

SPECIAL SECTION:

TRANSIT SUPPORTIVE POLICIES

INTRODUCTION

It takes more than vehicles carrying riders for communities to receive their return on investments in transit. Design policies are integral elements to ensuring that people can identify and access the transit system, while land use and zoning policies help concentrate people and mix land uses to maximize transit's effectiveness. When combined, design and land use policies not only increase transit's ridership potential, but also its value as an economic development and sustainability tool; more than all of that, these synergistic efforts help to create a place which is the ultimate in community building.

The following guidelines are recommended to help the communities of Northeast Ohio reap the maximum benefits of the transit investments recommended as part of NEO Regional Vision.

GUIDELINES

Density

Successful transit generally requires a minimum of seven residential units per acre in residential areas and 25 employees per acre in commercial centers, and about two to four times as much for premium quality transit. Increased population and employment densities place more potential riders within a 5 to 10 minute walking distance of transit stations/stops and higher densities, especially residential densities are recommended depending on the type of transit serving the area (see Figure 1). These densities create adequate transit ridership to justify frequent service, and help create active street life and commercial activities, such as grocery stores and coffee shops, within convenient walking distance of homes and worksites.

FIGURE 1: RECOMMENDED RESIDENTIAL DENSITY THRESHOLDS

TRANSIT MODE	MINIMUM DWELLING UNITS PER ACRE
Basic Bus Service	7-15
Premium Bus Service	15-18
Light Rail Transit, distance:	
0-1/8 mile	30
1/8-1/4 mile	24
1/4-1/2 mile	12

Data source: Transportation Cooperative Research Program, Report 102: Transit Oriented Development in the United States: Experiences, Challenges, and Prospect (2004).

Commercial land uses require acknowledgement of employment density as well as Floor to Area Ratio (FAR). Recommended FAR's start at 0.35 for nonresidential activities in transit supportive neighborhoods, but are more frequently recommended at minimums of 0.5 to 1.0 for commercial developments without structured parking and at least 2.0 for developments with structured parking. Employment density of 25 jobs per gross acre (15,000 jobs within a 1/2-mile) will support frequent, high capacity transit service. For light-rail service, employment densities of 50 jobs per gross acre are recommended.

High-quality transit supports the development of higher-density centers, which can provide accessibility and agglomeration benefits (efficiencies that result when many activities are physically close together), while automobile-only transportation systems conflict with urban density because they are space intensive, requiring large amounts of land for roads and parking facilities. Large scale Park & Ride facilities without other uses tend to conflict with transit supportive neighborhoods, since a rail or bus station surrounded by large parking lots and arterials with heavy traffic is unlikely to provide the densities needed to generate sufficient transit demand. It is therefore important that such facilities be properly located, designed, and managed to minimize such conflicts and sited where they can accommodate transit without impacting the development potential of the area.

Mixed-Uses

Traditional, or Euclidean, zoning separates land uses, sets density thresholds and minimum lot sizes, and usually contains explicit regulations such as bulk and height controls and minimum parking requirements. To support transit, however, traditional zoning is often turned on its head (i.e., uses are intermixed, not excluded, and parking caps, rather than parking floors, are sometimes set).

To support transit, especially around high capacity stations, a municipality can create a special zone or change existing classifications. More common than either rezoning or new designations, however, is the creation of an overlay zone. As its name implies, an overlay zone is placed on the zoning map over a base zone. The overlay modifies, eliminates, or adds regulations to the base zone. Overlays provide for effective land-use control without increasing the complexity of the regulations.

Besides identifying land uses that require non-transit trips, like automobile repair shops, transit supportive zones often specify activities that are permitted as-of-right. The uses included in a transit supportive community should generate trips throughout the day. This strategy takes advantage of unused transit supply in off-peak hours and results in routes that are more productive than in areas with traditional rush-hour peaks. Ideally, the new zone generates approximately 1 to 1.5 jobs per household, providing significant employment opportunities for both residents and commuters.

The following list presents a sample of land uses appropriate for inclusion in a transit supportive district:

- Mid- to high- density residential
- Retail stores
- Banks
- Private offices/professional businesses
- Government offices
- Schools (especially higher education)
- Child-care centers
- Community facilities
- Public space
- Entertainment complexes

Pedestrian Orientation

Pedestrians who can walk to different land uses in under ten minutes are more likely to utilize those sites, including retail establishments, parks, and community facilities. Placing daily goods and services, as well as recreational destinations, within walking distance of residences increases the incentive to use alternative modes, supporting transit use for commuting and other regional travel. The following recommendations outline the key design factors which focus development to pedestrians:

- Require that active uses which generate a higher number of daily trips be located on the first two floors. These should include retail and open space located in the first 15–20 feet of building height. Land uses which generate fewer trips should occupy higher floors.
- Bring sidewalks up to the building line and prohibit parking from being located between the sidewalk and the building.
- Curb cuts are extensions of sidewalks. Design sidewalk-driveway interfaces to be identical to sidewalks (e.g. the sidewalk material and level should continue across the driveway). This alerts both pedestrians and drivers that they are traveling on a portion of the sidewalk.
- Install bollards, trees, and other street furniture to protect pedestrians and buildings from errant drivers.
- Require that sidewalks be at least five feet wide at all points.
- Install curb extensions (wider sidewalks) at all corners with on-street parking.
- Install pedestrian signals at all traffic signals.
- Actuate pedestrian phase at all times with traffic phase, e.g. not pedestrian actuated.
- Include Leading Pedestrian Intervals at all signals, thus allowing pedestrians to start ahead of traffic.

Access and Connections

For transit to be successful, pedestrians must be able to easily access the service and easily walk when they get off the bus or train. The following elements outline the vehicular and pedestrian policies recommended for promoting non-motorized transportation:

- Reduce vehicular roadway lane widths to no more than 11 feet per lane and never require pedestrians to cross more than three lanes without a protected refuge.
- Rededicate any reclaimed roadway space to provide or widen sidewalks, crosswalks, paths, and bike lanes.

- Reduce the number of conflict points between motorized and non-motorized modes. Where conflict points are unavoidable, ensure non-motorized modes have clearly delineated pathways and drivers are aware of their responsibility to share the road.
- Increase road and path connectivity, with non-motorized shortcuts, such as paths between cul-de-sac heads and mid-block pedestrian links.
- Adhere to and exceed the requirements of the Americans with Disabilities Act.
- Include street furniture (e.g., benches) and design features (e.g., human-scale street lights) without blocking traveler’s “desire lines”¹.
- Guide motorized modes to operate at appropriate speeds and along appropriate routes for each location the community character.
- Provide bicycle parking and amenities (lockers, showers, access routes) to connect with all transit facilities.
- Determine parking standards as one component of overall multimodal accessibility options, not as the only mechanism to access a site.

Transit Infrastructure and Amenities

Transit stops that are easy to find and use are critical to passengers getting on and off the vehicle, regardless of whether the transit mode is a bus or train. Adequate pedestrian accessibility and enhanced passenger amenities at transit stops are critical to attracting people to transit. Provision of stop infrastructure is frequently tied to the number of riders who board and alight at each stop. The greater the number of riders (currently or planned), the greater the capital investment.

- All stops should have:
 - A level concrete pad
 - Reliable pedestrian access
 - Adequate lighting for safe and comfortable night use
 - Route and schedule information
- Stops with more than 50 boardings a day (including transfers) should have:
 - Bus shelter with bench
 - System map
 - Trash receptacles
- Stops with more than 300 boardings a day (including transfers) should also have:
 - “Super stop” shelter
 - Real time travel information

These amenities support transit service by making the bus riding experience comfortable and convenient. As described in *TCRP Report 46: “The Role of Transit Amenities and Vehicle Characteristics in Building Transit Ridership,”* provision of certain physical amenities will draw more riders. The TCRP study was built around the Transit Design Game Workbook, a survey distributed to bus passengers in five cities: Rochester, New York; Ann Arbor, Michigan; Aspen, Colorado; Portland, Oregon; and San Francisco, California. The survey allowed people a budget of 12 to 18 points to spend on amenities, and also had the respondents weigh spending money on amenities or lowering the fare. Spending 18 points on amenities roughly equated to \$450,000 in annualized costs for a 300-bus system, and resulted in a 1.5 to 3 percent increase in ridership. A study by the University of North Carolina at Charlotte also has indicated that improved bus stop amenities increases ridership.

Another important component of bus stops consists of safety and security measures, which increase transit effectiveness. Safety and security requires transit operators to provide a predominantly controlled environment so riders perceive that the agency is protecting them. In addition, it also requires emergency planning for when uncontrolled events occur, so that responses are planned and procedures are in place to answer unforeseen incidents. These preparations provide riders with both an actual and perceived safe environment, preventing public concerns that would limit the effectiveness of the transit system.

Providing a safe and secure environment requires a combination of design features, response plans, evaluation of public perception, and coordination between the multiple transit services and levels of government. All stops should be well-lit and provide clear sight lines with no “blind spots.” Placement of stops in view of active uses is recommended. Wherever possible, stations and stops should be accompanied by clearly marked crosswalks and traffic control devices to provide a safe, controlled roadway crossing.

¹ paths which travelers use, whether designated or not