

Transit Oriented Development Implementation



TRANSIT ORIENTED DEVELOPMENT (TOD) IMPLEMENTATION

I. Introduction

A. Problem Statement

How can we link transportation and land use more effectively? How can we provide more transportation choices? How can development patterns permit people to drive less for daily needs? How can we stimulate economic development in appropriate locations?

The answer to all of these problems may be a type of development known as Transit Oriented Development (TOD), where land use and the design of a neighborhood is closely tied to efficient and attractive public transportation. Homes and businesses can become connected in a transportation network that provides for all possible options: train, bus, car, bicycle and walking.



B. What is Transit Oriented Development?

TOD is mixed-use neighborhoods that are supportive and benefit from public transit by virtue of their location, planning and design. At its simplest level, TOD can be viewed as an effort to plan land use and organize physical development so that people can get to places they live, work and play by transit as well as by automobile. In this context TOD can enhance economic development and promote more sustainable patterns of urban growth. In many ways, TODs represent an updating of the older railroad and streetcar suburbs common in many American cities prior to the 1930s. All such successful developments have several things in common:

1. A centrally located transit station or transit stop;
2. A shopping street or streets immediately adjacent to the station;
3. A network of connected streets that branch out into the surrounding neighborhood(s);
4. A variety of housing types, including multi-family.

Several, though not all, transit systems became obsolete during the rise of the automobile. However, many of the mixed-use “urban villages” that grew up around the rail or streetcar lines have retained their attractiveness and property values because of the way they were designed around principles of human scale and walkable convenience. TOD principles are appropriate for many urban and suburban situations, given contemporary problems of congestion, air pollution, and rapidly changing demographics.

The most effective TODs involve the integration of a wide variety of transportation options -- train, bus, car, bicycle and walking -- into the planning of adjacent land uses and in the urban design of mixed-use districts and residential neighborhoods. The general planning and urban design goals are very similar to Traditional Neighborhood Development (TND -- also known as "New Urbanism") in terms of mixing uses and dwelling types, and creating a human-scaled "walkable community." However, TOD differs from TND because it adapts the TND design principles to the goal of improving the performance of public transportation in all its different forms.



Transit Technologies

There are crucial differences in the choice of mass transit technology that affect the patterns of land uses and the arrangement of buildings and public spaces around transit stations and corridors. The options comprise:

1. Heavy Rail: A high capacity, electrically powered train that operates on a dedicated track and right-of-way that is fenced off and often grade-separated from people and automobiles at all times.

The Metropolitan Atlanta Rapid Transit Authority (MARTA) is an example of this type of transit system. The heavy rail system is one of high capacity and high speed necessitated by the ridership demand to travel relatively long distances at greater speeds than is typical of the light rail and bus systems.

By design the heavy rail system requires greater attention and emphasis on pedestrian environment in and around the transit station rather than along the transit corridors. Trains use the track corridors at high speed, and there are few circumstances that permit higher intensity mixed-use development based on the pedestrian model along these transit corridors. At station areas, the creation of a TOD "urban village" is often accomplished even though buildings and pedestrian spaces are generally required to stand away from the tracks because of essential grade separation for operational and safety reasons. In high intensity urban areas development opportunities are easily accomplished utilizing air rights to build over the tracks -- such as at the Lenox, Peachtree Center, Buckhead, Philips/Georgia Dome, Medical Center and Decatur Stations on the MARTA system.

Heavy rail corridors are especially dependent on density of population and employment to be successful. According to one popular source (Pushkarev and Zupan, *Public Transportation and Land Use Policy*, Indiana University Press) the ideal service area for a heavy rail system would include at least 50 million square feet of nonresidential floorspace, and a residential catchment area of 25-100 square miles with a density of about 12 dwelling units per acre.

2. Commuter Rail: A diesel powered train, comprising either conventional locomotive and coaches, or self-propelled rail cars known as Diesel Multiple Units (DMU).

Characteristically, stations need to be 2 to 5 miles apart to allow long acceleration and deceleration times required by diesel powered locomotives. Tracks are generally separated

from other urban uses except at stations, where some limited integration with streets and pedestrians is permissible. This option can be less expensive than heavy rail or light rail as less investment in infrastructure is required, and no electrical system is required for vehicle operation.

Conventional commuter rail suffers from several of the same problems as heavy rail systems in terms of difficulties with pedestrian friendly environments along the transit corridor. The train moves fast, and safety issues require clear separation of trains, cars and pedestrians. At the stations however, because there are no electrical rails or wires a greater degree of integration with vehicles and pedestrians can be achieved. With adequate safety controls, the tracks may cross the public space of streets, and pedestrians may be permitted to walk across the tracks at designated crossing points. This enables buildings and their various uses to approach the transit corridor more closely, thereby creating a definable urban place around the station.

3. Light Rail: The high-technology successor to the streetcar.

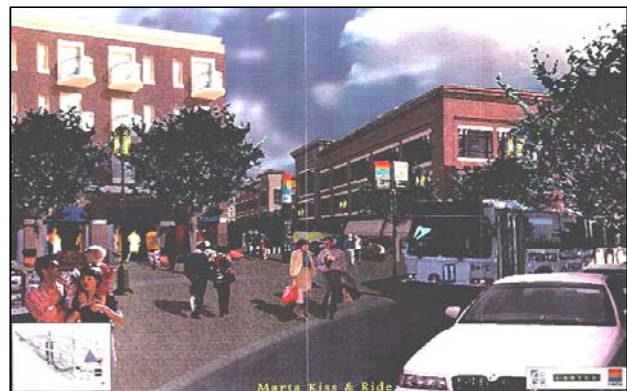
The electric-powered vehicles generally operate at street level, sometimes within the same right-of-way as vehicles, and can accelerate and decelerate quickly and silently. Turning radii can be much tighter than for conventional commuter or heavy rail systems, permitting light rail to fit into existing urban street patterns easily. This allows for stations at frequent intervals, integrated into the fabric of urban centers and neighborhoods. Light rail does not require the same extensive infrastructure as heavy rail, and is cheaper and more flexible in operation.



This lighter technology allows for substantially different urban patterns than either commuter or heavy rail systems. Both heavier technologies limit TOD to the station areas, with little or no opportunity for such development in the transit corridors between stations. Light rail, because of its frequent stations (often as little as a block or two apart, like bus systems), can generate a continuous urban fabric along the length of the transit corridor, with areas of high intensity around major transit stations.

4. Bus: There are three primary types of bus service that impact the urban form of TODs:

- a. Express buses operating on dedicated rights-of-way, or along HOV lanes on major highways and freeways work in a similar fashion to commuter rail; that is, they can encourage development around major transit stations, but not along the transit corridors, which tend not to be pedestrian-friendly environments.



However, compared to commuter and light rail systems, there is much less evidence that major private investment in TOD follows

bus routes. In short, express bus systems may provide efficient transportation, but they do not perform well as catalysts for economic development. The reason is bus routes are not permanent and real estate developers prefer fixed rail's permanence.

- b. Local shuttle or feeder bus services are an important component of TOD. While their main function is to link the surrounding development to the main transit stop, they also provide increased mobility throughout the TOD area. For shuttle bus services to be efficient and economic, the TOD and surrounding neighborhoods must have a system of connecting streets, with cul-de-sacs reduced to a minimum.
- c. Busy local bus routes often are candidates for the application of TOD principles because their routes follow mature corridors that already possess many of the desired characteristics- higher residential density, a mixture of uses, and pedestrian amenity and connections to adjacent neighborhoods.

The 2025 Regional Transportation Plan for the Atlanta Region specifically includes all these transit technologies. The fact that these different transit technologies are combined with different land use situations suggests that a variety of TOD prototypes should be developed.

Different Types of TOD

There are two basic forms of TOD:

- 1. nodes of intensive development around the transit stations, and
- 2. linear corridors along transit lines.

This tool examines in depth TODs around the different types of transit stations with varying degrees of intensity. Linear development in transit corridors is covered more briefly in terms of the use of pedestrian-friendly zoning districts that encourage land use integration and intense development patterns.



C. What is the Role of this Tool in Achieving Smart Growth?

One of the fundamental foundations of Smart Growth is providing a variety of transportation choices, and making a serious commitment to mass transit as an important component of the region's transportation system. This commitment involves the deliberate connection between transit investment and land use decisions. In regions of the country that have market conditions favoring relatively dense and walkable urban activity centers and supportive public policies, such as those discussed below, considerable development around transit stations has evolved. While the introduction of mass transit by itself typically does not ensure economic vitality and more sustainable development patterns, it can serve as a critical piece of the complex puzzle of creating vibrant urban communities while reducing the impact of growth on the natural environment -- another central policy of Smart Growth. (Information in this section is excerpted with permission from the 1997 report "Station Area Development Guidelines for the Regional Transit Stations," by the Triangle Transit Authority, Raleigh, NC).

Below are eight strategies that are fundamental to any Smart Growth planning for TOD at the regional and local levels.

- 1. Maximizing Ridership:** The economic viability of local and regional transit is enhanced by having a sufficient number of riders living and working near the transit stations. Many studies have shown that transit use is much higher for those people living within walking distance (1/4 mile) of a transit stop than those living in more distant areas. For example, a 1995 marketing survey conducted by the Virginia Railway Express (VRE), the commuter rail service between northern Virginia and Washington D.C., found that the highest proportion of riders live within two miles of VRE stations, and 65% work within walking distance of their destination station.
- 2. Increasing Property Values:** Residential and commercial projects near transit typically appreciate in value more rapidly than others. A 1995 report by Economics Research Associates (ERA) documents significant increases in property values for medium density apartments, condominiums, and commercial and retail projects located near transit stations. Combining public transit investments with private real estate projects appears to strengthen these effects.

Much less evidence exists to indicate that transit systems based on express bus services generate similar development potential and increased property values. Whereas public investments in rail systems represent a clear long-term commitment to routes and services - - and therefore breed confidence in the minds of developers that their private investment in TOD will have a lower risk -- bus routes and services can be changed quickly and easily. The very flexibility of bus systems that is attractive to transit operators acts as a disincentive to private development, as developers avoid the greater risk factor in committing money to locations that may be left high and dry by a future bus route change by the transit authority.

- 3. Increasing Tax Revenues:** As transit service (especially light and commuter rail service) facilitates increases in land values and supports the concentration of development around stations, property tax revenues collected by local governments also increase. A prior study by the Joint Center for Urban Mobility Research analyzed property values in transit areas in ten cities, and found that the total increase in land value due to the introduction of rapid transit had been significant.

The same caveat noted in (2) above, regarding the less successful experience of express bus systems in generating increased property values around transit stations, also applies to increased tax revenues. Generally bus systems perform less well than rail systems, particularly light rail systems, in terms of increasing tax revenues around transit stations, as developers are less inclined to invest in TOD without the long-term certainty of service guaranteed by the public investment in rail infrastructure.

4. **Providing Retail Opportunities:** Retail activity and the viability of small businesses can be supported by improving regional and local transit linkages, enhancing pedestrian routes and increasing the amenities and public image at transit stop locations. This creates opportunities for:
 - a. Additional shopping trips and increased retail sales;
 - b. Enhanced retail convenience;
 - c. Higher sales capture rates;
 - d. Improved employee access, recruiting, attendance and retention.

5. **Offering an Alternative to Auto-dependent Developments:** Encouraging more efficient and compact development and redevelopment as part of an enhanced system of public transportation does provide communities with options that can result in decreased burdens on fiscal resources. TOD provides a more efficient and economic alternative in terms of the cost of local government services. In a Lincoln Land Institute paper entitled “Land, Infrastructure, Housing Costs and Fiscal Impacts Associated with Growth,” the authors concluded that more efficient development patterns can:
 - a. Reduce land consumption for development by 60%;
 - b. Slightly reduce housing costs;
 - c. Save 5% on the cost of schools and 15% on utility line extensions;
 - d. Reduce ongoing operating costs for roads and infrastructure.

6. **Providing a Stimulus for the Revitalization of Urban Centers and Existing Neighborhoods:** As the Atlanta region’s growth and economy has spread out, problems of traffic and air pollution have become worse and interest in existing urban centers and neighborhoods has dramatically increased. This new energy can be captured by transit-supportive developments as in similar urban areas such as Portland, Denver and Dallas.

TODs in existing urban neighborhoods have the advantage of utilizing existing infrastructure rather than building new facilities. In the long run, improving and maintaining existing infrastructure to serve more compact, TOD development will cost the taxpayer less than building and maintaining new infrastructure for new low-density development in outlying areas.

7. **Providing Choices:** The principles of compact, transit-oriented development address the needs of Atlanta’s population of elderly, singles, single-parent families, empty nesters and other demographic groups. Opportunities exist within pedestrian-friendly TODs for a wider variety of housing types and prices, the option of walking to work, and increased mobility for the young, elderly and disabled. In addition, development near transit provides people with the cost-saving option of not



having to use a car or purchase a second vehicle.

8. **Supporting Environmental Quality:** TOD provides the opportunity to refocus growth in a way that reduces the amount of land consumed by development, preserves open space, and helps protect air and water quality. The compact character of TOD makes walking and bicycling a more efficient and desirable means of travel. This further reduces the need for vehicle trips, resulting in lower air emissions and improved air quality. In addition, reduced pavement decreases stormwater runoff and will result in improved water quality.

II. What are the Conventional Alternatives to TOD?

TOD is an alternative to the car-dominated, conventional suburban development patterns of the last several decades. Planned Unit Developments (PUDs) have several similarities, being site specific master plans with a high design content, but PUDs have typically been individual projects that make few, if any, connections to transit. The design of TODs provides for the mixture of uses and the more efficient infrastructure of streets and public open space that are required to achieve maximum benefit from linking transportation planning to land use planning in this way.

III. Things to Consider Before Using This Tool

A. What You Need First

Communities should first assess their relationship to the current Regional Transportation Plan for the region. This will provide guidance regarding the types of transit technologies and routes being proposed for particular areas. Criteria should then be devised by each community that specifies the types of TOD most appropriate to their needs and opportunities. These types of TOD comprise:

1. Areas focused around transit stations -- generally up to 1/2 mile in diameter and most appropriate for heavy rail (MARTA), commuter rail, or express bus; or
2. Linear developments along transit corridors -- most appropriate for light rail systems with frequent stations or busy local bus routes.

The first condition, best described as a “transit village,” can be implemented by preparing a text amendment to the zoning ordinance to permit TOD zoning districts around transit stations.

Communities that want to do this need to have:

- A valid zoning ordinance;
- Clearly defined areas around transit stations that need this special consideration;
- A series of public meetings to establish consensus on the specific standards for one or more transit stations in the community.

Communities could also consider the use of overlay zoning districts (refer to Use of Overlay District tool) to establish TOD principles along a transit corridor. The prerequisites are:

- A valid zoning ordinance;
- Criteria for the future location of such overlay zoning;
(Maps of the transit technology of rail or bus, and the anticipated location of these services).
- A series of public meetings to establish consensus on the specific standards for one or more transit corridors.

B. Relationship to the Comprehensive Plan

Local governments can facilitate TOD by amending Comprehensive Plans, codes and ordinances, and other land use policy documents to permit and encourage the development of compact, mixed-use walkable communities. The Comprehensive Plan should provide the goals, objectives and policies that substantiate the need and public purpose of the new TOD zoning districts, whether as a site-specific area around a transit stop, or as an overlay zone along a transit corridor.

The Comprehensive Plan should embrace the principles of integrated transit planning and land use planning embodied in the current Regional Transportation Plan (RTP) and Regional Development Plan (RDP) for the Atlanta region, as well as the details of proposed routes for the various transit initiatives and improvements set out in the RTP. Any Comprehensive Plan that does not accommodate these principles and details should be revised accordingly.

Within the framework of the Comprehensive Plan, the four most important planning tools are:

1. Station Area Development Plans
2. Zoning Ordinances
3. Subdivision Regulations
4. Transit Station Plans

1. Station Area Development Plans

Plans for each station area should serve as blueprints for the implementation of TOD. These can also be thought of as Small Area Plans, but they must contain a deliberate focus on transit-related issues. Such plans are key instruments in assuring and facilitating TOD. They synthesize the various tools related to TOD planning, including land use, urban design, market incentives, regulatory tools and tax policies. Station Area Development Plans must include:

- a. Land use
- b. Layouts of public streets and open spaces
- c. Vehicular, pedestrian and bicycle circulation
- d. Parking design
- e. Parks and green space
- f. Station-specific design guidelines
- g. Capital improvements programming
- h. Transit service details
- i. Market feasibility studies
- j. Phasing.

Generally these plans should cover an area equivalent to 1/4-mile radius from the transit stop as the higher intensity Core, and up to 1/2-mile radius for the surrounding Neighborhood Ring. Clear connections to other more distant neighborhoods should be indicated.

2. Zoning Ordinances

Transit-supportive zoning is the principal tool for implementing TOD land use and urban design plans. Amendments to zoning ordinances -- either as a new district for development around transit stations or as a pedestrian-oriented overlay district for development along transit corridors -- are critical to support Station Area Development Plans. Some zoning ordinances allow a density bonus as an incentive for development that provides convenient access to the transit system. Parking requirements should also be reduced.

3. Subdivision Regulations

These rules set the standards for the size and shape of lots, and the design and dedication requirements for public facilities, including streets. Subdivision regulations should thus be revised as necessary to permit and encourage more compact, pedestrian-oriented types of development, as well as grid street patterns.

4. Transit Station Plans

These detailed plans for each station or smaller stop should include detailed site planning, engineering and architectural plans. These plans should be closely coordinated with the Station Area Development Plans.

C. Administration and Enforcement Issues

1. Legal framework

The urban form envisaged by a TOD -- compact walkable neighborhoods incorporating a mixture of uses, often in the same building -- is very similar to that of Traditional Neighborhood Development (TND). Both these forms face a major obstacle in implementation: aspects of this traditionally based urbanism are difficult under conventional zoning ordinances. Specific standards typical of conventional zoning ordinances that may have to be eliminated or revised for TODs include:

1. Requirement for one principal use per parcel;
2. Buffer requirements between dissimilar uses;
3. Setback regulations;
4. Minimum parcel size;
5. Minimum street width; and
6. Parking requirements.

The solution adopted by many communities has been to amend their zoning and land development codes to include overlay zoning districts for TOD areas, while retaining other conventional suburban zoning provisions. When conflicts occur between the new code concepts and the old, the ordinance stipulates that the TOD model prevails.

The state and federal statutory basis for zoning and land development regulations are generally broad enough to allow local governments to revise their zoning and land development regulations, provided they meet the basic tests of due process and equal protection. These tests would require the normal procedures of any change to zoning maps or text. However, there may be issues that arise in conflicting building codes and street design standards imposed through other agencies. For instance, the Southern Building Code and fire safety codes set out higher standards for commercial building construction than for residential construction. A building that contains both types of uses will have to be constructed to the higher of the two standards, or else provide a separation of uses within the building that is satisfactory to the Fire Marshall.

Another issue would be street and right-of-way widths. The Georgia Department of Transportation follows the manual prepared by the American Association of State Highway and Transportation Officials (AASHTO) for street and right-of-way widths and geometric design standards. It may prove difficult to gain approval for narrowing travel lanes or rights-of-way on federal and state routes that were built with federal funds.

However, local streets off the state and federal highway systems can follow different standards. In this case it would be necessary to consult with local public safety personnel who must assure adequate emergency access. At first they may resist narrowing streets or reducing turning radii

if they feel that these changes would jeopardize the movement of fire trucks. In most cases local decisions are subject to negotiation and compromise. In the process, local government officials may become more flexible with more education about the benefits of the alternative designs. It may be helpful to include supportive documentation from other communities that have successfully implemented traditional patterns of development (either TOD or TND) without sacrificing public safety.

There have not been any substantive challenges to ordinances based on principles of traditional urbanism *per se* in the State of Georgia. However, there has been federal and state case law associated with aesthetic controls and design review. The principal legal issue is to ensure that the establishment of aesthetic guidelines is a result of public consensus and is found to promote the prevalent aesthetic values of the community. Aesthetic standards must be presented in sufficient detail and clarity to allow reasonable decisions about whether a proposed development is consistent or inconsistent with the aesthetic guidelines. The execution of the aesthetic controls must be consistent and fair.

Typically a Design Review Board oversees the plan review with suitable qualifications operating in a public process. The consequences of failing to meet these legal principles may be that a court would rule that the ordinance was arbitrary and capricious. In this case, the court would either:

1. Strike down the ordinance entirely; or
2. Enjoin the community from enforcing the regulations in a specific case.

Therefore, local governments should distinguish TOD regulations from aesthetic controls, and avoid imposing an architectural style on developments. TOD principles are much more concerned with the *systems* of town building – generating a good public infrastructure of streets and open space, promoting walkability, and creating an appropriate human scale for buildings – than with imposing precise architectural details.

2. Political concerns and public acceptability

General

TOD like its close relative TND is a way of fundamentally rethinking the form and layout of contemporary towns, cities and suburbs to make them more economically and environmentally efficient. The flexibility of mixed uses and the range of dwelling types possible within TODs, together with their transit-supportive infrastructure of connected walkable streets and open spaces run counter to the prevailing design of most suburban developments of the last thirty



years. As such, these ideas seem new and unfamiliar to many people, even though they have their origin in the railroad and streetcar suburbs common in the early decades of the 20th century.

Some people mistakenly believe that TOD means that the private automobile is outlawed, or discriminated against unfairly. Neither is true. What actually happens is that other modes of transportation -- walking, bicycling, bus and train -- are given equal prominence in people's daily lives, thus maximizing personal choice and

opportunities in the way we move about the cities, towns and suburbs.

Other critics dismiss TOD as a nostalgic return to a lost age of railroad transportation that is outdated in today's world of extensive automobile use. As noted above, the models for TOD are the railway and streetcar suburbs dating from two generations ago, and it is easy to see why many people confuse this use of historical precedent with recreating the nostalgic image of these places and their railroad origins. However, TOD is in fact predicated on the application of the *latest* transit technologies to solve some of the problems caused by our society's near-complete dependence on the automobile. But transit technologies in themselves are not sufficient to solve these problems; they must be linked to supportive land use planning and urban design that work together as a package to provide people with realistic and attractive options to using their car for every trip.

TOD principles are based on good urban design. These design concepts relate to the creation of good, efficient public infrastructure and attractive, useful public spaces. They are applicable at all scales of development. But they are different to the norm of spread-out suburban sprawl to which we have become familiar over the last three decades or more. As such, this unfamiliarity breeds a variety of concerns on the part of citizens.

Citizens' Concerns

The best way for local government and developers to address citizens' concerns is to meet early and often in the process. In the case of TOD, this is particularly appropriate because the concepts may be unfamiliar to many people. This lack of understanding can be effectively countered by making sure that citizens understand that the ideas contained in TOD are based on tried and true American precedent – fine old railroad and streetcar suburbs.

Chief among the concerns expressed by neighbors who are not familiar with the TOD concept are:

- Density;
- Traffic; and
- Mixed uses.

Density: Density fears are bred by the inclusion in a TOD of a range of housing types, including smaller single-family lots, attached townhouses, and multi-family dwellings, in addition to the conventional medium-sized single-family lots. This increased density in the Core Area, (the 5-minute walk or 1/4 mile radius) and to a lesser extent in the surrounding Neighborhood Ring (the 10- to 15-minute walk or 1/2 mile radius), is fundamental to the success of TOD, providing the ridership necessary for the transit system to work effectively.



Minimum densities of 7 to 10 dwellings per acre are usually required in the outer Ring, with the Core averaging 15 dwellings per acre in smaller scale centers to upwards of 50 dwellings per acre in high-intensity urban developments at the centers of towns and cities.

A mixture of housing types is sometimes resisted by neighbors who have come to prefer residential segregation by economic level, and who worry that smaller, cheaper homes nearby

may reduce their property values. This concerns neighbors who may equate these cheaper housing types with low-income people and crime.

This fear can be allayed by visits to successful older neighborhoods, where apartments and townhomes are often situated close to larger single family homes, with no loss of property value. This is often because all dwellings share a similar design, and thus the smaller, cheaper homes do not stand out.

While density statistics are important in providing adequate ridership for the transit system, they are almost irrelevant to the issue of design quality. Because increased densities are so vital to TOD planning, TOD zoning sets up rigorous design standards for the layout and design of such developments, balanced by incentives and increased flexibility for the developer.

Existing community residents may also resist increasing density because of their concerns with school over-crowding. Their argument might be to allow the proposed development, but to reduce the number of dwelling units in the development. These are understandable objections given our comfort level with low-density suburban patterns, but it refutes the goals and benefits of TOD.

The foremost goal of increasing density is to support transit ridership, and secondly to make neighborhoods walkable and more efficient. Such an arrangement reduces travel time to schools and increases the opportunity for students to walk and ride transit to schools in their neighborhoods. If the same land area were developed at lower density, additional students would live in a more scattered pattern. That alternative forces reliance on bus and auto transportation for school trips, one of the main financial drains on school systems.

Traffic: Public concerns about density and school overcrowding are linked to those about traffic. Despite the presence of transit, neighbors are worried that more people in an area means more car trips and thus more congestion. The key to answering these objections lies in the design of the neighborhood as a whole, in terms of its internal connectivity and its connections to adjacent areas.

People's automatic response to traffic congestion is to promulgate low density, large lot subdivisions, often with dead-end streets, under the illusion that this will reduce congestion. In fact, the opposite is true. Homes on large lots spread over a wide area generate more traffic, because their sparse populations can't support even the smallest convenience store or local workplace, forcing people to drive for work, goods and personal services. Furthermore, cul-de-sac street patterns are an inefficient form of layout, impeding the movement of vehicles and pedestrians through the neighborhood and forcing all vehicles to use the few roads that do connect, causing considerable congestion on these thoroughfares.

Residents focus on this "cut-through" traffic, trips by people who don't live in the neighborhood using the convenient network of neighborhood streets as short cuts to their destinations -- including the transit stop. The resolution of this problem is not to ban connectivity, but instead to design the street layout so that there are no "straight shot" streets that dissect the neighborhood in one easy passage. Curving streets, staggering intersections, and the inclusion of several traffic-calming devices such as stop signs, speed humps and speed tables can do this effectively.

Statistical analysis demonstrates how trip generation, and the total number of Vehicle Miles Traveled (VMT) rise dramatically with low-density schemes. By contrast, moderate and higher

density projects featuring a mix of uses on a network of connected streets that *disperse* traffic rather than *concentrate* it, fare better in such analytical models -- and in real life. Congestion is reduced because there are multiple choices of route for each trip, and by the fact that walking and bicycling are safe and realistic alternatives. When this connected network of streets focuses on a transit stop, the savings in vehicle trips can be even more dramatic.

New evidence of this reduction in traffic comes from a recent study by Wells and Associates on traffic generated by Reston Town Center in northern Virginia, as reported in October/November 2000 issue of New Urban News. The report shows a reduction of nearly 50% in traffic when compared to a similarly sized suburban development. The research identified trip reductions of 49.5% in the morning and 46% in the evening based on Institute of Transportation Engineers industry standards.

Reston Town Center comprise an 85-acre core area designed on TOD/TND principles, with a frequent bus service that links the core to Washington DC Metro transit system to the remainder of the town of Reston. Over and above this transit link, a major factor in traffic reduction is the synergy between uses. For example, the study reveals that pedestrians walking from the core generate 70% of evening restaurant traffic. Likewise, 40% of the cinema box office and 15% of retail sales were generated by people from within the central area. This success in reducing traffic demonstrates the importance of mixed use in TOD.

Mixed-Use: Mixing uses – allowing local stores, or small offices in certain locations – also can raise residents' ire. The reasons for this are less clear, as these facilities add to the amenities of the neighborhood. Generally, concerns come back to traffic, parking, and noise from customers and their affect on property values. The key here lies in designing the appropriate location for these uses, generally on busier corners and streets, focused around the transit stop, and adjacent to well-designed multi-family dwellings or denser, small-lot single family homes that are more compatible with retail or office uses. Good screening provisions for off-street car parking are also important.

The best way to calm the fears of mixed use, density and declining property values is to illustrate -- by images or guided tours -- the pleasant and safe environment that is provided by

both the older generation of traditional neighborhoods (the pre-World War II developments discussed earlier, which provide some of the models for contemporary TOD) and contemporary TODs in other parts of the region and country. Examples from Sunbelt cities like Dallas and Charlotte are especially useful. In almost every case questioning citizens will be able to find examples of smaller single family homes and apartments or condominiums nestling compatibly next to large expensive houses, with no detriment to either. They will be

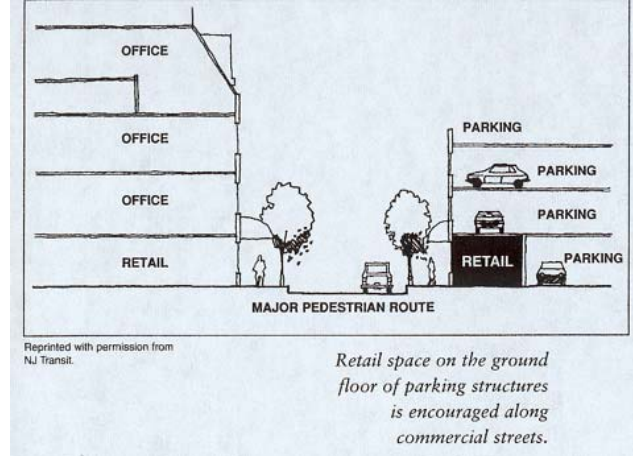


able to appreciate the short walk to the community park, or local shops, or to work in small-scale office and retail establishments sited along the busier streets. Such examples can illustrate the truism that density -- in the right place and connected to transit -- can be part of the *solution* to urban problems, not the cause.

Developers' Concerns

The highly integrated development strategy inherent to TOD design requires a more sophisticated approach than the real estate and development industries are often used to. These industries are highly segmented by land use category (such as single-family housing, multi-family housing, retail, office and industrial), and each category has its own practices, markets, trade associations, and financing sources.

Securing financing for a TOD project may thus be more difficult than for conventional suburban subdivisions. Well-intentioned developers are frustrated by rules imposed by lending institutions that discourage mixed-use development. Lenders who finance such developments are also frustrated by having capital tied up in loans that are performing well but which cannot easily be resold in the secondary market because of rigid underwriting requirements.



These secondary markets have been organized for many years around the same concepts as zoning ordinances -- single uses separated out into different pods of development, such as single family detached housing, multi-family apartments, retail, or office. Therefore capital has most easily flowed to developments with a dominant single use. Some signs of flexibility are emerging, but changes in the thinking of financial institutions at this level are slow.

While it is difficult for local governments to overcome these barriers single-handedly, they can serve as a catalyst to bring financial institutions and developers together to discuss ways to meet the need for more flexible lending standards. Local governments can also offer tax abatements as incentives for transit-oriented development. In addition, they can create a Tax Allocation District and offer tax-exempt public bonds to finance construction of some or all of a TOD project. Using such an approach in combination with leases of air rights over a parking lot owned by the transit agency would be one good way to draw private investors into a Transit-Oriented Development.

Future Potential

Despite these difficulties noted above, planners, local government officials, citizens and many developers nationwide, throughout the South, and in the Atlanta region, have shown great interest in TOD, particularly in areas that are experiencing growth-related conflicts. In summary, TOD achieves the following:

1. Enables a community's growth to be channeled into a physical form that is more sustainable in relation to energy usage;
2. Uses less land and natural resources by clustering development around new transit stations, and focusing redevelopment around stations in existing urban areas;
3. Discourages excessive auto use by providing efficient and convenient alternatives;
4. Provides for a wide variety of lifestyle options suited to the nation's fast-changing demographics; and

TOD has emerged in the center of the American debate regarding the future of its cities, towns and suburbs. By its emphasis on human-scaled community design based around clean,

efficient transit as an alternative to the automobile, TOD has established itself as one of the central themes of contemporary urban design and planning.

3. Administrative complexity

TOD zoning, like TND, operates on different principles than conventional zoning practices. Consequently, planning staff need a learning period to become familiar with the new concepts

The most important step towards easing the administration and enforcement of the TOD regulations is to use clear and unambiguous language in the ordinance itself with respect to five key elements:

- Spatial layout;
- Street design and connectivity;
- Building scale and massing;
- The provision and design of public open space; and
- Permitted uses and conditions.

Regulations that prescribe standards for traditional styles of architecture need to be well documented based on the historic basis of the community's aesthetic preferences, provide specific design standards, and be supported by an objective design review process.

The highest level of detail prescribed in TOD zoning concerns the design of public spaces -- streets, squares, parks, parking lots -- that form the shared physical fabric of a community. Providing this detail is a cost that is normally born by the developer. It is vitally important, therefore, to offset this burden on the developer by providing incentives that can save the developer money in other areas, or provide him or her with compensatory profit-making opportunities.

Incentives

Saving developers time, saves them money. Therefore, to gain their acquiescence to the higher design standards for public spaces, the municipality should reduce the approval time of projects, especially those that meet the design criteria set forth in the code. This may involve delegating more approval authority to staff members, or eliminating one or more levels of Planning Commission approval. It is important for planning officials, once they have adopted a detailed design-based ordinance, not to micro-manage every decision. The provisions of well-drafted TOD regulations will offset the need for the supervision of minutiae. In short, Planning Commissioners and elected officials should have confidence in their new code and stick to its provisions. Nothing is more frustrating and unfair to a developer than to have met all the provisions of a demanding ordinance and still find his or her approvals are held up in committee.

Other major incentives should be built into the ordinance to reward a developer for partnering with a municipality in achieving the new and upgraded community vision. These include:

- density bonuses for saving open space and incorporating this amenity as public parks;
- flexibility of single-family lot sizes within a neighborhood; and
- no arbitrary density caps for single and multi-family dwellings.

4. Cost to implement

Costs associated with implementing TOD affect two groups:

- Developers, and
- Local government

Developers

Developers' costs fall broadly under two headings:

- More and better public infrastructure; and
- Fees for more detailed, site-specific design work.

Infrastructure: The transit-supportive nature of TOD relies on a network of connected streets and public spaces, especially in the Core Area around the station. When TOD occurs in existing areas as a redevelopment project, this infrastructure cost may be minimal. By contrast, new greenfield sites will demand greater than average investment in the design and construction of streets and other public spaces. However, these costs can be offset and recouped by the developer in three ways:

1. Street widths can and should be substantially reduced from the conventional cross sections, thus saving in overall area of paving and impervious area.
2. The inherently greater density of TOD can generate a greater development yield from the project.
3. The freedom to manipulate lot sizes in the residential elements of the TOD can be used by an astute developer to match his or her housing product to profitable market segments of higher density housing.

Design: Because a successful TOD requires well-conceived three-dimensional design of site and building layout, the developer's preliminary plans need to be more detailed than conventional suburban developments. This means the developer must pay for more detailed design work early in the project, and indeed he or she may need to employ specialized designers who are familiar with the TOD concept rather than rely on engineering-trained site planners who are more used to generic suburban layouts.

Local Government

There are two main categories of implementation costs for local government:

1. More staff time to prepare plans and to deal with more complex applications; and
2. Capital Improvements

Staff Time: The primary and ongoing cost for the municipality is greater staff time. More staff time is needed to prepare Station Area Development Plans and create the new zoning amendments that are required. Planning staff also needs to work with developers in the early stages of plan development. It often falls to planning staff to teach developers who are unfamiliar with the TOD concept not only how to comply with the code, but also how to extract maximum benefit from the incentives built into the regulations. This takes time and staff expertise.

Capital Improvements: Many proposed and future transit stations will offer good infill and redevelopment opportunities. Some transit stop areas may be in need of street improvements, lighting, water and sewer enhancements, sidewalk, bikeway and greenway construction or repair, street tree planting and the creation or renovation of new public spaces. When these infrastructure and public facility improvements are needed to support low-density suburban development, they are typically done at the expense of the developer. By assuming part or all responsibility for these infrastructure costs, local governments will enhance the market attractiveness of station areas for development.

IV. Lessons Learned

In the January 2001 issue of *Planning*, the journal of the American Planning Association, an article on transit stations by Christine Kreyling refers extensively to a study by S.B. Friedman & Company, a Chicago-based real estate consulting firm, who studied six communities within the Chicago area's Metra commuter rail system. In the article Friedman & Company surveyed land uses around each commuter station and polled riders concerning their travel patterns.

Many commuters walked to the train in five of the six suburbs. Eighty percent of those who lived within 1/4-mile of the stations arrived on foot, but pedestrian traffic dropped off sharply for commuters who lived more than 3/4-mile from the station. Most of the commuters who arrived at the station from more than a mile away did so by car or bus. The study noted that at that distance from the transit stop, the impact of residential or community design diminishes. In other words, the principles of TOD are less relevant outside reasonable walking distance.



The study found that a commuter's decision to walk to the station was affected by a "pleasant walking atmosphere" -- defined as an interconnected network of streets with sidewalks, and human-scaled buildings fronting onto the street along the route. Stores were conveniently located near to the station. In most cases, the immediate surroundings of the stations do not include large parking lots that can act as barriers between the station and the surrounding neighborhood.

The study specifically questions conventional planning wisdom that parking lots attract more transit riders. A good pedestrian environment seems to be much more important than large areas of asphalt, which deter pedestrian involvement with the transit stop. The study recommended instead that parking facilities should be dispersed throughout the adjacent business district, with provisions for shared use outside rush hours.

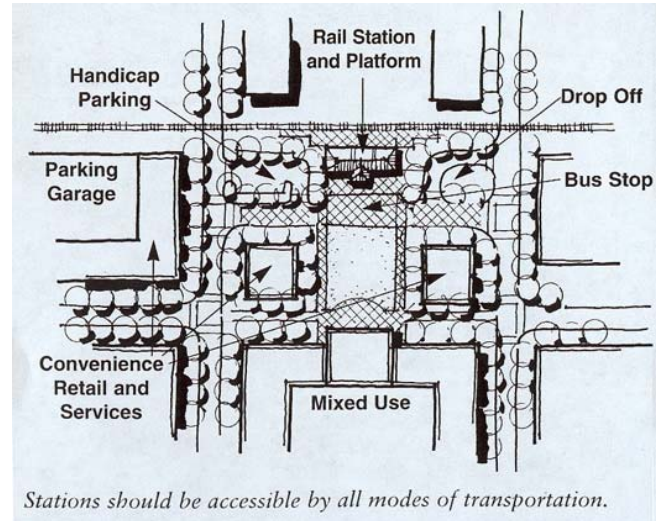
This research also identified two development models that achieve high levels of ridership. The first, the medium-density neighborhood, resembles the early 20th century railroad suburb. It is characterized by single-family housing at 4 to 5 dwellings per acre, low-rise apartment buildings that increase the overall density, and convenience retail and services at the station.

The second model is the higher-density suburban center. This offers large scale retail and/or commercial uses in mid-rise and even high-rise buildings, and residential development at a density of up to 60 dwellings per acre.

In both models, the four key factors in attracting riders are the same. In the critical 1/2-mile radius surrounding the stations:

1. The blocks are short;
2. Development is compact;
3. Housing is diverse and oriented towards the street; and
4. The streets and sidewalks are pedestrian-friendly.

Friedman & Company note that good transit ridership requires more than high-density development. It is more important to establish “a sense of place,” with the transit station as a focus. In short, good urban design is more important than planning statistics or formulae.



One other lesson that has been learned from experience in St. Louis, MO, is the need for Station Area Development Plans. These were not prepared when the station sites were selected and developed in that city, and as a result, the development around station sites has been disappointing. St. Louis officials say that if they could do the process over again, they would prepare station area plans earlier.

V. Implementation Guidelines

Implementation guidelines focus on two types of activity necessary for the implementation of TOD:

1. The Creation of Station Area Development Plans
2. The Drafting of a Zoning Text Amendment

Station Area Development Plans

The key elements in any TOD implementation strategy are the Station Area Development Plans. These plans for each station area should serve as blueprints for the implementation of TOD. They synthesize the various tools related to TOD planning, including land use, urban design, market incentives, regulatory tools and tax policies. Station Area Development Plans should be created through an intensive “charrette,” or design workshop process, involving property owners, local planners, elected officials, developers and other stakeholder groups. The Plans must include:

- a. land use
- b. layouts of public streets and open spaces
- c. vehicular, pedestrian and bicycle circulation
- d. parking design
- e. parks and green space
- f. station-specific design guidelines
- g. capital improvements programming
- h. transit service details
- i. market feasibility studies
- j. phasing.

Generally these plans should cover an area equivalent to 1/4-mile radius from the transit stop as the higher intensity Core, and up to 1/2-mile radius for the surrounding Neighborhood Ring. Clear connections to other more distant neighborhoods should be indicated.

Two sets of information need to be put in place prior to the production of these plans:

1. Station Area Classification System;
2. Station Area Development Guidelines¹.

Station Area Classification

There are ranges of densities for residential and non-residential development that can support transit in different ways at different locations, depending on the market potential, natural features, types of access and other local or regional circumstances.

This variety of conditions can best be codified into four different station area types as follows:

1. City Center -- highest intensity level at the downtown core of communities;
2. Specialized Urban Center -- high intensity level with some specialized retail or employment focus;
3. Village Center -- a medium to high intensity level serving a mixed-use district and surrounding area;
4. Neighborhood Center -- a medium to low intensity level serving a particular neighborhood.

Additionally, TODs may be classified as either:

- Employment-Led (predominantly office or retail, with only high-density residential dwelling types); or
- Residentially-Led (predominantly residential with only service retail and commercial uses).

Types 1 & 2 above are usually “Employment-Led.” Types 2 & 3 are usually “Residentially-Led.” This distinction is reflected in the Model Ordinances and briefly noted below:

1. An “employment-led” TOD where commercial and/or retail uses predominate (within a 5-minute walk of the transit station, with housing primarily located in the outer areas within a 10- to 15-minute walk).
2. A “residentially-led” TOD where the emphasis is upon higher density housing supported by service retail and commercial uses; and

Each type of TOD has minimum housing densities and Floor Area Ratios (FARs) according to its level of activity. These figures are *minimums* and can usefully be exceeded, with the design standard of the development controlled by the design regulations in the TOD zoning ordinance. In particular, FARs will often be higher in city center or high intensity urban center locations. These density levels can be summarized as follows:

¹ Notes in this section are based on material contained in the 1997 report “Station Area Development Guidelines” produced by the Triangle Transit Authority, Raleigh, NC

Type of TOD	Intensity	Residential Density (dua)		Non-Residential Density (FAR)	
		Core	Neighborhood	Core	Neighborhood
City Center	Highest	45	15	1.0	0.4
Specialized Urban Center	High	22	10	.75	0.3
Village Center	Medium	15	10	0.5	0.25
Neighborhood Center	Lowest	10	6	0.35	0.15

Station Area Development Guidelines

In addition to these numerical criteria, each Station Area Development Plan should establish clear objectives and detailed guidelines for planning and urban design development. The objectives of a TOD plan can be summarized as follows:

- to provide safe and walkable neighborhoods focused on the transit stop;
- to design streets for pedestrian comfort and safety;
- to provide more housing choices;
- to arrange shops, offices, restaurants and homes in proximity to each other and transit;
- to provide attractive surroundings and buildings that are “welcoming” to the pedestrian;
- to provide better access to jobs and stores;
- to provide more choices of commuting options;
- to provide cleaner air and water at a regional scale by reducing Vehicle Miles Traveled (VMT) and the amount of land consumed for development; and
- to provide room for parks and open green space.

To achieve proper implementation of these objectives, three development principles should be followed at all times:

1. Mixed and Concentrated Land Use;
2. Adequate Access and Parking;
3. Enhanced Station Area Environment.

These are discussed in more detail below:

1. Mixed and Concentrated Land Use

This principle focuses on concentrating a diversity of complementary uses within walking distance of the transit stop. These uses should be:

- well-integrated
- create active and secure pedestrian environments
- promote balanced levels of transit ridership throughout the day
- reduce dependence on the automobile

The Plan arrangement should require:

- the most intense focus of mixed uses to be around the transit stop itself
- a mix of uses that is transit supportive
- higher housing densities for new development in the transit stop 1/4-mile Core Area, and in the 1/2-mile Neighborhood Ring

- infill redevelopment that complements existing development and increases the intensity of land uses

2. Adequate Access and Parking

This principle deals with issues of traffic and circulation. It provides for:

- circulation patterns that form a safe, convenient and accessible network for all types of transportation
- interconnecting streets, sidewalks and bikeways throughout the transit stop area and its surrounding development
- direct connections to the transit stop
- adequate parking facilities that balance the need to support transit and other uses with the need to reduce the land area consumed by parking

The Plan arrangement should require:

- an extensive pedestrian and bicycle network
- pedestrian-friendly and visually unobtrusive parking areas
- parking structures to be lined at street level by small retail shops wherever possible
- an interconnected street system that accommodates pedestrians, bicyclists and different types of vehicles
- clear circulation at the transit stop
- improvements that support an efficient system of connecting feeder, local or regional bus service at the transit stop

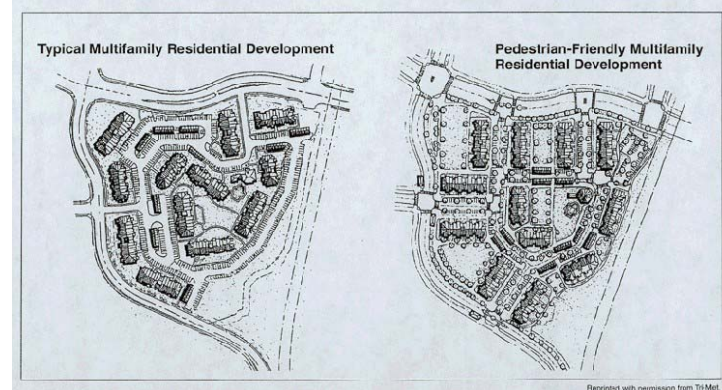
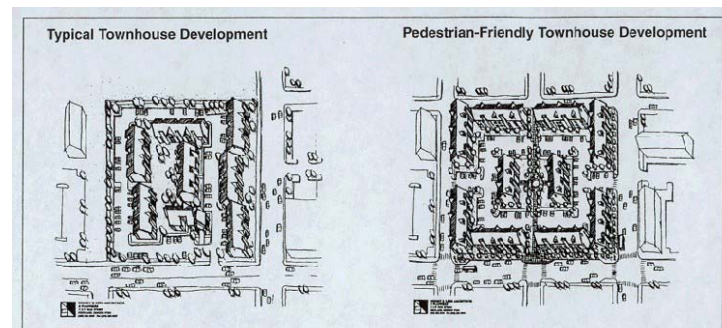
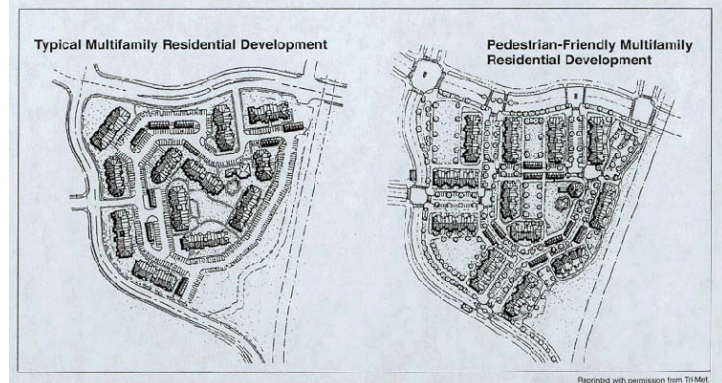
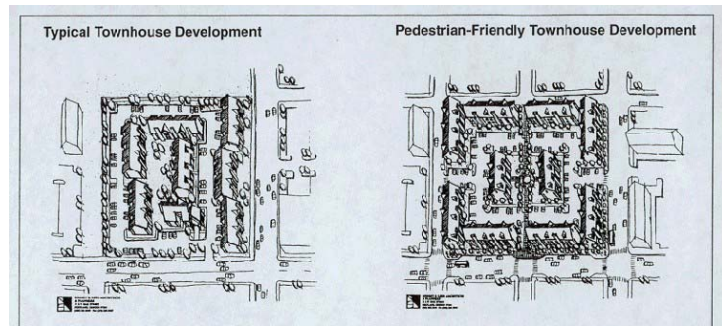
3. Enhanced Station Area Environment

This principle concentrates on:

- creating a compact neighborhood environment within the station area that is attractive, safe and orderly
- organizing public and private spaces to invite pedestrian activity in comfort and security.

The Plan arrangement should require:

- street tree planting programs for all major streets
- public open spaces – especially squares -- to be located and designed so that they become the



- centers of urban activity
- buildings to be located along streets and around squares in ways that define and enhance the pedestrian environment
- façades of all buildings to reinforce the human scale of the pedestrian environment and to enhance pedestrian routes.

Zoning Text Amendments

There are three different conditions to be considered:

1. A place specific TOD identified in the community's Comprehensive Plan;
2. A Developer's Proposal for a TOD;
3. A General (non-place specific) TOD Zoning District to stimulate development.

1. TOD and the Comprehensive Plan

A community's Comprehensive Plan may locate future TODs in relation to existing or projected transit corridors and stations; or the Plan may only indicate a transit corridor in general terms. If TOD locations can be identified, it is best for local government to initiate a location-specific Station Area Development Plan and a related Zoning Text Amendment. The Station Area Plan should be developed through an intensive "charrette," or design workshop, as noted above, and followed through with detailed zoning regulations tailored to the specifics of the plan. The Mt. Mourne TOD, in Mooresville, NC, is an example of this process and product whereby the zoning text amendment was developed *after* the design was completed. (The process described in point (3) below, and model codes set out in the Appendix to this Toolkit represent an alternative approach whereby zoning amendments are created before any site specific plan is proposed in order to prepare the ground for future TOD proposals).

For the site-specific option, an urban design master plan was created on TOD principles, and agreed to by the landowners involved. The plan laid out the framework of streets, open spaces, commercial and residential areas, and from this master plan a zoning district was crafted that specifically met the expectations of the city and the property owners. With the vast majority of the property owners in favor of the new plan and zoning district, the new regulations were passed by the Planning Commission and City Council in a straightforward and timely manner.

With the adoption of the new zoning district as the regulatory document, the urban design master plan became an advisory plan to guide and facilitate future development. The precise content of the urban design master plan was not binding upon the parties in terms of its exact building and street layout. Its purpose was to create an initial three-dimensional vision for the TOD that could be agreed to by all parties, and from which appropriate zoning district regulations could be drafted. This whole process took a little over four months.

2. Developer's Proposal

A variant on this procedure can arise when a developer wishes to create a new project using TOD principles. Unless there is already a TOD district in the zoning ordinance, such a project will almost always need a rezoning approval. The best practice for the municipality to follow in this case is for the municipality and the developer to co-sponsor a public charrette on the project, involving input from all interested parties, similar to point one above.

The developer's consultant will prepare a detailed master plan similar to the one noted above. The consultant also provides the basic information to be included in the zoning district regulations to be adapted by the municipality as an overlay district.

Once the master plan has been finalized and explained to the public, the proposal and the relevant documentation for the rezoning to the new TOD district will proceed through the normal channels of public hearings before being adopted. It is likely that minor design changes to the master plan will be needed as work develops. Generally these can be handled as administrative matters by planning staff under the provisions of the TOD ordinance.

A typical time frame for this process from charrette to approvals might be as little as four to six months. However, citizen opposition to TOD concepts can delay or derail worthy projects unless local government can underpin the development effort with an effective public education program.

3. General Zoning District

Two different TOD general zoning districts may be considered:

- b. Transit Station Area TOD
- c. Transit Corridor Overlay District

Transit Station Area: The simplest scenario for a new TOD zoning district is for local government to create such a district as a tool to have on hand for use either by government initiative or by a developer's request. The Model Code contained in this toolkit provides two examples of this type, focused on a transit stop; one for a TOD that is primarily residential, and one for a TOD that is primarily employment based.

Because this option is not site specific at its inception, except that it obviously has to relate to the location of a future station on a transit line, none of the special public workshop or "charrette" provisions noted above for other scenarios need apply. The process would simply comprise the normal notification procedures for draft preparation, public hearings and comment, and adoption of the final document as an addition to the existing zoning ordinance. Public forums should contain images or examples that clearly illustrate the concepts being discussed. Community concerns about density and traffic congestion can be best addressed by utilizing examples of successful pre-World War II railroad and streetcar suburbs that form the models for TOD.

Care should be taken to ascertain any conflicts between the existing zoning ordinance and any provisions of the new TOD district. Any such conflicts should be resolved in favor of the TOD provisions if the new district is to operate effectively.

Transit Corridor Overlay: This is intended for transit-supportive development along transit corridors — primarily light rail or local bus service with plentiful stations at frequent intervals. There is not necessarily the focus on one particular transit stop, but rather on the development of a higher intensity corridor, and how this corridor relates to the other neighborhoods located a couple of blocks off the corridor.

Such overlay proposals for transit corridors are usually proposed in relation to a specific route, and are best created by a two-step process. First the principles are established in a series of meetings with property owners and other stakeholder groups in each corridor venue. Next, the results are collated into a draft ordinance that is applicable citywide. This document is then presented for approval by elected officials, with the important proviso that the overlay district cannot become effective "on the ground" until a detailed community design charrette on the specifics of streetscape design and building placement has been held in each transit corridor.

VI. Additional Resources

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White, S. Mark. "The Zoning and Real Estate Implications of Transit-Oriented Development." *Legal Research Digest*, 12, Jan. 1999.

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Other links and contacts

Web Site for BART: www.bart.org

For information about the Fruitvale Transit Village, see: www.unitycouncil.org

For transit-oriented development in Portland, OR, see: <http://tri-met.org/reports>

For transit-oriented developments in Dallas, TX, see: www.dart.org

For transit-oriented developments in Denver, see: www.rtd-denver.com

Web Site for the Congress for the New Urbanism; principles and practice concerning New Urbanism and Traditional Neighborhood Development: www.cnu.org

VII. Appendices

Appendix A: Case Studies

Case Study #1: BART System, San Francisco

Two new projects show how mixed-use infill developments can reclaim undeveloped areas adjacent to commuter rail stations to revitalize existing communities and to create new ones.

In the San Francisco Bay area, the well-established commuter rail network – for all its other successes – left many stations isolated in parking lots, cut off from adjacent communities. In the past few years Bay Area Rapid Transit (BART) has sponsored small TODs, typically 10 to 12 acres in an effort to knit the stations back into their neighborhoods. (These initiatives are discussed in articles in the December 2000 issue of *New Urban News* and the January 2001 issue of *Planning*, from which these notes are abbreviated).

BART's TOD program tries to repair some of the damage caused by the rail system, which in some cases demolished existing housing when its tracks sliced through neighborhoods during its initial installation. Two TODs in particular are noteworthy: Fruitvale Transit Village has begun construction, and Richmond Transit Village is scheduled to break ground during 2001.

BART strongly supports these projects for community development and economic development reasons. But their experience shows that such projects can be complicated to put together and difficult to finance.

The cost of replacing surface parking with decks is one of the most difficult issues. BART has partially resolved this problem by crediting the costs the developer incurs for decked parking against the developer's lease payments for the land.

The density and mixed-use characteristics of TODs can also be a problem with local jurisdictions. BART prefers higher density around the transit stations in accordance with its regional goals, while local communities prefer low densities within their own jurisdictions. Negotiations have led to compromises in the middle of these conflicting objectives. Because tax receipts drive local economies, some local governments prefer to see revenue-generating land uses such as big-box retailers rather than housing. Local governments are divided between wanting to create a sustainable community constructed around their BART station, and their desire for greater tax revenues.

For the transit agency itself, TODs create opportunities to raise revenue through long-term ground leases for new development and increased ridership through the new residential populations next to the transit stations. Such development can reduce overall car trips by providing a range of daily goods and services at station locations, and improving neighborhood safety by having more "eyes on the street."

Fruitvale Transit Village, Oakland, CA:

In the case of the Fruitvale development, the goal is to revitalize a neighborhood left in decline by suburban migration, and now home to a largely Hispanic population. Although 30,000 commuters use the station each day, there is nothing in the adjacent area to encourage them to linger. The station is served by ten acres of surface parking, and the project now under construction aims to redevelop the parking lot with shops, community services (such as a health

clinic and a library) and housing. Nearly half the \$100 million development cost comes from federal sources, helping to leverage the remainder from private investors.



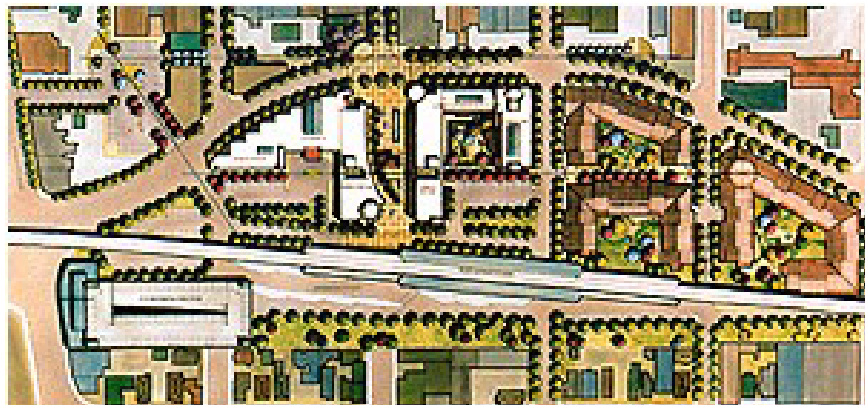
The plan, designed by McLarand Vasquez Emsiek & Partners of Irvine, California, has the benefit of considerable local input in terms of the local population's needs – namely public health and education facilities and retail that would capitalize on the Hispanic culture of the area. The layout links the BART station with the neighborhood's existing retail strip by means of three story mixed-use buildings bisected by a pedestrian plaza that provides direct access to the transit stop. Parking is contained in a deck and within the interior of the new blocks. Above the parking are offices and housing grouped around courtyards. In addition to the 40,000 square foot health clinic and 7,500 square foot library, the project comprises 25,000 square feet of offices, 25,000 square feet of restaurant or retail space, and 270 units of mixed-income housing. Adjacent to the site, land has been donated by the city of Oakland for a senior housing complex, funded by the Department of Housing and Urban Development.

Richmond Transit Village, Richmond, CA:

BART's other development initiatives include proposals for its Ashby and Del Norte stations, but the project for Richmond Transit Village is the most ambitious in terms of trying to create a new neighborhood on a previously barren site.

This 13-acre site is bisected by the BART rail line and by Amtrak. The project includes BART and Amtrak stations, and \$12 million in public funds will pay for a new multi-modal facility and a police substation. The majority of the site is devoted to housing, in the form of 231 for-sale townhouse and live/work units grouped around six small parks, planned and financed by a private developer. This results in a low-rise arrangement of the buildings along a concentrated grid of streets and pedestrian plazas. Approximately 9,000 square feet of retail space is located at corners along a pedestrian route that leads directly to the train station, and a further 15,000 square feet of retail lines the base of the project's parking deck that fronts onto an adjacent arterial street.

To reduce train noise permeating through the project, the designers, Calthorpe Associates, have used a special "single aspect" housing type alongside the tracks instead of the more conventional and unattractive high walls. These special designs follow European precedent



by concentrating living and bedroom spaces towards the front, away from the tracks, and limiting openings in the rear walls to smaller, fixed windows serving bathrooms and kitchens.

The relevance of this case study lies in:

1. The revitalization of underutilized land and/or declining communities immediately adjacent to a heavy commuter rail system that is similar to those found at several MARTA stations in the metro area;
2. The public-private partnerships necessary to create the development opportunity in the face of considerable obstacles;
3. The involvement of local communities in developing objectives and program elements for each location.

Case Study #2: Lindbergh Station, MARTA System, Atlanta

A high-density mixed use TOD transforms an aging suburban area into a model urban center.

The Lindbergh Center, on 51 acres surrounding MARTA's Lindbergh station comprises 4.8 million square feet of development: 2.7 million square feet of office space, 330,000 square feet of retail space, 566 apartments, 388 condominiums, and a 190-room hotel. The station is currently the second busiest on the MARTA system, accommodating 26,000 passengers a day.

The master plan creates a mini-city of medium- and high-rise structures and decked parking grouped around a street grid centered on the existing MARTA station. This pedestrian-friendly street grid connects to the surrounding neighborhood and Piedmont Road.

Lindbergh Center, well under construction as of Spring 2001, is developed on land leased by MARTA, which will float bonds to cover about half of the \$81 million total project cost. The development is structured around Bell South as the major anchor tenant. The telecommunications corporation decided to relocate many of its operations in a transit-supported central location as a way of meeting the



transportation needs of many of its workers. The corporation believes that having a guaranteed high quality transit service, and a pedestrian-friendly urban environment that can meet the daily needs of its workforce provide major incentives for attracting and keeping a good, stable workforce.

Relevance to Atlanta region:

1. This development provides one answer to Atlanta's traffic-related air quality problems. Bringing a large proportion of workers to the site by transit, and providing them with the range of facilities needed during the day within a comfortable and attractive walk reduces the number of car trips each day by those employed in the development. The inclusion of a large amount of housing for sale or rent also encourages people to live near their work, thus effecting a further small, but significant reduction in car trips, Vehicle Miles Traveled (VMT) and resultant air pollution.

2. This development achieves the floor area ratios and residential density appropriate to city center or urban center locations, despite being several miles outside the Central Business District (CBD). In the past, development around MARTA stations outside the CBD has been hampered by the large parking lot surrounding the station and relatively low FAR for surrounding property. The active participation of MARTA in a joint development made it possible to re-design station area parking and lend land and air space to support development that is well integrated with the station itself.

Case Study #3: Mount Mourne, Mooresville, NC

This project illustrates how an “Employment-Led TOD” with Park-and-Ride facilities can be planned on a greenfield site, and how the required zoning amendments for Transit-Oriented Development can be created and enacted swiftly.

In the Spring of 2000, the Town of Mooresville, NC, in Iredell County, approximately twenty-five miles north of downtown Charlotte, NC, commissioned a three-day public design “charrette,” or high-intensity workshop, to craft a plan for 1150 acres south of the town, adjacent to Exit 33 on Interstate 77. This area of largely undeveloped land contains a new regional hospital facility and is bisected by the line of the planned commuter rail service extending north to Mooresville from Charlotte.

The program called for the design of an “Employment-led TOD” to capitalize on the potential office development being spun off from the hospital, and for the creation of a “park-and-ride” commuter facility to serve the southern parts of Iredell County. These potentially conflicting requirements were resolved by a Master Plan, by David Walters of UNC Charlotte and the Lawrence Group of Davidson, NC, that created an “urban village” adjacent to the transit stop to the north, and 1000 park-and-ride car parking spaces close by to the south. The parking lots were set out in a grid of four quadrants centered on an urban park created from a grove of mature trees that once shaded a long-gone farmhouse.

Each quadrant of surface parking was sized as an urban block to accommodate longer-term future redevelopment as structured parking lined with mixed-use residential and commercial buildings. Within the five-minute walk radius (1/4-mile) a mixture of residential and commercial space provided 635 new dwellings and new workspace for 1043 employees, in addition to the 1000 parking spaces for commuters and a variety of service retail. The ten-minute walking radius (1/2-mile) provided for 887 new dwellings and workspace for



a total of 3286 new employees, not counting existing hospital personnel.

Areas outside the TOD radius were designed as “transit-supportive” development, with new neighborhoods of medium-density residential development, predominantly single family housing, with strategically located multi-family and mixed-use along a newly boulevarded Hwy 21 leading north into Mooresville town center. The plan also included sites for parks, a community center, churches, and an elementary school. Adjacent to the freeway interchange, existing business parks and strip commercial developments were improved by a new collector road and street system (by the LPA Group). This was designed to link back to the transit stop, and by the addition of high quality office developments that offer the choice of walking with the convenience of car access.

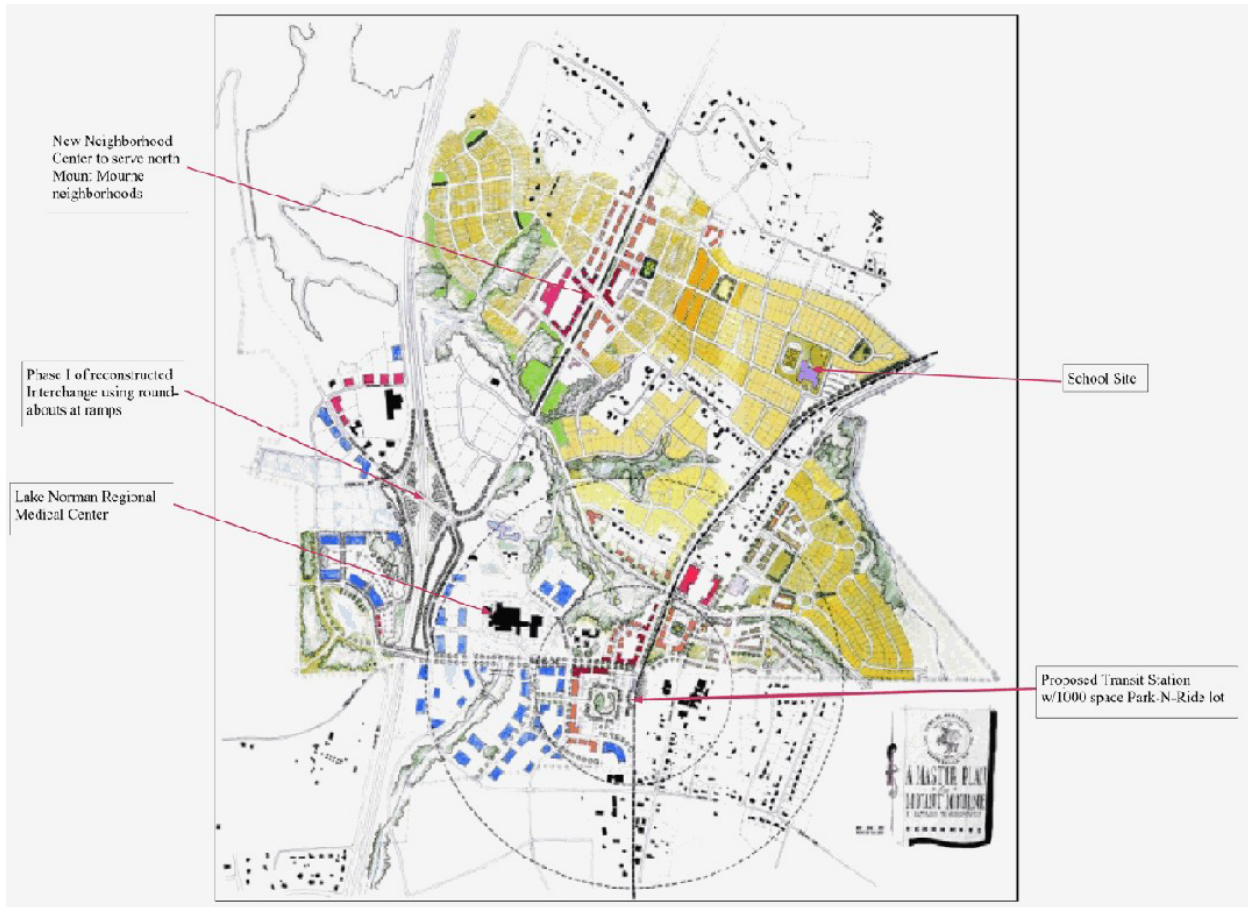
The overall development of 1150 acres totaled:

- 576 single-family dwellings;
- 656 multi-family dwellings;
- 80,000 square feet of retail space;
- 2,226,000 square feet of office space;
- 185,000 square feet of mixed-use office/retail; and
- 184 acres (16% of site area) of parks and public open space.

The Master Plan, as the product of a public design workshop with plenty of citizen participation, was quickly approved and adopted by the town with little controversy. The town then commissioned the design team to prepare the zoning amendments necessary to enact the planning and urban design content of the Master Plan. The Lawrence Group prepared these over the summer of 2000, in a simplified graphic form for ease of understanding, and they were adopted by the town in the late Fall. From the public design charrette to the adoption of the zoning amendments took only eight months.

Relevance to Atlanta region:

1. This project illustrates the great public benefits that accrue from using the public design charrette as a planning and development tool:
 - It engenders wide ranging public involvement in plan development, thus providing elected officials with clear evidence of public support and input;
 - The process creates a detailed site-specific design that integrates the desires of the public authority, major property owners and other stakeholders into a comprehensive Small Area Plan; and
 - The plan is based on feasible design proposals worked out in their size, spatial arrangement, and relation to topography, site value and other special site circumstances. This is much superior to conventional “broad brush” zoning plans that simply designate an area for a particular use with little consideration given to the physical form of development.
2. The zoning amendments are crafted in relation to the site-specific plan, thus ensuring overall compliance with the TOD plan vision;
3. The zoning amendments include plenty of easy-to-read graphics to make them easily comprehensible to all concerned. (The full package of Master Plan and Zoning Amendments are included as options within the Model Ordinance section of this Toolkit).



Case Study #4: Anchor Mill, Huntersville, NC

This project comprises a “Residentially-Led TOD” on a brownfield site in a central location within a fast growing smaller community.

The Anchor Mill site near the center of Huntersville is 32 acres in size, and comprises a large single story mill building adjacent to the railroad tracks, with the remainder of the site being unused open space. The T-shaped mill building was damaged by fire, but the brickwork shell remains in reasonable condition and is suitable for adaptive reuse. The site is bounded on the west by the Norfolk & Southern railroad line slated for conversion to a commuter rail system; on the north by the remains of an old mill village; to the north east by a conventional cul-de-sac subdivision; to the southeast by the busy Huntersville-Concord Road, and to the south by a collection of low grade residential development, including several mobile homes. On the other side of the Huntersville-Concord Road lies the Vermillion development, a successful and high quality Traditional Neighborhood Development (TND) designed by the firm of Duany Plater-Zyberk (DPZ). The site is just over 1/4-mile from Huntersville town center.

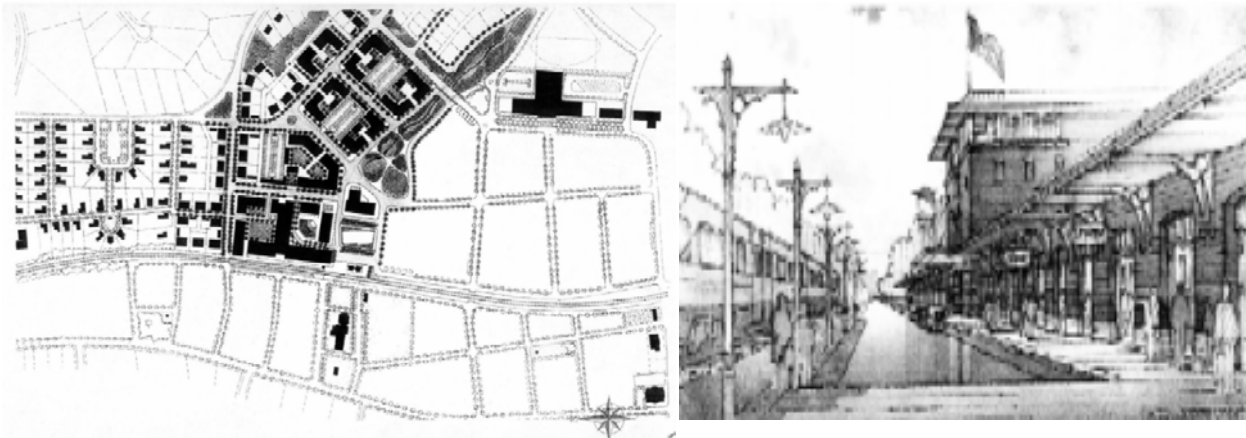
The proposed commuter rail service to Charlotte, 14 miles to the south along the improved and upgraded Norfolk & Southern rail line includes a transit stop to serve central Huntersville located on the Anchor Mill site. This stop is conceived as a high-density pedestrian and “kiss-and-ride” stop, with park-and-ride needs being met by stations to the north and south. The central area of Huntersville is largely underdeveloped, and this high-density project will support the revitalization of the town center.

In 1996, the town adopted a new Zoning Ordinance and Zoning map based on a comprehensive set of Traditional Neighborhood Development (TND) principles, otherwise known as New Urbanism. While not setting out specific Transit-Oriented Development (TOD) zoning districts, in almost every respect the Zoning Ordinance supported and encouraged TOD. This supportive legislative document was an important attribute in attracting development interest to the site.

The town developed the design, also by DPZ, in a week-long public design “charrette,” or intensive workshop, in collaboration with developer Nate Bowman, the developer of the adjacent Vermillion TND. The project comprises 578 multi-family dwellings at a gross density of 18 units per acre; nearly 30,000 square feet of other uses (retail, commercial and civic – mainly in the converted mill building and at street level in adjacent blocks) and over 1500 parking spaces for residents, employees and transit riders.

The design comprises a series of three- and four-story apartment buildings arranged as perimeter blocks surrounding mid-block parking decks, together with a range of “urban villas,” two- and three-story apartment buildings designed to resemble large single-family homes, served by surface parking lots to the rear. These “urban villas” are located toward the edges of the site adjacent to existing single-family development to mediate the scale between the denser apartment buildings and the existing homes. All buildings are located within a five-minute walk of the transit stop, and front onto pedestrian-friendly streets. This street network is designed to connect directly to the Vermillion TND across the Huntersville-Concord Road, thus increasing the catchment area for transit-supportive development. An existing creek on the site is converted to a linear park that connects underneath the Huntersville-Concord Road to the park spaces of the Vermillion development.

The old mill building is converted and extended to provide a commercial, retail and civic focus for the development.



In a longer term projection, the low-density, low quality housing immediately to the south of the project site is envisioned as a high-density, multi-family format, to create a true urban village within a five to ten minute walk of the transit stop.

Relevance to Atlanta region:

The design of the residential core is compatible with commuter and light rail systems, and demonstrates how a small derelict site can be converted to high intensity uses to act as a catalyst for the surrounding neighborhood. The density figures meet the minimum standard for a “Village Center” TOD. It is very important to connect to other neighborhoods in ways that bring them within reach of the transit stop and thus increase the pedestrian density needed to support transit operation.

The fact that the Town of Huntersville had in place a transit-supportive Zoning Ordinance was important in generating development interest in an otherwise uninviting site. The town is in negotiation with the developer regarding equitable sharing of clean-up costs. The developer is also in conversation with the Charlotte Area Transit Authority (CATS) about the precise placement of the train station to ensure conformity with the plan. These joint public-private relationships are crucial to the success of these kinds of project, which would otherwise be difficult to realize.

Case Study #5: Central Avenue, Charlotte, NC

This local bus transit corridor illustrates how certain transit routes can become self-supporting at the fare box and how the environment of the corridor can be improved by the application of a pedestrian-friendly zoning overlay district.

Central Avenue runs for approximately four-and-a-half miles east from the center of Charlotte to Eastland Mall, a regional shopping center. It connects a series of diverse neighborhoods, with affluent middle-class areas in close proximity to working class neighborhoods of various ethnic groups. There is a particular and recent concentration of Hispanic and Asian residents and business owners in the area. Large portions of many of these neighborhoods are within a five-minute walk of the bus route.

The corridor is lined by a mixture of commercial and high-density residential land uses, and is served by several buses that use Central Avenue as a major portion of their longer routes, connecting the center city to employment centers in outlying suburbs. The transit supportive pattern of development has not always been the result of conscious planning, but nonetheless provides useful lessons. One small portion of the corridor has survived as a thriving “Main Street” for the neighborhood, with older buildings, containing an eclectic mix of stores fronting directly onto the street. A new public library has been well sited at the corner of a major intersection, and an older building nearby has been nicely converted to a neighborhood post office.

Other portions of the corridor have been developed in a more suburban fashion, with small businesses set back behind shallow parking lots. However, the combination of land uses supports considerable pedestrian traffic, especially on the part of new residents from cultures where walking is a normal part of the urban experience.

Accessible directly along the corridor are: a good supermarket, banks, coffee shops, a pharmacy, a library, a special educational facility, a bakery, a variety of ethnic food stores and restaurants, trendy clothes shops and second-hand furniture stores, book stores, camera and record stores, an art gallery, professional offices, clubs and bars, a public park, and churches. Within a five-minute walk are a wide variety of single and multi-family residential neighborhoods.

While not all these businesses occupy first-rate premises, most enjoy good business, and many strive to maintain their buildings to a good standard. However, there are several substandard sections, and the corridor, as a whole would benefit from infrastructure improvements to improve pedestrian safety and general attractiveness.

To this end, the Charlotte-Mecklenburg Planning Commission established a new Pedestrian Overlay District (POD), to support such improvements. The POD includes a more flexible blend of uses that more easily allows and promotes urban diversity within the corridor. The overlay zoning provides for more flexibility in parking standards and mixing uses within the same

building, and generally requires new development to build up to the sidewalk with parking to the side or rear. It also establishes height ratios on new development, allowing dense development along the corridor, but protecting adjacent single-family neighborhoods from intrusive new building.



The Pedestrian Overlay District was developed for several corridors in Charlotte, in each case with the direct input of business owners and residents from nearby neighborhoods. The regulations require a site specific streetscape plan to be developed in a series of public workshops, establishing new

curb lines, sidewalk improvements, “build-to” lines for new structures and tree planting provisions.

Relevance to Atlanta Region:

The Central Avenue corridor, despite achieving its level of success more by circumstance than conscious planning, holds several lessons – for both existing corridors and newly designated ones involving local bus or light rail service with frequent stations.

a) Existing Corridors

In cases where substantial bus traffic occurs, this can be made more efficient by the policies that require mixed-use and high densities along the corridor. As pointed out in *The Canadian Transit Handbook (3rd Edition)* if there is a balanced mix of residential, commercial and employment uses along the length of a transit route, then trips will generally be shorter and more directionally balanced. This leads to higher and more uniform utilization of transit vehicles, and allows more frequent service to be provided. This improved level of service, in turn, provides a good context for stimulating transit-supportive development.

It is well established that transit is more attractive if a wide variety of uses are located along a transit route. But it is also essential that the route have good pedestrian facilities, both for safety and to provide the level of attractiveness that is required to encourage pedestrian activity. Along bus routes where there is already good ridership, local government should promote high intensity mixed use, with density incentives to encourage developers. These should be accompanied by architectural design standards and a streetscape plan to improve the physical setting and to safeguard the interests of adjacent residents.

b) New Corridors

Many of the same rules and procedures relevant for existing situations apply in new corridors. The two most important considerations are:

- Specify the correct mix of high intensity mixed uses that generate ridership along the corridor;
- Create an urban design framework that resolves the potential conflict between high density mixed uses along the corridor and lower density residential areas that may be adjacent.

Appendix B: Model Ordinances

This comprises three ordinances for different TOD conditions:

1. Residentially-led TOD around a transit station (primarily residential with only service retail and commercial);
2. Employment-led TOD around a transit station (primarily commercial with retail and higher density housing); and
3. A Pedestrian Overlay District applicable for transit corridors (especially suited to light rail and local bus routes with continuous development rather than separated nodes).

1. **TOD-R: TRANSIT-ORIENTED DEVELOPMENT DISTRICT – RESIDENTIALLY – LED** **Draft Ordinance - Huntersville, NC**

Policy Objective

Facilitate the creation of compact pedestrian-oriented neighborhoods within ½ mile of rail rapid transit stations. The neighborhoods would be predominantly residential in nature with compatibly-scaled commercial uses.

Strategies

- To establish a new zoning district with the following characteristics:
 - ❑ directs concentrations of multi-family and attached housing to transit station areas
 - ❑ establishes design standards sufficiently high that residentially-driven transit-oriented-development areas can be properly zoned by public initiative, without benefit of a conditional district zoning plan
 - ❑ specifies minimum homes per acre within the 1/4-mile radius and within the 1/2- mile radius of station sites
 - ❑ specifies maximum number of parking spaces
 - ❑ limits non-residential uses to those known to be transit-supportive
- To limit opportunities for new apartments and attached homes in areas distant from transit stations by limiting apartments and attached homes that are beyond the 1/2-mile walking distance from transit stations. Generally, such higher density housing should only be permitted in areas not well served by transit in accordance with other clear growth management strategies, such as Traditional Neighborhood Development (TND), or appropriate infill policies set out in the Comprehensive Plan.

Typical changes to a municipality's Zoning Ordinance Changes are as follows:

- ❑ Amend General Districts of the zoning ordinance, by adding the following to the list of zoning districts.

Transit Oriented Development – Residential (TOD-R)

Intent: **The transit-oriented residential district is established to support higher density residential communities that include a rich mix of retail, restaurant, service, and small employment uses within a pedestrian village format. Land consuming uses, such as large lot housing and large retail outlets are excluded from this district. The TOD-R may be located on developable and redevelopable parcels within the 1/2-mile catchment area of designated rapid transit station sites. The district establishes a primarily residential village within a 10-minute walk of a transit station that serves a residential population of sufficient size to constitute an origin and destination for purposes of rapid transit service.**

a) Permitted Uses

Uses permitted by right

- banks
- bed and breakfast inns
- boarding or rooming houses for up to six roomers
- civic, cultural, and community facilities
- conference centers
- congregate housing for senior populations
- dormitories
- government buildings
- hotels and inns
- indoor motion pictures
- multi-family homes
- offices, general, medical, professional
- personal, professional, and technical services
- research and development services
- restaurants without drive-through windows
- retail establishments
- single family homes
- transit stations
- workshops and studios for the design and manufacture of art, craft and artisan products

Uses permitted with conditions

- churches
- day care centers
- essential services 1 and 2,
- parking lot as principal use
- schools
- taverns and bars, up to 6,000 SF
- transit shelters
- stalls or merchandise stands for outdoor sale of goods at street front (encroachment onto sidewalk may be permitted by agreement with

- town); outdoor storage expressly prohibited².

Uses permitted with a Special Use Permit

- any use permitted by right or with conditions where size of first floor area exceeds 15,000 SF.
- any permitted non-residential use or collection of non-residential uses that exceeds the maximum permitted in a TOD-R district by paragraph e) 5) of this section.

b) Permitted Building and Lot Types

- apartment
- attached house
- civic
- detached house
- mixed use³ up to 15,000 SF of first floor area
- storefront up to 15,000 SF of first floor area
- workplace up to 15,000 SF of first floor area

c) Permitted Accessory Uses

- accessory dwelling,
- day care home (small),
- home occupation,
- accessory uses permitted in all Districts

² items for outdoor sales are returned to building at end of each business day; goods not brought in at close of business day are considered outdoor storage.

³ The mixed use building duplicates the shopfront building type and has at least two occupiable stories; at least 50% of the habitable area of the building shall be in residential use, the remainder shall be in commercial use.

d) General Requirements

- 1) Along existing streets, new buildings shall respect the general spacing of structures, building mass and scale, and street frontage relationships of existing buildings.
 - New buildings that adhere to the scale, massing, volume, spacing, and setback of existing buildings along fronting streets exhibit demonstrable compatibility.
 - New buildings that exceed the scale and volume of existing buildings may demonstrate compatibility by varying the massing of buildings to reduce perceived scale and volume. The definition of massing in Article 12 illustrates the application of design techniques to reduce the visual perception of size and integrate larger buildings with pre-existing smaller buildings.
- 2) On new streets, allowable building and lot types will establish the development pattern.
- 3) A master subdivision sketch plan shall be provided with any application for development approval. It shall comply with the standards of this district and with the most detailed development policies and/or plans adopted by the Town Board for the station's catchment area. The master plan shall include a topographic survey and shall show the location and hierarchy of streets and public open spaces, location of residential, commercial, and civic building lots, street sections and/or plans, an outline of any additional regulatory intentions, phasing, and any other information, including building elevations, which may be required to evaluate the interior pedestrian environment and conditions at project edges. Phasing of development to provide for future horizontal and vertical intensification to meet the standards of this section is permitted.
- 4) A single building on an existing lot shall comply with the standards of this district and with the most detailed development policies and/or plans adopted by the Town Board for the station's catchment area, but shall require zoning and building permits only.

e) Development Provisions

- 1) Minimum Development Size: None
- 2) Maximum Development Size: None
- 3) Minimum residential density within 1/2-mile of a transit station should average 12 dwelling units/acre, with higher densities concentrated within the first 1/4-mile of the station and lower densities within the second 1/4-mile.

- 4) Parking standards for TOD-R:

	<u>Minimum</u>	<u>Maximum</u>
• Efficiency apartment	1 space/unit	2 spaces/unit
• One bedroom apartment/attached house	1.25 spaces/unit	2 spaces/unit
• Other dwelling units	1.5 spaces/unit	2 spaces/unit

- 5) A maximum of 10,000 square feet of non-residential development shall be permitted for each 250 dwelling units within 1/4-mile of a transit station site. Non-residential square footage may be prorated for larger or smaller residentially developed projects. All non-residential development shall be located within 1000 feet of the station site, and shall be oriented to provide direct and convenient pedestrian access from the transit station.

f) Design Provisions

1) Neighborhood Form

- The illustration labeled “More Urban Conditions: Typical Characteristics” (Appendix 2, Streets) shall guide the general arrangement and distribution of elements in the project.
- The area of the project shall be divided into blocks, streets, lots, and open space.
- Similar land uses shall generally front across each street. Dissimilar categories shall generally abut at rear lot lines. Corner lots that front on streets of dissimilar use shall approximate the setback established on each fronting street.

2) Streets

- Public streets shall provide access to all tracts and lots.
- Streets and alleys shall, wherever practicable, terminate at other streets within the neighborhood and connect to existing and projected streets outside the development. Cul-de-sac shall not exceed 250 feet in length, must be accessed from a street providing internal or external connectivity, shall be permanently terminated by a vehicular turnaround, shall provide pedestrian and bicycle connection(s) through the turnaround to the connected street system, and are permitted only where topography makes a street connection impracticable. In most instances, a “close” or “eyebrow” is preferred to a cul-de-sac. Vehicular turnarounds of various configurations are acceptable so long as emergency access is adequately provided.
- The average perimeter of all blocks should not exceed 1,350 feet. No block face should have a length greater than 500 feet without a dedicated alley or pathway providing through access.
- A continuous network of rear alleys is recommended for all lots; rear alleys shall provide vehicular access to lots 60 feet or less in width.
- Utilities shall run along alleys wherever possible.
- Streets shall be organized according to a hierarchy based on function, size, capacity, and design speed; streets and rights-of-way are therefore expected to differ in dimension. The proposed hierarchy of streets shall be indicated on the submitted sketch plan. Each street type shall be separately detailed. Street types illustrated in Article 5 represent the array of elements that are combined to meet the purposes of neighborhood streets: building placement line, optional utility allocation, sidewalk, planting strip, curb and gutter, optional parallel parking, and travel lane(s). Alternative methods of assembling the required street elements will be considered to allow neighborhood street designs that are most appropriate to setting and use.

- To prevent the buildup of vehicular speed, disperse traffic flow, and create a sense of visual enclosure, long uninterrupted segments of straight streets should be avoided. Methods:
 - 1) a street can be interrupted by intersections designed to calm the speed and disperse the flow of traffic (Appendix 2) and terminate vistas with a significant feature (building, park, natural feature);
 - 2) a street can be terminated with a public monument, specifically designed building facade, or a gateway to the ensuing space;
 - 3) perceived street length can be reduced by a noticeable street curve where the outside edge of the curve is bounded by buildings or other vertical elements that hugs the curve and deflect the view;
 - 4) other traffic calming configurations are acceptable so long as emergency access is adequately provided.

3) Buildings and Lots

- All lots shall share a frontage line with a street or square; lots fronting a square shall be provided rear alley access.
- Consistent build-to lines shall be established along all streets and public space frontages; build-to lines determine the width and ratio of enclosure for each public street or space. A minimum percentage build-out at the build-to line shall be established on the plan along all streets and public square frontages.
- Building and lot types shall comply with Appendix 1.
- Large-scale, single use facilities (conference spaces, theaters, athletic facilities, for example) shall occur behind or above smaller scale uses of pedestrian orientation. Such facilities may exceed maximum first floor area standards if so sited.

4) Open Space

Open Space is defined as any area that is not divided into private or civic building lots, streets, rights-of-way, parking, or easements that diminish the utility or aesthetic quality of the space. Design of urban open space shall comply with Appendix 4.

5) Parking Lot Landscaping

Parking lot landscaping shall comply with Appendix 3.

6) District Edge Conditions

Along any boundary of a TOD-R district that abuts a lot with an established single-family detached dwelling, the following two edge conditions shall both apply.

- a) A minimum 40-foot wide semi-opaque buffer shall be constructed along the common boundary, on the site of the developing use; construction of the buffer is the responsibility of the developing use. Upon written agreement of the owner of the established single-family home, the builder/developer, and the Planning Director, a 6' masonry wall may be constructed by the developer in lieu of the 40' buffer, in which case the width of the buffer may be reduced to the width of the wall.
- b) Free-standing structures or the end units of attached structures on lots along the common boundary (or abutting the required buffer) shall be limited to two stories or 26 feet in height, whichever is less.

Special Uses in TOD-R Districts

Uses permitted in the TOD-R district that exceed maximum first floor area or exceed the maximum limit for non-residential uses are permitted subject to approval of a Special Use Permit.

The Town Board shall issue a Special Use Permit for the subject use(s) and building(s) if, but not unless, the evidence presented at the Special Use Permit hearing establishes each of the following:

- .1 That along any street providing primary pedestrian access to a transit station:
 - Street level building edge(s) shall not exceed one-half of the approved block length, and
 - distance between pedestrian entries at street level shall not exceed 100 feet, and
 - at least twenty percent (20%) of the area of the street level façade shall be composed of windows and doors
 - standards above are met by either the principal building, or by the construction of liner buildings along street level.
- .2 That the proposed buildings and uses shall not substantially increase the demand for automobile access to the transit-oriented development.
- .3 That the proposed buildings and uses meet the Intent statement for the district.

2. TOD-E: TRANSIT ORIENTED DEVELOPMENT DISTRICT -- EMPLOYMENT LED Draft Ordinance - Huntersville, NC

Policy Objective

Facilitate the creation of high employment office development within ½ mile of rail rapid transit stations. Streets and buildings are arranged for convenient pedestrian circulation. The target uses are offices that provide workspace for 40 to 70 or more workers on each acre of developable land.

Strategies

To establish a new zoning district with the following characteristics:

- ❑ directs high employment office development to transit station areas
- ❑ specifies minimum floor area ratios and limits opportunities for high employment office space in low intensity suburban office parks through modifications to existing zoning districts.

Typical changes to a municipality's Zoning Ordinance Changes are as follows:

Amend General Definitions:

- ❑ Add a definition for Floor Area as follows:

Floor Area. The sum of the gross horizontal areas of each floor of the principal building and any accessory buildings or structures measured from outside of the exterior walls or from the center line of party walls. The term does not include any area used exclusively for surface or structured parking of vehicles or for building or equipment access, such as stairs, elevator shafts, and maintenance crawlspace.

- Add a definition for Floor Area Ratio (FAR) as follows:

Floor Area Ratio (FAR). The total floor area of the building or buildings on a lot or parcel divided by the gross area of the lot or parcel.

- Add a definition for Catchment Area as follows:

Catchment Area. The area surrounding a rapid transit station location that is within convenient walking distance of the transit stop or boarding platform. New development in a catchment area is subject to specific standards and development intensities associated with “transit oriented development” (TOD) zoning districts. When used in conjunction with a specified measurement of distance (usually 1/4-mile or 1/2-mile), that distance is measured by computing actual walking distance along existing or proposed streets and/or pedestrian walkways.

Amend Zoning Districts, as follows:

- Amend General Districts, by adding the following to the list of zoning districts.

Transit Oriented Development – Employment (TOD-E)

Intent: The transit-oriented employment district is established to accommodate general office uses and office support services in a highly pedestrianized setting. General office, characterized by 40 to 70 employees per acre, is the predominant use. Uses that employ relatively few workers, such as warehousing and distribution, are excluded from this district. The TOD-E may be located on developable parcels within the 1/2-mile catchment area of rapid transit stations. The district establishes an employment node within a 10-minute walk of a transit station that serves a workforce of sufficient size to constitute a destination for purposes of rapid transit service.

a) Permitted Uses

Uses permitted by right

- colleges, universities, and technical schools
- conference facilities
- hotels and inns
- financial services
- government offices
- hospitals, nursing homes, and convalescent care facilities
- offices
- professional, personal, and technical services
- transit stations

- workshops and studios for the design and manufacture of art, craft, and artisan products

Uses permitted with conditions

- day care center
- essential services 1 and 2
- parks
- multi-family homes in mixed use buildings
- single family homes in mixed use buildings

Uses permitted with a Special Use Permit

- any use permitted by right or with conditions where FAR is less than 0.35⁴
- light manufacturing
- accessory warehousing exceeding 25% of the finished floor area of the principal use

b) Permitted Building and Lot Types

- civic building
- highway commercial (for hotel and conference facilities only), minimum FAR of 0.35⁵
- mixed use⁶
- shopfront
- workplace, minimum F.A.R. of 0.35⁷

c) Permitted Accessory Uses

- retail, restaurant, bars and taverns, personal services, clinics and similar workplace support uses up to 20 percent of first floor area of any building, or of a multi-building project taken as a whole.
- warehousing not to exceed 25% of the finished floor area of the principal use
- accessory uses permitted in all districts

⁴ FAR ratios vary according to location, from 0.35 minimum in less dense Neighborhood Center TOD locations, to 0.50 minimum in Village Center TODs, to 0.7 minimum in Urban Center TODs, to 1.0 minimum in City Center TOD locations. These are MINIMUM figures for the 1/4 mile Core Areas, and can be reduced to 0.15, 0.20, 0.25, and 0.30 respectively for the Surrounding Ring areas within a 1/2-mile of the transit stop.

⁵ FAR varied according to TOD location as noted above.

⁶ The mixed use building duplicates the shopfront building type and has at least two occupiable stories; at least 50% of the habitable area of the building shall be in residential use, the remainder shall be in commercial use.

⁷ FAR varied according to TOD location as noted above.

d) General requirements

- 1) Along existing streets, new buildings shall create a transition in spacing, mass, scale, and street frontage relationship from existing buildings to buildings in the Transit Oriented Employment district.
 - New buildings are expected to exceed the scale and volume of existing buildings, but shall demonstrate compatibility by varying the massing of buildings to reduce perceived scale and volume.
- 2) On new streets, allowable building and lot types will establish the development pattern.
- 3) A master subdivision sketch plan in compliance with this district shall be provided with any application for development approval. It shall comply with the standards of this district and with the most detailed development policies and/or plans adopted by the Town Board for the station's catchment area. The master plan shall include a topographic survey and shall show the location and hierarchy of streets and public open spaces, location of residential, commercial, and civic building lots, street sections and/or plans, an outline of any additional regulatory intentions, phasing, and any other information, including building elevations, which may be required to evaluate the interior pedestrian environment and conditions at project edges. Phasing of development to provide for future horizontal and vertical intensification to meet the standards of this section is permitted.
- 4) A single building on an existing lot shall comply with the standards of this district and with the most detailed development policies and/or plans adopted by the Town Board for the station's catchment area, but shall require zoning and building permits only.

e) Design Provisions

- 1) Every building shall have frontage on a public street or square.
- 2) New construction favors general office uses, with accessory retail, personal services, restaurant, and similar uses located at street level and residential uses permitted on third and/or fourth floors.
- 3) Notwithstanding the height restrictions of Appendix 1, Building and Lot Types, new buildings in the Transit Oriented Employment district are limited to four stories or 52 feet in height, whichever is greater in Neighborhood Center or Village Center TODs. Minimum building height is 26 feet, measured at the eave line, except as indicated in 4) b), below.
In Urban Center or City Center TOD locations, there is no height limit, except as indicated in 4)b), below.
- 4) District Edge Conditions

Along any boundary of a TOD-E district that abuts a lot with an established single-family detached dwelling, the following two edge conditions shall both apply.

- a) A minimum 40 foot wide semi-opaque buffer shall be constructed along the common boundary, on the site of the developing use; construction of the buffer is the responsibility of the developing use. Upon written agreement of the owner of the established single-family home, the builder/developer, and the Planning Director, a 6' masonry wall may be constructed by the

developer in lieu of the 40' buffer, in which case the width of the buffer may be reduced to the width of the wall.

- b) Free-standing structures or the end units of attached structures on lots along the common boundary (or abutting the required buffer) shall be limited to two stories or 26 feet in height, whichever is less.

Special Uses in TOD-E Districts

Uses permitted in the TOD-E district that fail to meet minimum floor area ratio (FAR) or otherwise have the potential for reducing employment intensity are permitted subject to approval of a Special Use Permit.

The Town Board shall issue a Special Use Permit for the subject use(s) and building(s) if, but not unless, the evidence presented at the Special Use Permit hearing establishes each of the following:

- .1 That for uses employing less than 30 people per shift on each gross developed acre (building and parking combined), the building is not located within 1300 feet of a transit station, measured along any street or combination of streets providing primary pedestrian access to a transit station
- .2 That along any street in the district that provides primary pedestrian access to a transit station:
 - Street level building edge(s) shall not exceed one-half of the approved block length, and
 - distance between pedestrian entries at street level shall not exceed 100 feet, and
 - at least twenty percent (20%) of the area of the street level façade shall be composed of windows and doors
 - standards above are met by either the principal building, or by the construction of liner buildings along street level.
- .3 That the proposed buildings and uses shall not substantially increase the demand for truck and automobile access through the pedestrian-oriented street system of the TOD.
- .4 That the proposed buildings and uses meet the Intent statement for the district.

3. PED OVERLAY DISTRICT

CITY OF CHARLOTTE, NC, ZONING ORDINANCE SECTION 10. OVERLAY DISTRICTS

Section 10.801. Purpose.

The purpose of the Pedestrian Overlay District (PED) is to reestablish an urban fabric by promoting a mixture of uses in a pedestrian-oriented setting of moderate intensity. The district encourages the reuse of existing buildings that contribute to the unique character or history of the area. The standards also encourage high quality design, mixed use development, the use of public transit, and development, which complements adjacent neighborhoods.

Section 10.802. Uses

The uses permitted in the PED shall include those permitted by right and under prescribed conditions in the underlying district, except outdoor storage and outdoor advertising signs. All permitted accessory uses will also be allowed except drive-thru windows for restaurants and retail establishments and outdoor advertising signs.

In addition the following uses shall be permitted subject to the following requirements:

- (1) Dwellings, mixed use, subject to the standards of PED.
- (2) Drive-thru windows for office uses must be located to the rear of the building.
- (3) Nightclubs, bars and lounges as a principal use, shall be subject to the standards of this overlay district, and be at least 400 feet from any residential use in a residential district or from a residential district. This separation distance may be reduced by a streetscape plan approved by the City Council.

The following use, which is not permitted in the underlying district, shall be permitted: Residential uses in an underlying industrial district, subject to the standards of this overlay district.

Section 10.803. Development standards.

The following requirements apply to all buildings or uses in PED unless specified otherwise in Section 10.805:

(1) Minimum lot area

None required.

(2) Floor Area Ratio

No maximum.

(3) Minimum setback

The minimum building setback will be specified in a streetscape plan approved by the City Council. The minimum setback will be measured from the back of all existing or future curbs, whichever is greater. If the existing right-of-way is greater than the minimum setback from the back of existing or future curbs, the right-of-way line will become the minimum setback. If the existing curb line varies, the setback shall be measured from the widest section. Curb lines are to be determined by the Charlotte Department of Transportation (CDOT) in conjunction with the Planning Commission staff.

However, if new construction incorporates an existing structure located within the required setback, the CDOT and the Planning Commission staff may allow the setback for the addition to be reduced to the established setback. In no event shall the setback of any portion of the new structure be less than ten (10) feet from the back of the curb. The "Charlotte Tree Ordinance" will be applicable in addition to any approved streetscape plan. For the purposes of this section, the setback applies to all street frontages, not just to the street toward which the structure is oriented. All new transformer vaults, utility structures, air vents, backflow preventers, or any other similar devices, including these facilities when located below grade, must be behind the setback. No new doors shall be allowed to swing into the minimum, setback, except for emergency exit doors.

No walls or fences are permitted in the established setback, except as screening for parking as provided for in Section 10.803.(8) Screening.

(4) Minimum side and rear yards

None required. However, a 5-foot minimum side yard and/or a 20-foot minimum rear yard is required where the lot abuts an existing residential structure or a residential zoning district. If side and rear yards are provided, the minimum shall be five (5) feet.

(5) Maximum height

The permitted height shall be determined by the distance of the structure from property used and/or zoned for residential purposes. The base height for this district is 40 feet. The building height may increase one foot in height, over 40 feet, for every 10 feet in distance from the property line of the nearest site used and/or zoned for residential purposes, except for property zoned PED, MUDD, or UMUD. The intent of this standard is to allow the height of a portion of a structure to increase as the distance from residential properties increases. The maximum height shall be 100 feet.

(6) Parking standards

Provisions for parking and loading shall conform to the general requirements of CHAPTER 12, PART 2, OFF-STREET PARKING AND LOADING, except as provided for in this section.

(a) Permitted uses within this overlay district shall be required to provide off-street parking spaces for new uses as follows:

Residential uses:	one (1) space per dwelling unit
Restaurants/nightclubs:	one (1) space per 125 square feet
Hotels and motels:	0.5 space per room
For all other non-residential uses:	one (1) space per 600 square feet

The required number of parking spaces for any building within the district, including mixed use buildings, is the sum total of the requirements for each use in the building calculated separately.

A 25% parking reduction is allowed if located within 400 feet of a parking facility available to the general public. (Such facility must be wholly available for public use.) This section in combination with Section 12.202(2) allows for no more than a total of 25% parking reduction.

(b) For new parking, the minimum stall and aisle dimensions must conform to those of the current Charlotte-Mecklenburg Land Development Standards Manual. At least 75% of the required spaces must be full-sized spaces.

(c) No surface parking or maneuvering space is permitted within any required or established setback, or between the permitted use and the required setback, except that driveways providing access to the parking area may be installed across these areas. It is the intent that these driveways be as nearly perpendicular to the street right-of-way as possible.

(d) Underground parking structures are permitted, except within any required setback.

(e) On-street parking spaces located along the portion of a public street(s) abutting the use where parking is currently permitted may be counted toward the minimum number of parking spaces as required by this ordinance. Those on-street parking spaces must be located on the same side(s) of the street as the use, have a dimension of at least 22 feet in length, and be in locations approved by the Charlotte Department of Transportation (CDOT). However, on-street parking directly across the street from the use may be counted if that parking abuts property, which is undevelopable because of physical constraints. In the event that the City or State removes any on-street parking that was allowed to count toward the minimum requirement, the existing use will not be required to make up the difference and will not be made non-conforming.

(f) All recessed on-street parking shall have a minimum width of 8 feet.

(g) The parking requirements (for new spaces) of the district may be met on-site or off-site at a distance of up to 800 feet from the permitted use. Off-site parking to meet the requirements of this section may be provided through a lease, subject to the review and approval of the Zoning Administrator.

(h) Parking that is located to the rear of the primary structure may extend the entire width of the lot, with the exception of any required planting strips. Parking that is located to the side of the primary structure may cover no more than 35% of the total lot width.

(i) The five-foot perimeter planting strips as required under Section 12.206(3) may be eliminated if abutting parking lots are combined or interconnected with vehicular and pedestrian access. Surface parking lots must conform to the "Charlotte Tree Ordinance".

(j) Shared parking is permitted and encouraged.

(7) Loading standards

(a) Non-residential buildings and structures, excluding parking structures, subject to the provisions of this Part must provide a minimum number of off-street service/delivery parking spaces. These spaces must be designed and constructed so that all parking maneuvers can take place entirely within the property lines of the premises. These parking spaces must not interfere with the normal movement of vehicles and pedestrians on the public rights-of-way. These parking spaces must be a minimum of 10 feet by 25 feet and be provided in accordance with the following:

Non-residential uses with gross floor area:

Less than 50,000 square feet:	None required
50,000 – 150,000 square feet:	One (1) space
Each additional 100,000 square feet:	One (1) space

Existing buildings are exempt from these loading standards.

(b) No loading spaces may be permitted within any required or established setback, or between the permitted use and the required setback, except that

driveways providing access to the loading area may be installed across these areas. It is the intent that these driveways are as nearly perpendicular to the street right-of-way as possible.

(8) Screening.

(a) All surface parking lots for more than 10 vehicles, service entrances or utility structures associated with a building, loading docks or spaces and outdoor storage of materials, stock and equipment must be screened from the abutting property and view from a public street or from a transitway as designated by an adopted plan. Such screening shall consist of either a 5-foot wide planting strip consisting of evergreen shrubbery according to the provisions of Section 12.303(2), or a 3-foot high minimum to a 3.5-foot high maximum solid and finished masonry wall or alternative as approved by the Planning Director.

However, a wall cannot be substituted for the planting strip along any public street or transitway unless supplemented by landscaping in a minimum 3-foot wide planting strip. Screening may be reduced in height to 30 inches within sight triangles as required by the CDOT.

(b) Dumpsters or trash handling areas must always be screened from adjacent property and from public view with a minimum 6-foot high solid and finished masonry wall with a solid and closeable gate. A solid wooden fence may be substituted if the dumpsters or trash handling areas are not visible from a public street or transitway. Dumpsters are not allowed in any required setback or yard space.

(9) Buffers.

(a) All uses in the PED, other than single-family detached units, must provide buffering along all edges abutting residential districts. In addition, uses in PED, which are separated from a residential district by an alley of 25 feet or less, must also provide buffering along all edges abutting the alley. However, multi-family developments abutting multi-family uses or undeveloped multi-family zoning districts are exempt from this buffering requirement.

(b) Such buffering shall consist of a 10-foot wide planting strip. The planting strip shall consist of a combination of evergreen trees and evergreen shrubs. Plant materials will be provided at a minimum of six (6) trees and twenty (20) shrubs per 100 linear feet.

The 10-foot wide planting strip may be reduced to 8 feet and the shrubs need not be planted if a masonry wall with a minimum height of 6 to 8 feet in a side yard or 8 to 10 feet in a rear yard is installed. This buffering area may be interrupted with a gate/pedestrian access way to an adjacent site.

(10) Outdoor lighting.

(a) The maximum height of the light source (light bulb) detached from a building shall be 20 feet.

(b) All outdoor lighting will be screened in such a way that the light source can not be seen from any adjacent residentially used or zoned property.

Section 10.804. Urban Design Standards.

(1) Design Standards.

All buildings and uses developed in this overlay district must meet the following minimum standards:

(a) Street Walls.

The first floors of all buildings must be designed to encourage and complement pedestrian-scale interest and activity.

The first floor of all buildings designed and/or used for retail or office uses fronting directly to a street must include transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 50% of the length of the first floor building elevation along the first floor street frontage. Expanses of blank walls may not exceed 20 feet in length. A blank wall is a facade that does not add to the character of the streetscape and does not contain transparent windows or doors or sufficient ornamentation, decoration or articulation.

For all other uses it is intended that this be accomplished principally by the use of transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 25% of the length of the first floor street frontage. When this approach is not feasible, a combination of design elements must be used on the building facade and/or in relationship to the building at street level to animate and enliven the streetscape. These design elements may include but are not limited to the following: ornamentation; molding; string courses; belt courses; changes in material or color; architectural lighting; works of art; fountains and pools; street furniture; landscaping and garden areas; and display areas.

Ventilation grates or emergency exit doors located at the first floor level in the building facade oriented to any public street must be decorative.

(b) Structured Parking Facilities.

Structured parking facilities must also be designed to encourage and complement pedestrian-scale interest and activity.

Structured parking facilities must be designed so that the only openings at the street level are those to accommodate vehicular entrances and pedestrian access to the structure. In the event that any openings for ventilation, service, or emergency access are located at the first floor level in the building façade, they must be decorative and must be an integral part of the overall building design. These openings, as well as pedestrian and vehicular entrances, must be designed so that cars parked inside are not visible from the street or transitway.

The remainder of the street or transitway level frontage must be either available for commercial or residential space or an architecturally articulated façade designed to screen the parking areas of the structure and to encourage pedestrian scale activity. If fronting on a Class III (major arterial) or Class IV (minor arterial) street, the portion of the first level along the thoroughfare frontage must be available for retail, office, or residential space.

Cars on all levels of a structured parking facility must be screened from view from the street utilizing decorative elements such as grillwork or louvers.

(c) Canopies.

Canopies, awnings and similar appurtenances are encouraged at the entrances to buildings and in open space areas. Such features may be constructed of rigid or flexible material designed to complement the streetscape of the area. Any such facility may extend from the building to within two (2) feet of the back of the curb. Supports for these canopies are not allowed in the minimum setback. If this extension would reach into the public right-of-way, an encroachment agreement from the City or State is required.

(d) Building Entrances.

At least one operable pedestrian entrance per building must face a street or transitway and be distinguishable from the rest of the building. Such entrances must be recessed into the face of the building with a minimum 15 square foot area to provide a sense of entry and to add variety to the streetscape. No new doors will be allowed to swing into the minimum setback, except for emergency exist doors.

(e) Signs, Banners, Flags and Pennants.

Where signs, banners, flags and pennants for identification or decoration are provided, they must conform to the requirements of Chapter 13, except for the following:

(1) Specifications for permanent signs shall be according to Section 13.108a, except for signs located on any building wall of a structure shall have a maximum sign surface of all signs on one wall not to exceed 5% of building wall area to which the sign is attached, up to a maximum of 100 square feet. Wall signs may be increased by 20 square feet in lieu of a ground mounted or monument sign.

(2) No permanent detached pole signs shall be permitted in PED.

(3) Ground mounted or monument signs are allowed as follows:
a. Not to exceed 5 feet in height and 20 square feet in area.
b. Located behind the right-of-way and out of any sight distance triangle prescribed by the Charlotte Department of Transportation (CDOT).
c. Signs must be located a minimum of 14 feet from the existing or future curb, whichever is greater.

(4) No outdoor advertising signs will be permitted.

(5) Marquee and message center signs are allowed.

(6) Signs are allowed to project nine (9) feet into the required setback or one-half the width of the required setback, whichever is less. A minimum overhead clearance of eight (8) feet from the sidewalk must be maintained.

(f) Streetscape Requirements.

The streetscape requirements of the Pedestrian Overlay District (PED) are as follows:

(1) Sidewalks and trees will be installed in accordance with a streetscape plan approved by the City Council.

(2) Trees must be planted in accordance with the "Charlotte Tree Ordinance" as per the "Charlotte-Mecklenburg Land Development Standards Manual."

(3) The Planning Director in conjunction with the City Arborist/Senior Urban Forester shall have the authority to modify the above streetscape requirements, including the modification of the planting strip, sidewalk location and width in order to preserve existing trees.

Section 10.805. Applicability.

The PED will be applied to selected corridors as an overlay to existing zoning districts, but will not be applicable to the Mixed Use Development District (MUDD), Uptown Mixed Use District (UMUD), and the Neighborhood Services District (NS). If the regulations and standards of this Pedestrian Overlay District conflict with those of the underlying district, those of this overlay district shall apply.

A PED is not established until a rezoning petition is approved designating the boundaries for the particular corridor and a streetscape plan is approved by the City Council. The designated PED shall be shown on the official zoning maps. The development and urban design standards for a PED are stated in Sections 10.804 and 10.805 respectively.

Exceptions to Applicability.

New development within areas designated as PED is subject to the development and urban design standards of PED, with the following exceptions:

(a) Change of Use, Non-Residential to Non-Residential With No Expansion

(1) A change of use in an existing building from a non-residential use to another non-residential use that does not require more than five (5) additional parking spaces based on the PED parking standards will require screening of existing and expanded parking. However, none of the other PED requirements will apply.

(2) A change of use in an existing building from a non-residential use to another non-residential use that requires more than five (5) additional parking spaces based on the PED parking standards must provide all of the additional required parking. Existing parking must comply with the parking lot screening requirements of PED. Any additional parking must conform to the requirements of the PED, but none of the other PED requirements are applicable.

(b) Change from a Residential Use to a Non-Residential Use With No Expansion

If a residential use is changed to a non-residential use with no expansion, the use is exempt from the PED requirements except the following shall apply:

- (1) Implement streetscape requirements of PED
- (2) Remove any non-conforming parking and provide required parking of PED
- (3) Meet buffering and screening requirements of PED.

(c) Expansions of less than 5% of the building area or 1,000 square feet, whichever is less, are exempt from the PED requirements except:

- (1) Such expansion must meet the minimum setback, yard and height requirements of PED.

(2) Provide any required additional parking according to the PED standards.

(d) Expansions of more than (c) above:

The entire site must be brought up to the PED requirements, except any existing building which will become non-conforming may remain.

(e) Creation or expansion of outdoor seating

(1) Creation or expansion of outdoor seating is not considered an expansion of the building area.

(2) Additional parking spaces shall not be required unless such outdoor seating requires more than 5 added spaces based on the PED parking standards. Any additional parking must conform to the requirements of the PED, but none of the other PED requirements are applicable.

(3) Outdoor seating within an existing right-of-way or public sidewalk easement must have an encroachment agreement approved by the CDOT.

(f) Major facade improvements to existing buildings:

New exterior improvements (beyond paint and general maintenance such as roof or window repair or replacement) that exceed 25% of the current listed tax value of the entire property shall be subject to the following:

(1) Eliminate any non-conforming parking from the required setback. Such elimination will not require any additional parking even if the site is rendered non-conforming.

(2) Streetscape improvements and screening according to the PED standards will be required.

(g) Additional parking for existing development

No additional parking areas may be developed in the established setback.

(h) Removal of Required Buffer or Screening for Additional Parking

If an existing buffer or screening area is removed for more than five (5) additional parking spaces, an equal number of existing non-conforming parking spaces within the established setback must be removed and replaced with landscaping, patios and/or other related amenities, in addition to the requirements of Section 10.804(1)(e). The additional parking must meet the requirements of this overlay district.

(i) Previously approved plans

Sites governed by previously approved plans, pursuant to Section 1.100, "Procedures for establishing a vested right", may be developed accordingly, except that the streetscape improvements of the PED will be required.

Section 10.806. Administrative Approval

To offer some degree of flexibility the Planning Director has the authority to administratively alter any of the development and urban design standards by 5% in this overlay district. If administrative approval is for parking, the Planning Director will only grant this approval after consulting with the CDOT. On matters that do not involve quantitative measurements, the Planning Director may also make minor alterations if he/she determines that such changes would be an innovative design approach to development and/or would be in keeping with the general intent of the PED.

Any approval must meet the following criteria:

- (1) Incorporates existing buildings, trees, topographic features, or other existing elements consistent with the PED intent; and
- (2) Provides urban open space, seating, fountains, accent landscaping, or other similar urban pedestrian amenities consistent with the intent of the PED.

Section 10.807. Board of Adjustment

The Board of Adjustment shall have no jurisdiction to grant variances from the development and urban design standards of Section 10.804. A deviation from a development or urban design standard, however, can be obtained as a result of administrative approval pursuant to Section 10.806 or as a result of a Council-approved Pedestrian Overlay District (Optional).

The Board shall have no jurisdiction with respect to an interpretation of, or decision about, Section 10.803's or 10.804's urban design standards except as a result of notice of zoning violation for which an appeal can be filed to the Board.

Section 10.808. Pedestrian Overlay District (Optional); Purpose.

The Pedestrian Overlay District (PED) establishes minimum standards for development. However, circumstances may arise which those regulations do not address or did not foresee. Therefore, this section establishes an alternative process by which the City Council may evaluate and approve development, which does not meet the minimum standards of the PED.

The Pedestrian Overlay District (Optional), or PED-O, is established to provide a mechanism to review and address new development concepts, innovative designs, special problems, public/private ventures, and other unique proposals or circumstances, which cannot be accommodated by the standards of the PED. It also serves as a mechanism for altering or modifying of these minimum standards as they relate to a specific development. The PED standards form the basic framework as guidelines that will be used to evaluate a PED-O proposal, but any of the standards in the PED may be modified in the approval of the PED-O application.

Section 10.809. Pedestrian Overlay District (Optional); Application.

Petitions for a zoning map amendment to establish a PED-O should be submitted to the Charlotte-Mecklenburg Planning Commission. A PED-O classification will be considered only upon application of the owner of the subject property or his duly authorized agent. Applications must be accompanied by a schematic plan and by any supporting text that becomes a part of the amending ordinance.

Section 10.810. Pedestrian Overlay District (Optional); Review and Approval.

The establishment of the Pedestrian Overlay District (Optional) shall be in accordance with the procedures of Section 6, Part 2: Conditional Zoning Districts. The City Council will also consider the extent to which the basic standards of the PED are proposed to be modified, the impacts of those modifications on existing and future development in the area, and the public purpose to be served by permitting the requested modifications.

Section 10.811. Pedestrian Overlay District (Optional); Effect of Approval; Alterations.

Changes to approved plans and conditions of development will be treated the same as changes to the Zoning Map and will be processed in accordance with the procedures Section 10.806, Administrative Approval.

Section 10.812. Preliminary review.

Applicants planning any development or redevelopment in a PED area are required to meet with the Charlotte-Mecklenburg Planning staff, Engineering and Property Management Department, and Charlotte Department of Transportation at two points in the design process:

- (1) during the conceptual design process in order that the staff may offer input into urban design objectives and to interpret the approved streetscape plan for that area; and
- (2) during the design development stage to insure that the plans meet the desired objectives and the minimum standards for the district. The Pedestrian Overlay District (Optional) process does not exempt applicants from this preliminary review. Building permits will not be issued until the Planning Commission staff approves the proposal as in conformance with this.