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1. **VISION STATEMENT**

Station Areas shall provide access to transit and forge permanent connections to the local community to encourage development and densification around Station Areas.

2. **MODAL OVERVIEW**

Station Areas, including light rail, commuter rail, and heavy rail (BART), provide riders with a sense of permanence, and create a link between transit and the community. Station Areas also require capital costs to construct, operate, and maintain the station. Accordingly, for a station to be successful, it must be designed to meet the existing or anticipated daily ridership, and the unique needs of the community. Well placed and designed stations, with good multi-modal connectivity, direct and convenient access to adjacent communities, and transit-supportive land uses have the potential to generate high levels of transit use and function as centers for community activity and modes of development. Stations are attractive places that attract a variety of trip purposes throughout the day. Suburban Station Areas may be located around Park & Ride and Kiss & Ride facilities, whereas urban Station Areas often have little or no parking. Both suburban and urban Station Areas experience the highest ridership when located within walking distance to residential and/or commercial centers.

3. **PLANNING AND IMPLEMENTATION PROCESS**

The design, implementation, and operation of all Station Area service shall result from a comprehensive planning process. Prior to implementation all potential new lines or service changes will be subject to an initial planning study to determine the feasibility and structure, and identify the local commitments and funding necessary. The following Service Design Guidelines are part of this process for planning, designing, implementing, and monitoring new service. Specific steps to evaluate existing and proposed service are as follows:

**EXISTING SERVICE EVALUATION**
- Step 1 – Assess existing service versus established service standards
- Step 2 – Devise and implement Improvement Plan, if needed

**IMPLEMENTATION OF NEW SERVICE**
- Step 1 – Conduct market research and estimate ridership and revenue potential
- Step 2 – Establish station location
- Step 3 – Design Station and facilities
- Step 4 – Develop an operating plan and implementation schedule
- Step 5 – Monitor service performance (see Existing Station Evaluation)

4. **STATION AREA POLICIES**

4.1 **STATION PERFORMANCE STANDARDS**

Station Areas comprise a portion of the total capital cost investment and significant part of daily operating expenses. An under-used station impacts operating performance, as well as cost efficiency and farebox recovery; this is especially true for larger stations designed to handle high passenger and transfer volumes. Highly utilized stations can be considered for additional station amenities.
Boardings per station shall be used to evaluate existing and new Station Areas as shown in Table 1.

Boardings per station measures the number of daily weekday boardings at a given station and gauges how well a station is being utilized.

Standards are based on existing performance. At present, VTA’s LRT system services handles about 310 average daily boardings per station, Caltrain handles about 2,200, and BART is predicted to handle about 17,500 (based on 2030 projections for five potentially new stations from Fremont to Diridon), respectively. These standards will change as the average changes.

Policy Notes
- A new or proposed Station Area not meeting the boarding standard in Table 1 shall be subject to an Improvement Plan (IP) to increase ridership and to improve operating performance and efficiency.
- Station Areas that consistently perform below the noted standards may be subject to service changes that include:
  » Reducing service frequency or number of trips;
  » Shifting to peak hour operations;
  » Shortening service hours;
  » Skipping unproductive stations on certain trips or during certain time periods; and
  » Closing the station.
- Any service modifications shall be designed to comply with the performance standards.
- Station Areas consistently failing to meet boarding standards may still be warranted, on a case-by-case basis, if they provide:
  » Links to key transfer points and connecting routes;
  » Service to nearby hospitals and other social service facilities;
  » Service to other special trips generators such as schools, stadiums, malls; and

<table>
<thead>
<tr>
<th>Station Type</th>
<th>Weekday Ridership per Station</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing Station</td>
</tr>
<tr>
<td>Commuter Rail Station(^A)</td>
<td>2,200</td>
</tr>
<tr>
<td>LRT(^B)</td>
<td>310</td>
</tr>
<tr>
<td>BART(^C)</td>
<td>17,500</td>
</tr>
</tbody>
</table>

Table Notes
\(^A\) The existing standards is based on Caltrain’s current performance and the standard for comparable commuter rail systems with similar land use characteristics.

\(^B\) The existing standard is based on VTA’s current performance and the desire to improve daily utilization of less patronized stations. New standards are based on peer review of other LRT systems with similar land use characteristics in the country.

\(^C\) BART performance from Fremont to Diridon Station is based on projected 2030 ridership for the five station extension. This standard shall also meet or exceed ridership thresholds per station as established by the BART Expansion Policy.
Service to new or proposed developments with high potential for transit use.

• LRT Station Areas that are partially or fully privately funded (i.e., not by VTA) may be subject to relaxed standards upon agreement between VTA and the private funding source. All requests for privately funded stations shall be subject to a technical analysis to understand the travel time and other impacts to transit operations.

4.2 MARKET RESEARCH AND RIDERSHIP/REVENUE FORECASTS

Prior to the implementation or placement of a new Station Area, VTA shall undertake market research to comprehend market needs and ridership potential. The steps shall be to identify:

• Major trip generators and origin and destination patterns within the community.

• Type of infrastructure improvements needed.

• Optimal routing and station service design characteristics (i.e. acceptable travel times, type of vehicles, service span, and days of operations).

• Potential locations along the route that generate maximum ridership and revenues.

Even though a market may exist for a given route, the performance may not be sufficient to satisfy VTA standards as given in Table 1. Thus, VTA shall conduct ridership and revenue analyses at potential new Station Areas to assure they meet existing standards. In addition, the analyses will help to identify potential Station Areas that generate maximum ridership and revenues. Considerations in these analyses are as follows:

• Ridership estimates shall be developed through a comprehensive planning process using VTA’s Countywide Transportation Model, Transit Service Planning Tool (TSP), and other Direct Demand Models. Local jurisdictions shall have access to these tools through the Improvement Plan Process.

• Revenue projections shall assume that fares will be consistent with the rail operator’s fare policy.

4.3 STATION AREA IMPROVEMENT PLAN

An Improvement Plan (IP) may be developed for those Station Areas that do not meet Table 1 standards to incrementally improve transit ridership and therefore operating efficiency and productivity. This is part of the planning and evaluation process and shall occur prior to implementation of any service changes or route modifications.

In instances where an IP is not desirable or practical, provisions for service reduction and/or service modifications shall be considered. IP shall include station recommendations for: (i) Land Use Policies; (ii) Urban Design; (iii) transit facilities; and (iv) local jurisdictions efforts with Community Outreach to promote station usage.

The following sections identify actions that local jurisdictions and rail operators can make as part of the IP process.

4.3.1 LOCAL JURISDICTION ACTIONS

It is VTA’s goal that local jurisdictions will work with VTA to go beyond these minimum standards and work collaboratively to make Station Areas more transit supportive through well designed mixed use, higher density land uses and development. The primary mechanism for achieving this goal is through the Community Design and Transportation (CDT) Program and Station Area development plans. Land use, urban design,
physical improvements, and community outreach actions agencies can take to enhance station areas are discussed in following sections.

LAND USE POLICIES

There is a reciprocal relationship between diverse, higher-density land uses and transit ridership. These factors are primary inputs to ridership estimation models. Land use policies that encourage denser mixed-use developments built to a pedestrian scale are much more likely to generate transit riders than dispersed communities that are designed around travel by the personal car. Actions to promote densification and mixed use may include:

- Adopting land use plans, zoning, and strategies that promote higher density and mixed use development.
- Developing transit-oriented development (TOD) design guidelines.
- Develop specific plan overlays, corridor plans, and pedestrian-oriented design.

Table 2 summarizes residential and commercial land use policies and urban design recommendations around Station Areas.

LRT and Commuter Station Areas share similar densities requirements and have similar land use forms. These optimal densities are derived from the CDT Manual and industry research. The CDT Manual establishes recommended densities around stations for residential (in terms of Dwelling Units per Acre — DUA) and commercial (in terms of Floor Area Ratio — FAR) development to promote conditions to facilitate transit utilization.

<table>
<thead>
<tr>
<th>Urban Design Guidelines</th>
<th>Land Use</th>
<th>Ideal Service Area/Points</th>
<th>Transit Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pedestrian connectivity</td>
<td>• Higher density residential</td>
<td>• Higher density residential</td>
<td>• TOD policies/overlay zones</td>
</tr>
<tr>
<td>• Building orientation</td>
<td>• Higher density commercial</td>
<td>• Higher density mixed use</td>
<td>• TOD design guidelines</td>
</tr>
<tr>
<td>• Street patterns</td>
<td>• Mixed use</td>
<td>• Employment nodes</td>
<td>• Specific Plan overlay</td>
</tr>
<tr>
<td>• Station access</td>
<td>• Employment nodes</td>
<td>• Pedestrian oriented</td>
<td>• General Plan policies</td>
</tr>
<tr>
<td>• Site landscaping</td>
<td></td>
<td></td>
<td>• Station Area Plans</td>
</tr>
<tr>
<td>• Streetscape character</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reduced parking requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Public open spaces/plazas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Building form and scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sense of place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Community identity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Security and safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Station amenities</td>
<td></td>
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</tr>
</tbody>
</table>
For the purpose of the SDG Station Area densities have been broken into three types:

- **Minimum Densities** – Areas meeting the minimum densities shall be considered for a Station Area, if agencies have prepared a phased approach to increase density, development, and land use around a station.

- **Target Densities** – Station Areas meeting the target densities shall be considered suitable for Station Areas.

- **Preferred Densities** – Station Areas meeting the preferred densities shall be given the highest priority for Station Areas.

Table 3 and Table 4 summarize recommended residential and commercial density targets around new Station Area.

**Land Use Policy Notes**

- Recommended minimum densities and FARs do not apply to Station Areas that are funded by a non-VTA source, at stations that serve specific social functions, such as serving hospitals, schools, and key transfer or intermodal areas.

- These standards may be kept in place until Station Area usage increases enough from

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**Table 3** Residential Density Targets around New Commuter Rail & LRT Stations

<table>
<thead>
<tr>
<th></th>
<th>Target New Residential Project Density (DUA – within 1/3 mile of rail station)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Regional Commuter Rail/LRT Station</td>
<td>20</td>
</tr>
<tr>
<td>Local Commuter Rail/LRT Station</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table Notes**

- <sup>A</sup> Source: City of Portland Bureau of Planning (for Portland TriMet), 2006.

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**Table 4** Commercial Density Targets around New Commuter Rail & LRT Stations

<table>
<thead>
<tr>
<th></th>
<th>Target Floor Area Ratios for New Projects (FARs – within 1/3 mile of rail station)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Regional Commuter Rail/LRT Station</td>
<td>2</td>
</tr>
<tr>
<td>Local Commuter Rail/LRT Station</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Table Notes**

- <sup>A</sup> Source: City of Portland Bureau of Planning (for Portland TriMet), 2006.
- <sup>B</sup> Interpolated.
further development and TOD supportive policies/ measures to exceed noted performance standards.

• For Station Areas requiring an Improvement Plan (IP), explicit policy language and/or approved plans that encourage residential and commercial densities around the station shall be prepared and provided by VTA.

URBAN DESIGN

Integrating transit/pedestrian-oriented urban design practices around Station Areas is critical for transit riders to feel comfortable making last-mile connections from the station to their destination. In the IP, potential urban design improvements that local jurisdictions can undertake can include but are not limited to the following:¹

• **Pedestrian and Bicycle Access Enhancements.** This may include the provision of contiguous sidewalk and bicycle lanes on both sides of the street, as well as the removal of barriers that prohibit pedestrian and bicycle traffic from accessing surrounding Station Areas, and safety enhancements that facilitate station access and track crossings.

• ** Appropriately Designed and Sited Parking.** An appropriate parking supply is necessary based on the rider profile and demand for service, although parking facilities need to assure that pedestrian and bicycle access is unimpeded to both the transit station and surrounding destinations. The design and location of parking facilities must also assure that transit operations are not disrupted.

• **Creation of Origin-Destination Pairs.** High-quality mixed-use developments along a corridor can encourage transit use as well as encourage additional transit-supportive development. Figures 1 and 2 provide an example of the density around a Caltrain Station.

• **Site plans and Build Architecture.** Sound planning and a focus on architecture around Station Areas improve the attractiveness and accessibility to the stations from surrounding areas. Examples include moving parking to behind the building and allowing building entrances to face the arterial street.

PHYSICAL IMPROVEMENTS

Various physical measures can be undertaken to improve transit travel speeds and reliability along a corridor, as well as improve transit usage. Local jurisdictions can work with VTA to provide transit-preferential ROW treatments and implement policies and projects that improve transit speeds and increase service efficiency.

Physical Improvements Policy Notes

Within the IP, local jurisdictions shall identify physical and policy actions needed to implement and achieve the desired transit level-of-service. Measures may include the following:

• Providing adequate ROW for stations and multimodal transfer stations.

• Providing sufficient sidewalk width for new Station Areas that is compliant with ADA requirements. Figure 3 shows an example of a wide sidewalk to accommodate high pedestrian volumes that meets ADA requirements.

• Establishing or raising parking fees in urban cores to encourage transit usage.

• Reducing the parking supply, capping the parking capacity, or instituting parking

¹ The CDT Manual provides a comprehensive set of improvements for the last mile from the transit stations (Appendix D).
Figure 1 Higher Density Transit-Oriented Development around a Station Area (Caltrain and LRT at Diridon Station)

Figure 2 The Crossings Development near Caltrain’s San Antonio Station
charges along a corridor, in key areas, or at select stations to encourage commuters to use public transit and to encourage higher intensity development nearby.

COMMUNITY OUTREACH ACTIONS

In addition to the improvements mentioned previously, local jurisdictions can actively promote and support transit through community outreach efforts. These may include:

• Offering free trial and tourist passes.
• Conducting transit-specific marketing/branding campaigns.
• Providing access to commuter/transit information and other useful promotional materials in their communities.
• Building partnerships with area associations (such as downtown business associations) to promote transit ridership.
• Providing funding for connecting shuttles.

4.3.2 RAIL OPERATOR EFFORTS

The rail operator can improve and modify service to better meet corridor and Station Area performance targets. For Station Areas failing to meet the performance standards, the operator can:

• Introduce peak hour service only for stations with a disproportionate peak to off-peak ridership.
• Reduce service hours, particularly in the off-peak.
• Reduce frequency (peak and/or off-peak depending on circumstances) or number of trips.
• Introduce skip stop service to bypass unproductive stations on scheduled runs, particularly during the off-peak.
• Temporarily close particularly unproductive segments or stations.
4.4 BART STATION AREAS

The planning for BART Station Areas shall be guided by VTA’s Transit Sustainability Policy (TSP) and Service Design Guidelines (SDG), VTA’s CDT manual, BART’s Expansion Policy, and MTC’s TOD (2006) policy. These documents will help to establish minimum average daily boarding and land use standards. Similar to the cases for commuter rail and LRT stations, VTA’s goal is that local jurisdictions shall work with VTA to exceed these minimum standards and work collaboratively to make BART Station Areas thriving centers of diverse activities offering a mixture and range of uses such as housing, jobs, shopping and recreation, and urban services.

Minimum standards that may be referenced in this process include those shown in Table 5.

5. STATION AREA LOCATIONS

The location, functionality, safety, and visual appearance of Station Areas are critical to attracting and maintaining transit riders in any location. Accordingly, when there are competing proposals for new stations that have similar characteristics (e.g. ridership, operations), agencies that can show they are proactively working to improve the public perception of transit and access to Station Areas shall receive priority considerations.

LRT station placement guidelines shall be as follows:

- LRT stations shall typically be located every 0.75–1.00 mile.
- ROW for LRT stations must be wide enough to accommodate bi-directional tracks and a wide loading platform to deal with simultaneously arriving vehicles.
- Specific station placement shall be based on planning studies that specify the location of key activity generators along the corridor and/or demand at particular locations along the corridor.
- Station Areas shall be located in close walking distance to (if not directly serving) major trip generators, such as civic and employment centers, mixed-use districts and high-density residential areas, colleges and universities, shopping centers.
- Station usage forecasts shall satisfy minimum ridership for new Station Areas from Table 1.

<table>
<thead>
<tr>
<th>Table 5 Various Standards for BART Station Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Document/Policy</strong></td>
</tr>
<tr>
<td>CDT Manual</td>
</tr>
<tr>
<td>MTC Policy</td>
</tr>
<tr>
<td>BART Expansion Policy</td>
</tr>
<tr>
<td>BART Expansion Policy</td>
</tr>
</tbody>
</table>
• Specific location of a Station Area shall depend on surrounding safety conditions and physical constraints.

• Stations shall be provided in locations with sufficient right-of-way for related facilities and amenities, including passenger shelters, benches, lighting, poles, informational signage, and trash receptacles.

• Station location shall allow for full ADA compliance.

Commuter rail station placement guidelines shall be as follows:

• Commuter rail Station Areas are typically located from one mile to several miles apart, depending on the demand profile and type of vehicle provided.

• Commuter rail station length must be designed to accommodate long platforms.

• Specific station placement shall be based on planning studies that specify the location of key activity generators along the corridor and/or demand at particular locations along the corridor.

• Stations shall be located in close walking distance to (if not directly serving) major trip generators such as civic and employment centers, mixed-use districts and high-density residential areas, colleges and universities, shopping centers, etc.

• Stations shall be placed at locations with potential for development and densification to encourage transit usage.

• Station usage forecasts shall satisfy minimum ridership for new stations from Table 1.

• Specific location of a Station Area shall depend on surrounding safety conditions and physical constraints.

• Stations shall be provided in locations with sufficient right-of-way for related facilities and amenities, including passenger shelters, benches, lighting, poles, informational signage, and trash receptacles.

• Station location shall allow for full ADA compliance.

6. STATION AREA AND FACILITIES DESIGN

The physical design of Station Areas (including platform length and width, location of vertical transport, shelters, information signs, ticket machines) is based on, among other aspects:

• Expected travel demand during the peak.

• Maximum operable length of trains serving the station.

• Role of the station in the network (whether it is a origin/destination, terminal, or transfer station).

• Level of connectivity to other transit modes.

• Surrounding development and community themes.

• Potential for station expansion and growth.

All design elements must at a minimum meet the criteria for its respective operator (e.g. Caltrain or ACE).

Recommended guidelines for Station Area and facility design are detailed in Table 6.
### Table 6 Recommended Rail Station and Facility Design Guidelines

<table>
<thead>
<tr>
<th>Station and Facility Design Element</th>
<th>Recommended Characteristics for Rail Stations</th>
</tr>
</thead>
</table>
| Shelter Design and Related Amenities | • Station Areas shall have typical amenities such as shelters in both directions, benches, static and real-time passenger information panels, passenger signage, ticket machines (LRT and commuter rail systems typically adopt proof-of-payment instead of closed fare systems with turnstiles), ADA accessible ramps, and other typical amenities.  
  • LRT station amenities are typically more robust than local commuter rail station amenities due to accumulating passenger loads and service frequency (this is not typically the case, however, for regional commuter rail stations). This may mean larger shelters, more seating, and more advanced real-time passenger information. Figure 4 shows an LRT station with more robust and enhanced amenities and facilities, whereas Figure 5 shows a typical local commuter rail station with very basic passenger amenities.  
  • Shelters shall be designed to: (i) match with surrounding land uses and architectural design features to reflect the unique character and features of the community; (ii) provide appropriate transit information to passengers; and (iii) be oriented towards pedestrian movements and accessibility.  
  • Shelters shall be designed to meet all ADA requirements.  
  • Shelters shall be designed to meet peak loading volumes in both directions.  
  • Bicycle parking is required at all stations per VTA’s adopted Bicycle Plan. Bike rack and locker design, placement and number of racks shall comply with the Bicycle Technical Guidelines. |
| Platform Designs | • Commuter rail stations can have uni-directional or bi-directional stations, depending on the demand and service frequency. On lower frequency lines, uni-directional stations are employed to lower capital costs.  
  • LRT stations are typically bi-directional stations, permitting center or side boarding. In cases where bi-directional platforms are not possible (with a narrow road, for instance), directional stations shall be offset, so long as safe operations can be maintained and pedestrian access is not compromised. Figure 6 shows a typical bi-directional LRT station.  
  • Platforms shall be sufficiently long to accommodate the peak train consist.  
  • Commuter rail station platforms shall be 700 feet long, while LRT station platforms shall be 300 feet long. Figure 7 shows the typical long loading platform at commuter rail stations.  
  • LRT stations require a wider platform width than Commuter Rail stations.  
  • Platforms shall be wide and spacious enough for peak passenger flows and queues.  
  • Platforms shall provide level boarding. |
Table 6 Recommended Rail Station and Facility Design Guidelines (continued)

<table>
<thead>
<tr>
<th>Station and Facility Design Element</th>
<th>Recommended Characteristics for Rail Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Facilities</td>
<td>• Station Areas shall be physically integrated with nearby major transit facilities to the extent possible to facilitate transfers and provide directional connections. Figure 8 shows the Millbrae Station, which is served by BART, commuter rail, and local bus services.</td>
</tr>
<tr>
<td></td>
<td>• Station Areas shall possess appropriate facilities for at-station transfers among local bus, BRT, LRT, commuter rail, and heavy rail services. This may include:</td>
</tr>
<tr>
<td></td>
<td>» Appropriate signage and transfer information.</td>
</tr>
<tr>
<td></td>
<td>» Pedestrian crossings, transfer corridors, and walking paths.</td>
</tr>
<tr>
<td></td>
<td>» Passenger queuing areas.</td>
</tr>
<tr>
<td></td>
<td>» Loading/unloading curb space for buses.</td>
</tr>
<tr>
<td></td>
<td>» Layover bays.</td>
</tr>
<tr>
<td>Accessibility and Urban Design</td>
<td>• Station Areas shall be well integrated into the community with supporting high density mixed land uses within ¼ to ½ mile around the station.</td>
</tr>
<tr>
<td></td>
<td>• Station Areas shall have transit-friendly developments, built to a pedestrian scale with well-designed buildings, continuous pathways, and pedestrian-scale amenities such as lighting and landscaping.</td>
</tr>
<tr>
<td></td>
<td>• Station Areas shall have direct pedestrian and bicycle links to nearby communities.</td>
</tr>
<tr>
<td></td>
<td>• Station Areas shall have sufficient facilities to meet Park and Ride demand at suburban stations where there is/are: (i) available space or accommodations (such as shared use agreements) for parking spaces; (ii) appropriate access roads; and (iii) demand for auto trips.</td>
</tr>
<tr>
<td></td>
<td>• Suburban stations where there are physical constraints preventing implementation of Park &amp; Ride facilities but have sufficient demand shall install Kiss &amp; Ride facilities at stations where there is/are: (i) available curbspace and sidewalk width for pickup and dropoff zones; (ii) appropriate access roads; and (iii) demand for auto trips.</td>
</tr>
<tr>
<td></td>
<td>• Parking provision shall complement station activities and not impede pedestrian or transit operations.</td>
</tr>
</tbody>
</table>

7. GUIDELINES FOR ADDING A TRAIN STATION

Light Rail Station Approvals. For adding a station requested by a project sponsor, the project sponsor must secure local government approvals and reach the consensus of political entities within the jurisdiction of the station location. VTA will then evaluate the benefits of adding the station relative to the impacts to operations and existing riders.

Commuter Rail Station Approvals. Approval for construction of new stations must meet Caltrain’s Design Guidelines.
Funding. The local jurisdiction or sponsor must provide 100% of the funding including the station.

A summary of key LRT and Caltrain requirements are summarized below.

Light Rail Stations:
- In general, stations shall be located every 0.75 to 1.0 mile. Specific station placement shall be based on planning studies that identify the location of key activity generators along the corridor and/or demand at particular locations along the corridor.
- Stations shall be located in close walking distance to (if not directly serving) major trip generators, such as civic and employment centers, downtown business districts, mixed-use districts and high-density residential areas, colleges and universities, and shopping centers.
- Stations shall be placed at locations with potential for development and densification to encourage transit usage.
- Station usage forecasts shall satisfy minimum ridership for new Station Areas as outlined in Table 1.
- Specific station locations shall depend on surrounding safety conditions and physical constraints.
- Where a station is to be located at an intersection with transit signal priority (TSP), the stops shall always be located at the far side.
- Station Areas shall be provided in locations with sufficient right-of-way for related facilities and amenities, including passenger shelters, benches, lighting, poles, informational signage, and trash receptacles.
- Station Areas shall allow for full ADA compliance.

Commuter Rail Stations:
- Platform length shall be 700 feet to accommodate a six car-train.
- When possible station platforms should be located on the side of the tracks directly opposite each other or a single central platform that serves both tracks.

Figure 4 LRT Stations Typically Have More Robust Facilities than Local Commuter Rail Stations

Figure 5 Local Commuter Rail Stations Typically Have More Basic Facilities
Station platforms shall be located at least 100 feet from the nearest road crossing to prevent trains from blocking the intersection.

Station platforms shall have canopies covering at a minimum 30% of the platform length (not including coverage for ticket vending machine). Canopies shall be at various locations along the length of the track to allow for dispersed customer boarding.

Station platforms shall have at least two ticket vending machines and one stand-alone validator per platform. Figure 9 provides an example of Caltrain’s ticket-vending machine. The machines shall be provided under a shelter and located within a minimum of 14 feet from the track.

Transit-oriented development (TOD) around transit stations shall be pursued wherever opportunities exist. Figure 10 shows an example where a Caltrain station is well integrated with the surrounding community.

Stations shall have passenger information available on the platform that includes a visual message sign, public address system, and public information display case with train schedule, system map, and advisory bulletin.

Bicycle racks and lockers shall be placed near, but not on, station platforms.

Simple, obvious, and comfortable pedestrian access and circulation to and from station entrances, parking lots, and across train platforms shall be provided.

Grade separated pedestrian access to platforms is preferred; however, at-grade crossings at the end of the platform may be allowed if it will improve station circulation.

Trash receptacles shall be placed at each canopy, bench, and platform entrance.

Stations shall have adequate lighting throughout the platform.
• Stations shall be located in a safe and convenient location that allows for inter-modal connections.

• Fencing shall be installed around the station right-of-way and in the case of two or more tracks, in the center of the tracks to prevent unsafe crossings.

• Stations locations shall allow for full ADA compliance. In addition, the station shall have a ‘Boarding Assistance Area’ equipped with a bench, canopy, and wheelchair lift.
Figure 10 Rail Stations Should Be Well Integrated with and Accessible to the Nearby Community
8. OPERATING PLAN

An operating plan describes how a particular transit service or station shall operate. It includes specifics on how the station operates within the system, such as the span of service, the station spacing, and track configuration. Table 7 details the proposed operating plan for new Station Areas.

9. SPECIALIZED BRANDING/MARKETING

Station Areas shall be branded according to traditional color schemes and logos.

### Table 7 Rail Station Operating Plan Details

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Station Area Operating Plan Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span of Service</td>
<td>6:00 AM to 10:00 PM (may differ according to demand and may only operate in the peak period or direction).</td>
</tr>
<tr>
<td>Operating Period</td>
<td>Monday through Sunday</td>
</tr>
<tr>
<td>Station Spacing&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Commuter Rail: 1.0 + miles</td>
</tr>
<tr>
<td></td>
<td>LRT: 0.75 to 1.0 miles</td>
</tr>
<tr>
<td>Rail Station</td>
<td>Performance pursuant to the policies outlined in the CDT Manual and local jurisdiction agreements.</td>
</tr>
</tbody>
</table>

Table Note:

<sup>a</sup> Specific spacing depends on trip generator location and available land space.