

URBAN DEVELOPMENT

TOD is key to a successful light-rail system:

Getting people to use light rail often comes down to having a good transit-oriented development plan.

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Cities across the country are either planning, have built or are expanding their light-rail systems. Most light-rail projects have been largely driven by a community's desire to reduce auto traffic congestion. Many times, the order of the day has been focused on systems and processes that "get it built" rather than urban design techniques that maximize ridership by creating transit-supportive development and, thereby, sustainable communities. While most cities are meeting or exceeding ridership expectations, some stations are not experiencing the success and magnitude of transit-oriented development (TOD) originally envisioned. Different elements could be contributing to slow or non-existent TOD around stations, including the appropriate mix of land uses — housing, retail, office, open space — building and station platform design, transit and multi-modal transportation facilities at and connecting to the station area, and neighborhood and pedestrian connections.

Today, building a light-rail system is not enough. Cities must understand the value of employing urban design principles to maximize TOD potential and create communities that cater to all walks of life. Light rail, if planned and designed correctly, brings mobility to elderly and low-income residents while it fosters auto-independent lifestyles and safe, sustainable and active environments for all.

The challenge

How do you make the most of the public's investment in light rail? When a city invests in light-rail transit, city leaders, engineers and urban designers must consider much more than the rail alignment, platform location and moving people from one part of town to another. They must create economically vital, pedestrian-friendly station areas that blend with surrounding neighborhoods and



Station platform design is one of the elements needed to draw transit riders. Photograph by Crandall Arambula

create a sense of community. Cities must maximize each station's TOD potential by:

- Creating neighborhoods.
- Creating a strong pedestrian environment with connections to transit stations.
- Developing affordable, mid- and market-rate housing opportunities.
- Developing public amenities such as parks and open spaces.

Oftentimes, cities follow the simple philosophy: "build it and they will come." Luck is often the driving force if this approach works. Creating a TOD or station area plan is the only way to guarantee success.

Maximizing TOD

As a first step in the development of station area plans, urban designers must work with the local agencies to prepare an analysis of the alignment, station platform and park-and-ride locations prior to final alignment selection and design. Until a station is under construction, opportunities exist for fine tuning its location and maximizing its TOD potential.

As an example, on Portland's Westside Light Rail project, Crandall Arambula determined which station locations would maximize TOD and increase ridership. As a result, stations were located to provide the best opportunities for TOD while meeting the transit agency's operational and cost considerations. The best location for Orenco Station, an award-winning model for TOD, was determined as a part of this project. If the station had not been moved just 400 feet to its current location, Orenco Station would not have been a successful TOD; instead the station may have seen a fraction of the pedestrian-friendly transit-oriented development in place today.

Evaluation criteria

Using the following evaluation criteria to systematically determine a station's TOD potential helps increase transit ridership and create economically vital places:

- Existing population density.
- New development potential.
- District or neighborhood hub potential.
- Pedestrian accessibility.
- Quality of the platform environment.
- The station's inter-modal connections.

The impact of light rail on the street and pedestrian environment plays a critical role in the success or failure of TOD. Often times, light-rail alignments that are planned at grade are constrained by existing street corridor rights of way. Adding light rail while maintaining auto capacity often negatively impacts the public realm. This can result in narrowed sidewalks, increased pedestrian street crossings, and the removal of on-street parking, street trees and landscaping.

When developing station area plans, the pedestrian must be the priority for TOD to be successful. Pedestrians must feel physically comfortable and safe and have direct and convenient access to the station platform. Pedestrians must be effectively separated from moving traffic. Separation can be provided through the use of wide sidewalks, on-street parking and landscaping. Well-designed paving, street furniture and lighting can create a welcoming environment.

Light-rail lines that are designed along the center of a freeway create a plethora of problems for TOD development. At times, these stations can be isolated and become a breeding ground for crime; pedestrian access is often difficult and the pedestrian environment can be bleak, noisy and unwelcoming. Successful TOD is difficult since the physical environment is usually noisy, uninviting

and the station platform is essentially separated from development opportunities by the freeway.

The products

Station area plans must be developed through inclusive, public involvement processes that address community needs. Plans and implementation strategies should be developed for a minimum of a quarter-mile and up to a half-mile radius surrounding the station platform. They must identify concentrated high-density residential uses with a variety of market rate and affordable housing opportunities, along with retail/commercial, office and open space uses.

In addition, infrastructure improvements needed to support TOD within the station area and increase accessibility should be developed. Plans must include an implementation strategy with station access and design standards, form-based codes, short- and long-term development concepts, identified catalyst projects, project costs and financial strategies.

The results

Cities across the country are realizing the benefits of TOD and are engaging urban designers to develop station area plans that improve livability. Crandall Arambula is working with the city and county of Denver on a major planning initiative to facilitate appropriate transit-oriented development near many of the city's current and future station locations. These station area plans will help direct appropriate change and use the city's transit investment as a catalyst to enrich and enhance many neighborhoods surrounding its 119 miles of new and planned light rail and commuter rail.

Seattle's Link light-rail line is a critical element in Puget Sound's long-term transportation efforts. Station area plans must be developed to build upon the region's investment in transit and revitalize neighborhoods. Our firm is working with the city of Bellevue to maximize transit-oriented development within the Bel-Red Corridor and recently completed station area concept plans for potential light-rail transit for the city of Redmond.

In the end, cities must not only embrace transit — they must also invest in transit-oriented development to create economically vibrant centers and neighborhoods that meet the needs of the community.

George Crandall, FAIA, and Don Arambula, ASLA, are founding principals of Crandall Arambula. The firm, established in 1998, specializes in urban design and city planning, as well as transit corridor, station-area and TOD planning across the country.