

## APPENDIX

### **Key Principles of Building Healthy Communities (summarized).**

Burden, Dan. "Building Communities with Transportation." Distinguished Lecture Presentation. Transportation Research Board. Washington, D.C. January 10, 2001

- 1) **Build for Everyone.** The health of a place is determined both by numbers of users, and by the diversity of people coming and going, lingering and exchanging. Urban centers should have many young children and teenagers present. Many older adults and disabled people should be common.
- 2) **Scale For People.** People should be able to reach most primary destinations within a five-minute walk. It should be possible to get completely across the entire area in 10 minutes.
- 3) **Create Many Linkages.** Make it easy to get around. New streets should be kept short, 400 to 600 feet long. By keeping block lengths short, as well, traffic speeds are also held in check.
- 4) **Streets have multiple uses.** Both main streets and neighborhood roads serve as "outdoor living rooms." One of the greatest challenges to any town or city is identifying, funding, and bringing together a coalition of stakeholders to revive decaying and unhealthy streets."
- 5) **Sidewalks Must Be Comfortable.** Sidewalks need adequate width, buffers, continuity, connectivity and edges. Sidewalks cannot be narrow. Sidewalks require buffers and edges. Sidewalks require maintenance.
- 6) **Streets must be crossed with ease.** Pedestrians seek means to cross streets without going more than 150 feet out of the way.
- 7) **Keep Urban Traffic Dispersed and Low Speed.** A general reduction in quality of life and property value has resulted from overly high urban traffic speeds.
- 8) **Keep Traffic Moving.** Motorists are less bothered by speed at which they travel than the numbers of times they must stop and wait.
- 9) **Build Green Streets.** Pedestrians have great need for green, shade and ambiance.
- 10) **Build Bike Lanes.** Bike lanes are an essential component of healthy streets.
- 11) **Build Compact Intersections.** Make them easy and safe to cross for pedestrians. They should be compact and produce low turning speeds.
- 12) **Provide ADA Access.** Not only a U.S. Civil Act requirement; it is the best way to meet the needs of all people of all abilities.
- 13) **Build Public Space.** All humans seek, crave and need places near their work and living quarters offering pleasant settings for interaction and storehouses of events and memories. These places can be simple, such as well-designed corners, intersections, or they can be elaborate centrally located parks. Public space is where we celebrate being alive; share anniversaries and birthdays, assemble for neighborhood or town festivals.
- 14) **Build with Proper Size and Scale.** New, mixed-use neighborhoods are designed to capture many daily trips, using the concept of the corner store, the friendly barber, the small, well-managed hardware. Of greatest importance is sensitive placement and sizing of schools and community centers.
- 15) **Provide Mixed Uses and Mixed Incomes.** New neighborhood designs mix shopping, residential, play and even many work centers. People of various income levels live in different sized homes through careful site planning. The added diversity and ability of people to live in cosmopolitan neighborhoods, where everyone has access and the ability to go places and do things is vital to a walkable setting and healthy community.

## Ten Common Sense Rules for Transit Oriented Development

Liedstrand, B. "Ten Common Sense Rules for Transit-Oriented Development."  
Planetizen [www.planetizen.com/node/17471](http://www.planetizen.com/node/17471) Online. Viewed January 13, 2006.

Many people don't have a clear understanding of the fundamental elements of Transit Oriented Development. These Ten Common Sense Rules can help.

1. **Urban Form.** Transit Oriented Development (TOD) must have an urban, rather than a suburban pattern of development. A TOD isn't just a denser suburban mixed use that is located at a transit stop. It is a different kind of a place; a different development pattern governed by a different set of rules. Generally, suburban forms are "loose", horizontal and spread out, and urban forms are "tight", vertical and compact. Here are a couple of examples from recent California TODs, only one of which is successful:
2. **Urban Uses.** The uses in the area immediately adjacent to the transit stop should be limited to those that are compatible with and supportive of the transit stop and those living and working there. What products and services are needed by the people who live and work in the TOD and those who are passing through? In addition to normal downtown retail, is there a need for day care, cleaners, convenience retail, etc.? Large automobile oriented uses, particularly those that draw from a large catchment area (big box, auto dealers, power center tenants, etc.) should be prohibited.
3. **Urban Intensity.** Sufficient development intensity must be clustered immediately adjacent to the transit stop. The vitality and success of the TOD are dependent on having enough people using it at all hours of the day. If you are not sure how many people are needed, put in too many rather than too few.
4. **Mixed-Use.** Allowing people to live, work, shop and play within the walkable area. If you live or work there, can you find everything you need on a regular basis without getting into a car?
5. **Retail Location.** Retail is dependent on access to enough customers, whether they come by train, bus, car, bike or on foot. Don't try to force retail into a location that won't give it that necessary customer access. Where possible, the retail should be placed so it is able to draw customers from both the TOD and a major street.
6. **Reverse the normal parking rules.** Instead of worrying whether there will be enough parking, make sure there is not too much. You may need parking maximums instead of parking minimums. Don't surround the transit stop with parking. That area is reserved for high density mixed use. If the commuters who use the transit for "park and ride" park a few blocks away and walk on the sidewalk past the retail shop fronts, they become potential customers for the retail. If land values justify it, put the parking in structures or underground. At-grade parking lots adjacent to the transit stop can destroy a TOD.
7. **Walkability.** Everyone who gets on or off public transit is a pedestrian regardless of how they get to the area. Comfortable, convenient walkability is essential. Before a TOD plan is approved, imagine yourself walking in it. Are the important destinations within a comfortable walking distance? Can you get all the products and services you need on a regular basis by walking? Will kids be safe there? Will a woman feel comfortable walking there alone at night?
8. **Transit Connectivity.** The transit stop needs to give the rider access to a convenient, integrated regional transit system that will connect him or her to the important destinations throughout the region. That integrated system needs to include coordinated feeder systems as well as main line systems.
9. **Neighborhood Connectivity.** The transit stop needs to be connected by a network of streets and pathways to adjacent neighborhoods and allow direct access to the transit stop without relying on the arterial street system. Convenient, easy flow of people from adjacent neighborhoods will add to the success of the TOD.
10. **Value Capture.** Transit is expensive to construct, but adding transit can substantially increase the value of adjacent properties that are served by the transit. A portion of that increase in property values needs to be captured and used to help fund the transit.

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### **Rail-Oriented Development: Strategies and Tools to Support Passenger Rail.**

Charlier, J., Jacobsen, M., Hernandez, C., Herman, B., Ellis, L., "Rail-Oriented Development: Strategies and Tools to Support Passenger Rail." Colorado Department of Transportation, March 2002.

Other studies have refined our understanding of pedestrian-oriented design, to the extent that a fairly detailed list of pedestrian planning and design principles can be articulated.

1. Direct, convenient on-site walkway grid connecting all portals on the site.
2. On-site pedestrian grid has a grain (connection spacing) of 200' or less.
3. Direct sidewalk connections to the external sidewalk grid at safe, convenient points.
4. Sight lines, view planes and orienting landmarks provided to support visual wayfinding.
5. On-site sidewalk widths are adequate for social use (6' to 20' depending on type).
6. Internal pedestrian plazas provided to create "places" and tie buildings and uses together.
7. Direct, continuous, buffered sidewalks across any large parking areas.
8. No parking barriers to major cross-site walkways or sidewalks.
9. Needs of disabled and physically challenged travelers are fully addressed.
10. External sidewalks are buffered from streets with a landscaping strip or on-street parking.
11. On-site driveways and adjacent streets provided with modern crosswalks.
12. Curb cuts and ramps cut at 90° to the roadway with adequate width and landings.
13. Canopies, awnings and arcades used to provide shelter from sun and rain.
14. Wayfinding information provided at key pedestrian intersections.
15. Appropriate furniture and lighting on major walkways.

Finally, it is clear that pedestrian-oriented design is of significance primarily within the station catchment areas of urban and suburban light rail lines. It is also important, although somewhat less so, in the catchment areas of commuter rail stations. However, pedestrian-oriented design is of little importance in suburban and rural park-and-ride facilities that are isolated from other land uses.

### **Ten Rules of Thumb for Designing Sustainable Streets**

Renne, J., Porta, S., "Linking urban design to sustainability: formal indicators of social urban sustainability field research in Perth, Western Australia." URBAN DESIGN International, 2005.

- 1) Design streets as narrow as possible (to accommodate the pedestrian over the automobile).
- 2) Do not isolate buildings (especially institutional buildings) in lots; buildings should line the streets.
- 3) Do not allow setbacks: building fronts should be as continuous as possible along the street.
- 4) Make many small buildings instead of a few large ones.
- 5) Design retail at the ground floor wherever possible.
- 6) Avoid parking lots: on-street parking is better, provided that retail is located at the ground floor facing the street and the façade of the parking deck is disguised to blend into the architectural environment.
- 7) Design porticos, arcades, low fencing, stoops, shelters and the like: everything that can provide a soft transition from the street to the building is crucial.
- 8) Avoid blank walls. Avoid large billboards, traffic lights, large on-street trash dumpsters, high light poles, but especially: avoid blank walls!
- 9) Put trees on wide streets: trees are very often the only thing we can do for making existent streets more lively and friendly, but they can make a big difference.
- 10) Places for sitting are all-important; provide sensible arrangements wherever possible.

