

**Options**

The project will offer buyers options. The plan could allow changing the planned distribution of unit types. For example, the townhouses have the same lot and floorplan depths, so the less popular could be replaced by the big sellers. The four- and five-bed townhouses are big enough to allow certain floor plan changes within the outside walls. The five-bed, especially, could be six. Also possible are changes for walk-in closets, bathrooms, separate toilet rooms, bigger shower stalls, kitchen islands, and closet-bath combos.

More conventional options include a built-in game system or a big TV screen for the living room, or nooks for a computer, pets, or collections. There are choices for cabinets, countertops, flooring, lighting, plumbing fixtures, garbage disposal, and appliances (magnetic induction stove top; bigger fridge). There can be some choice of color schemes and exterior ornamentation. For more affluent buyers, sales may ultimately be clinched based on an emotional desire. For instance, I want a sunburst painted in gold on my façade.

**Renting**

While College Heights has been planned as a for-sale project, it could also have rentals. As discussed above, the HOA management could have some powers as a rental agent. For a fee, the HOA could serve as an agent for owners. Such owners could be the owner of a single unit, a for-profit investor owning several units, or an affordable housing agency. The agency will own some of the units and manage based on an arrangement with the HOA. Such agencies can bring credibility to the project as a whole because of their project management experience and their ability to serve low-income people.

**Rent to own** is like buying without a down payment. Rent to own, also called an option to purchase, could be available to renters whose profile supports buying. Their profile will include a desire to live there long-term, support for the broad concepts of the project, and travel patterns that work in the College Heights context. Part of the rent, the rent credit, will go into an interest-earning down-payment fund. The option consideration (essentially a down payment), security deposit, sale price and rent are agreed to at the outset, so the rent does not rise even if the rental market does. The renter is responsible for maintenance and repairs as if it were their own house. The renter is building equity comparable to amortization of a
mortgage loan. The qualification requirements are lower than for a mortgage, but higher than for renting.

The potential renter-buyer can see if living in College Heights works for them. They could practice less driving and ditch their cars.

If the renter leaves or opts out, the down-payment fund can be returned to them. The incentives favor will-be buyers who need to build up their credit and have a savings program. Given the challenge of selling a new kind of mobility, rent to own could help absorption by reducing the cost and risk of outright purchase in College Heights.

**Issues of culture, politics, policy, and process**

- **The external costs of suburbia and auto-dependency.** External costs are those not paid for in money. They are not part of the money economy but must be included to measure the real economy. The external costs mainly consist of high fossil energy consumption, greenhouse gases, air, water, noise, solid waste, and other pollution, high resource consumption, high living costs, accidents, subsidies, sprawl, loss of farmland and habitat, traffic, congestion, parking problems, deaths on the highways, too little walking and biking, obesity, poor health, high living costs, socio-economic segregation, loss of community, and a distorted economy.

- Excluding external costs makes market parking prices too low, causing auto-dependency, which is a reliance on private cars for more than 60 percent of trips.

- **General problems of urban planning in America**

  It is too easy to go along with our culture of global warming, auto-dependency, misleading prices, and money economy.

Unlike in Europe, American cities do not really plan. City governments process applications from investors who have the funds to prepare the many application documents and to pay the fees that cities require. The investors build for the market that is there, the car-house system.

The cities themselves are enmeshed in an economy that rewards car-dependent development. A sustainable project is surrounded by a fabric of car dependency. Old centers and corridors that could inch toward sustainability are not pushed along in that direction due to a lack of understanding by cities and society in general.

City staff does not have the competency or the assignment to prepare meaningful choices for the public or the Council. Unbundling, less parking, and real TDM are not required, nor sought after.

Cities do not seek out the ideas and the system behind College Heights, in part because they do not have funds or mandates to do so. City governments depend on developers to propose such projects. The City of Hayward in general is no different, yet it has in fact taken a step in the right direction with its Sustainable Mixed-Use land use designation and a limit on parking.

Unfortunately, the now-fashionable “transit-oriented development” and “smart growth” pay homage to the car by subsidizing large amounts of expensive to build and maintain, but underpriced to the consumer, parking.
Walkable Neighborhood Systems (WNS) are inherently more efficient economically, considering both money and external environmental and social costs. WNS have significantly lower living costs. Such neighborhoods are not just walkable, but have the density needed within a walkable area to support local commerce to meet daily needs. College Heights will demonstrate the viability of the Walkable Neighborhood Systems concept for application in older, centrally located centers and corridors.

**California Environmental Quality Act (CEQA)**

A landmark set of environmental laws adopted in 1970, CEQA requires consideration of the impacts of a project on its surrounding environment as well as the environment’s impacts on the project. The impacts of this project (like any project in California) would be determined by an environmental consultant together with a team of specialist-consultants and documented at first in an “Initial Study.” Many general impacts have already been addressed in the Program EIR, which evaluated the Sustainable Mixed-Use plan designation and zoning that apply to the project area. No environmental problems were found. The project concept is consistent with the designation and zoning and thus has regulatory support.

A project application would require a more detailed environmental review. The City as lead agency would do an Initial Study to review the application and determine a CEQA “track.” Based on initial meetings with City staff, this project could be put on a Mitigated Negative Declaration (MND) track, which protects the environment without the much greater time, expense, and uncertainty of a project Environmental Impact Report track. In an MND, all impacts are deemed negligible or are made negligible with mitigations. City areas of concern would probably be local traffic, utility services (notably sewer), earthquakes (the site has a geomorphic break), and storm water management.

Traffic volumes would be about one-fifth the level of probable alternative residential development. Traffic impacts would be managed primarily by signals or other controls on Carlos Bee at Overlook and at the busway. Sewer impacts may require expanding a sewer line from the project down to Mission Boulevard. If geotechnical investigation finds that the geomorphic interface is an active fault, the site plan would be redesigned so that dwelling units maintain a safe setback from the fault. The land immediately above the fault line would become available for other uses, such as a park or parking. A CEQA investigation may require additional mitigations.

The College Heights project would benefit the environment by replacing sparse vegetation and rock with native landscaping and natural habitat. Existing historic habitat, the wooded slopes in the creek area, will be left unaffected.

**Forces for change.** Policies for global warming are likely to become stronger and support this kind of project with its very low use of personal vehicles. California laws AB 35 and SB 375 mandate reducing greenhouse gases. The regional planning process in the Bay Area, cap and trade policies, and higher gasoline prices will improve the market for the project.

**HAPA**

In 1978, some friends and I started the Hayward Area Planning Association (HAPA) in order to save open space, stop a proposed freeway, and advocate for better planning. The following account jumps to the quarry part of the story. Since then, HAPA has been a local
citizen led non-profit group doing research, education, advocacy, and litigation on planning issues in Hayward.

For decades, Caltrans owned the former quarry site north of Bee and planned to build the Bypass freeway across many neighborhoods and open space. In 2001, I explored the properties owned by Caltrans for a report to an Alameda County Supervisor on how much housing could be lost to pavement. My estimate was 3,023 homes.

As I was exploring, I found a large, abandoned quarry and I began to think about a walking-oriented development of a village of a few hundred homes that will minimize the need for a car. I have spent the last 23 years working on the idea, College Heights.

On June 17, 2001, I completed a report on my study of all the property in the right of way of the proposed SR 238 Bypass. I was helping the Alameda County Planning Department prepare a report for Supervisor Nate Miley on the potential for housing development in the freeway corridor. The Planning Department report estimated that 607 housing units could be built on the old quarry north of Carlos Bee Boulevard and Overlook Avenue, based on adjacent zoning and development patterns.

On February 21, 2002, I completed a report on CSUEB Hayward and the 238 Foothill Freeway that posed the choice between building a freeway through the quarry and using it for housing which could serve students. This point was also made in a number of reports criticizing the proposed freeway, which was eventually stopped by citizen action, the courts, the Hayward City Council, and a vote by the people of Hayward. HAPA stopped the freeway and saved the land.

At a HAPA Steering Committee meeting on March 19, 2002, we discussed "Smart growth ideas, need for market research study on reduced car dependency, integrated urban systems, housing and Carlos Bee Quarry as possible site..."

By 2003, HAPA was engaged in discussions over what would replace the Foothill Freeway. On February 26, 2003, the HAPA News proposed a "Draft Scope of Work: Foothill/Mission Smart Growth Variation" as an alternative to the over-widening of Mission and Foothill:

"Smart Growth Redevelopment. Suitable parcels along the two-mile distance otherwise to be taken for ROW would be redeveloped based on smart growth principles. (Many existing uses would remain.) Smart growth includes mixed use, e.g., ground floor businesses under residential housing at BRT [bus] stops. Smart growth would not be over five stories and usually three to four. It would include development of student-oriented housing on the quarry site at a density similar to Wimbledon Woods. ..."

Many of the other elements of what became College Heights were in the HAPA News and a related report, "Foothill/Mission Planning Issues."

In October 2003, "The HAPA Plan for Foothill and Mission, Hayward" proposed to the City a rapid bus service from BART to CSUEB campus and stated:

"The Carlos Bee Quarry. About 30 acres of surplus Caltrans land is up for grabs. It could be used for "car-free" housing, with lower rents, transit passes and taxi credits in monthly rent, and mobility by Rapid Bus. Transit-oriented residential development along Foothill Mission and at the Quarry would provide the ridership to support Rapid Bus, and Rapid Bus would make a car-free lifestyle possible. Such a lifestyle is not only less expensive, but also reduces air pollution and global warming gases, reduces energy consumption and resource
use, improves personal health and safety, and is more sustainable in the long run. A survey of 100 CSUEB students in 2003 indicated that about 1/4 to 1/3 could live in such housing, would save on rent, and would want to live there."

With the final demise of the Foothill Freeway in 2004, College Heights became the major concern of the Hayward Area Planning Association. The website is a major part of that effort, along with outreach and surveying.

The first proposal, starting in 2004, was called Quarry Village. Since 2007 we have had an aerial survey done, gotten preliminary seismic geology reports, and worked with Lea and Braze Civil Engineering on a comprehensive proposal.

A search of property records indicates that the City of Hayward is currently the owner of the land. In 2024, the City passed a resolution supporting the project (but not able to subsidize it), it becomes more urgent to find a developer interested, at a minimum, in optioning the property.

**Labor**

College Heights would create green jobs or, in more disciplined economic terms - given a probable fixed amount of investment in housing, energy, and transportation, green jobs would exist instead of conventional jobs in the same sectors. Some green jobs, like assembler, solar installer, and transit operator, might cost less per job than the corresponding conventional building trades job. Other green jobs, like high tech design and consulting jobs in rapid bus, solar design, and sustainable modular building, might pay more. Claims about jobs from green advocates and conventional builders tend to be unsubstantiated by careful comparisons; the research has not been done.

What can be claimed legitimately is that jobs shift from conventional to green, and the difference between the two in money and jobs is not likely to be great.

The real difference is the social and environmental benefits, which are hard to measure in the money economy. The analysis for the whole economy is different. The whole economy includes valuing non-monetized environmental and social values. In this frame, College Heights would show large gains compared with sprawled development, car dependency, inefficient land use, fossil fuel emissions, pollution, limited walking, and degraded health. College Heights achieves non-quantified values and frees some spending from the burden of the suburban system to more valued consumption. A more efficient neighborhood system achieves the same goals as the suburban house system at a much lower cost.

**Investors**

HAPA began informing potential investors in 2019 about the opportunity presented by the project. We got contact information on many investors from Preqin (https://www.preqin.com/) a large data consulting firm on real estate investments among other things. We sent emails to Lennar, Integral Communities, and 38 other homebuilders. We sent emails and brochures to Real Estate Consulting firms, environmental interest groups, various agencies of the State of California and legislators, building trades unions, housing trusts, affordable housing agencies, LLCs, engineering firms, mega-billionaire new tech giants, and non-profit housing advocacy agencies and more. Our database had categories for Academia, Bank, Billionaires, Broker, Builders, 3 story Townhouses, Businesses, Civil Organizations, Climate, Consultants, Faith, Foundations, Funds, High rises, Housing agencies, Investors, Media, Multifamily Businesses, Private banks, Raters, Real Estate Funds in the Bay
Area, Real Estate Investment Services, Retirees, Social Equity, and Solar — hundreds of messages.

No one would touch it—it was too innovative for them. Encore and other investors in Culdesac in Phoenix, were also not interested.

The State of California could supply some of the funding if a major developer is committed to funding most of the project. Interested state agencies are the Strategic Growth Council, the Tax Credit Allocation Committee, the Office of Planning and Research, the California Air Resources Board, and the State Department of Housing.

The City should plan for sustainability, affordability, and choice for a more sustainable lifestyle.

California State University East Bay
College Heights will help the university provide affordable housing very close to the Hayward campus. The CSUEB Climate Action Plan, May 2018, states, “Seeking out and supporting affordable nearby housing opportunities for faculty”; “Investigate potential for building low-cost faculty housing on or near campus.”; “Housing for faculty has a co-benefit of attracting qualified faculty on a state salary in an area that has a high cost of living.” (May 2018, pp., 67, 85, 86)

I have submitted these ideas many times over the years to administrators and faculty and never received any useful response. Mostly, phone calls were not returned, and emails went unanswered.

The City of Hayward
The City of Hayward has supported the project, passing a resolution in April, 2024 indicating the City’s ongoing support for College Heights.

Regulatory Compliance
The City of Hayward largely determines regulation. Though the project is currently conceptual, the City of Hayward has taken action to support it. The City has approved Sustainable Mixed-Use land use designation and zoning and has approved a Program EIR for development of the surplus right of way in the SR 238 Bypass corridor, which includes the project area. The important regulations include:

City of Hayward General Plan and Zoning Ordinance
The General Plan acts as a blueprint for the long-term development of a city. Zoning regulates property more specifically and the density must be consistent with General Plan land use designations. The City of Hayward Land Use Map designates most of the site as SMU (Sustainable Mixed-Use) and the Zoning Map does the same (http://gis.hayward-ca.gov/pdf-maps/COH_Zoning.pdf). However, seven old lots on the west side of Overlook Avenue on the west side of the project area are zoned RSB6, Single Family Residential, with 6000 square foot lots minimum. SMU supports the intended density and land use proposed for College Heights, but RSB6 does not. The RSB6 area is 4.5 percent of the total project area. Development on the west side of Overlook would require an application to amend the City’s General Plan and its zoning to SMU.

Some preliminary discussions with City planners have identified public open space, private open space, parking, street trees, and breaks in buildings for on-site views, circulation,
and emergency access as zoning areas of concern. City planners suggested applying to rezone the entire site to “Planned Development,” which allows the developer to work collaboratively with the City staff to allow greater design flexibility, such as in specifying sizes and locations of small parks within this project. A PD zone is not a blank check; it typically limits density to the existing zoning, and otherwise allows exceptions to that zoning. Furthermore, deviations from desired goals must be balanced by going above average for other goals. For example, a shortfall in open space in the residential area could be compensated for by trail development contributing to a regional trail and providing trail access through a steep, heavily wooded creek area.

Whether the developer applies for a PD zone or for a redesignation and rezone of the seven lots on Overlook remains to be determined.

This property is also subject to a special zoning district overlay, SD-7. Overlay districts impose additional restrictions on properties to address specific needs. In this case, SD-7 calls for a regional trail on the property, linking proposed trails to the north and south. The trail must be approved by the City and the Hayward Area Recreation District (HARD), which is a municipal corporation independent from the City. This project would comply by providing a trail through the project, including a small segment of trail to the north to reach Highland Boulevard. The exact specification of the trail remains to be determined.

2009: From Pavement to Plan and Climate Action

In 2009, after the ill-fated Foothill Freeway bit the dust, about 300 acres of land needed plan designations and zoning. Initially, three options were proposed for the quarry. HAPA proposed its ideas and the City responded. In 2009 the City adopted a Program Environmental Impact Report and Sustainable Mixed-Use (SMU) General Plan land use designation and applied it to the quarry, allowing the project. The primary use under the zoning is 25 to 55 multi-family units per net acre and parking is limited.

The Program EIR means that any project conforming to the program EIR does not need an additional EIR, removing what is a major hurdle for many other projects. The City is likely to want a traffic study, which will reveal even less traffic than could be possible under the SMU zoning. College Heights will still need a full set of City approvals: Site Plan, a tentative map, and a final map prior to vesting and design. The site plan area within the property appears to be free of any protected plant and animal species, in as much as it is a former quarry site and currently consists mostly of bare granite devoid of any vegetation. The six houses on Overlook affected by access traffic are likely to object but not prevail.

On July 28, 2009, the City adopted a related plan, the Climate Action Plan to make the City more environmentally sustainable.

In 2009, the Hayward City Council, at HAPA’s urging, included the Quarry Village concept in planning for the future of the SR 238 Bypass ROW. The Council did a program EIR on the corridor, designated the quarry area as Sustainable Mixed-Use, and zoned the area with the same name.

In 2010, the federal case from the 1960s came to an end (mooted), a state case relating to Caltrans tenants was settled by stipulation to a housing program, the California Transportation Commission approved the Local Agency Transportation Improvement Program pursuant to a special state law for the SR 238 Bypass, which authorizes the use of funds from the sale of surplus right of way for projects in central Alameda County, and the CTC also
approved the abandonment of SR 238 (the existing route from Industrial Boulevard to Apple Avenue and the proposed bypass route), SR 92 (non-freeway link), and SR 185 (Mission north of Jackson). Arterials that once were state routes are now controlled by Hayward, and the surplus right of way, including quarry area properties, can be sold.

Also in 2010, HAPA won its suit against the CSU system, which was trying to build a parking structure without studying alternatives, as required by CEQA. The decision stopped the structure and protected our ability to persuade the CSUEB administration to implement the “Beeline Bus,” which would be fast, frequent, and free for student riders, and would be coordinated with the Village Bus to double the level of service, reducing headways from 10 to 5 minutes, with increased ridership for both College Heights and the CSUEB campus.

2014: Approval of College Heights concepts
City Manager Fran David proposed and on May 6, 2014, the City Council adopted Resolution No. 14-057 endorsing College Heights concepts as a transit- and walking-oriented village with minimum vehicle use and low greenhouse gas emissions. It furthered the City’s Climate Action Plan. The City Council found that the College Heights concepts promote affordable housing, sustainable communities, clean transportation, energy efficiency, natural resources, and waste diversion.

2016: The City buys the farm.
From 2009 onward, Caltrans began selling off the now surplus right-of-way and, for the most part, it was not controversial. The City, however, under City Manager Fran David, wanted more control over development of the larger parcels. A larger parcel had been sold to a developer, and the City found that it had to approve any proposal conforming to City requirements, which was not enough. In October 2016, the City bought the ten remaining larger parcels from Caltrans on a contingency basis. The quarry is Parcel Group 6, with a negotiated price of $18,485,769.

2019: PG6 Quarry Master Development Plan
In September 2019, the City held community meetings about what to do with the quarry. In November 2019, the City adopted a Master Development Plan, including facilitating transit-oriented development, less auto use, neighborhood-serving retail uses to reduce car trips, affordable housing, walkability, preservation of Dobbel Creek habitat, and the Foothill Trail. (See City of Hayward Land Use and Zoning.pdf for information on general plan, zoning and overlay.) The plan cast a broad net for proposals, referred to College Heights as a specific way to achieve the plan goals, and asked developers to comment on it in any application.

2020: RFP and RFQ
In an effort to sell the property it now owned, the City issued a Request for Proposals with these requirements:

Development Submittal Requirements (RFP)
1. Foothill Trail and Parkland Dedication Requirements. Developers will need to construct the 16-foot-wide multi use trail throughout their proposed development.
2. Affordable Housing Requirements. Developers will only have the option to develop on-site affordable units in accordance with the Affordable Housing Ordinance requirements.
3. Green Development. Developers must incorporate green building and landscaping elements that reduce use of energy, water, and natural resources. Includes making each home solar powered to meet new CA Building Standard Commission’s requirement. No gas utilities.

4. Transportation Demand Management (TDM). Developers must propose and implement a robust TDM program that details strategies on how the development will promote walking, biking, and taking transit to reduce trips in single occupied vehicles. A minimum of 10% trip reduction is required for this development. TDM Plans must include transit access to Downtown Hayward/BART; Car share; Electric Bike Share; Strict on street parking regulations and enforcement.

5. Hayward Resident Priority Preference Plan. Developers will need to include a plan which grants a priority preference for Hayward residents to purchase or lease market rate units in instances where all other financial considerations are equal, if possible. Must be pursuant to applicable state and federal Fair Housing laws. Developers must state any impact of this program on purchase price.

6. HAPA College Heights Project Understanding. Developers will need to submit a project understanding and impact statement regarding the feasibility of developing the College Heights concept as presented in a separate College Heights Proposal document prepared by HAPA. Developers will address overall impressions, opportunities, constraints, and financial feasibility of the College Heights concept.

The city got no acceptable response. In May 2020, the City rejected the results as unsatisfactory and issued a Request for Qualifications. In September 2020, Integral Communities signed an Exclusive Negotiating Agreement with the City.

2021: The Integral plan
Integral did not comment on College Heights. HAPA had many severe criticisms of their proposal, and we proposed College Heights as an alternative.

2022: Back to Square One, Housing Element
In January 2022, Integral withdrew from negotiations with no explanation. The City’s purchase agreement with Caltrans has been extended.

The City has made big steps in the right direction but has always hoped a developer will make it work. No developers have responded.

Yet. Hope springs eternal in the human breast. HAPA continues to seek funding from sources of new wealth in the Bay Area that have expressed an interest in affordable housing and sustainability.

Also, in 2022 the City Council approved an updated Housing Element, reiterating the need for affordable and sustainable housing.

2024: Re-Approval of College Heights Concepts
May 7, 2024, City Council member George Syrop motioned to approve, and City Council member Angela Andrews seconded the adoption of a resolution in support of College Heights. The motion passed unanimously.

Next Steps
Initial Conversations. A developer who buys the land from the City will control the project. The developer could be an ad hoc LLC formed by investors which retains a
management team. It could be a development firm with investors and a management team already in one company. HAPA’s involvement is up to the developer, but I would like to continue working collaboratively without compensation on any development moving forward.

**Letter of Intent.** The developer will negotiate a letter of intent (LOI) with the city that is included in a Purchase and Sale Agreement (PSA). The LOI will have technical components which the developers must agree to. The developer will then prepare an application with everything except expensive technical documents that do not relate to policy issues.

**Near-Entitlement.** The project needs a relatively modest set of City approvals: a Planned-Development rezoning, a tentative map, and various storm water discharge permits. The property appears to be free of any protected plant and animal species, inasmuch as it is a former quarry site and consists of exposed granite largely devoid of any vegetation. The Council would approve the application at a near-entitlement level. Near-entitlement greatly reduces the cost and risk of an application. If approved the applicant will finish the site-plan application and go to the next major phase, design.

Email me for access to the College Heights files, and articles on Walkable Neighborhood Systems and others on transportation and land use issues.

**The LLC Option**

This section applies to the investor option, not the development firm option. Some topics are not discussed here: the employee retirement fund law called ERISA; legal liability; and expenses reimbursable to the management team.

A word of caution: To experienced investors, the following will look like a Private Placement Memorandum (PPM), and indeed it is a draft that could become part of a PPM. A real PPM has a legal significance which this discussion does not have. If you are an investor, you would probably write your own PPM or work with HAPA to develop a PPM. If you are not an investor, the following provides a good education on how investing works with investors, an LLC, a Board of Directors, and a management team. An alternative form of investment is by a development firm, where one company already has substantial funds and manages the project.

**Investor accreditation**

The purchase of shares in a possible College Heights LLC would be restricted to “accredited investors” as defined in Regulation D, Rule 501 of the Securities and Exchange Commission. Investors would sign a “Subscription Agreement,” which basically states that the signing party understands the criteria for accreditation and affirms himself or herself to be an “accredited investor”:

The federal law defines the accredited investor in [Rule 501 of Regulation D](https://www.sec.gov/rules/servreg/501.shtml) as:

- a bank, insurance company, registered investment company, business development company, or small business investment company;

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6 An LOI includes Buyer, Seller, Property Description, Exclusive Dealings, Intended Use Sole Source Basis, Escrow Company, Release of Due Diligence Information, Right of Entry, Deposits and Feasibility, Close of Escrow, Extensions to the Close of Escrow, Escrow Fees and Closing Costs, Real Estate Brokers.
an employee benefit plan, within the meaning of the Employee Retirement Income Security Act, if a bank, insurance company, or registered investment adviser the investment decisions, or if the plan has total assets in excess of $5 million;
a charitable organization, corporation, or partnership with assets exceeding $5 million;
a director, executive officer, or general partner of the company selling the securities;
a business in which all the equity owners are accredited investors;
a natural person who has individual net worth, or joint net worth with the person’s spouse, that exceeds $1 million at the time of the purchase;
a natural person with income exceeding $200,000 in each of the two most recent years or joint income with a spouse exceeding $300,000 for those years and a reasonable expectation of the same income level in the current year; or
A trust with assets in excess of $5 million, not formed to acquire the securities offered whose purchases a sophisticated person makes.

For more information about the SEC’s registration requirements and common exemptions, read the SEC brochure, Q&A: Small Business & the SEC

**Investors and the LLC.**

Investors would invest in shares in a Limited Liability Corporation (LLC) controlled by a Board of Directors, which employs a management team to execute the project. Investors would relate to the management team through the Board of Directors. An annual investors’ meeting, similar to a shareholders’ meeting, would provide investors with an opportunity to hear from the management team and Board of Directors directly as to the progress, schedule, and budget of the project. This annual meeting would provide a forum for questions and answers as well as an exchange of ideas. For the convenience of investors, participation may be in person, by conference call, or by video conferencing.

Investors would elect the Board of Directors. As the situation warrants, they would increase equity pledges to the project. Investors would be kept informed of activities and exchange ideas by a monthly summary email and by access as needed to the Board of Directors, and the Board would have free access to project managers, to assure a transparent and open flow of information with them.

Prior to the inception of the LLC, each investor would be required to commit a specific amount of capital towards funding the early stages of the project, based on that investor’s financial wherewithal and preferences. In exchange, investors would receive stock certificates reflecting a pro rata percentage interest in the investor equity returns. The minimum investment would be $100,000. Stock shares would be priced at $10,000 per share. Since this company would be privately held, stocks would not be revalued through a market maker or an exchange; they would retain their notional value.

Investors would be required to contribute some money based on the pledge at the inception of the LLC. The money would go into an independent interest-bearing escrow account.

Periodically, the management team would submit a funding request to the investor group, specifying the use of funds for the upcoming period, and allocating the funding request to each investor based on their pro rata pledge. The investors would be required to
review the funding request and file any questions or disputes within 30 days. Otherwise, the escrow officer would distribute requested funds from the escrow account and place them into the LLC working capital account. The management team would provide investors with actual expenditure accounts for each prior funding period.

Investors would agree to recognize that this type of investment is illiquid. They would be prepared to receive no dividend distributions over a period of several years. Their positions could be sold or transferred by their own marketing efforts, subject to review and approval of the management team.

Other investor rights and responsibilities would be specified in the LLC formation documents. For income tax purposes, the College Heights LLC would be a pass-through entity, where each investor would be responsible for filing a tax return and incorporating an accurate reflection of gains and losses from his or her participation in this investment.

Investors would agree that their investment in the College Heights LLC would have rights and responsibilities similar to typical private equity investments. For example, claims to proceeds from the sale of houses are secondary to claims by lenders, suppliers, contractors, consultants, tax obligations, and management fees.

In the LLC option, two board positions would remain for representatives from the investor group who holds the majority interest in the company. Probably, these investors would have experience in managing large-scale residential projects and offer strategic guidance to the management team on matters pertaining to cash flow, sourcing debt, evaluating pricing and absorption, and so forth. I hope to be involved in any way possible in helping develop College Heights.

**Management**

The LLC would be professionally managed by a team of experienced real estate development executives. A possible team was developed in 2011 to execute the project.

The management team would manage operations, such as (1) working with government agencies, (2) hiring subcontractors, (3) managing cash flow, (4) overseeing marketing and sales, and (5) managing product quality. Each member of the management team would be compensated starting at an hourly rate in the $150 to $200 per hour range, which allows participation on a part-time, as-needed basis. Additional allowance would be made for necessary overhead expenses. Management should also receive a performance bonus specified earlier by the Board of Directors when milestones for control of the property, entitlement, and the securing of the A and D loan

**Accounting/Reporting**

The management team, primarily the Controller, would be responsible for maintaining accounting records that are accurate and provide full transparency into the financial activity of the LLC. Accounting records would be available to any investor upon request, subject to one business day’s notice.

**Accounting.** The management team would maintain conventional financial and cost accounting records using accounting software specialized for real estate development and construction, such as J.D. Edwards or Timberline. All cash flows would be posted to a ledger. On a quarterly basis, a trial balance sheet would be prepared and adjusted journal entries
made. Financial statements would be prepared quarterly: balance sheet, income statement, and cash flow statement, plus any footnotes. The LLC fiscal year would correspond to the calendar year, so that fourth quarter statements could be used in preparing income tax documentation for the investor group.

Regarding cost accounting, a detailed budget would be prepared just prior to LLC inception. It would be continuously updated as new information becomes available; any changes to the budget would go through a formal management approval procedure, so that an audit trail would be created for the investors. As contracts and demand-payment invoices were received, they would be entered into the cost accounting system and compared to their budget line items. On an ongoing basis, the cost accounting system would provide information on how much the project is over or under budget with respect to committed line items.

In addition to accounting for the LLC, the Controller would maintain an independent accounting of the escrow account used to manage equity capital. This accounting would be reconciled to the title company’s own escrow accounting.

**Reporting.** The management team would furnish to the Board of Directors on a quarterly basis the financial statements for the LLC, a statement of asset position for the escrow account, and a funding request for the upcoming quarter. The funding request would make a projection of cash needed to continue operations for the company. It is anticipated that by the construction phase, the escrow account would be depleted, and the company would then be drawing upon an A and D loan credit line until such time as sales exceeds operating expenses. During this phase, management would continue to provide the Board of Directors with a quarterly projection of expenses.

**Tax Reporting.** Consistent with IRS requirements, at the beginning of each calendar year, the Controller would distribute to the investors Schedule K-1 statements allocating the company’s profits and losses for the year based on the investor’s equity position in the company. Similar state income tax statements would be provided to those individual investors as dictated by their residency.

**Statement of Distributions.** When the company reaches a level of operations such that positive cash flow is derived from sales net of operating expenses, and the A and D loan is paid down, excess cash would be distributed back to the investors on an annual basis. Accompanying the payment would be a Statement of Distributions summarizing uses of cash for the year and providing an allocation breakdown of proceeds, as well as a summary projection of cash flows anticipated for the upcoming year.

**LLC Definitions**

  **Affiliate:** A person or entity controlled by another person or entity.

  **Available Cash:** Cash Flow from Operations and/or Sale or Refinancing Proceeds and liquid.

  **Board of Directors:** The group of project proponents that represent the interests of the investors for this Company, taking into consideration the project’s impacts on the community, the environment, and on the Company’s fiscal performance.
Cash Flow from Operations: The amount of cash from any source other than Sale or Refinancing Proceeds that the President of the LLC deems available for distribution after considering Company debts, liabilities and obligations, and provision for adequate reserves.

Company: College Heights LLC, a California limited liability company.

Management Team: The group of real estate development professionals selected by the Board of Directors to provide operating management of the Company.

Member: An investor who subscribes for and, upon acceptance by the Board of Directors, purchases a Membership Interest in the Company.

Membership Interest: A Member’s entire interest in the Company, including without limitation any and all rights, benefits, and privileges pertaining thereto.

Memorandum: This Private Placement Memorandum dated February 28, 2006.

Offering: The offering of Membership Interests in the Company to accredited investors pursuant to this Memorandum.

Operating Agreement: The Operating Agreement of the Company to be prepared by the Management Team and approved by the Board of Directors.

Percentage Interest: As of any given date with respect to a particular Member, the fraction, expressed as a percentage, obtained by dividing (1) the total capital contributed by such Member by (2) all capital contributed by all Members.

Property: The parcels to be assembled to form the project site, the description of which is provided in Appendix E.

Sale or Refinancing Proceeds: Net proceeds received directly or indirectly by the Company from the sale or other disposition of Company capital assets or from borrowings by the Company.

Subscription Agreement: A Subscription Agreement is part of a PPM, and has terms which investors agree to, e.g., the amounts they will invest, called a subscription to purchase unit shares in the Company, and also a summary of facts about the investment, and an affirmation of being an accredited investor.

The Board of Directors

To represent the interests of the investors and other parties-in-interest, a three-member Board of Directors would be elected annually, except for the first year, where the initial Board members would be appointed members, as described below. The Board of Directors would be responsible for setting business strategies for the project, for frequently reviewing the accounting reports prepared by the management team, and for confirming funding requests. Additionally, the Board would make termination and hiring decisions of the management team, set performance objectives for each team member, and establish annual bonus amounts. The Board would not be responsible for or have any direct control of the day-to-day operating decisions of the management team but would be involved in strategy discussions leading to those decisions.

Since March 2006, HAPA has been incorporated in California as a 501(c)(3) non-profit corporation.
No member of the HAPA Board or HAPA itself can make any profit from College Heights. I fervently hope to pass all future expenses from HAPA to a developer. The tax law not only prevents me from profiting, but also requires that HAPA serve a public interest purpose like education and research. HAPA interprets that to mean that the results of our work be made available to the public to the extent that SEC Regulation D allows, and not kept secret. College Heights research has value even if investors are not found. In particular, the financial analyses, called pro formas, which are usually kept highly confidential, are on the web available to the public.

As President of the Hayward Area Planning Association, I have advocated comprehensive market-based solutions for Hayward’s urban development since 1978. I have actively participated in many other organizations to address traffic, open space, and other issues in Hayward. I promoted this project since its earliest conceptual stages dating back to 2003.

I am Professor Emeritus of Political Science at the California State University, East Bay where I taught from 1967 through 2010. I graduated with a BA, magna cum laude, from Harvard College and have a PhD in Political Science from Columbia University. My academic research has emphasized urban planning, integrated modeling, and pricing reforms as mechanisms for increasing sustainability while improving quality of life. My work recognizes that the integration of transportation and pricing solutions into the residential land use plan is the key to encouraging homeowners to reduce their dependency on cars in favor of an equally mobile but healthier, carbon-minimizing lifestyle.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Participants</th>
<th>Events</th>
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<tbody>
<tr>
<td>Earth, long ago</td>
<td>Nobody – prehistory</td>
<td>creation of fossil fuels</td>
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<tr>
<td>1850s to present</td>
<td>Homo “sapiens”</td>
<td>burning of fossil fuels caused by underpricing</td>
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<td>1980-2010</td>
<td>Too many Americans</td>
<td>more denial as more evidence piles up</td>
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<tr>
<td>1965-2002</td>
<td>A small band of hardy persistent Hayward residents vs. pavement</td>
<td>Epic, titanic struggle against the SR 238 Bypass stops it forever.</td>
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<td>2003 to present</td>
<td>Hayward Area Planning Association (HAPA)</td>
<td>Research and advocacy of College Heights</td>
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<tr>
<td>2003-2009</td>
<td>Legislature, City of Hayward, Caltrans, Alameda County transportation agencies, Caltrans tenants’ organization, citizens</td>
<td>Legislation, road planning (LATIP), land use planning, and housing negotiations</td>
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<tr>
<td>July 9, 2009</td>
<td>City</td>
<td>Adoption of Sustainable Mixed-Use General Plan Land Use Designation and Zoning (SMU),</td>
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<td>Date</td>
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<td>March 8, 2010</td>
<td>The Court approved a long, complicated stipulation laying out how all the tenants</td>
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<td>would be treated as tenant houses are sold</td>
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<td>May 20, July 30, 2010</td>
<td>The CTC approves abandonment of the SR 238 Bypass right of way, relinquishment of</td>
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<td>state routes on arterials in Hayward, the LATIP, and housing program for tenants.</td>
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<tr>
<td>August 2010- present</td>
<td>Contacting tenants about Lump Sum Settlement and Opportunity to Purchase in housing</td>
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<td></td>
<td>program</td>
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<tr>
<td>October 4, 2010</td>
<td>Judge Thelton Henderson dismisses 1971 <em>La Raza Unida</em> case as moot, ending federal</td>
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<td>litigation and 39 years of litigation</td>
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<td>2007-2010</td>
<td>Planning for new Hayward campus Master Plan and CEQA litigation by HAPA and City</td>
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<td>against CSU over inadequate EIR</td>
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<td>November 2010</td>
<td>Decides for HAPA and City of Hayward on all important causes of action, stopping</td>
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<td></td>
<td>parking structure</td>
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<tr>
<td>January 2011</td>
<td>Deadline to choose Lump Sum Settlement or Opportunity to Purchase.</td>
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<tr>
<td>February 2011</td>
<td>Single family property sales begin.</td>
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<tr>
<td>2012</td>
<td>Invests in College Heights or not</td>
<td></td>
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<tr>
<td>February 2012</td>
<td>Changed information from Macpherson; will require public auction, allow two years</td>
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<tr>
<td></td>
<td>for option purchase. HAPA changes emphasis to find land bidder.</td>
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<tr>
<td>May 2012</td>
<td>Home purchase must be completed</td>
<td></td>
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<tr>
<td>June 2012</td>
<td>End of settlement process</td>
<td></td>
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<tr>
<td>2012 to Jan.2013</td>
<td>Developer applies, then withdraws a proposal</td>
<td></td>
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<tr>
<td>2024</td>
<td>City of Hayward adopts resolution</td>
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