When rail transit was privately run and large tracts of land were owned by a few tycoons (often the same fellows who owned the railroads), the development of railroad towns went hand in glove with the development of rail service. Train companies laid down their tracks and towns formed along them (or towns were built first by speculators hoping to entice rail lines their way). The dependence upon rail as the fastest mode of transportation – both long-distance and short – kept development huddled close to the lines, surrounded by open space and farmland.

Rail was king for about a century in America, reigning until the 1920s when mass production of automobiles and public investments in highways got underway. After World War II, when Eisenhower put the wheels in motion to build the interstate highway system, new development was drawn to roads like flies to honey. Suburbs, which had formerly been organized in self-contained, pedestrian-scale grids around commuter rail stations, began to spread out along the expanding network of highways and arterials.

Transit in all but our largest, oldest cities appeared dead as a doornail, along with the high-density, walkable neighborhoods required to support it. But a resurrection of sorts is beginning to take place. A growing variety of people, from young “creative class” adults to active “WOOFs” (Well-Off-Old-Folks), are rediscovering old towns and urban centers as places where they can enjoy everything life has to offer without needing a car.

Meanwhile, suburban families are pressuring their elected officials to make their communities easier and safer to navigate by foot or bike, spurred by commuters seeking relief from rising gas prices and parents seeking ways for their children to get urgently-needed exercise. And making these automobile-oriented communities pedestrian-friendly is the first step, literally and figuratively, toward making transit work.

From a planner’s perspective, our nation’s renewed interest in public transit presents a great opportunity to explore and promote development patterns that renew our communities. Perhaps you’ve heard the phrase “transit-oriented development.” In this issue of the PCJ, I want to provide you with a brief introduction, word-by-word.

**Transit**

Transit comes in many forms, including heavy rail, commuter rail, light rail, traditional buses, and bus rapid transit. Different types of transit require different mixes of “the four Ds” – density (e.g. dwelling units per acre and floor area ratio), diversity (mix of activities), design (scale and orientation of streets and buildings), and destination (proximity of locations) – as noted in the following summary.

**Heavy Rail** (aka subway or metro). The New York City subway and the Chicago “EL” are among America’s earliest heavy rail systems; examples of post
1960 systems include “MARTA” in Atlanta, the Washington D.C. “Metro” and San Francisco’s “BART.” There are no new heavy rail systems planned in the U.S. or Canada, but some of the existing ones are expanding. They serve very high-density, mixed-use areas, running along fixed guideways (i.e., tracks) at high speeds. Stations are typically located anywhere from half-a-mile to two miles apart.

Commuter Rail. A variation of heavy rail, commuter rail focuses on providing high-speed access between suburbs and downtown. Examples include the Long Island Railroad and Chicago’s Metra. The suburban locations are usually fairly high-density, but not necessarily organized as mixed-use centers. For example, sometimes the station is just a platform surrounded by parking.

Light Rail (aka streetcar or trolley). Older cities such as Boston and San Francisco have held onto their light rail lines, and newer lines have been built in numerous cities such as Dallas, Portland, and St. Louis. Light rail is all the rage for major cities – if they haven’t built one yet, they’re considering it. The cars run along tracks in the street or on separate rights-of-way, and can serve lower densities than heavy rail, but still need to be located in established urban areas to succeed.

Buses (aka “old stinky” or “new spiffy”). Buses are by far the most frequently used form of public transit in America, accounting for two-thirds of our nation’s transit trips. Buses serve all sorts of density levels, from the teeming streets of Manhattan to the suburban highway that leads to your local Walmart. They run on existing roadways, and are thus much more flexible than rail systems – but also less reliable, since they can easily get stuck in traffic.

Some cities are attracting more middle- and upper-class riders to their bus systems by upgrading the vehicles. Clean fuels, sparkling interiors, brightly painted vehicles and easy-to-understand routes, like Boulder’s “Hop, Skip and Jump,” are important starting points to erase the often-held stigma that buses are only for the poor. However, traditional on-road buses must share the road with automobile traffic, which often impedes the frequency, timeliness, and predictability of service – critical elements for drawing potential transit riders out of their cars. An innovative solution to this problem is Bus Rapid Transit, described below.

Bus Rapid Transit (aka “BRT,” “Express bus,” or “busmen”). BRT is a popular, emerging blend of light rail and bus technologies. BRT vehicles, designed to look more like attractive rail cars than traditional buses, can run along fixed guideways or regular highways, offering both flexibility and speed. They can serve a variety of density levels, and stations can be placed about half-a-mile to one mile apart.

Curitiba, Brazil, is the poster child for BRT-based smart growth. Their system serves a suburban population base that was struggling with heavy freeway congestion. BRT has been the genesis for pulling together sprawling suburban development patterns into higher-density, mixed-use centers.1

Ferries. Before rail, communities accessible by navigable waterways

continued on next page

1 One cautionary note: BRT is not always associated with TOD. Since it can be located along highway systems designed for automobiles, using BRT as a tool for generating more efficient development patterns may require careful planning and redevelopment. Locating stops in the median of a huge highway, for instance, may be the expedient, cost-effective thing to do, but the expanse of traffic-filled asphalt between the station and roadside destinations may well kill off the opportunity for TOD at that location.
were prime locations for development – and they still are. Vancouver, Canada, famous for its livable, walkable design, attracts riders from numerous public and private ferries to its downtown waterfront transit station. By maximizing and coordinating all types of transit modes with development programs over the past 20 years, the city has decreased daily vehicle volumes by five percent, while increasing transit ridership by forty percent.

**Oriented**

The critical thing about making TOD work is to ensure that development actually is oriented around the station. That means enabling people to walk easily between the station and the destinations it serves. Sounds simple, but it’s amazing how often we get this wrong. The devil is in the details.

My esteemed, often irreverent, colleague Reid Ewing introduced me to TOD’s evil twin brother, TAD: Transit Adjacent Development. TAD features buildings near transit stops that have no functional relationship to transit. The diversity tends more toward single uses, and the design is anything but walkable. Much more land is dedicated to surface parking, for example, which is not usually hospitable to pedestrians. All this adds up to a worst-case scenario: all the density without any of the design. Not surprisingly, it falls a “tad” short in promoting transit ridership.

Here are a few basics to keep in mind when planning TOD versus TAD:

- **Locate the transit stop in the center of the neighborhood rather than on its periphery.** Put major trip generators (offices, commercial retail, and high-density housing) and public plazas within a quarter-mile (5-minute walk) of the station. Gradually step down densities outside the half-mile circle.

- **Don’t waste an inch of land on surface parking.** Put it underground or over top of the first floor. Put park-and-ride lots outside the immediate station area, but still within a half-mile (10-minute walk). Maximize the land around transit centers.

The information in these charts, based on research by the Renaissance Planning Group, shows the ranges we have typically found in evaluating these modes of transportation.
for a dense array of activities to which people can easily walk.

⇒ No transit station is an island. Plan out the entire transit corridor, complementing the spacing and design of stations with appropriate development patterns. The stations can feature different densities and diversities of development, but they must all have one thing in common: walkability.

⇒ Incorporate all the elements that promote walking. This includes: compact blocks; safe and attractive walkways (don’t forget shelter from rain and sun); continuous street fronts (no gaping holes between buildings like surface parking lots); well-marked, pedestrian-scaled signage and doorways; street furniture (movable benches, trash cans, etc.) and public art; and appropriate amenities such as public restrooms. Visit the Project for Public Spaces website (www.pps.org) for an extensive, research-based inventory of the good, the bad, and the ugly details that make or break a pedestrian-friendly place.

Development

Transit goes to nowhere without the D. No transit system will do well if it attempts to serve development that isn’t suited to the given market. A new transit station won’t invite development all by itself. The development market, especially for retail, is not dependent upon transit accessibility, it’s dependent upon the right amount of customers within the right proximity. Lenders, investors, and developers want, first and foremost, the best possible “location, location, location” for the market they are seeking to attract.

When it comes to planning the location, density, and mix of proposed stations and transit villages, planners need to work closely with developers to understand their market. If it doesn’t make sense from a market perspective to put in certain types of retail, don’t force the developer to do it. Nothing is more depressing than a new transit village with shuttered stores.

One final, but important, point about transit-oriented development – it typically increases property values. Research findings point to an average 10 to 20 percent increase in value for development located close to a transit station – one more reason why TOD has become an increasingly popular acronym in cities across the U.S. and Canada, and around the world. ♦

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See “Transit Oriented Development,” in the Victoria Transport Institute’s excellent online TDM Encyclopedia: <www.vti.org/tdm/tdm45.htm>; the article also contains much additional useful information on TODs. Even higher premiums for housing and commercial development were found in California research done by Robert Cervero, reported in “Ten Principles for Successful Development Around Transit,” Urban Land Institute, 2003, p. 7.
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