

BART TRANSIT-ORIENTED DEVELOPMENT GUIDELINES

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

JUNE 2003



**BART
TRANSIT-ORIENTED DEVELOPMENT
GUIDELINES**

“In partnership with the communities BART serves, we will promote transit ridership and enhance the quality of life by encouraging and supporting transit-oriented development within walking distance of BART stations.”

- BART Strategic Plan

Table of Contents

1. Introduction	6
• What is BART?	8
• What is TOD?	9
• Who Are These Guidelines For?	10
• How Can Guidelines Help Improve Station Areas?	11
2. Shaping the Region	12
• Reinforcing the Transit Network	14
• Growing Around Transit	18
• Connecting Communities to the Station	25
3. Building a Successful TOD	22
• Defining Station Area Identity	24
• Providing Station Access	26
• Planning Station Area Development	36
4. Reconciling Station Area Activities	42
• The Hectic Zone	44
• The In-Between Zone	46
• The Home Free Zone	48
5. Diagnosing Your Station Area	50



1. Introduction

BART's Transit-Oriented Development Guidelines are designed to help guide planning and development around BART stations. They address the BART customer experience, station area land use, and station circulation and access as they relate to transit-oriented development. The Guidelines also consider the unique geography, transportation networks and varied community priorities of the San Francisco Bay Area. The examples of Transit-Oriented Development in these Guidelines are chosen from locations throughout the Bay Area to illustrate policies and principles, not to suggest duplication of any particular design solution. BART encourages the reader to visit these sites and to make his or her own observations about the appropriateness of these examples in applying the Guidelines.

What is BART?

The San Francisco Bay Area Rapid Transit District (BART) operates a 104-mile rail transit system with 43 stations that runs in four counties: San Francisco, Alameda, Contra Costa and San Mateo.

BART connects urban downtowns with city neighborhoods, smaller town centers and suburban communities. Depending on what surrounds the station, BART connects residences to jobs, schools to shops, parks to industrial zones, and airports to stadiums. BART also connects to other transit systems as part of a regional transit network serving the entire Bay Area and beyond.



What is TOD?

According to the California Department of Transportation,

“Transit-Oriented Development (TOD) is moderate to higher-density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto. TOD can be new development or reconstruction of one or more buildings whose design and orientation facilitate transit use.”

In applying the Guidelines, some clarifications of this definition are helpful:

Transit-Oriented really means *Pedestrian-Oriented* (albeit centered around a transit station). Designing a station area for *people* rather than vehicles will ultimately support healthy transit ridership.

Moderate to High Density can vary with each community. BART presents some suggested density targets to guide local community decisions for both in-fill and large-scale new development.



Hayward Station Area

Development includes not only buildings but also the sidewalks, streets, bus zones and parks in the station area.

An **Easy Walk** is about one-half mile or ten minutes (the average walk from home to BART). However, in safe and pleasant surroundings, people may consider a longer walk to be “easy.”

New Development or Reconstruction can include the preservation and enhancement of existing natural and manmade elements that give each community its unique sense of place.

TOD can refer to **One or More Buildings**, but usually describes the entire neighborhood surrounding a station. In fact, the goal of these Guidelines is to build a Transit-Oriented *Community*.



Who Are These Guidelines For?

Stakeholders in the planning and development of a BART Station area include:

- residents and property owners
- employers and employees
- BART riders who use the station, no matter where they live or work
- local officials representing the station area
- planning and development staff from the local jurisdictions
- developers who build projects near the station
- people who provide services in the immediate area, such as shopping, education, health care, childcare, and transportation (including BART)

How Can Guidelines Help Improve Station Areas?

These Guidelines clarify BART's priorities for TOD on and near BART property. They also present recommendations that are intended to assist in the planning and development process and reduce delay, frustration and conflict for all stakeholders. The ultimate goal of these Guidelines is to promote vibrant and livable station areas that benefit both BART's customers and the surrounding community, and that promote the use of BART as a primary means of transportation.

These Guidelines do not cite dimensions or specify precise land uses. Instead, they allow for flexibility and creativity in adapting to local conditions while adhering to the fundamentals of transit-oriented development. There may be cases where a strict adherence to a specific Guideline may not be feasible or appropriate. In general, however, a successful TOD should strive to accomplish the following goals:

- enhance customer safety and convenience
- create an attractive, dynamic station area
- increase ridership and revenues for BART
- take advantage of development opportunities and revenue generation for local jurisdictions
- improve system and station operational efficiency.



Community planning for 24th St. Mission Station in San Francisco

Policy Context

BART's [Strategic Plan](#) promotes station area planning with an emphasis on community outreach and collaboration. The implementation of this goal is guided by BART's [Station Area Development Implementation Policy](#) and [Station Area Planning Policy](#). BART's [Comprehensive Plans](#) and [Station Access Plans](#) recommend specific improvements for each station area that may serve as a useful resource for station planning efforts.

The following documents support and supplement these TOD Guidelines and should be consulted for further guidance on specific aspects of TOD. [BART Access Guidelines](#) clarify priorities for balancing and managing access to BART by all modes, including pedestrians, transit, bikes, and autos. BART's [Facilities Standards](#) govern the design and construction of the system's infrastructure, and BART's [Sustainability Policy](#) recommends environmentally sensitive building practices for its facilities. The criteria promoted in BART's [System Expansion Policy](#) establish development density thresholds to support new station sites.



2. Shaping the Region

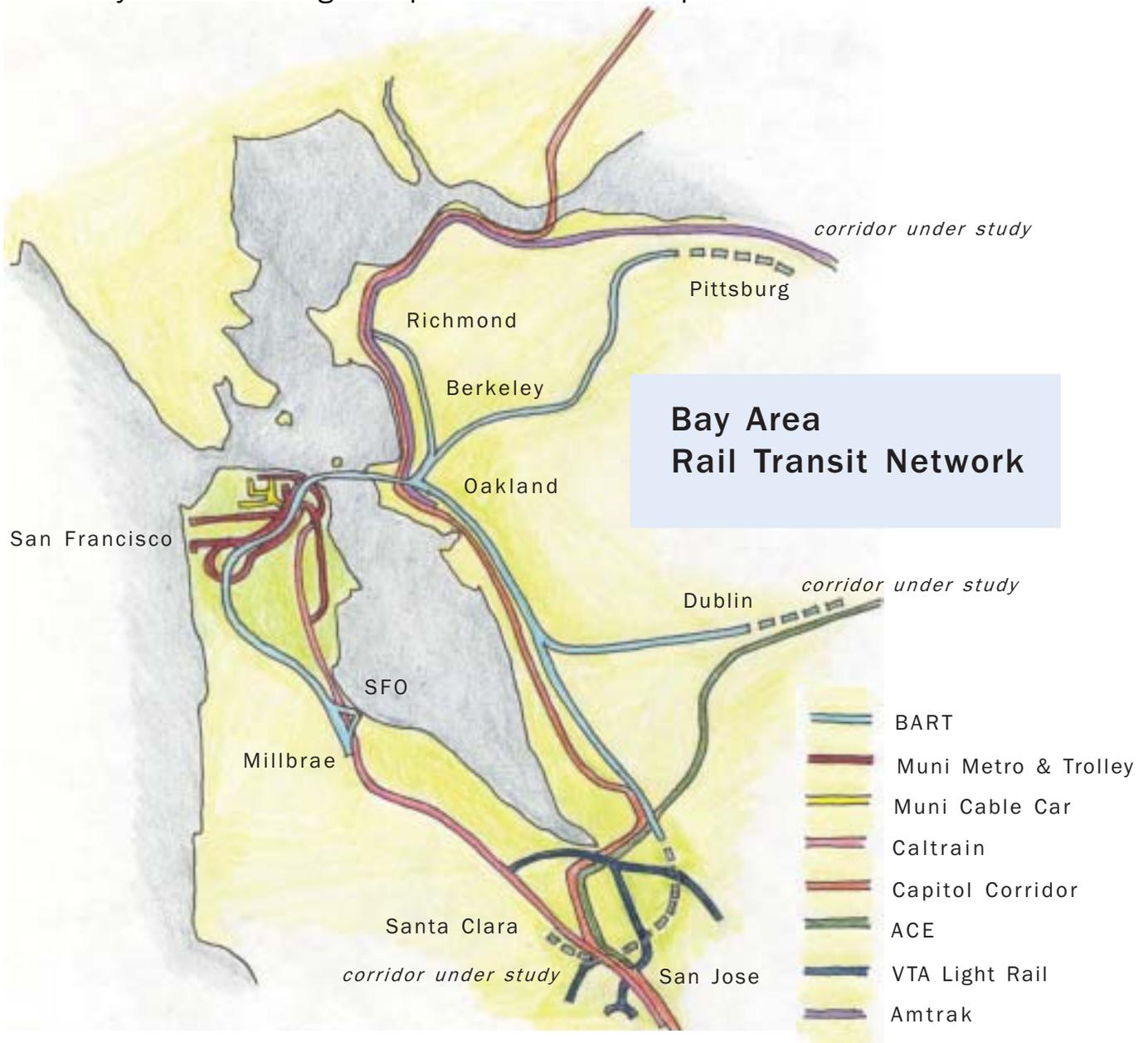
The San Francisco Bay Area is especially well suited for transit-oriented development. Its dramatic landscape, including hills, water, and open space, limits development to a few major corridors that can be well served by transit. Historically, many communities in the Bay Area were built around transit long before the term “TOD” was coined.

Today, the BART system is the backbone of the Bay Area’s diverse, but increasingly interconnected transit network. This network is ideal for serving new transit-oriented communities, as well as strengthening existing historic ones. When combined with the protection of existing open space, a network of compact TODs can allow the region to grow and still retain its character and livability.



Reinforcing the Transit Network

BART is part of a much larger multi-system transit network serving the entire Bay Area. While the region is often distinguished as having numerous and sometimes competing transit systems, a more striking characteristic is the growing degree of cooperation and connectivity among them. As more direct connections are made between BART, Muni Metro, Caltrain, VTA, AC Transit, Capitol Corridor, ACE and other local transit providers, the regional TOD network becomes a more viable alternative to the highway system for linking transportation and development.



Cable Car, San Francisco



Historic Muni Trolley, Market Street, San Francisco



Muni Metro at South Beach, San Francisco

VTA at downtown San Jose



San Antonio Caltrain Station in Mountain View

TOD can't guarantee freeway congestion relief for the region. It can, however, allow people to live near one station, work near another and shop at a third without using a car. The viability of a regional TOD network, however, depends upon the extensiveness and convenience of the transit services that link it together.



BART and Caltrain, the Bay Area's two largest regional rail systems, meet at Millbrae Station

1. The transit systems that form the backbone of the region's TOD network should provide frequent, reliable and interconnected service.

Each BART station is a gateway to the greater region. However, not all customers live within an easy walking distance of the station. To encourage convenient access for these customers, BART stations should be served by regional, multi-modal transportation networks.



2. BART stations should be served by streets, bus and bicycle routes that extend beyond the immediate station area.

Growing Around Transit

BART station areas are especially desirable places for development that needs reliable, regional access for large numbers of people. As a rail transit system, BART's operation is not compromised by highway conditions, which enables both reliable and frequent service. This has attracted a strong and growing ridership, which translates to growing volumes of foot traffic in station areas. The convenience of BART access means that less parking is needed for development compared to areas without such high quality transit service. Moreover, the permanence of a fixed-rail system ensures that station areas will remain important transit nodes.



Pleasant Hill BART Station

Given the strong incentives for developers to build near BART, many communities plan their highest development densities around BART stations. In fact, the station areas are often identified for near and long-term growth as an alternative to growth in more remote, undeveloped areas. In turn, BART benefits from development focused around its stations when it generates riders and revenues that help make BART service more efficient.

3. The highest residential and employee densities within each community served by an existing or future BART station should be located within walking distance of the station.



San Francisco's Museum of Modern Art

Major destinations in the region that are located in areas accessible only by automobile are difficult to reach for the many residents and visitors who do not own or drive a car. Still others might prefer to use transit, but drive because the destination is too far from the station and the bus connections are limited, unreliable or infrequent.

4. Regional attractions in the Bay Area should be located within a comfortable walk or short, frequent shuttle/transit ride from a major transit station to enhance universal access.

BART stations are good locations for major regional destinations, especially those that generate ridership in the reverse commute direction and during off-peak hours, such as weekends and evenings. The comfort and safety of those pedestrians who use BART to reach nighttime destinations is of critical importance, particularly when a long walk is required to and from the station.

BART parking is usually plentiful at stations after hours and on weekends. Major attractions drawing primarily after-hours patrons should consider “sharing” BART parking facilities if they are built near stations with parking.



Thousands of PacBell Park patrons walk or ride Muni to BART for each game

5. Development at any BART station should be planned to take full advantage of frequency, scheduling, coverage and other characteristics of train service along the line serving the station.

Connecting Communities to the Station

BART Stations on “Main Street”

Successful TOD combines a transit station with high density, pedestrian-friendly development. The older downtowns of many Bay Area communities (such as Hayward, at right) already feature walkable streets, denser development and established bus networks. They are “ready-made” TOD and make ideal locations for new or existing BART stations. BART’s



regional transit access in turn can strengthen existing town centers by providing local businesses the benefit of new customers without the drawback of their cars.

BART Stations Near a Town Center

If a station is not located downtown but is within a reasonable walking distance, then downtown could be “extended” toward the BART station. In these cases, the link between the station and downtown should be pedestrian-friendly and enhanced with bus or shuttle connections.



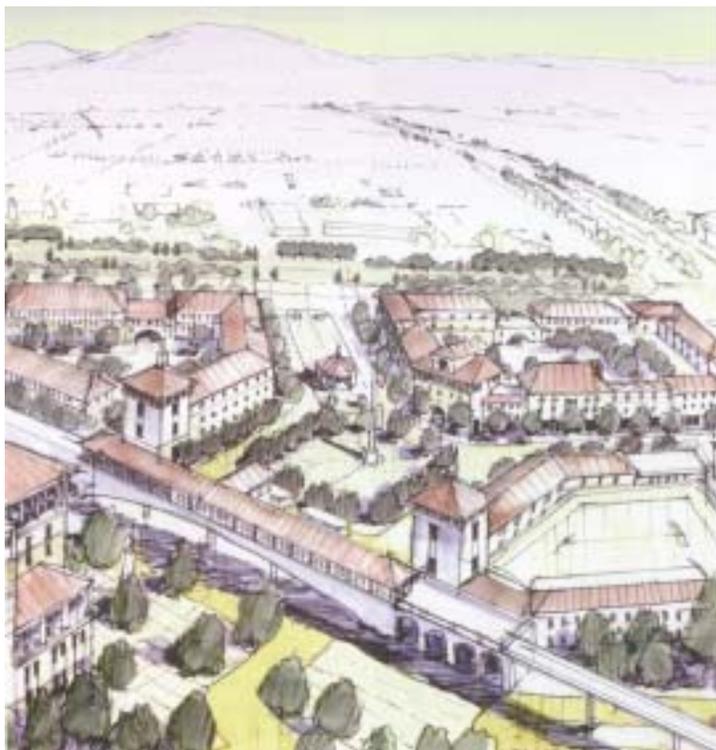
Historic Downtown Walnut Creek is only five blocks from the Walnut Creek BART Station

BART Stations Away from Existing Town Centers

Building successful TOD at stations in areas with no surrounding mixed-use development, walkable streets or connecting bus service requires special attention. Pedestrian barriers, such as freeways or vast areas of vacant land, should be avoided to ensure that ridership growth will not depend on customers who drive -- requiring extensive use of land for parking and limiting access for those who do not. The economic impacts of a new TOD outside established communities should be studied and managed to avoid undermining the health of nearby existing business districts.

In any case, BART parking should not separate stations from the surrounding TOD. The garage or parking lot should be sited to complement, rather than detract from, the pedestrian environment. As long as the walk to the station is safe and pleasant, the immediate proximity of the parking facilities to the station is not so critical.

6. BART stations should be located in active, walkable, developed areas that can support ridership growth with reduced reliance on additional parking.



The plan for developing the Pleasant Hill BART Station, where no commercial center existed prior to BART, includes many amenities that enhance sidewalks and pedestrian paths serving the station area



3. Building a Successful TOD

There is no one-size-fits-all formula for developing around a BART station. Each station area community is unique with its own character and transportation needs. However, there are certain transportation and development priorities that every BART station area should generally share, including convenient access to the station and a mix of land uses that make the station area a dynamic and livable place. Successful transit-oriented development incorporates these priorities in a way that respects and strengthens the positive aspects of a community's identity.

Defining Station Area Identity

The “community” at each station includes the people who live and work nearby. It includes local land use authorities, property owners and their tenants, potential developers, those living outside the area who use the station, and those who provide the local community services. These groups may not share the same perspective or interest in station area development. However, when the entire community works together, these groups can often agree upon a few goals that they have in common.

These points of agreement often involve an appreciation of certain features of the landscape. They could be natural features (creeks, trees, views to hills), or man-made features of historic or cultural importance (buildings, the street network, plazas, a specific “theme”). Incorporating these features in a station area plan can be a reassuring starting point for the community in custom-tailoring TOD to meet their needs while allowing for growth and change in the station area.

7. Incorporate well-loved features that establish community identity within the TOD.

Key to photos on the following page:

- 1. Preservation of the historic Victorian Strobridge House in Castro Valley became a key part of the station development*
- 2. The main pedestrian walk in Oakland City Center, with a direct connection to BART, frames the landmark Tribune Tower*
- 3. Two groves of mature oaks are incorporated in the Pleasant Hill Station Specific Plan*
- 4. The walkway leading from BART to downtown Lafayette follows the restored course of Happy Valley Creek*
- 5. The artwork in the railings of 16th Street Station reflects the cultural heritage of many residents in San Francisco’s Mission District*



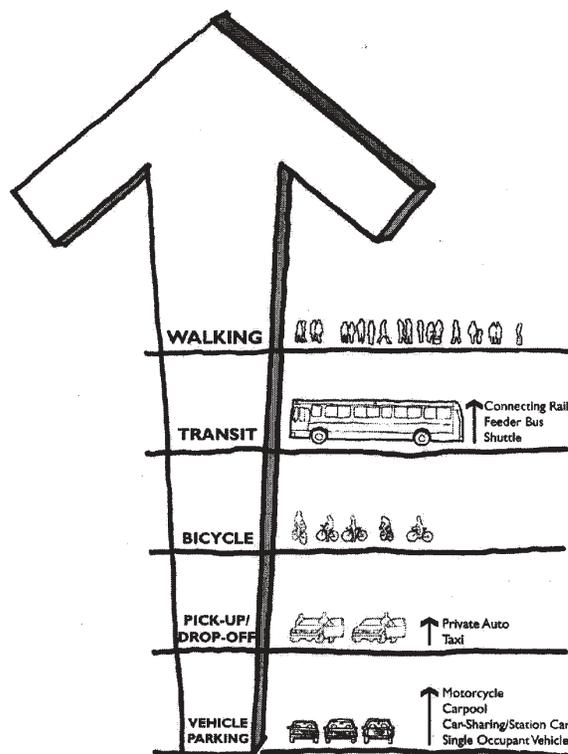
Providing Station Area Access

The BART station is a hub of diverse transportation activity. People who live, work or catch BART in the station area are walking, bicycling, driving, and transferring to and from buses. Traffic moves more slowly and parking is a valued commodity. In fact, if the streets and sidewalks are not bustling, then the station area is probably not as vibrant as it could be.

To encourage a vital station area, access to the station should be seen as an extension of the local and regional circulation network that serves the surrounding neighborhood. BART's *Access Guidelines* prioritizes the different modes of access as follows:

1. Pedestrian
2. Transit and Shuttles
3. Bicycles
4. Carpool, Cabs and Drop-offs
5. Single-Occupant Automobiles

Station Access is a land use in itself. Parking, bus zones, streets and sidewalks take up space just as buildings and parks do. The land closest to the station is often the most valuable for development, given the foot traffic and the immediate, regional access. The layout of streets, parking and bus loading should recognize their impact on the marketability of the properties they abut.



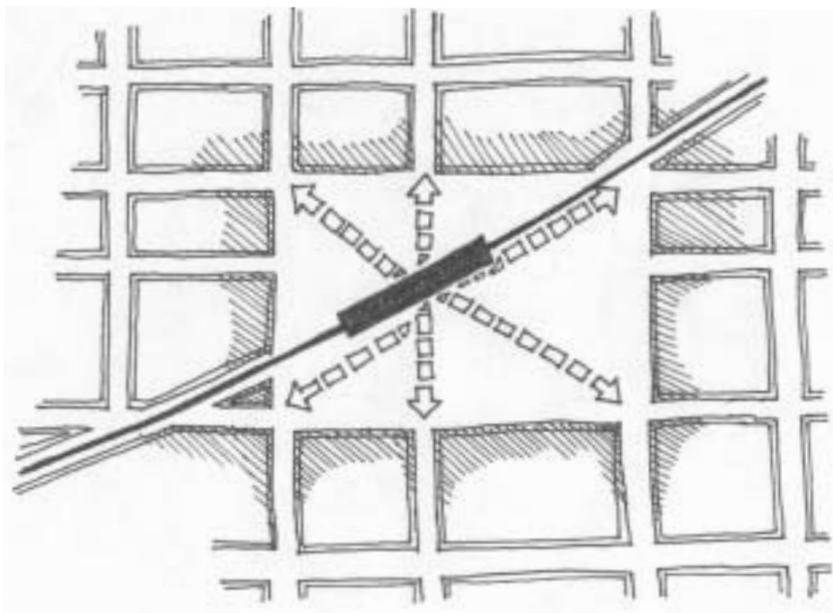
Likewise, the design, density and mix of land uses surrounding the station have a big impact on how well the overall transportation services function. Parcel sizes, driveway entrances and building doorways can encourage or frustrate connections from the station to the larger station area. The following guidelines address both aspects of this use of land.

Pedestrians

All people who pass through BART's faregates are pedestrians, no matter how they got to the station area. Whether on foot or in wheelchairs, pedestrians trying to reach BART will always seek the shortest route, even when buildings and parking areas block the way to the station, when the roads are wide, and when crosswalks are few and far between. Trampled landscaping, chronic jaywalking and regular circumvention of no-crossing zones and keep-out fences may suggest that the site planning in the station area did not fully consider pedestrians.

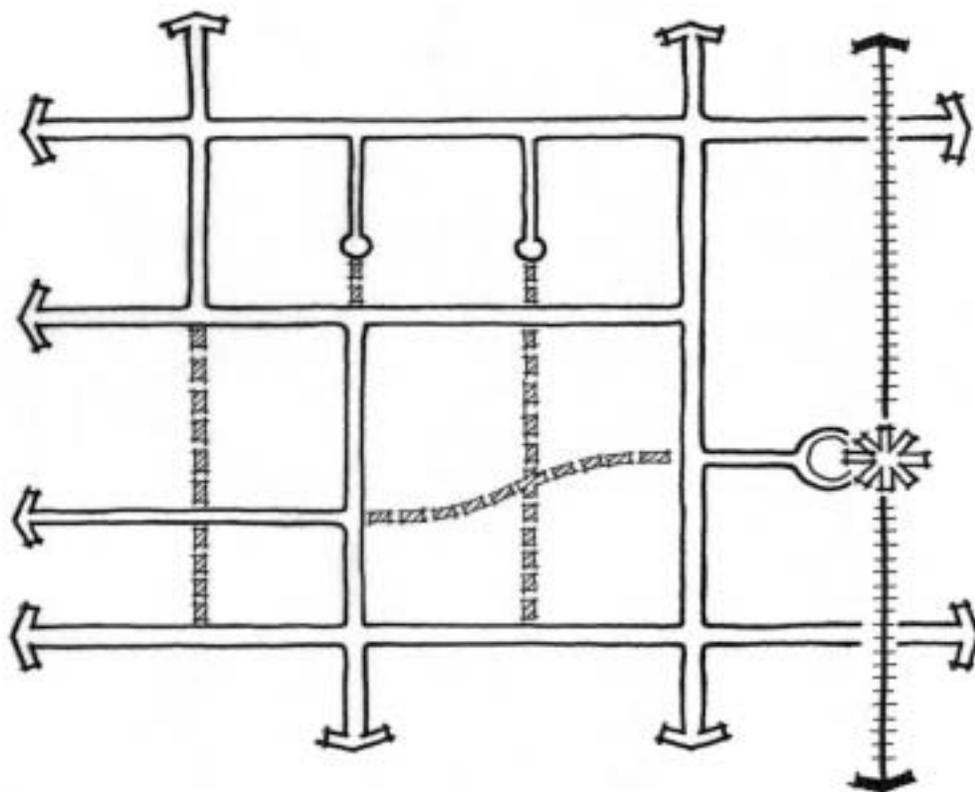
Many of these problems can be avoided by giving pedestrians top priority in the station area. This means making the area feel safer, more convenient and more human-scaled. Sidewalks and crosswalks that take people where they want to go not only improve pedestrian safety and satisfaction, they reduce long-term maintenance costs. In fact, the "cow paths" that pedestrians blaze through the station area are good indicators of where they want to go, and are possibly worth formalizing in station area development.

8. Sidewalks connecting the station faregates to key intersections and destinations in the station area should be as short, direct and visually unobstructed as possible.



9. Sidewalks linking the faregates to the surrounding community should be wide and smooth enough for wheelchairs and strollers, and lined with trees, lights and wayfinding signs to improve orientation and safety.

10. The size and layout of blocks near the station should anticipate the need for direct pedestrian paths.



New sidewalks can give pedestrians "shortcuts" through the station area making it more walkable

11. Pedestrians should be encouraged to cross major streets and intersections at street level.

Street level crossings with ample, well-marked crosswalks are preferable ways to encourage pedestrian access. The less that pedestrians must go up and down (by bridge, elevator, tunnel) to reach the station, the more directly they can navigate the station area and activate sidewalks. Given that the station area is an intense node of pedestrian activity, drivers should be prepared to yield for pedestrians as they approach a BART station.

However, sidewalks alone do not make a walkable environment. The more building entrances and windows that open onto the sidewalks (and the more light is cast through these openings at night), the safer pedestrians will feel walking by. Conversely, a building whose ground floor does not open onto the sidewalk — or that retreats behind landscaped berms or parking lots — not only wastes an opportunity to encourage foot traffic, it actively *discourages* it.

12. Buildings along the sidewalks serving the faregates should open directly on the path, with transparent ground floors and good views of the path from the upper floors.



Townhomes lining the sidewalk in Hayward help to make sidewalks to BART feel safer and more comfortable for pedestrians

13. Continuous building frontages along sidewalks should be maintained by avoiding front and side setbacks, blank walls, and surface parking lots that face the sidewalk.

The closer streets gets to the station area, the more complex and multi-modal they become. Cars, shuttles, bikes and buses share the street with pedestrians, and traffic slows. Certain levels of congestion near the station must be anticipated and tolerated.

On-street parking also slows traffic and buffers pedestrians from moving cars. The street design near the station should prepare drivers for unexpected, immediate stops. The street and lane width and curb radius should dictate the travel speeds, not just speed limit signs.



Rockridge in Oakland: BART, buses, bikes, shops, cafes, homes, narrow streets, trees, on-street parking - a thriving, popular place to live and visit

14. The main sidewalks and crosswalks in the area should not be disrupted by wide turning radii, driveways, garage entrances, and dedicated turning lanes that require pedestrian refuge islands.

15. Street width in the immediate station area should not be wider than needed to accommodate “design” travel speeds and emergency vehicle egress, and if applicable, any bike and/or parking lanes.

Transit Access to BART Stations

BART stations are linked to buses, light rail, commuter rail, ferries, cable cars, shuttles and other means of transit. These connections are essential for healthy, growing BART ridership. As multi-modal hubs, BART stations are also important transfer points between these other transit systems and should accommodate them. TOD residents and workers may depend on these vital transit services to go places that BART does not reach.



However, bus lanes and loading zones can cause conflicts with other functions in the station area. Land devoted exclusively to bus loading can feel “dead” outside the rush hour. In a TOD, where land is especially valuable and pedestrian activity most intense, the amount of land and street space dedicated to buses should be used as efficiently as possible. Sidewalks and traffic lanes that can double as bus access and loading areas should be considered first.

16. Transit boarding zones should have, lighting, seating, service information (schedules, maps and monitors), and offer shelter from the elements to promote comfort, security and reliable connections.

17. The link between BART and connecting transit should be direct, short and uninterrupted by other types of vehicular traffic.

18. Bus, shuttle and light rail waiting and loading areas should be concentrated to facilitate transit-to-transit connections and to avoid wasting land and creating expansive “dead” zones.

Bicycle Access

Bicycles provide access to the station from greater distances than walking with fewer impacts than vehicular traffic and parking. However, the mix of vehicular and pedestrian traffic converging at BART stations may discourage bike riders. Even though the station itself may provide ample bike accommodations, the streets and paths that lead there should still provide bicyclists with a safe and comfortable approach to the station.

19. Local and regional bike networks should be connected with BART stations, marked with signage, and free of any barriers such as curbs and fences.

20. Bicycle parking at BART stations should be sheltered, well-lit, secure and highly visible.



Bike route at Walnut Creek BART

Taxi, Pick Up and Drop-Off Zones

Persons getting picked up and dropped off at BART by taxis or other drivers invariably seek to get as close to the station as possible. Providing space for this activity can be a challenge. This is where pedestrian, bus and automobile circulation is most intense and station area land the most valuable. Still, taxi and drop-off access to BART accommodates large volumes of customers more efficiently than drive-and-park access, and cab access is especially important for visitors unfamiliar with other modes. Consequently, safety and comfort for people waiting for cabs and rides are primary TOD concerns.

21. Taxi and pick-up/drop off areas should be signed, well-lit, close to and visible from the station entrance.

Automobile Parking for BART Customers

BART's Access Hierarchy prioritizes parking below pedestrian, transit and bike access. However, carpool and vanpool parking rate higher in the hierarchy than single-occupant vehicle parking, with closer faregate proximity used as an incentive to bring more riders per parking space to BART.

22. Carpool and vanpool parking should be located close to the faregates.

Parking facilities should be sited so that automobile traffic does not impair pedestrian circulation between the station and the surrounding community. This could involve siting garages outside the immediate station area where pedestrian activity is most intense. In fact, foot traffic along the pedestrian link between the garage and the station should be used to stimulate economic activity in the TOD.

23. Driveways serving parking garages and lots should avoid crossing main pedestrian circulation routes in the station area.

24. Parking facilities should “feed” pedestrians onto primary pedestrian routes and should be located to promote retail opportunity along these routes.

Parking garages are often the largest structures in a station area, and outside rush hour, the most “static.” While many station area buildings offer valuable casual surveillance over the station area, garages do not.

25. Parking garages should be designed to accommodate retail or other “active” uses, where viable, at the ground floor to improve the casual monitoring and appearance of the main pedestrian routes serving the area.

This garage in Walnut Creek includes retail space on the ground floor and an overall design that blends into its surroundings



BART parking garages and lots have regular, limited use patterns. In a vibrant TOD, demands for parking extend beyond the morning and evening rush hours to serve shopping, dining, entertainment and other recreational destinations for people who drive. This parking may be efficiently and even cost-effectively provided after-hours when BART has more available parking spaces, provided that the BART lot or garage is conveniently located to induce shared use with these other destinations.

26. BART parking facilities should be sized and located to enhance shared-use strategies with other station area destinations whose periods of demand complement BART's.

Using Pavement Efficiently

Streets and parking are land uses, consuming valuable property that could otherwise be developed to enhance the station area. To make the most efficient use of pavement, street space may be put to different uses at different times of day. For example, more street space may be needed to facilitate traffic during rush hour, so on-street parking may not be permitted. However, when curb lane traffic is light at midday, this space could be used to provide short-term commercial or residential parking in the station area. The presence of street parking can also help to buffer pedestrians from fast moving vehicles and enhance the walkability of the area.

27. Consider using traffic lanes as midday or temporary tow-away parking to buffer pedestrian traffic and to provide additional short-term parking for the station area.



On-street parking along the streets of downtown Berkeley near the BART Station help to buffer pedestrians from street traffic

28. Consult BART's "Parking Management Toolkit" for a variety of strategies to manage parking demand in the station area.

Planning Station Area Development

To capitalize on the extraordinary regional access that BART provides, station areas should be developed with a compact, walkable mix of residential, commercial and neighborhood-supporting land uses. The “right” mix for a station depends on the surrounding community’s needs and conditions, which are often already identified in an adopted *Specific Plan, Redevelopment Plan or Station Area Plan*. These Plans typically promote TOD backed by local consensus. Development proposals that demonstrate familiarity with such plans are more likely to receive broad community support and official approval.



When completed, the Fruitvale Transit Village will reflect an extensive collaboration between BART, the City of Oakland and the local community

Residential

Housing near BART stations helps to stimulate ridership and station area activity throughout the day and on weekends, making the area feel safer and more inviting to residents and visitors alike. Higher densities near BART stations can generate the riders needed to sustain high-quality service at a low cost, while allowing more residents direct access to BART. However, increasing density is not the same as increasing the quality of the TOD. The architectural character and scale of new development should harmonize with the existing buildings and should not detract from the overall appearance of the neighborhood.

New development in a station area should allow a wide variety of choices for living, ranging from apartments and studios to single-family homes, rental and ownership, all with the convenience of regional transit access next door. With TOD, this combination of housing choice with regional mobility can lower household transportation costs by reducing reliance on the car.

Residential density within a half-mile radius (500 acres) of the transit station should be high enough to support healthy ridership. In general, the residential density of the station area should be higher than that of the surrounding jurisdiction.

29. Suggested targets for minimum residential densities in the station area are:

Individual Project: 40 units (80-100 residents)/acre

Overall Station Area: 20 residents/gross acre



Hayward



Fruitvale



Castro Valley



Lafayette

People who do not want to buy or rent a parking space do not have many options in the Bay Area, where zoning regulations often require more than one parking space for each unit. As surveys reveal, “carless” housing is in demand for those who seek to reduce overall household expenses and to rely on public transportation. BART station areas are the ideal places for this type of housing choice.

30. Residential parking provisions should generally be lower in a BART TOD than in neighborhoods farther from BART.

Parking Requirements - Did You Know ?



Parking provisions can account for 20% of the cost of a typical apartment in Silicon Valley.



Each additional parking space provided per unit in a residential building reduces the overall number of units that could otherwise be provided by up to 25%.



Car sharing services in the Bay Area have shown that one shared vehicle replaces between five and six privately owned vehicles.



Charging employees for parking has been found to reduce demand by between 7% - 30%, depending on the charge and the availability of other transportation options.

facts provided by Nelson-Nygaard Consulting Assoc.

Commercial and Office

Commercial and office development contributes to both healthy BART ridership and a dynamic TOD, whether in the form of small-scale neighborhood services or large office centers. If a community seeks to develop a large office center, it should locate workplaces with the highest concentration of jobs as close to the station as possible.

31. The suggested target density for station area employment is a minimum of 10 jobs per gross acre.



Hotel and Offices at Pleasant Hill BART



Small Shops and Offices at Market Hall near Rockridge Station



City Center in Downtown Oakland



Walnut Creek's Office District

Employment centers near BART can generate ridership, but this tendency falls off exponentially as the distance from the station increases. Of additional importance is the orientation of the worksite itself: how well the entry relates to the transit station, how unobstructed that connection is, and how much preference is given in the building orientation to workers arriving by transit compared to those who drive.

32. The pedestrian connection from the workplace to the station faregates should be as short as possible, directly oriented toward the station and unobstructed by parking and landscaping.



Commuters leaving Montgomery Station in San Francisco are only steps away from the office towers of the Financial District

The most powerful incentive for commuters to drive cars is the abundant provision of parking. This provision also has a cost to the employer or developer. Developers can reduce the amount of land dedicated to parking and the cost of projects near BART stations compared to those at other locations, without sacrificing convenient, regional and reliable access.

33. Parking provisions for commercial uses in the station area should generally be lower than the provisions for commercial uses farther from BART.

Community Services

Community services are an important element in the station area's land use mix. These may include retail businesses such as grocery stores, public facilities such as libraries or schools, and social services such as child care. These neighborhood services are especially convenient when they can be reached without a car. Parking for these services should be designed so that truck and automobile traffic volumes conform with the overall transportation access hierarchy of the station area.



34. Community services in the TOD should be easily accessible for pedestrians and should support the primarily transit-oriented function of the station area.

Public Gathering Spaces



16th St. Plaza, San Francisco

People need public gathering space: parks, plazas, courtyards and sidewalks. These places are key to livability and help keep the BART station area vital. However, they can be a liability if they are not well-used: subject to littering, vandalism and undesirable activities. The design of a public space and the buildings around it must allow the space to be easily maintained and to feel safe through the casual surveillance of people looking on or passing by.

Gathering spaces should also be versatile, accommodating different activities and groups. Certain developments with open space requirements may be able to save costs by “borrowing” open space in lieu of acquiring their own. This may also reduce the costs of management by all parties involved while keeping the space active.

35. Public gathering spaces should be sited and designed to be active, versatile, secure and easily maintained.



4. Reconciling Station Area Activities

Transit-oriented development in the station area can create a unique place that encourages BART ridership. However, this development should not interfere with the basic and necessary functions of the BART station itself. Understanding these functions and the behavior and motivations of people moving through the area will aid site planning and land use decision-making.

These Guidelines define three different “zones of urgency” for typical BART station users, as follows:

Most Urgent: The Hectic Zone

Less Urgent: The In-Between Zone

Least Urgent: The Home Free Zone

These zones are not exclusive and all three usually overlap. They are defined partly by geography but even more by the intent and purpose of the people moving through them. They are meant to provide a general guide to behavior, since not all people will behave the same way in each zone.

The Hectic Zone

- All Paths That Connect Transit to Transit

This zone is all “business,” where people move from BART to BART, BART to bus (or shuttle or light rail), or from bus to bus. Many people will be running, distracted, fumbling with wallets, change and schedules, hoping to make some kind of connection they cannot control on either end and that will *not* wait for them. Other people will be in these areas for different reasons, possibly posing conflicts with fast-moving patrons trying to see clear to the connections or the overhead monitors. Given this busy environment, crosswalks, signs and signals should give priority to pedestrians.



36. Automobile traffic should not cross the Hectic Zone, but if it must, the lanes should be narrow enough and the curves tight enough to discourage fast driving and turning.

37. Pedestrians in the Hectic Zone should not be forced along meandering walkways when a direct path could be built between connections.

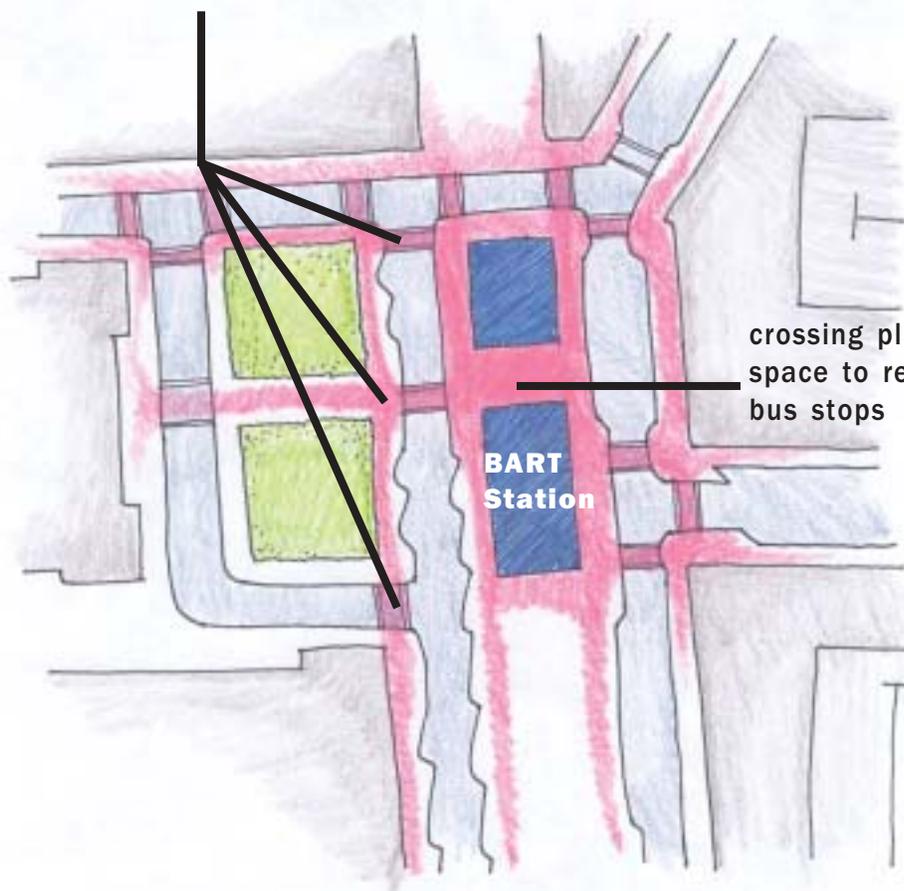
If pedestrians do not have a direct path, they will typically make their own shortcuts. Moreover, if connections between BART and buses or light rail are not direct and easy, ridership on both modes of transit will suffer. Bus-to-bus connections are also important. These connections should be short and immediate, with few or no steps/stairs/elevators or street crossings and obstructed sightlines. Good TOD exploits the station’s role as a primary transit node serving all transit riders in the area including those who may not be riding BART.

38. All bus and light rail stops connecting to the BART station in the Hectic Zone should be within sight and a short walking distance of each other.

The smaller this zone – the shorter and straighter the connecting distances – the better. People should be able to move quickly, safely and freely. The zone should also provide some refuge for people with other, less urgent purposes. Open space located here can and should accommodate both groups...providing, by the way, for some choice people-watching.

39. Activities in the Hectic Zone that introduce large queues, tripping or slipping hazards (such as moveable furniture or open beverages) should only be accommodated with ample space and sightlines to allow unimpeded circulation.

using sidewalks and crossings to make BART or bus connections



crossing plazas and open space to reach faregates or bus stops

The In-Between Zone

- On Pedestrian Paths from the Station
- At Bus / Light Rail / Shuttle Intermodal Transfer Area
- On BART Platform
- Between BART and Kiss-and-Ride Area
- Between BART and Cab Stand
- Between BART and Garage / Parking Areas

People in this zone no longer have the uncertainty in making their connection as they did in the Hectic Zone. Although they have yet to reach their final destination, they can and do take better stock of their surroundings. Pedestrians walking to work, home or their car and people waiting for buses, rides and cabs can relax a bit, and therefore they can more readily yield to other modes of traffic – buses, shuttles, cars, bikes – that might cross their path.

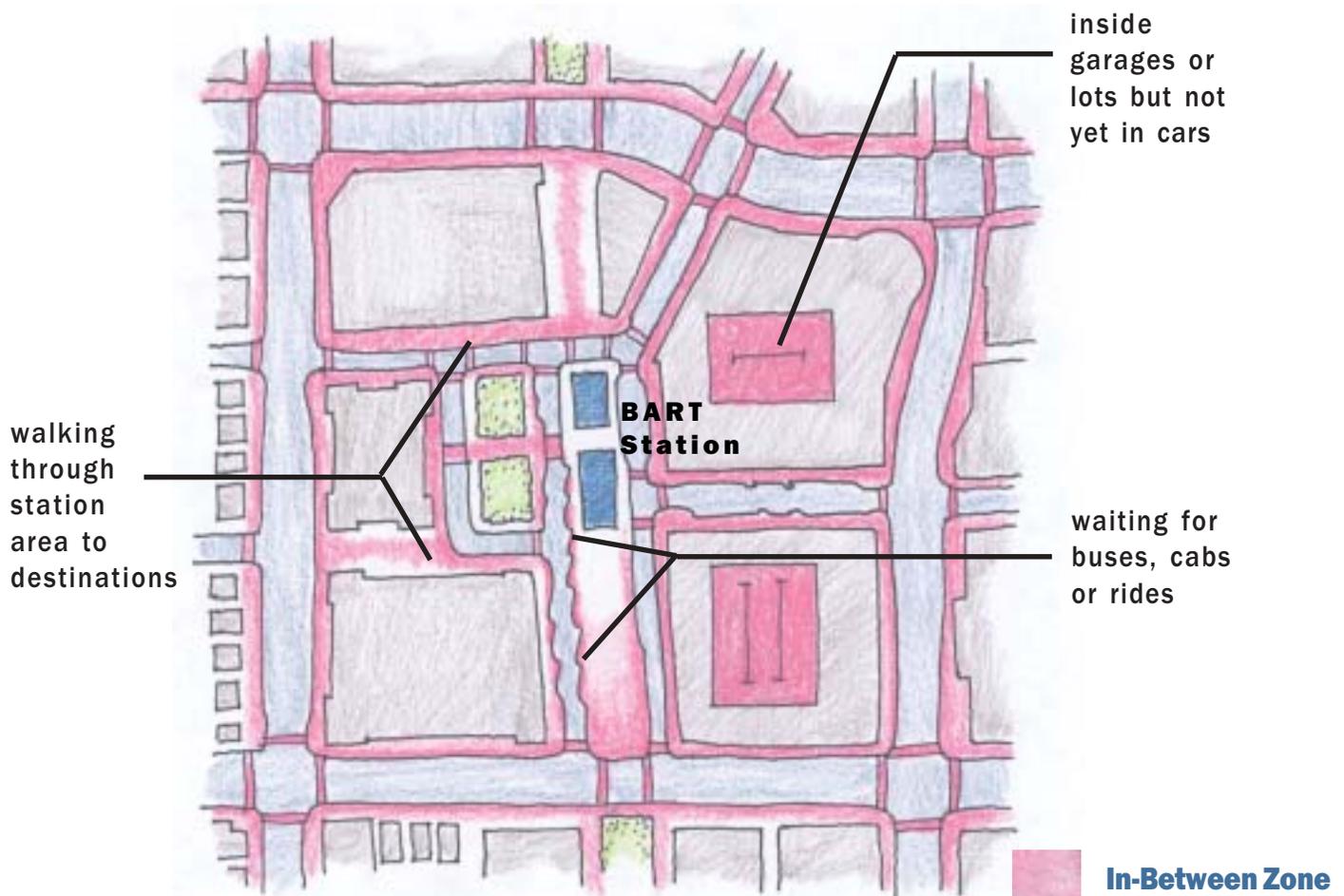
These areas allow for quick errands or purchases while walking or waiting. Awareness of time and arrival status is critical here: “real-time” information monitors could tell people waiting for buses if they have enough time to patronize nearby businesses. The display of goods, services and transit information must all work together to make this area succeed as more than just a transportation node. However, the essential function of bus loading zones, with the noise, vibration and exhaust from idling buses, should be considered in the site design and land use choices in this zone.



Because people in the In-Between Zone are waiting in one place for an extended time or are walking slower over greater distances, safety and comfort are also important concerns.

40. Sidewalks and waiting areas in the In-Between Zone should be well-lit and visible from surrounding building windows and doorways to enable casual monitoring by people in the station area.

These adjacent buildings can provide more station area vitality over a longer period of the day when they contain a mix of uses. Visibility and proximity to major activity areas and to authorities stationed there helps establish a greater sense of security.



The Home Free Zone

- On Clear Pedestrian Paths from Station to Destination
- In Taxi Cabs or Private Vehicles
- At Station Area (as Destination)

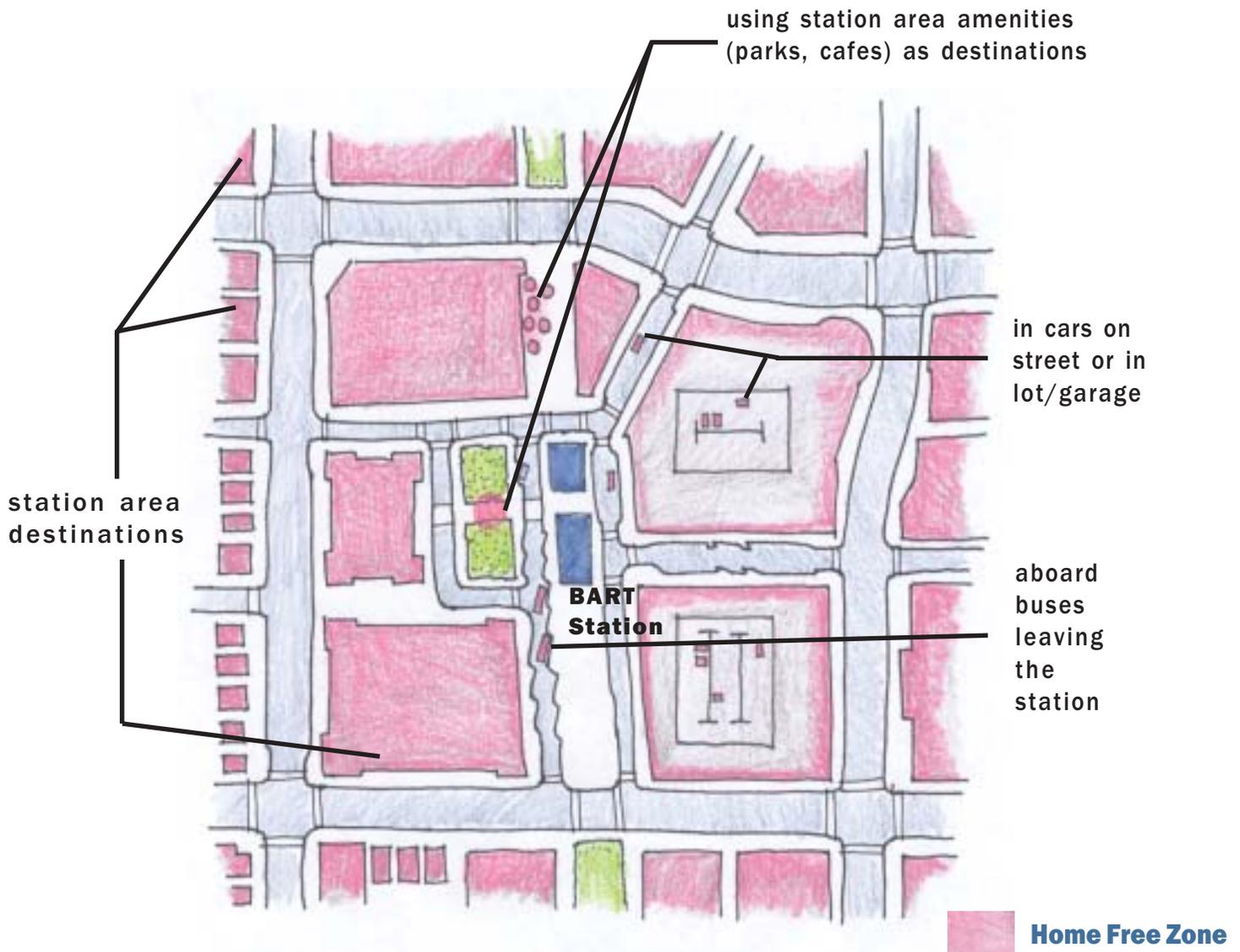
The Home Free Zone is where customers have near-complete control over the rest of their trip. Here, they have already gotten into cars or buses or have reached destinations such as homes, office buildings, cafes, or public spaces. Security concerns and feelings of vulnerability or exposure are no longer as strong here as they are in other zones.



Pedestrians using this zone can afford to move more slowly, and can be expected to mix more evenly with other types of traffic. However, driver or walker complacency and reduced awareness of surroundings and other people requires more careful design to avoid safety conflicts, particularly where this zone crosses other, more “urgent” zones.

41. Traffic calming and control devices should be used in the Home Free Zone to highlight these points of potential conflict and increase driver and walker awareness.

This area provides the best opportunity area for BART customers to patronize a wide variety of retail services, since there is no more “guess work” about the schedules and necessary connections that limit errand running.



5. Diagnosing Your Station Area

These Guidelines reflect the priorities that BART has developed from over 30 years of station area development. However, BART recognizes that the creation of successful TOD involves more than simply checking each guideline off a list. It is more accurately the outcome of an evolving conversation *informed by the Guidelines* between people who have an interest in the station area. The following exercises may help get this conversation started.

Begin by looking at the big picture:

- What types of development surround the station? Is it the densest area in the particular community? Is there a mixture of uses? Is the station area vibrant for most of the day?
- How do the station and its surroundings fit into the larger community?
- What unique natural or manmade features come to mind when you think of the station area? Does the station area incorporate them?
- Are there major new developments in the general area (housing, office complex, shopping center) that are *not* accessible by transit? If they were placed beside the station, what changes to the development would be needed to make this project “fit” better into the station area?

Now consider access to and from the BART Station:

- How do most people get to the station? Are other options easy to use?
- How directly does the pedestrian network connect major attractions with the station entrance? With other attractions in the area?
- Where the network crosses streets, how have potential conflicts between people and vehicles been addressed?
- What are street and parking conditions like at rush hour? During the midday or evening? Is the pavement used efficiently at all times?

Layer the *Hectic*, *In-Between* and *Home Free* zones over the station area. Now, accommodate the circulation functions and mark any overlap:

- How well do the zones function for the people in each one?
- What trade-offs can be made to improve circulation for the greatest number of people?
- Are the retail and other activity areas well sited and designed to attract and support the people in these zones?



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