Building Height Information Sheet

INTRODUCTION

We will be discussing appropriate building heights for Downtown Napa during the upcoming Downtown Steering Committee meeting. This information sheet provides supplemental information about economic and design as we consider appropriate building heights and feasibility in Downtown and the Focus Areas. The following information about existing regulations for maximum building heights can provide a starting point for the Committee's discussion on building heights going forward in the process.

CURRENT REGULATIONS

Downtown Commercial District	40′
- with design review	Up to 50′
- if 40% of floor area is housing	Up to 68′ and 6 stories
Oxbow (Tourist Commercial) District	40′
- with a pitched roof	48′
Residential-Office District	35′ or 3 stories (whichever is less)

(This district applies to two blocks in the Planning Area north of Third Street east of Jefferson Street and east of Wilson Street, as well as three blocks south of Fourth Street and west of Coombs Street.)

Planned Development Overlay Zone	Allows variations in height if findings can be made, particularly with regard to superior design

EXAMPLES OF EXISTING BUILDING HEIGHTS

Avia Hotel	59′
Clay Street Garage	43′
McCalous	43′
Napa Square	50′
Riverfront	55′9″ (tower element = 65′)

Construction Technology and Development Economic Feasibility

Current building technologies differ in the primary construction material used, and vary in terms of cost and structural height limits. The following points summarize these current building construction technologies and general differences in terms of cost and achievable building heights.

- In Downtown Napa any building with more than four stories will require steel-frame construction rather that stick (i.e. wood).
- Switching from wood- to steel-frame construction can significantly increase construction cost, usually by about 20 - 30% per square foot. However, evolving technological considerations as well as changes in the relative cost of inputs (e.g. wood versus steel) can impact these relationships.
- Because of the likely increase in costs associated with a taller building, (e.g. five or more stories), increased height may not make economic sense since the additional return provided by more units does not cover the additional costs. However, at a certain height, the additional number of units accommodated by more floors may justify the additional costs.
- Ultimately, the economic feasibility of taller buildings (e.g. above four stories) which require more expensive building materials will depend on market conditions. In strong markets where the average sale price per square foot for new units significantly exceeds the cost per square foot for steel construction, going over four stories may make sense from an economic perspective.

Design Considerations

In addition to variations in construction cost, multiple design factors should also be considered when thinking about building height limits. The following topics describe a number of design factors that influence building heights in absolute terms (e.g. different floor heights for different uses) and subjective terms (e.g. perception of building height). As with all design choices, there are no right answers. The best design solutions will be the ones that are context-sensitive to Napa and supported by the community's needs and preferences.

FLOOR HEIGHTS FOR DIFFERENT USES

Floor-to-floor height is the measure from the top of the finished lower floor to the top of the finished upper floor. Different uses have different floor-to-floor heights, thus varying building heights. Buildings of different uses with the same number of stories do not necessarily have the same building height. The following list identifies the average range of floor-to-floor heights depending on use. (See Figures 1 and 2.)

- Residential
  floor-to-floor height: ~8.6 – 10 feet
- Office/Commercial
  floor-to-floor height: ~12 – 15 feet
- Ground-Floor Retail
  floor-to-floor height: ~12 – 18 feet

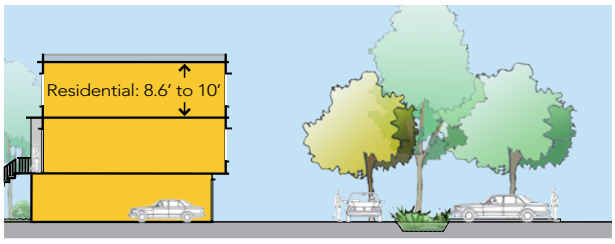

Figure 1: Floor Heights for Different Uses

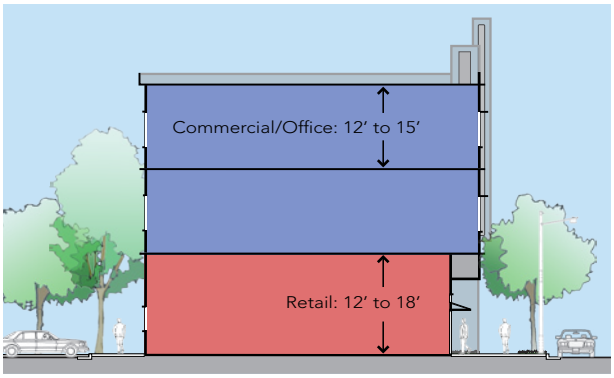

Figure 2: Floor Heights for Different Uses

The range of floor-to-floor heights reflects a number of factors that influence the design of new development. These factors are as follows:

- **Marketability:** Building heights are influenced by the preferences of buyers and renters of a particular market. Some markets reflect a demand for more compact, cost-effective units while other markets demand higher, more luxurious ceiling heights.
- **Development Feasibility:** Higher ceilings increase construction material costs. Additionally, depending on building height limitations, lower floor-to-floor ceiling heights may allow a development to achieve an extra story of development.
- **Sustainability:** Taller floor-to-floor heights consume more building materials and energy (for heating and cooling).

BUILDING ENVELOPE AND ARTICULATION

The building envelope of any structure is the maximum size and volume of a new development. It is a function of building's maximum allowable mass and defines the building's overall shape. (See Figure 3.)

However, façade articulation, trees, and architectural detail can mitigate the perceived mass of a building. (See Figure 4.)

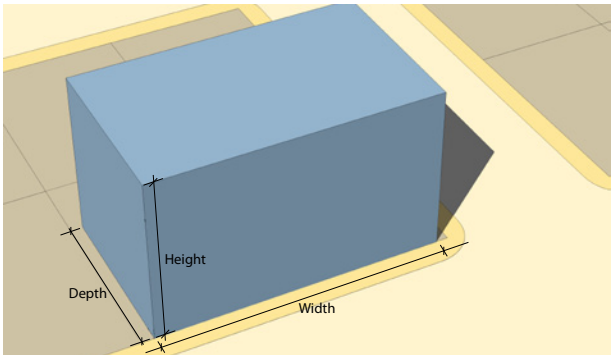

Figure 3: Building Envelope

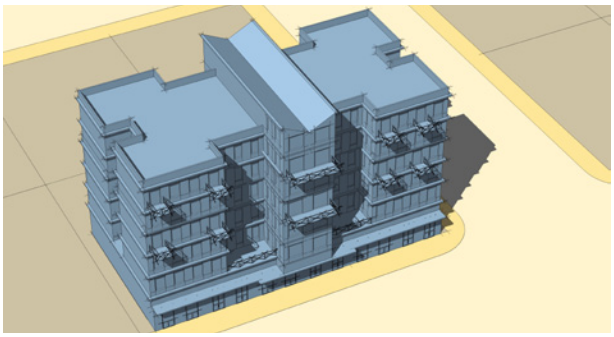
Figure 4: Building Articulation

SCALE

The scale of a building is evaluated with respect to its location and size in relation to other contextual elements. Therefore, it refers to an apparent size rather than its actual size. Scale is also applied to how a structure is perceived in relation to a human being (i.e. "human" or "pedestrian" scale). (See Figure 5.)

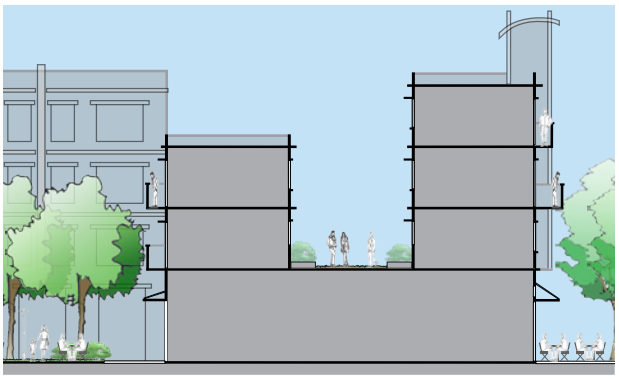
Figure 5: Scale

SETBACKS

Setbacks refer to the horizontal distance from the property line to the face of a building. (See Figure 6.)

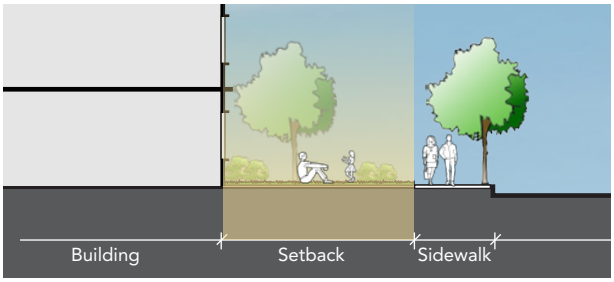

Figure 6: Setback and Landscaped Setback

STEPBACKS

A stepback is a setback located on the upper floors of a building, typically to reduce the bulk of a building or to provide outdoor floor space. (See Figure 7.)

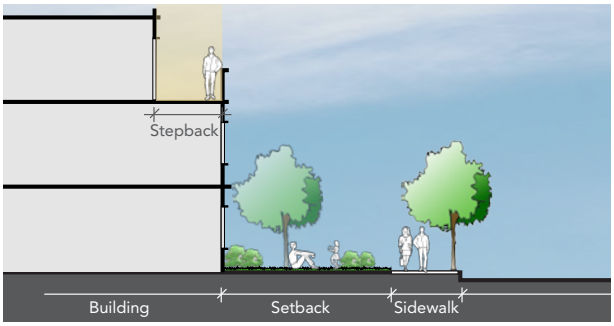

Figure 7: Stepbacks

BUILDING TO STREET RATIO

Good, walkable streets have a "sense of enclosure". Streets with buildings that are too low in height or are lined with open lots (surface parking, for example) make for a monotonous pedestrian experience. The building height to street width ratio is one tool to evaluate building heights with the aim of creating streets with sufficient enclosure.

One rule of thumb is that a combination of buildings and trees that line a street have a minimum height of one-half the width of the public right-of-way, or a 1 to 2 ratio. In the case of First Street in Downtown Napa, buildings should be at least 30 feet tall since most of the public right-of-ways are 60 feet.

Upper-story stepbacks are not calculated into this ratio. Therefore, a building height could be higher than the desired street to building ratio with appropriate upper-story stepbacks.

In a dense, Downtown environment, an appropriate building to street ratio can come close to 1:1. The diagrams to the right illustrate a range of ratios to consider for Downtown Napa. (See Figures 8, 9 and 10.)

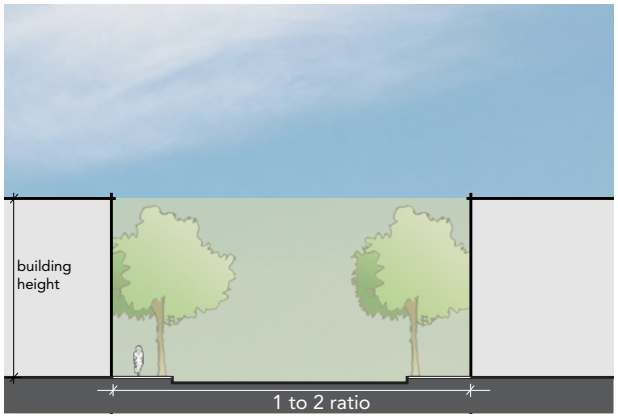

Figure 8: Street to Building Ratio (Minimum Building Height)

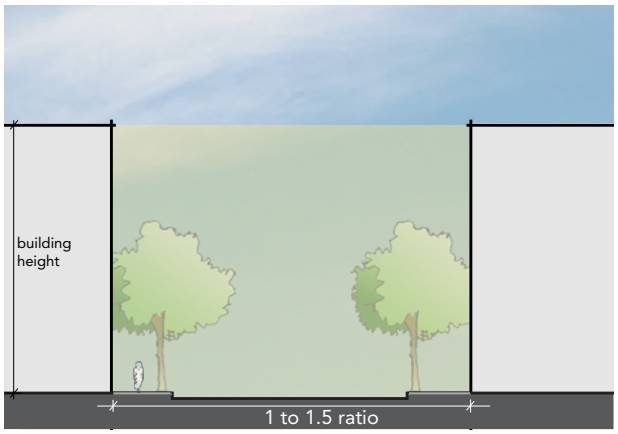

Figure 9: Street to Building Ratio (Moderate Intensity)

Figure 10: Street to Building Ratio (Downtown Context)