

2 PEDESTRIAN DISTRICT TYPOLOGIES

Table 2-1 presents an overview of the ten pedestrian district typologies identified as part of this study. The intent of the “typologies matrix” is to help describe the distinct pedestrian districts in the Bay Area where people are (or should be) walking given the land use mix and densities, transit options and major attractors. The typology will allow decision makers and the public to define what types of pedestrian districts they have, or equally as important, what type of district they wish to create. Defining a distinct set of pedestrian district typologies also helps identify what type of pedestrian facilities are most appropriate in different types of neighborhoods.

The typologies contained in Table 2-1 are based on variables that most clearly define the street environment and affect the pedestrian realm. By design, some of the typologies have overlapping characteristics and a jurisdiction may find that more than one typology that applies to a particularly large or diverse neighborhood.

Some types of built environments do have pedestrians, but cannot be considered pedestrian districts and therefore are not accounted for in the typologies matrix. These include low-density and rural residential areas that were not explicitly designed to encourage walking. Many commercial areas also do not qualify, including most “strip” and “big box” retail centers and many office and industrial parks that are primarily auto-oriented. In short, if walking is not a predominant mode of transportation, or if the variables that support future pedestrian activity, such as compact land uses and transit options are absent, then the area does not qualify as a pedestrian district.

The Technical Advisory Committee for the Pedestrian Districts Study expressed a strong desire for the typologies matrix to be user-friendly, and to keep the list of typologies as succinct as possible while still capturing a full range of Pedestrian District types. Based on an iterative process and input from the TAC, the typologies were first separated into four broad categories, and then into ten individual typologies based on the characteristics of their built environment.

Below is a description of the different variables that inform the pedestrian district typologies and a description of the ten types of districts that result.

A. Description of Pedestrian District Variables

For simplicity, the pedestrian district types are first broadly categorized as Residential Mixed-Use; Mixed-Use Nodes or Corridors; Downtowns; or Institutions & Employment Centers. The categories are generally self-explanatory. It is helpful, however, to understand how a mix of uses plays a role in each of the categories. Through discussions and observations, the consultant team and TAC realized that all successful pedestrian districts have some mix of uses within comfortable walking distance, whether within the district or immediately adjacent. Typologies in the “Downtowns” category clearly have a mix of uses. Less obvious mixed-uses may be found in the “Residential” category where, for instance, the district may be almost exclusively residential but residents may walk to a park or school. To help distinguish the level of mixed-use within each district, symbols appear in the matrix next to each of the four broad built environment categories, showing the relative proportions of residential (🏠) versus non-residential (🏢) uses in each.

The typologies matrix includes several themed columns that together describe each of the 10 pedestrian district typologies. Following is a description of the information presented in each of the columns.

- ◆ **Built Environment.** The built environment column contains a brief description of the prevailing land use characteristics of the district including the types of uses, typical building heights and general development patterns. The primary pedestrian "attractors," which are the components that generate the highest levels of pedestrian trips, are also noted. The concept of “nodes” versus “corridors” is also used here to help users of the matrix identify the form of development associated with a particular district. Building heights are expressed by the number of stories and are intended to represent an overall *average* that helps matrix users envision the density of development in the district.

METROPOLITAN TRANSPORTATION COMMISSION
PEDESTRIAN DISTRICTS STUDY
PEDESTRIAN DISTRICT TYPOLOGIES

Insert Excel Spreadsheet Table 2-1 – three pages

Page 1

Figure 2-1, Typologies Matrix, Page 2

Figure 2-1, Typologies Matrix, Page 3

- ◆ **Type of Transit.** During field visits and in discussions with the TAC, it became clear how important transit is in defining a pedestrian district and pedestrian paths of travel. The matrix includes a column describing the types of transit generally found in each district and how heavily the transit is utilized. It should be noted that all 10 typologies either do or *could* include Transit-Oriented Development (TOD) in some form.
- ◆ **Pedestrian Characteristics.** This column describes the types of pedestrians typical to the typology, when the most walking occurs, and whether pedestrian traffic is concentrated or dispersed. In some urban settings the sidewalks are noted as being “constrained,” meaning that pedestrian mobility is often affected by a large number of pedestrians, street furniture (like newspaper racks), street vendors, loading activity, or any combination of these.
- ◆ **Street Characteristics.** Key street characteristics such as the types of streets in the district, typical widths and prevailing speeds are shown in the Street Characteristics columns of the matrix. The particular importance of street types on the pedestrian environment was another factor that became apparent during our field visits, particularly when realizing that some places like downtown Menlo Park have three very different street types to address. The palette of appropriate pedestrian circulation improvements in a given area is influenced by street type at least as much as by the surrounding built environment.

The “Street Characteristics” column is presented in three sub columns that address three types of streets most commonly found in the Bay Area: regional corridors, arterials, and local streets. These are described in more detail below.

- **Regional Corridors** include some of the widest and busiest arterials in the Bay Area (that are often State highways), including most segments of El Camino Real and San Pablo Avenue. These streets typically have three or more travel lanes in each direction, plus one or more turn lanes at intersections, creating very challenging crossing obstacles to

pedestrians. There are comparatively few locations where these disruptive facilities coexist with pedestrian districts. Market Street in downtown San Francisco and San Pablo Avenue in West Berkeley are examples of regional corridors that do exist within, or adjacent to pedestrian districts in the Bay Area.

- **Arterials** are often the “Main Streets” in each pedestrian district. They provide primary vehicular access to the district and also tend to have the highest levels of pedestrian activity. Major cities may have a grid system of many arterials.
- **Local streets** are often the side streets that intersect or run parallel to arterials. They generally have lower traffic volumes and fewer pedestrians than the arterials, though are still important streets for connectivity to and within the district.
- ◆ **District Examples.** This column includes Bay Area examples of the typologies and are intended to help the reader visualize examples of the typology. It is important to recognize that the example districts may have different mixes of uses or been built during different eras than other examples in the same typology, but that the pedestrian environments remain similar.

B. Typology Descriptions

Below is a general description of the ten typologies in the matrix, including a discussion about how they are informed by the variables described above.

1. Urban Residential

The Urban Residential typology applies to the Bay Area’s higher-density residential neighborhoods. Examples of this typology would most typically be found in the largest Bay Area cities. Urban Residential pedestrian districts experience moderate pedestrian volumes predominantly because of the sheer numbers of residents living within the area and the presence of minor commercial uses and transit to support these residents. These districts may also be

proximate to larger commercial or downtown districts that generate pedestrian traffic. Distinct pedestrian paths can typically be identified from points within the district to attractors near the district, such as major transit stops. These districts typically have sidewalks and crosswalks, as well as pedestrian street lighting and street trees. They typically do not include more innovative pedestrian amenities such as bulb-outs, pedestrian-only crossings or street furniture more commonly found in downtowns or major mixed-use districts. Building heights typically range from 3 to 10 stories with relatively small building setbacks.

These types of environments typically do not include major regional corridors and are instead formed by a series of arterials and local streets (often in an interconnected grid pattern). Traffic generally moves at fairly low speeds, attributable to lower speed limits and frequent traffic control measures such as stop signs and signals. Examples of this typology can be found in the Pacific Heights area of San Francisco and the Southside area of Berkeley near UC Berkeley.

2. Pedestrian-Oriented Suburban Residential

The Pedestrian-Oriented Suburban Residential typology applies to lower-density suburban neighborhoods that were explicitly designed to be pedestrian-oriented. Based on the team's research and observations, there are not a great number of successful Suburban Residential pedestrian district examples in the Bay Area (though that is likely to change over the coming years). Most suburban residential areas do not have sufficient amounts of pedestrian activity to be called distinct districts, or are in actuality extensions of downtown areas (such as the traditional residential neighborhoods adjacent to downtown Palo Alto). Some Bay Area New Urbanist developments in Suisun City or Hercules could serve as examples of this typology. Village Homes in Davis is a well-known example of this typology, though is located outside of the Bay Area. Though this typology is not very common in the Bay Area today, it provides a model for what Bay Area cities that are experiencing significant residential growth should aspire to achieve.

In general, Suburban Residential pedestrian districts tend to include a mix of small-lot single-family homes and 1-2 story attached residential uses, as well as supporting parks and schools. Street widths are typically minimized in order to regulate speeds and facilitate pedestrian crossings. Traffic speeds are generally very low on the local streets within the neighborhood, and moderately low on any arterial streets passing through the district. The circulation network is usually a grid rather than a collection of cul-de-sacs to facilitate walking, the streets usually include such pedestrian infrastructure and amenities as sidewalks, lighting and street trees.

3. Major Mixed-Use District

The Major Mixed-Use District typology is fairly common in some of the larger Bay Area cities and applies to neighborhoods that are not a City's downtown, but nonetheless include a fairly dense mix of housing and commercial uses and are well-served by transit. The districts incorporate multiple city blocks and include a combination of nodes and corridors, as well as average building heights up to six stories tall. Heavy pedestrian volumes exist all day and into the evenings, and pedestrian types are very diverse. Transit, often rail and bus, plays a major role in the district and is heavily utilized. These districts typically have abundant pedestrian facilities, including sidewalks and crosswalks as well as other amenities such as bulb-outs and street furniture.

Arterial streets are typical in the Major Mixed-Use District, though some also include regional corridors. Traffic generally moves relatively slowly through these districts because of the high number of pedestrians. Lower-volume local streets usually intersect the arterials, but can also occur as residential streets on the periphery of the core district. Examples of this typology include the neighborhood adjacent to UC Berkeley and parts of San Francisco's Mission District.

4. Transit Village

The largest of the Bay Area's transit-oriented developments are represented by the Urban Transit Village pedestrian district typology. These districts have pedestrian environments that are very much oriented as a node at a major transit stop (usually BART) and are sometimes relatively new districts,

created in the last two to ten years as interest in TOD has increased and collaborations between cities and transit agencies have become more common. Average building heights are up to four stories, and a significant mix of uses including housing, retail, office, and services are present. Pedestrian volumes are moderate throughout the day and heavy around commute peaks. The districts tend to have many pedestrian facilities, including relatively wide sidewalks, that serve pedestrian travel between the transit stations and surrounding uses. The Urban Transit Village may be a new transit-oriented development such as Fruitvale Village in Oakland but could also apply to an older district that grew up around transit, such as Oakland's Rockridge neighborhood.

These districts typically include arterial streets and rarely have regional corridors. The arterial streets have moderately-low traffic speeds, and can have significantly varying widths, with the widest of streets usually including medians. Examples of a narrower arterial include College Avenue near Rockridge, while a wider arterial would include International Boulevard near Fruitvale.

5. Large Neighborhood Corridor

There are neighborhoods in the Bay Area that are larger than a local commercial corridor and are recognizable districts along an important neighborhood street, such as 23rd Avenue in Oakland, International Boulevard in the Eastlake neighborhood of Oakland and West Berkeley along San Pablo Avenue (near University Avenue). These pedestrian districts are defined by the Large Neighborhood Corridor typology. They include a combination of a major street with very heavy traffic volumes and moderate pedestrian traffic throughout the day. The corridor may be located along a major bus and/or rail transit spine, and there is usually moderate to high transit usage. These districts are often some of the most challenging for pedestrians, as it can be difficult to cross from one side of the corridor to the other.

The defining corridor in this district can be either a major regional corridor or a very busy arterial street. Unlike the larger streets found in other dis-

tricts, those found in the Large Neighborhood Corridor typology tend to have somewhat higher speeds and often fewer pedestrian amenities. Pedestrian crossings mostly take place at signalized intersections and are fairly long, often crossing up to 8 lanes of traffic (including turn lanes). The regional corridors existing in this typology are often state highways under the jurisdiction of Caltrans where, historically, jurisdictions were unable to construct more innovative pedestrian amenities. An example of this type of pedestrian district would be San Pablo Avenue (State Route 123) near University Avenue in West Berkeley where a vibrant retail district exists along this busy corridor. International Boulevard in the Eastlake district of Oakland is an example of such an arterial street.

6. Major City Downtown

The Major City Downtown typology applies almost exclusively to the Bay Area's three major cities: San Francisco, Oakland, and San Jose. They include numerous high-rise buildings with average heights of more than 10 stories, are major employment and retail centers, and may have a significant amount of residential uses. Downtowns are bisected by many bus and rail transit corridors and transit usage is very high. The pedestrian population is very diverse and can include a significant number of tourists. Pedestrian crossing demand is heavy all day at both intersections and mid-block locations. Platoons of pedestrians on sidewalks are often created by signals at intersections. Sidewalks are often congested with a mix of numerous pedestrians, street vendors and loading activity.

Major city downtown areas are mostly comprised of arterials, though one example of a regional corridor bisecting a downtown area is Market Street in San Francisco. Nearly all streets experience some degree of traffic congestion, which keeps average vehicle speeds low. Streets may be part of a coordinated traffic signal network and may be one-way. The various street types are highly interconnected, typically in a grid pattern, resulting in multiple route choices for both drivers and pedestrians. Pedestrian travel is typically prioritized as a mode of travel in these districts, with many pedestrian facilities in place.

7. Medium-Sized City Downtown

The Medium-Sized City Downtown typology applies to a large number of Bay Area downtowns, including those in Berkeley, Santa Rosa, San Rafael and Walnut Creek. These downtown areas are nodes that have some of the highest pedestrian activity in the community. Pedestrian volumes are moderate all day, though are often lower on evenings and weekends. They typically have average building heights of up to four stories, serve as local employment centers and have a myriad of retail and office uses. The downtown areas are served by multiple bus routes, and may include some type of rail transit. Most pedestrian crossing activity takes place at intersections, though some mid-block crossings may take place when there are breaks in traffic on lower-speed streets.

Arterials and local streets are the most common types of streets in these districts. Major regional corridors may pass through the district, though they are often at the periphery such as Foothill Boulevard in downtown Hayward. Traffic volumes on the arterial streets are moderately high, particularly during peak hours. The arterial streets are typically interconnected by smaller local streets, which often become residential streets on the periphery of the pedestrian district.

8. Small Downtown or Local Commercial District

The Small Downtown and Local Commercial District typology applies to many of the local-serving commercial districts in Bay Area communities. Small downtowns like Suisun City, Mill Valley, and Los Gatos have similar characteristics to smaller districts within larger cities such as the Elmwood district in Berkeley, or even the Marina District along Chestnut Street in San Francisco. These districts can either be nodes or along a corridor, and typically include one street that is considered “Main Street.” Building heights are usually 1 to 2 stories and land uses include a mix of small businesses, retail, service-related uses and restaurants. Bus and/or rail service can be limited to one or two routes, and may even be restricted to directional peak-hour service. Pedestrian volumes are light to moderate throughout the day. Sidewalks often pass along a combination of building fronts, small parking lots, and small public spaces. Pedestrian crossings frequently occur both at inter-

sections and at midblock locations as the streets tend to be relatively narrow with slower traffic speeds.

While not typical, major regional corridors can be components of these districts, such as some small downtowns along El Camino Real on the Peninsula. In downtown Menlo Park, for instance, El Camino Real bisects the pedestrian district that extends between the Santa Cruz Avenue commercial core and the Caltrain station. Arterials are a more common street type in these districts than major regional corridors. The arterial streets typically have moderate traffic volumes, though with enough gaps in traffic that many pedestrians feel comfortable crossing midblock. Local streets in these small downtown or local commercial districts frequently serve traditional residential neighborhoods just outside of the commercial core.

9. Urban Institutional

The Urban Institutional pedestrian district typology may exist where a major institution or concentration of institutions are present in an urban environment, and serve as the major attractor to the area. Major institutions may include large government centers, hospitals, and universities. Pedestrian districts are not present at all such uses; in order for the area to be qualified as a pedestrian district there must be a significant amount of pedestrian activity on the streets within the institutional area, and supporting transit, commercial uses, and pedestrian amenities present. These types of areas have moderate pedestrian volumes throughout the day, with peaks during commute hours, and may have an abundance of older or disabled pedestrians. Pedestrian facilities may be present to accommodate large groupings of pedestrians, and usually include accessible features such as audible crosswalk tones and wide ADA curb ramps. The UCSF campus in San Francisco is a good example of an urban institutional pedestrian district.

Regional corridors are generally not found in Urban Institutional pedestrian districts. The districts often do contain one or two arterials that provide primary access to the area. There is usually a significant amount of loading activity associated with passenger car pick-ups and drop-offs, shuttle services, and transit on the arterial streets, and traffic speeds are correspondingly low.

10. Suburban Employment Center

The Suburban Employment Center applies to areas with a concentration of employers, or a single large employer in a campus-like development, in the Bay Area's less urban cities such as along the I-680 and U.S. 101 corridor in the South Bay. These areas are usually well-served by transit. Like the Suburban Residential typology, there may not be many successful examples of this pedestrian district typology currently in the Bay Area, but the typology serves as a model for how these areas, or new office development, could become real pedestrian districts in the future. The campuses generally have one to four-story buildings that are often surrounded by a combination of surface parking lots and open space. The districts may also include light commercial uses such as banks and delis. Pedestrian volumes are generally fairly low except for short peaks during commute periods. Sidewalks and paths within the districts are often used for recreational purposes during the daytime. Street crossings mostly occur at signalized intersections. It should be noted that many of the Bay Area examples of this typology are in need of further improvements to increase their viability as a pedestrian district. In addition, many of the pedestrian amenities serving these areas, such as benches, lighting and landscaping, are located on private property, within the development or campus.

Large arterial streets are the prevailing street type in this district and present one of the challenges of increasing pedestrian activity in these areas. Major regional corridors are generally not found within the district (though may be located near the edge). The arterial streets vary somewhat in widths, with relatively low traffic speeds near the core campus areas and somewhat higher speeds on the periphery where the pedestrian-oriented areas often transition into more typical, suburban-type business park development patterns. Pedestrian crossing distances can be long at intersections.