



Montgomery County, Pennsylvania

Creating Walkable, Transit-Friendly Places

new town mixed use district

Montgomery County Commissioners

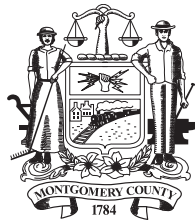
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The preparation of this document was financed in part through a Land Use Planning and Technical Assistance Grant from the Department of Community and Economic Development, as administered by the Governor's Center for Local Government Services, Department of Community and Economic Development.

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Introduction

Around the nation, suburban areas that were fresh and new 50 years ago have aged significantly. Many of these places are ready for redevelopment and are, in fact, being reborn as walkable mixed-use communities. Developers have begun requesting rezonings to allow this type of development; yet, because of the relative newness of the concept in Montgomery County, many municipalities do not have this type of zoning.

The New Town Mixed Use ordinance will help municipalities prepare for compact, walkable, mixed-use, and transit-friendly development. This type of zoning might be appropriate in old shopping centers, office parks, and industrial complexes, as well as most locations next to a passenger train station.

This publication provides background materials for municipalities.

- Part 1 provides an overview of the this type of zoning, including a list of the benefits and a few national examples.
- Part 2 focuses on critical planning issues, including where to apply new town mixed use zoning.
- Part 3 illustrates important design elements for appropriate mixed use development.
- Part 4 contains the model new town mixed use ordinance, which incorporates the design elements described in Part 3.
- The appendices address parking, streetscaping, open space, transit, and definitional issues.



Looney, Ricks, Kiss



*the new town
mixed use concept*

Part

1

new town mixed use district

Part 1 of this publication provides an overview of the New Town Mixed Use Concept and includes:

- A summary of key ordinance provisions
- Examples from Montgomery County
 - National examples
- Benefits of New Town Mixed Use zoning
- Discussion of Market and Demographic Trends



Key Elements of the New Town Mixed Use District

The New Town Mixed Use District is designed for places where compact, walkable, livable, and attractive development is appropriate. These might include commercial centers, transit hubs, or town center areas. A few key elements of this zoning are listed below.

- **WIDE VARIETY OF PERMITTED USES.** To create lively and sustainable places, residential, office, retail, entertainment, and other compatible uses are permitted.
- **DIVERSE MIX OF USES.** On tracts greater than an acre, the development must have a mix of uses. On tracts greater than 10 acres, the mix must include residential and non-residential components.
- **ATTRACTIVE CENTRAL PLAZA.** Plaza areas and other central gathering places must comprise at least 5% of the net tract area.
- **PEDESTRIAN-FRIENDLY BUILDING DESIGN.** Buildings must be placed close to streets, with front doors, windows, and an attractive design.
- **UNOBTRUSIVE PARKING.** To improve walkability and overall appearance, parking is required to be unobtrusive, preferably with parking garages and lots located to the rear of buildings.
- **APPROPRIATELY-SCALED HEIGHT.** A moderate height of 6 stories is permitted. This height allows a viable development that will not overwhelm adjoining neighborhoods.
- **SIGNIFICANT LEVEL OF DEVELOPMENT.** To encourage compact, walkable development that supports a mix of uses, up to 85% of a property can consist of impervious coverage.

Montgomery County Examples

Over the past two decades, Montgomery County has seen many new mixed use, walkable developments proposed by developers. A number of these have been built, and, although these developments do not meet every design aspect of the New Town Mixed Use ordinance, they do incorporate many key design elements. Four recently-completed examples are highlighted here.

Suburban Square Addition. Suburban Square is a mixed use shopping center and office complex built in the 1920s in Ardmore. Recently, the center has been adding buildings, including a 17,000 square foot mixed use structure with offices on the second floor and retail and restaurants on the ground floor. Some of its characteristics include:

- Stores and restaurants lining two streets.
- On street parking.
- Outdoor dining patios.
- Pedestrian connections to the Ardmore train station.

Towamencin Corporate Center. This suburban office development is located in Kulpsville near the Lansdale Interchange of the PA Turnpike. The development currently contains a 77,000 square foot office and a 5,000 square foot restaurant. Interesting features include:

- Multi-story office building at corner of two streets.
- Surface and structured parking behind or to the side of the buildings.
- Entry plaza with public art.
- Streetscaping, fountains, decorative walls, and landscaping along street frontage.



Ardmore



Kulpsville



Lansdale



Conshohocken

Village at West Main and Turbo Lofts. This mixed use development on the edge of Lansdale has two components: a 35,000 square foot commercial area with stores, restaurants, and offices and a converted industrial building with 45 loft apartments. This development, which involved the cleanup of a brownfield site, includes the following characteristics:

- Stores and restaurants designed in industrial style lining Main Street.
- Parking lot behind the buildings.
- Outdoor plaza area.

The Grande at Riverview. This 387 unit condominium apartment complex in Conshohocken consists of 3 courtyard buildings. The complex is on the edge of Conshohocken's downtown and replaced industrial development. This property's characteristics include:

- Buildings built up to the sidewalk along Elm Street.
- A location next to offices and very close to a retail area.
- Structured parking below the buildings that is not visible from Elm Street.

Before



Metropolitan Central

After



Payton Chung

Excelsior and Grand, St. Louis Park, Minnesota - Reinvention of a commercial strip

Before



Virginia Room, Arlington County Public Library

After



The Market Common Clarendon, Arlington, Virginia - Redevelopment of a shopping center

National Examples

Nationally, there are many new mixed use, walkable developments. These have been constructed in a variety of locations, including old commercial strips, vacant shopping centers, obsolete industrial sites, and transit-accessible properties. A few of these examples are highlighted here. The Appendix has more examples as well as important statistics about all the examples.



Before

Soffer Organization



After

Soffer Organization

Southside Works, Pittsburgh, Pennsylvania – Redeveloped steel plant site



Before

Peerless Rockville



After

Rockville Town Square

Rockville Town Square, Rockville, Maryland – Development on old shopping center next to a train station

Distinctive



Central plaza in Suburban Square, Ardmore

Walkable



Streetscape in Washington Town Center, New Jersey

Benefits of New Town Mixed Use Development

Compact mixed use development is different from most new development in Montgomery County, and many municipalities will legitimately be asking: why should we allow this type of development? There are many reasons to do this, including:

- **Positive Image.** Walkable mixed use developments are attractive and distinctive places that strengthen local identity and create a positive image for businesses, investors, and residents.

This positive image can be reinforced with the creation of public gathering places and amenities, such as urban plazas, central greens, and playing fields.
- **Transportation Choices.** Because of their density and design, new town developments make it much easier to walk or take public transportation than typical suburban development. Residents, employees, and visitors to the development will have a choice, and, when they choose to walk or take transit, they won't be adding vehicle trips to the road system.
- **Diverse Land Uses.** Local communities are often underserved by certain land uses, such as large scale offices or residential condominiums. Mixed use development provides an opportunity to get beneficial, underserved land uses built in the community. For example, a community may want more housing near its employment centers, which will reduce the distance people have to travel to work. Or, perhaps a neighborhood needs additional stores, and a mixed use development can provide these.

Fiscally-Responsible



Green roof on office building in Conshohocken

Sustainable



New offices in Kulpsville

- **Expanded Tax Base.** Compact mixed use developments are typically large investments, costing many millions of dollars. These high values generate high real estate taxes. In addition, residents and employees of these developments often earn higher incomes, which can translate into additional earned income tax revenues.

Because of the high value of these developments, they usually improve the value of nearby properties.

- **Site Cleanup and Environmental Improvements.** Many mixed use developments will be built on old industrial land that might be contaminated. This blighted land must be cleaned up for the development to occur.

In addition, new mixed use development must meet current environmental and stormwater standards, which means this development should have less of an environmental impact on local neighborhoods than the existing suburban development.

- **Sustainability.** Compact mixed use developments concentrate development where the road, transit, and utility infrastructure can support it. This is much more sustainable than sprawling development spread out among many greenfield sites.

Because of its concentrated character, new town mixed use development is much more energy efficient than the same amount of development built in a typical one and two story car-oriented style.



Pedbikeimages.org



Who Wants to be in Compact, Mixed Use Development?

New town mixed use development is not for everyone. Some people simply prefer single-family homes on large lots that are far from everything; however, many residents, retailers, and employers prefer an alternative style that allows more walking, social interaction, and connectedness.

Many prospective homebuyers and renters prefer NTMU-style development according to an article by Robert Charles Lesser & Company, which examined numerous surveys:

- Approximately 1/3 of housing consumers prefer compact walkable locations.
- Empty nesters and singles are most likely to prefer this type of housing and are often looking for walkability and sociability.
- Baby boomers have a high desire to be close to town centers, shops, restaurants, and other amenities.
- The number of empty nesters and single-person households is growing, which means demand for compact mixed-use development should continue rising.

Employers, particularly ones dependent on workers who can live wherever they

choose, often like NTMU style development, according to a 2004 report, *Smart Growth is Smart Business*:

- Knowledge workers and business executives want to be in locations with a high quality of life.
- Cultural amenities, restaurants, subway or light rail systems, and open space and parks appeal to these workers and attract economic growth.
- Employee productivity is higher in places with higher employment density and in more compact places served by an integrated transportation system.

Retailers want to locate in compact areas according to a Robert Gibbs' interview in *New Urban News*:

- Because of population density and income, retailers want to locate in inner-ring suburbs and postwar suburbs built from 1945 to 1960. They're also interested in greyfield sites (old, vacant shopping centers.)

*planning for compact
mixed use development*

Part 2

new town mixed use district

Part 2 of this publication discusses important planning issues for new town mixed use zoning. When preparing a new town mixed use district, municipalities should consider new development near train stations, redevelopment of old brownfield industrial sites, and intensification of malls, office parks, and shopping centers.

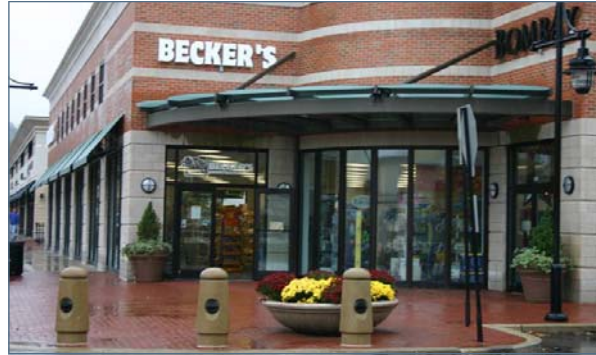
This part includes:

- General location guidelines
- Example of new development in suburban commercial area
 - Example of new development on old industrial site
- Example of new development in parking lot next to train station
 - Specific location guidelines for Montgomery County
 - Discussion of the legal framework for this zoning
- Comparison of impacts versus standard development

Let Fading Old Places Become New, Lively Spaces



Vacant retail buildings can becomeactive, pedestrian-oriented centers.



Abandoned industrial complexes can beredeveloped into vibrant new places.



Underutilized train station parking canbe transformed into new development.



Where Should New Town Mixed Use Development Go?

Compact mixed use development can be used in many different locations. It is most appropriate in places where a community wants to:

- Encourage walking.
- Create a sense of place.
- Provide a range of uses and activities for residents and employers.
- Support public transportation.

Mixed use development can be used to:

Reinvent Suburban Commercial Areas, such as:

- Shopping centers
- Malls
- Office parks
- Strip commercial areas

Redevelop Old Industrial Sites, such as:

- Riverfront areas
- Large, obsolete industrial complexes
- Industrial strips along railroad lines

Reinvigorate Transit Nodes, such as:

- Passenger train stations
- Bus terminals

EXISTING OFFICE DEVELOPMENT

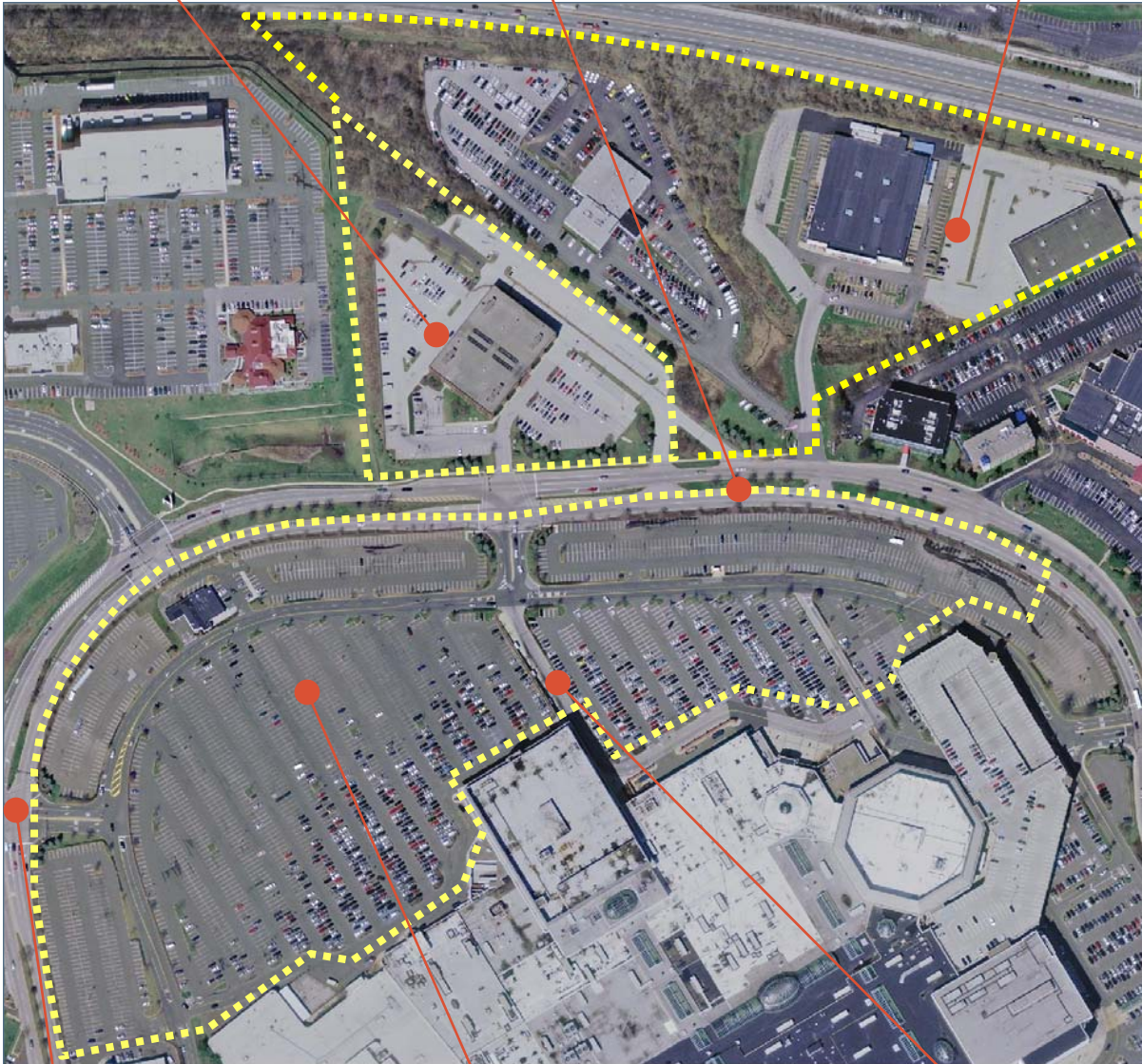
Excessive paved areas can be redeveloped.

INTERNAL ROAD SYSTEM

Development can be concentrated around an internal boulevard.

UNDERUTILIZED RETAIL LAND

Property contains two vacant retail buildings.



HIGHWAY ACCESS

Area has direct access to regional highway network.

MALL PARKING LOT

The large parking lot could be structured parking and new buildings.

PUBLIC TRANSPORTATION

Five bus routes meet at this mall bus station.

Reinventing Suburban Commercial Areas

Because Montgomery County has so many suburban office centers, industrial parks, and shopping centers, there are many potential locations for New Town Mixed Use development.

Many of these suburban commercial centers were built in the 1950s, 1960s, and 1970s and are now due for reinvestment. Around the country, this type of reinvestment has taken the form of new mixed use urban-style development.

This type of development typically accommodates automobiles but also encourages a walkable streetscape, where workers, shoppers, and residents can easily intermingle and move from one type of use to another.

The best suburban locations for new town zoning have one or more of the following:

- Good highway and road access.
- Intense existing development, typically with large parking lots.
- Declining investment by the private sector.
- A desire to create a better sense of place for the community.
- Some public transportation service.

STRUCTURED PARKING

Parking is in structured parking garages with ground floor retail when garage abuts a street.

ONE STORY RETAIL

Small one story retail grouping.

APARTMENTS

Six story apartment buildings at rear of properties.



MAIN STREET COMMERCIAL

New main street retail commercial area on ground floor of 6 story apartment buildings.

OFFICE CAMPUS

Office campus with six story buildings and pedestrian mall.

PUBLIC TRANSPORTATION

New elevated passenger rail station.

Reinventing Suburban Commercial Areas—Example

The example to the left shows how new mixed use compact development could be inserted into an office and retail area near a mall. This is made feasible by the large amount of surface parking that has been replaced with structured parking, which opens up land for new buildings.

The new development:

- Creates a walkable environment that supports public transportation.
- Reinforces the mall with a new main street retail area, the latest style of retail development.
- Provides housing for local employees, creating shorter commutes for people living in this housing.
- Includes an office campus, which might attract high-tech businesses looking for young employees who want to work in a hip and exciting area.
- Provides a community focal point and public plaza areas for public gatherings and events.
- Increases the municipal tax base.

PUBLIC TRANSPORTATION

Site is near regional passenger rail station.

WALKABILITY TO DOWNTOWN

Downtown is within a quarter of a mile.

CURRENT USE OF SITE

Site contains obsolete and underutilized industrial buildings.



ROAD ACCESS

Site has access to major road..

HISTORIC PRESERVATION

Historic mill buildings can be preserved.

RIVERFRONT

The site's riverfront location can become a major asset.

Redeveloping Old Industrial Sites

With its industrial heritage along the Schuylkill River canal, its many freight railroad lines, and “newer” industrial sites from the 1940s and 1950s, Montgomery County has many obsolete industrial sites ripe for redevelopment.

Since the state adopted the Pennsylvania Land Recycling Program in 1995, redeveloping old industrial brownfield land has become much easier. This legislation provided alternative standards for cleaning up a site and also provided environmental liability protection for future owners of the property.

The best industrial locations for new town zoning have one or more of the following:

- Good road access.
- Fully developed properties, often with a wide range of buildings and structures.
- Abandoned or underutilized properties.
- Community desire to improve the area's image and to clean up eyesore properties.
- Access to a passenger train station.
- Walkability to commercial or residential areas.



RIVERFRONT TRAIL

A public promenade connects the development with the river.

HISTORIC LOFTS

Historic mill buildings are renovated into residential lofts.



NEW ROAD

A new road gives better access to the river..

PUBLIC PLAZA

A major public gathering place faces the river.

MIXED USE DEVELOPMENT

New development includes apartments, offices, and stores.

Redeveloping Old Industrial Sites—Example

The example to the left shows how new mixed use compact development could be built along the riverfront of an old industrial borough.

The model NTMU ordinance would have to be adjusted to fit some of the unique circumstances of this site, particularly the riverfront. The ordinance should require public open space and access along the river, with buildings set back from the water's edge. In addition, floodplain regulations might present problems on this site for proposed ground level uses.

In the example that is shown, the new development:

- Creates a walkable mixed use area next to the river and near the train station.
- Provides a new, dynamic gateway to the community from the other side of the river.
- Brings new office employees into the municipality.
- Increases the municipal tax base.
- Connects the community with the river and provides public amenities along the river.
- Removes eyesore properties and cleans up these properties.

WALKABILITY TO OTHER USES

Office buildings and apartment buildings are within a quarter mile of the site.

TRAIN STATION

Site abuts a regional passenger rail station.

ABUTTING COMMERCIAL USES

The site is across the street from a major shopping center..



ROAD ACCESS

Site has direct access to a primary arterial road served by several bus routes.

CURRENT USE OF PROPERTY

The site is a vacant gas station and parking for the train station.

NEW DEVELOPMENT

New walkable apartment building has been constructed catty-corner from the site.

Reinvigorating Transit Nodes

Unlike other parts of the country, which are desperately trying to “catch up” by building rail lines, the Philadelphia region is blessed with an extensive rail network. Montgomery County has seven regional rail lines and a grade-separated trolley line which together have 50 stations. In addition, there are over 30 bus lines with multiple nodes where these lines intersect.

Although land near almost all of the train stations is developed, much of this land is underutilized or occupied with obsolete buildings that can be redeveloped with new mixed use development.

The best transit node locations for new town zoning have one or more of the following:

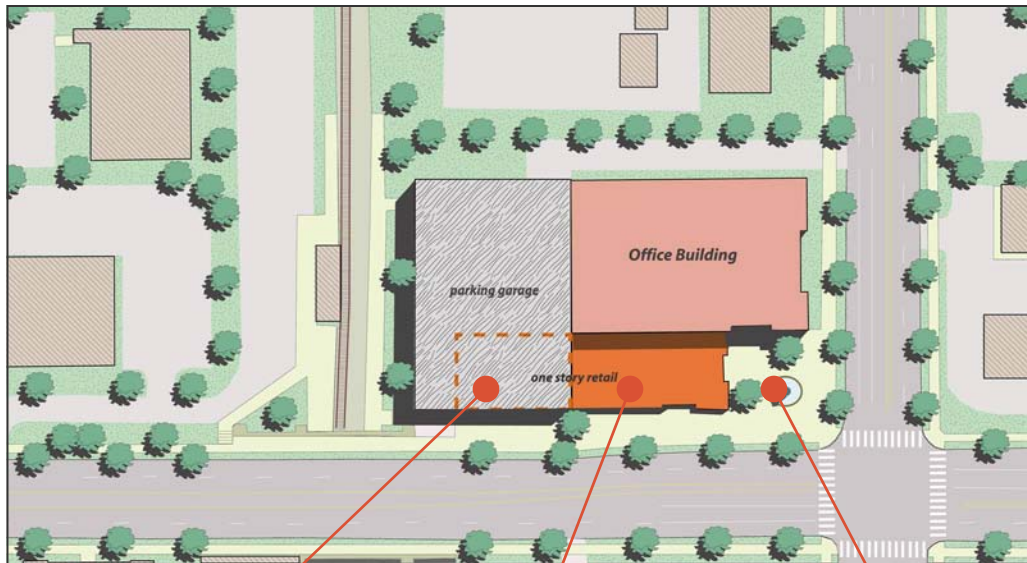
- Direct access to a train station or multiple bus lines.
- A relatively dense, walkable environment around the transit node.
- Community desire to support transit use.
- Underutilized land that would benefit from new development.

STRUCTURED PARKING

The parking garage is to the side of the building, next to the train station.

NEW OFFICE BUILDING

Workers in the office building can commute via the train line.



RETAIL ON GROUND LEVEL OF GARAGE

A ground level retail area improves the walkability to the train station.

ONE STORY RETAIL SPACE

For a mix of uses, a one story retail area is next to the main arterial street.

PLAZA AREA

Small plaza and entrance area at street corner frames the building.

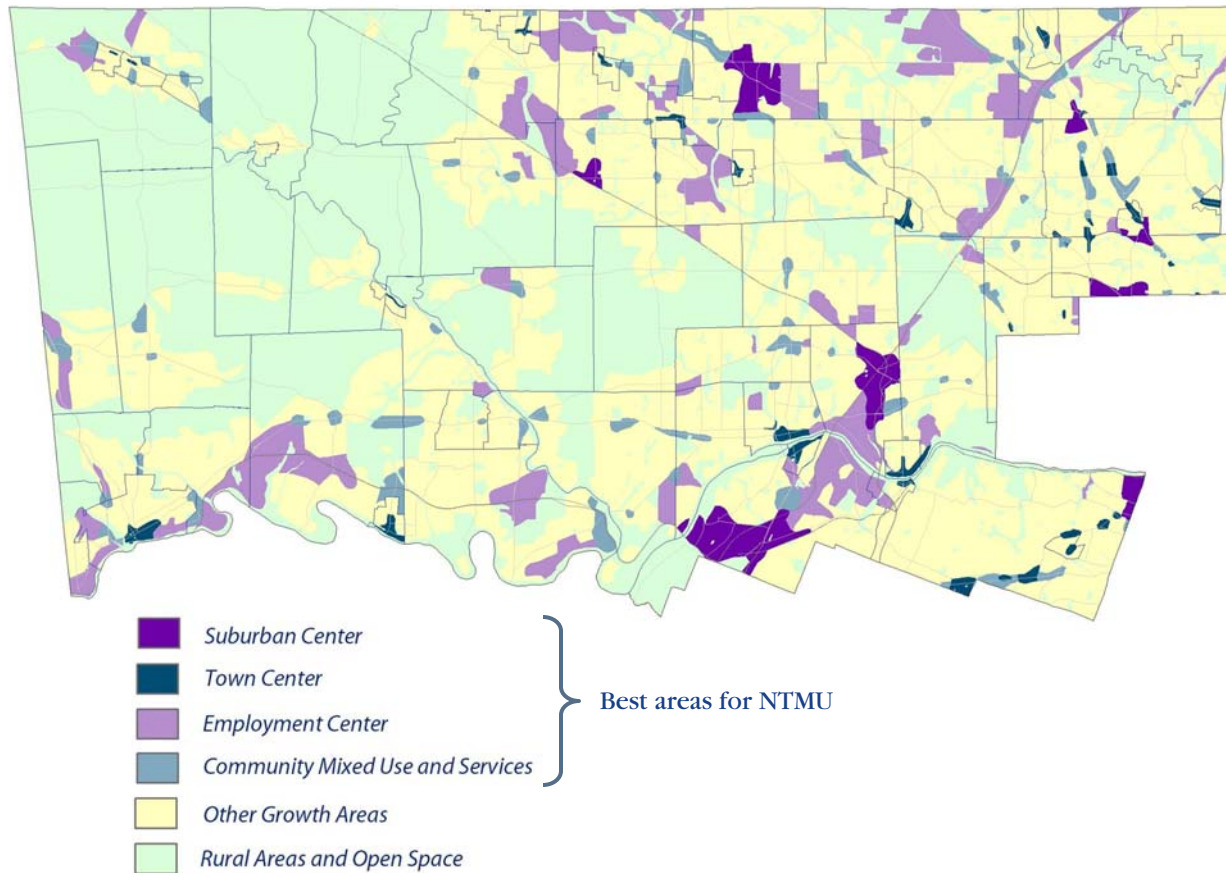
Reinvigorating Transit Nodes—Example

The example to the left shows how new mixed use compact development could be built on a vacant commercial property next to a train station.

In the example that is shown, the new development:

- Extends a walkable, mixed use character from the train station towards an intensely-developed office area to the east.
- Increases the municipal tax base.
- Improves the image and appearance of the area.
- Supports the train station by adding new potential transit customers.
- Provides additional retail space for office workers and apartment dwellers.
- Replaces parking spaces for the train station.

Future Land Use Plan - Highlighting the Best NTMU Locations



New Town Mixed Use Development is most appropriate for Suburban Centers and Town Centers, although Town Center zoning is most appropriate for core historic downtown areas. It can also be appropriate for Employment Centers and Community Mixed Use and Services areas

Relationship to the County Comprehensive Plan

Montgomery County's 2005 comprehensive plan - *Shaping Our Future: A Comprehensive Plan for Montgomery County* - provides guidance on land use policy to local municipalities. It can be used to determine the most appropriate places for new town mixed use zoning

The land use map in this plan groups land uses by the intensity, function, and characteristics of an area. This map shows two land use categories - the Suburban Center and Town Center land uses - that are the most appropriate location for New Town Mixed Use zoning. These areas are focal points for the county where significant mixed use development is very appropriate. However, in the historic part of downtown areas, the county's Town Center District is more appropriate.

Two other land use categories - Employment Centers and Community Mixed Use and Services - can also be good locations for compact mixed use development, especially for vacant or underutilized shopping centers, office buildings, and industrial sites. Areas chosen for New Town Mixed Use zoning should be consistent with the county and municipal comprehensive plans.

Pennsylvania Municipalities Planning Code

Summary of a Few Provisions of Article VII-A, Traditional Neighborhood Development

	Highlighted Provision (only most relevant ones are included)
Power granted ...	"... to allow for the development of fully integrated, mixed-use pedestrian-oriented neighborhoods..."
Objectives are ...	"... to establish a community which is pedestrian-oriented with a number of parks, a centrally located public commons, square, plaza ..."
	"... to minimize traffic congestion ... by reducing the number and length of automobile trips required to access everyday needs..."
	"... to make public transit a viable alternative to the automobile..."
	"... to provide the elderly and young independence of movement by locating most daily activities within walking distance..."
	"... to foster a sense of place and community by providing a setting that encourages the natural intermingling of everyday uses and activities within a recognized neighborhood ..."
Mapping alternatives are ...	"... for new development, TND shall be in the form of an overlay ..."
	"... for an outgrowth or extension of existing development or urban infill, TND designation may be either in the form of an overlay zone, or as an outright designation ..."
Ordinances can regulate ...	"... the amount, location, and proposed use of common open space ... as well as the establishment of a centrally located public commons ..."
	"... the location and physical characteristics of the site of the proposed TND so that it will develop out of the location of squares, parks, and other neighborhood centers ..."
	"... the location, design, type, and use of structures proposed, with most structures being placed close to the street ..."
	"... the location, design, type and use of streets, sidewalks and other public rights-of-way with a hierarchy of streets laid out in a rectilinear or grid pattern of interconnecting streets and blocks ..."
	"... the location for vehicular parking with the street plan providing for on street parking for most streets ... all parking lots ... should be located either behind or to the side of buildings and, in most cases, should be located towards the center of blocks ..."

Legal Framework

Although not a planning issue, per se, Pennsylvania's legal framework must be considered when planning for New Town Mixed Use development. Because NTMU zoning includes extensive design standards, local municipalities need to provide specific reasons for the standards and should relate these standards to goals that impact the general health, safety, and welfare of the municipality.

The community should:

- Prepare or already have a comprehensive plan that identifies the proposed area as appropriate for compact mixed use development. This plan should also explain why these areas are appropriate for this development.
- Include a legislative intent in the ordinance that is tailored to the community's unique situation.

The Pennsylvania Municipalities Planning Code has broad zoning ordinance provisions that allow municipalities to regulate land use, size of buildings, location of buildings, and open space areas. These standards can be used to support New Town Mixed Use Zoning.

In addition, the MPC has an article devoted to Traditional Neighborhood Development that can be used to support New Town Mixed Use zoning. This article is focused directly on creating walkable, mixed use developments. A few provisions of this article are shown to the left. In addition to normal zoning standards, this article also allows communities to create a manual of design guidelines.

Comparative Impacts

Existing Development Versus New Town Mixed Use Development

	Old Industrial Sites, Suburban Shopping Centers, or Suburban Business Parks	New Town Mixed Use Development
Road and Traffic Impact	Suburban uses generate many trips with virtually all trips by cars or trucks. Industrial uses generate relatively few vehicle trips, but do have additional truck traffic.	NTMU development will generate more traffic but fewer trips per home or business because: <ul style="list-style-type: none"> By generating internal trips, mixed use development can reduce vehicle trips by 5% to 30% or more. By encouraging walking from the community, vehicle trips might be reduced by 5% to 15% or more. If public transportation is available, vehicle trips can be reduced by 5% to 10% or more.
Public Transportation Impact	Generally does not support public transportation.	Supports public transportation by: <ul style="list-style-type: none"> Positioning additional public transit users near stations. Making it easy to walk to public transit stops
Environmental Impact	Suburban and industrial uses generally have a negative impact on the immediate environment. Suburban development “consumes” more energy and other resources than more compact development.	Like all development, New Town Mixed Use will have a negative impact on the environment; however: <ul style="list-style-type: none"> Contaminated industrial sites will get cleaned up. Stormwater control facilities will have to meet the latest and most stringent standards. Less land is used and extensive “greenfield” development is avoided.
Fiscal Impact	Positive fiscal impact on both municipal and school district budgets. However, infrastructure costs per employee or resident are higher than denser, mixed use style development.	Positive fiscal impact on both municipal and school district budgets. The higher total market value of mixed use development should generate even more revenues than typical suburban development on the same site. Even apartments should have a positive fiscal impact because they generate few school-aged children.
Community Character Impact	Has a suburban character and little sense of place. Old industrial land can have a negative image.	Has a more urban character and a more defined sense of place. New, modern development can improve the image of a community and attract new businesses, investors, and residents to the community.
Impact on Residential Neighbors	Usually a negative impact on neighboring homes, but development already exists and impact has already been felt.	If tall non-residential buildings abut neighboring homes, there can be a negative visual impact. On the other hand, high value new development may increase neighboring residential property values.

Impact of New Town Mixed Use Development

When compared to regular suburban non-residential development, compact mixed use development will generally have a more positive impact, especially in the following:

- Positive fiscal impact.
- Improvement in community image.
- Beneficial environmental impact, particularly for the regional environment.
- Improvement in quality of life of local residents.

This type of development will generate less vehicular traffic per home or business than suburban development. Residents will typically have more transportation options, with the ability to walk or take public transportation.



design elements

Part

3

new town mixed use district

Part 3 of this publication introduces design elements that are featured in the New Town Mixed Use District. These standards will ultimately determine the success of a project from a public standpoint. It is not enough to just permit a mix of uses at higher densities. The density must be managed properly to insure that residents, transportation alternatives, and commercial enterprises are intermingled in an effective and sustainable manner.

This section is intended to illustrate concepts of the model ordinance found in Part 4 of this publication, which include the following:

- Mixing Uses
- Dimensional Standards (Setbacks, Height, and Floor Area Ratio)
 - Layout and Street Pattern
 - Building and Parking Design
 - Streetscape
 - Open Space and Plazas
 - Signage
 - Bonus Provisions

The Model Ordinance recommends the following:

Permitted Uses

- Retail
- Offices
- Hotels
- Restaurants
- Parks, Plazas, and Open Space
- Entertainment
- Institutions
- Apartments (2nd floor and above)
- Structured Parking



Prohibited Uses

- Drive-through Windows or Facilities
- Automobile Sales, Service, or Repair
- Gas Stations
- Self Storage Facilities
- Adult Entertainment



Conditional Uses

- Apartments on the First Floor
- Townhouses, Twins, and Single-Family Detached Homes
- Transit Facilities

Permitted and Conditional Uses

A mixed use district should permit a wide variety of uses that can complement or at least coexist with each other. The list of permitted uses purposefully reflects a solid functioning downtown or town center district with denser residential uses existing alongside commercial applications that can work on both a community level as well as accommodate outside workers and shoppers.

The district should prohibit automobile-oriented uses that are not conducive to a residential community and detract from the pedestrian environment. Communities may also wish to prohibit adult uses from a new town mixed use district, since they can degrade the residential community.

Conditional uses are permitted uses that must be specially approved by the elected governing body, which can impose extra conditions on the development for the use. The NTMU model ordinance employs conditional uses to give greater flexibility in creating an effective mixed use environment.

Required Mix of Uses Determined by Tract Size...

Less than 1 acre

No mixing requirements

Between 1 and 10 acres

Uses from at least two groups

Each group must comprise at least 10% of total building floor area. Group 2 uses may not comprise more than 35%.

Greater than 10 acres

Uses from all three groups		
	Minimum Floor Area	Maximum Floor Area
Group 1	5%	70%
Group 2	5%	50%
Group 3	20%	85%

Residential



Office

Retail

Coalition for Smarter Growth

Mixing requirements are best met in well-designed higher density buildings, such as the retail / residential / office mix in this example from Arlington, VA.

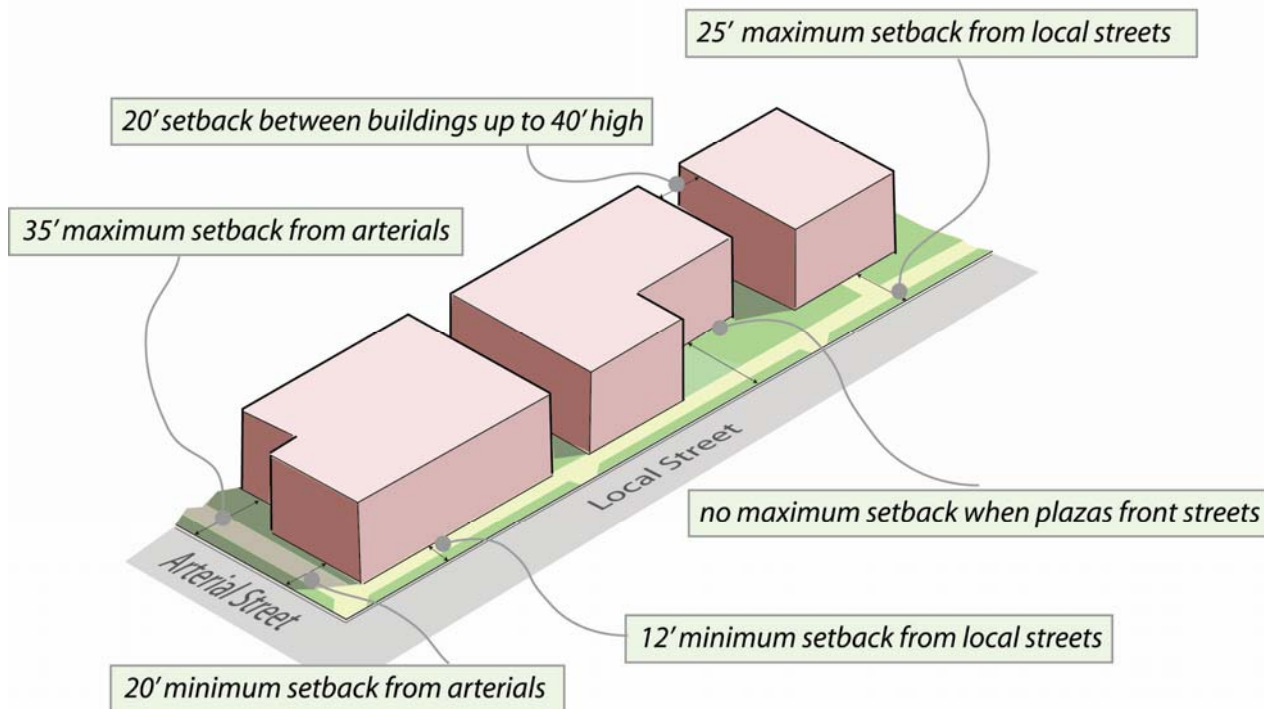
Mixing Requirements

New urban centers are more dynamic and sustainable with an appropriate mix of complementary uses. Traditional urban neighborhoods and main streets have always balanced the mix of residential and pedestrian-friendly commercial uses in a similar manner to what the New Town Mixed Use District offers. The ideal mix includes uses from the following three groups:

- **Group 1 -**
Office, Entertainment, and Institutions
- **Group 2 -**
Retail and Restaurant
- **Group 3 -**
Residential

Because the feasibility and success of mixing uses increases with the size of a tract, the model ordinance’s mixing requirements vary depending on the size of the tract.

Setbacks from Streets and Buildings



Dimensional Standards— Setbacks

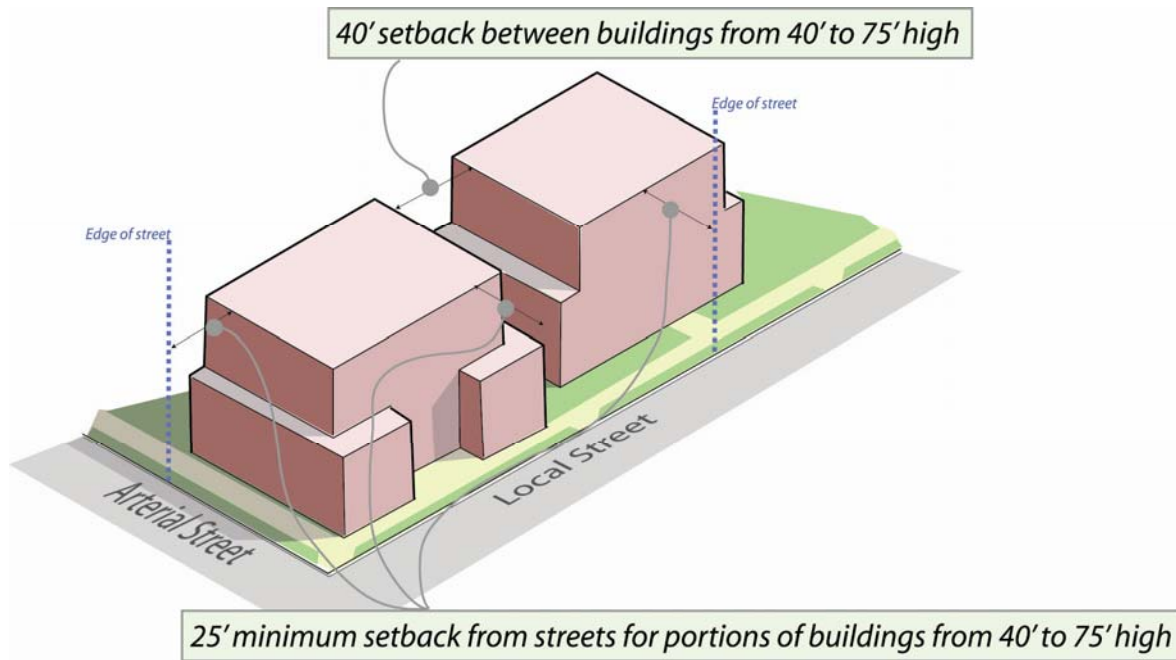
Setback provisions are intended to regulate the mass of buildings and uses in a development so that they do not collectively form walls of concrete and brick crowding into the street and each other. Conversely, setbacks should not be too large or else buildings become separated and make it harder for uses to complement each other.

Setbacks in the NTMU district are intended to be smaller than typical auto-oriented suburban development, but they also do not reach the density of major urban centers. A basic twelve foot setback from the curbline is recommended, except along arterial streets where a twenty foot setback can allow for greater buffering between pedestrians and traffic.

Buildings facing streets have **both a minimum and maximum setback** for the ground floor from the street. Front facades must be located between these setbacks.

In areas with many historic buildings that have an established building setback along the street, the setbacks in the ordinance should be adjusted to reflect this established setback.

Setbacks of Higher Portions of Buildings



Dimensional Standard— Setbacks and Height

Taller buildings (over 40 feet) should be set slightly further back to protect against “canyons” of monolithic street walls and to invite more sunshine down on the street activity.

The whole building, including lower floors, can be set back from the street or, alternatively, the developer can use a tiered setback so that the upper half is further from the street line than the lower portions, much like a wedding cake is structured.



Five or six story buildings can be made less obtrusive and more attractive with architectural treatments along facades, vertical plane differentiation, and additional upper floor setbacks.

Dimensional Standards— Height

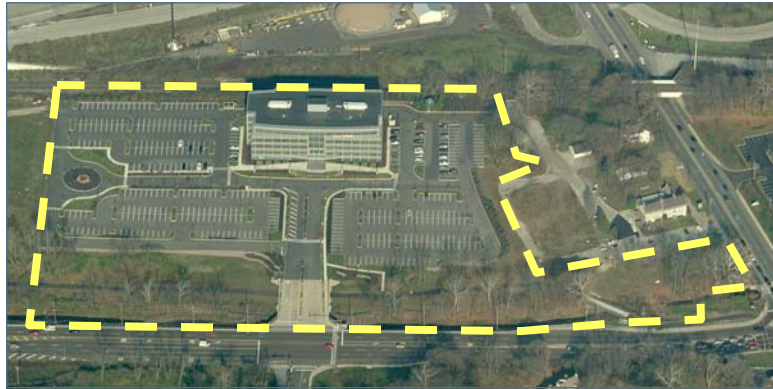
Building heights within an NTMU District are generally appropriate up to six stories. This height permits developers to reach an efficient density that will help provide a pedestrian oriented design and a supportive mix of uses. This may seem tall in relation to some existing zoning, but the model ordinance provides setback, floor area ratio, and other design provisions to integrate the density in a less intrusive manner.

Of course, municipalities may want to tailor the height requirement to its specific situation. They may also consider a tiered height system on very large tracts where a core might be established at the greatest heights, and smaller structures are required as you move away from the center.

Sometimes, the definition of height can be problematic, requiring developers to build less architecturally interesting roofs in order to meet the technical height definition. Municipalities might want to examine their height definition to make sure it allows unoccupied decorative elements to be constructed as part of the roof.

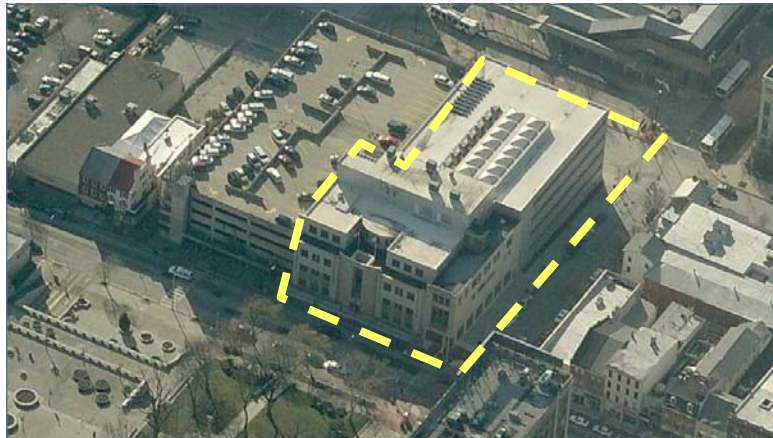
Suburban office development on a large lot with surface parking and open space.

- Gross Floor Area = 125,000 Sq. Ft.
- Lot Size = 531,000 Sq. Ft.
- Floor Area Ratio = 0.24



More urban office development built out to the sidewalk.

- Gross Floor Area = 115,565 Sq. Ft.
- Lot Size = 29,283 Sq. Ft.
- Floor Area Ratio = 3.95



Mix of retail and office uses in a NTMU styled development.

- Gross Floor Area = 257,405 Sq. Ft.
- Lot Size = 185,566 Sq. Ft.
- Floor Area Ratio = 1.39



Dimensional Standards — Floor Area Ratio

Setback and height controls will basically create a box of potential development on a parcel. However, a floor area ratio can provide more realistic and useful limits of development that also allow for developer flexibility.

A floor area ratio (FAR) is the amount of gross building square footage, not including parking garages, in relationship to the total lot area. The NTMU ordinance has a base floor area ratio of 1.5, which means the building square footage can be one and a half times the lot square footage. With bonuses, the FAR can be increased to 2.5.

The NTMU model ordinance uses a FAR bonus as a reward to developers who integrate workforce housing or green buildings into their proposal. These are suggested bonus provisions, but a municipality might want to create alternative bonus improvements based on their particular needs. Provided the bonus items are feasible, most developers will at least consider using them.

The NTMU's FAR standards are based on a few assumptions - off-street parking will be provided on site, height will be no more than six stories, and buildings will be set back from property lines. A higher FAR could be feasible if one or more of these assumptions is not true.

The Market Common Clarendon in Arlington, Virginia



COMMERCIAL, HIGH-DENSITY RESIDENTIAL, PLAZA, AND STRUCTURED PARKING AREA

More intense uses are next to busy, commercial Clarendon Avenue.

TOWNHOUSE AND POCKET PARK AREA

Lower scale residential townhomes and a pocket park provide a transition to single-family residential neighborhoods.

General Layout

A new town mixed use development generally stands on its own as a functioning place due to its mix of uses and increased densities while affording pedestrian mobility and public spaces. However, there are always adjacent uses and the new development, like all infill, should attempt to complement existing uses or at least create a smooth transition. The following principles should apply, whenever possible:

- Single-use residential buildings should be used as a transition between abutting residential uses and nonresidential uses in the NTMU development.
- Commercial uses should be located near existing retail areas, transit stops, existing collector or higher classification streets, and proposed plaza areas.
- The layout of uses and buildings should be designed to facilitate pedestrian access with public transit facilities when present.

Don't Do This!



Do This!



Connected streets create a gridlike pattern that makes navigation easy and intuitive.

Street Pattern

The buildings and relationships between uses on a site are also dependent on the street pattern. Street design should promote walkability with relatively short blocks and a high ratio of intersections to street links. The following principles should apply:

- Grid or modified grid street patterns should be used to increase efficiency and connectivity between blocks.
- Blocks should not exceed 800 feet in length and public pedestrian connections should be made between parallel streets at least every 500 feet.
- All streets should be interconnected, especially with streets on abutting properties.
- Streets should be extended to adjacent properties in logical locations.
- Alleys and driveways are permitted and can be useful components to a well-designed development.

Examples of Good Building Design Practices



Brick and Masonry Variation



Accentuated Mid-block Entrance

Varied Roofline (Mansard, Gable, or Parapet stylings)



Building Design Standards

A new town mixed use development requires specific building design elements to prevent large monolithic structures that can overwhelm the streetscape and pedestrians. Entrances, walls, windows, and roofs should be designed to soften the urban landscape in the following ways:

- Accentuated building entrances should be located along all existing and proposed streets.
- Blank walls are not permitted if facing a street or transit station. Minimum window percentages must be met based on the height, use, and side of the building. Other architectural treatments can also break up the bulk of a wall.
- Building ridgelines or roof planes should be interrupted by features such as a gable, a dormer, a tower, a dome, a projecting cornice, an articulated parapet, or a change in vertical height.
- Large building facades should appear to be broken into several sections or smaller buildings. A break in the depth of a façade can be created with the use of bay windows, porches, porticos, building extensions, building recesses, balconies, towers, and other architectural treatments.



Parking garage is "wrapped" by townhomes that conceal the garage at street level.



Parking garage in Norristown has retail on the ground floor and a façade that resembles other uses instead of parking.



Parking lot is screened with a low brick wall and landscaping.



Required screening should be opaque such as the shrubs above.

Parking Design Standards

Structured parking garages are preferred over surface lots due to their ability to preserve the pedestrian environment and reduce visual impact. However, structured parking is very expensive to build and not always a realistic option in some developments. Each type of parking has its own design recommendations:

- The best strategy for garage design is to "wrap" the actual garage with other uses so that it is not visible from the street view.
- Structured parking with street frontage must have active uses along the first floor.
- Parking garages, when visible, should be designed to create the appearance of an occupied building. Cars should be screened with grills, lattices, mock windows, louvers, false facades, or similar treatments that match the architectural style of the building.
- Surface parking should also be obscured to the best extent possible by limiting it to the rear and sides of buildings and using screening where lots abut a public street or residential use.
- Surface lots should also be interconnected and cross-access easements should guarantee access to adjacent lots within the same block.



Dan Burden



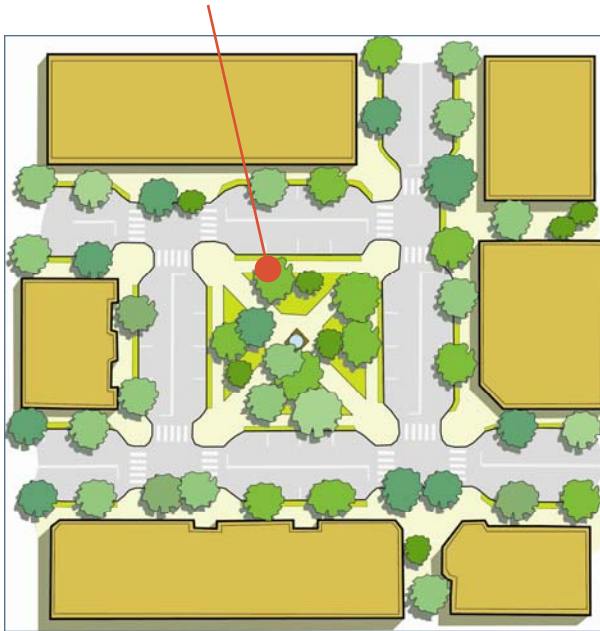
Pedestrian, Streetscaping, and Landscaping Standards

Encouraging true mobility choices such as walking, biking, and accessing transit is essential for compact, mixed use development. The design of streets and sidewalks and how they relate to uses must reinforce these travel choices.

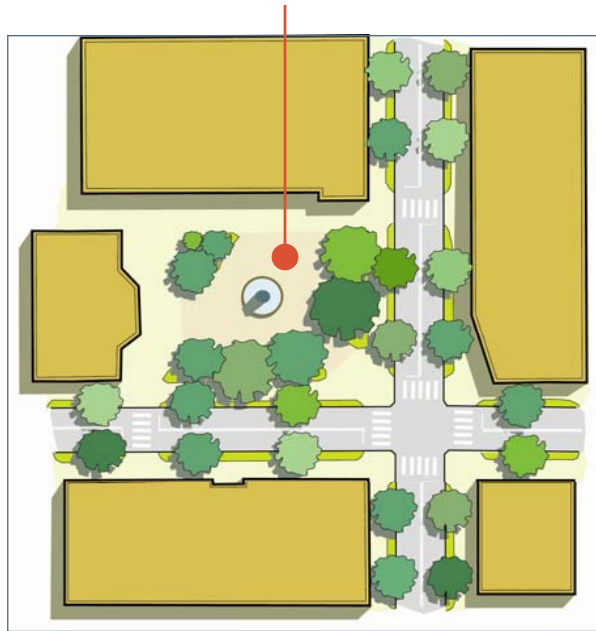
Sidewalks along street frontages should be ubiquitous, and they should be wide enough to make a person's use of them pleasant and uncrowded. Additional sidewalks should be required to connect all front building entrances, parking areas, plazas, transit stations, and any other destination with the existing street network.

Street furnishings should not only make the pedestrian area attractive but also provide needed services to the pedestrian such as lighting, trash disposal, rest areas, bicycle parking, and directional guidance. Furnishings should be thematically unified in their design and placed in logical locations. See Appendix Two for specific ordinance language that could be used in a local Subdivision and Land Development Ordinance to guide these choices.

CENTRAL PLAZA SURROUNDED BY ROADS



CENTRAL PLAZA ON CORNER



CENTRAL PLAZAS WITH BUILDINGS ON THREE OR FOUR SIDES



Open Space and Plaza Design Standards

Open space requirements in a new town mixed use development can be met with a variety of usable public space options, but the intensity of uses in a typical NTMU site will make the plaza the predominant form of open space. The model ordinance suggests a minimum ratio of one square foot of plaza space per forty square feet of gross floor area. Plazas should be designed as focal points within the development with public access guaranteed. Their design should be of a high quality and include the following standards:

- Plazas can range in size between 2,500 and 40,000 square feet.
- Plazas should be surrounded by streets or front facades of buildings. Off-street parking spaces should not abut plazas.
- Between 25% and 80% of the plaza should be landscaped.
- Plazas should include amenities such as fountains, public art, gazebos, shade trees, trash containers, benches, decorative pedestrian lights, trellises, or other similar features.



Lower heights on light fixtures make for a more pedestrian-oriented environment.



Screening materials should match the character of the surrounding buildings. Extra landscaping can soften walls or fences..



EPA Smart Growth

Sign regulations may vary depending on the actual scale of an NTMU development. However, good design regulations will allow for flexibility while still promoting a cohesive identity.

Recommended Sign Illumination



Halo Lit Sign



Exterior Lighting

Channel Lighting



Lighting, Screening, and Signage

Lighting throughout a New Town Mixed Use development should be carefully planned to eliminate unnecessary illumination of certain uses and abutting properties, especially residential. Light fixtures should be limited in height to reduce light trespass and retain a pedestrian scale.

If not located within a building, loading, service, and trash storage areas should be kept to the rear or side of a building and visually screened from streets and pedestrian ways. Wall-mounted or ground-mounted equipment for mechanical, electrical, or communication services should also be screened from public view.

Signs in a New Town Mixed Use district should be attractive and pedestrian-oriented to attract shoppers. They should also be consistent with the design of the buildings. Avoid standards that are too strict and result in repetitious fonts and designs making the block look more like a strip mall from a signage standpoint.

* Normally, signs are regulated by the municipality in a separate sign ordinance. For a detailed example of possible sign ordinance language please refer to Appendix 3 of the Montgomery County Planning Commission's model ordinance for the Town Center District.

Bonus Provisions Can Result In...

Historic Preservation

Additional Open Space



Public Art

Road Realignments

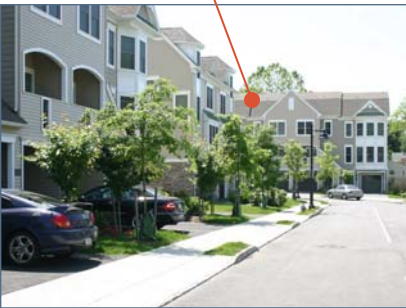
Riverfront Trails



Additional Right-of-Way

Workforce Housing

Green Streets



Green Buildings

Green Roofs

Improved Stormwater Facilities



Bonus Provisions

To get the kind of development they want, municipalities can offer an incentive to the developer that allows them to build more on a site if they provide something of value to the municipality. This is called a bonus provision. In the case of the New Town Mixed Use district, developers might be offered an increase in the Floor Area Ratio, which would permit them an increase in gross square footage, although they would still be subject to the dimensional requirements. In exchange, they could be required to provide a specific percentage of workforce affordable housing or certified green buildings or a combination of features. These two options are included in the model ordinance, but other desirable features could also be included, such as the amenities listed to the left.

model ordinance

Part 4

new town mixed use district

**Part 4 of this publication presents the model ordinance,
with comments and illustrations included in the right hand sidebar.**

The ordinance contains the following sections:

Section 1. Intent

Section 2. Uses

Section 3. Mixed Use, Master Plan, and General Requirements

Section 4. Dimensional Requirements

Section 5. Design Standards

Section 6. Bonus Provisions

The New Town Mixed Use District is intended to be adopted as a freestanding separate zoning district. The district permits a variety of office, commercial, and residential uses but does not permit industrial uses, which are incompatible with the goal of creating walkable mixed use and residential areas.

New Town Mixed Use District

Section 1. Intent

The primary purpose of the New Town Mixed Use District (NTMU) is to create walkable, livable, and attractive development centers in the community while providing more diverse transportation options. Specifically the New Town Mixed Use District is intended to:

- A. Allow market-driven growth in places that are most conducive to accommodating additional activity.
- B. Encourage economic development through the creation of a mix of uses adjacent to existing commercial centers.
- C. Provide diverse housing development for households with a range of incomes and lifestyles.
- D. Promote a walkable community with pedestrian-oriented buildings and open space that connects to nearby destinations.
- E. Create and support lively, human-scaled activity areas and gathering places for the community by encouraging civic uses, plazas, and a mix of uses.
- F. Ensure that new development is consistent with and enhances the nearby streetscape.
- G. Promote development that accommodates the automobile but also emphasizes alternative travel means such as trains, buses, biking, and walking.
- H. Promote the adaptive reuse of existing historic buildings.
- I. Encourage the redevelopment of underutilized or obsolete industrial or commercial property.

Section 2. Uses

A. Permitted Uses

A lot and/or building may be used for one or more of the following by-right permitted uses:

- 1. Office, entertainment, institutional and related uses, as listed below:
 - a. Professional, administrative, and business offices.
 - b. Financial institutions, excluding drive-through facilities.
 - c. Hotels, bed and breakfast facilities, convention centers, meeting space, and banquet facilities.
 - d. Galleries and museums.
 - e. Theaters.
 - f. Schools and day care centers.
 - g. Government administrative uses, post offices, community centers, and libraries.
- 2. Retail, restaurant, and related uses, as listed below:
 - a. Retail commercial sales, excluding drive-through facilities.

COMMENTARY

Legislative Intent:

The legislative intent should be tailored to reflect each municipality's own specific goals and characteristics.

For example, the intent of a borough encouraging the redevelopment of old industrial land along a riverfront is very different than the intent of a suburban municipality encouraging more mixed uses in an office park next to a retail mall or train station.

Uses:

Many of the permitted uses are put into broader categories, as shown to the left for office and retail uses. These broader categories are used to guide the mixing requirements in section 3.A.

- b. Personal service businesses.
 - c. Restaurants and other food or beverage establishments, excluding drive through facilities.
 - d. Studios for dance, music, fitness, art, or photography.
 - e. Indoor sports facilities, including bowling alley, racquet sports, and health club.
3. Apartment units, provided all dwelling units are located on the second floor and above.
 4. Parks, open space uses, and plazas.
 5. Structured parking, in accordance with section 5.C.2.
 6. Accessory uses to a principal use, including surface parking lots.

B. Conditional Uses

A lot and/or building may be used for one or more of the following conditional uses, in conjunction with a permitted use, provided conditional use approval is received in accordance with the requirements of section ____ of this chapter and all standards of the NTMU District are met:

1. Apartment dwelling units on the first floor, provided:
 - a. The apartment units are not located on a block or across the street from a block that is primarily comprised of existing or proposed retail and related uses, as listed in section 2.A.2, on the first floor.
2. Townhouses, twins, and/or single-family detached homes provided:
 - a. They are not located on a block or across the street from a block that is primarily comprised of existing or proposed retail and related uses, as listed in section 2.A.2, on the first floor.
 - b. The townhouses, twins, and/or single-family detached homes are not located on a collector or higher classification street.
3. Transit facilities, provided buildings over 1,000 square feet in size incorporate ground floor retail and related uses, as listed in section 2.A.2, along at least fifty percent (50%) of the front façade(s) of the building.
4. Temporary surface parking lots as a principal use, provided the parking lot is not located on the principal retail street of the development and an alternative permitted use is shown on the approved Master Plan for the development.

C. Prohibited Uses

The following uses, as well as any use not specifically permitted, are prohibited:

Residential Uses:

Residential uses on the ground floor of buildings are only allowed as a conditional use and are not allowed in core retail areas, which should consist of stores, restaurants, theaters, and other uses designed to encourage pedestrian activity.

Some communities might also want to limit office uses on the ground floor of buildings in core retail areas.

1. Drive-through window or facilities.
2. Automobile or other vehicle sales, service, or repair establishments.
3. Gasoline service station and filling station.
4. Self-service storage facilities.
5. Adult entertainment uses.

Section 3. Mixed Use, Master Plan, and General Requirements

A. Mix Requirements.

1. Developments shall meet the following mix of uses requirements, depending on the size of the property at the time the property was zoned NTMU:

Land Use Group	Tracts greater than 10 acres in size		Tracts of 1 to 10 acres in size	Tracts of less than 1 acre in size
	Minimum Percent of Building Floor Area	Maximum Percent of Building Floor Area		
Group 1: Office, entertainment, institutional, and related uses, as listed in section 2.A.1	5%	70%	Developments shall include at least two of the land use groups listed in the first column of this table, with each of the required groups comprising at least 10% of the development's total building floor area. In addition, retail, restaurant, and related uses (Group 2 uses) may not comprise more than 35% of the development's total building floor area.	No mixing requirement. Developments can consist of one or many uses
Group 2: Retail, restaurant, and related uses, as listed in Section 2.A.2	5%	50%		
Group 3: Residential, as listed in sections 2.A.3 or 2.B	20%	85%		

2. Usable open space and plaza uses shall comprise at least five percent (5%) of the net tract area of all NTMU developments.

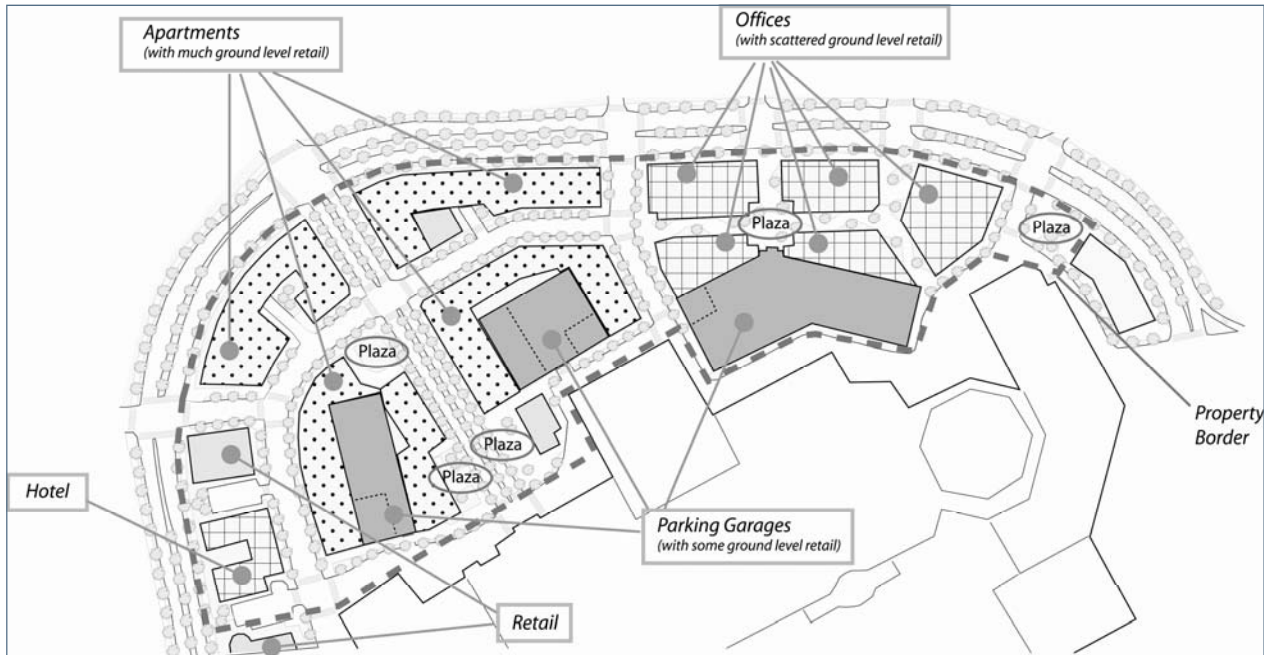
Auto-Oriented Uses:

Uses that are designed to service automobiles or for easy in-and-out access by automobiles are not permitted. The NTMU District is designed to maximize pedestrian activity, which auto-oriented uses do not do.

Mix Requirements:

A mixed use environment helps create a walkable community character. As the size of properties increases, the potential for sterile one-use developments also increases. To avoid this problem, the NTMU district requires greater mixes of uses as property sizes increase

Illustration of Mix of Uses



B. Master Plan. All properties proposed for development shall be developed in accordance with a master plan that has been approved by the municipal governing body.

1. Master plans shall meet the following requirements:

- a. Master plans shall be prepared when any property, existing at the time of adoption of this ordinance, is initially proposed for subdivision or land development. Subdivided properties that are intended to be developed at a later date shall be subject to this initial master plan.
- b. Master plans shall meet the tentative sketch plan requirements in section ____ of the municipal Subdivision and Land Development Ordinance.
- c. Master plans shall show proposed buildings, land uses, lots, streets, and open space for the entire tract and shall be consistent with the municipal Subdivision and Land Development Ordinance. Master plans shall demonstrate that the mix requirements of Section 3.A have been met.
- d. The municipal governing body may require changes in the master plan in order to meet the legislative intent and other standards of the NTMU District.

Master Plans:

Mixed use developments are complex organisms that must be properly designed. Master plans provide this design. In addition, NTMU developments will evolve over time. Many of these developments will be subdivided and sold to different property owners, and these owners will need to follow the overall master plan.

Over time, developments will have to continue meeting the mix of uses, usable open space, and street layout requirements.

2. Development of property may be done in phases; however, any proposed subdivision or land development of a property or portion of a property must be consistent with the master plan. If a proposed subdivision or land development is not consistent with the master plan, the master plan as a whole may be revised, provided the following requirements are met:
 - a. The master plan complies with all NTMU requirements, including the mix requirements of Section 3.A.
 - b. All owners of land within the original Master Plan development area, whose property is affected by the revised master plan, approve the revisions to the master plan that affect their properties.
 - c. The revised master plan is approved by the municipal governing body.
- C. Other Plan Requirements. Applicants submitting preliminary and final plans shall also submit architectural drawings, such as elevations, perspective drawings, axonometrics, and cross-sections, that demonstrate compliance with the standards in the NTMU District.
- D. Utilities. All development in the NTMU District shall be served by public sewer and public water facilities.
- E. Ownership. Any land area proposed for development shall be in one ownership or shall be subject to a joint application filed by every owner of the land area proposed for development, under single direction, using one overall master plan and complying with all requirements of the NTMU District.
- F. Ownership and Maintenance of Common Open Space, Plaza Areas, and Other Facilities. Common open space, plaza areas, and other common facilities shall meet the ownership and maintenance regulations in Section _____. The required usable open space and plaza areas shall be permanently deed restricted from future development.
- G. Off street parking shall be provided in accordance with Chapter _____.
- H. Signs shall meet the requirements of Chapter _____.
- I. Landscaping, street trees, streetscaping, and buffers shall be provided in accordance with Section _____ of the Subdivision and Land Development Ordinance.

Section 4. Dimensional Requirements

All lots within NTMU developments shall meet the following dimensional requirements:

- A. Lot Area Requirements
 1. Minimum Net Lot Area for all apartments and non-residential uses: no minimum lot size; however all lots must be consistent with the master plan.
 2. Minimum Net Lot Area for townhouses and twins: 2,000 square feet
 3. Minimum Net Lot Area for single-family detached homes: 5,000 square feet

Ownership and Maintenance of Open Space:
Municipalities should have standards to guarantee the maintenance of open space and other common areas.

Off Street Parking:
Off-street parking is necessary for successful mixed use development; however, walkable mixed-use developments may generate less parking. Municipalities may want to reflect this lessened demand by adjusting some of the parking ratios, by reducing parking for mixed use developments, and/or by reducing parking for development next to transit. To lessen the overall impact of parking garages and parking lots on developments, municipalities may want to establish a maximum amount of permitted parking. The Appendix lists some sample off-street parking standards that address these concepts.

Streetscaping:
Streetscaping, which includes decorative lights, sidewalks, trash cans, ornamental verges, street furniture, and other elements, is important for creating a friendly pedestrian environment. The Appendix outlines streetscaping standards municipalities might want to add to their subdivision and land development ordinances.

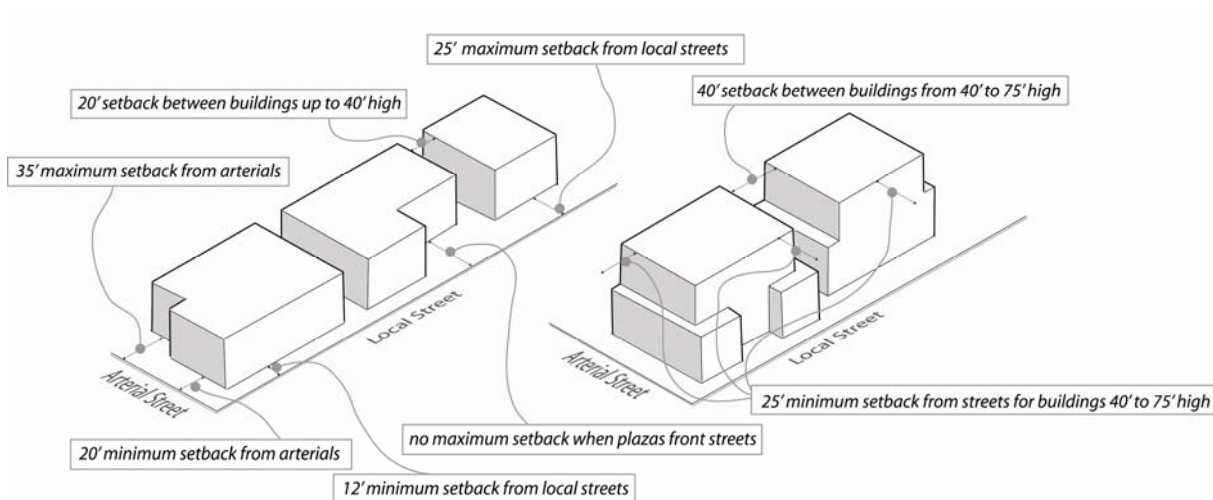
B. Lot Width Requirements

1. Minimum Lot Width for all apartments and non-residential uses: no minimum lot width; however all lots must be consistent with the master plan.
2. Minimum Lot Width for townhouses and twins: 20 feet
3. Minimum Lot Width for single-family detached homes: 50 feet

C. Building Setback from the edge of street curblines:

1. When no plaza is between the building and the street:
 - a. Minimum Building Setback from Street Curblines, portions of buildings up to 40 feet in height, provided buildings are not located within the street legal right-of-way line:
 - i. Arterial Streets: 20 feet
 - ii. All Other Streets: 12 feet
 - b. Minimum Building Setback from Street Curblines, any portions of buildings from 40 to 75 feet in height: 25 feet
 - c. Maximum Building Setback from Street Curblines for 60% or more of the front façade of the ground floor level of buildings (these standards do not apply to structured parking garages):
 - a. Arterial Streets: 35 feet
 - b. All Other Streets: 25 feet
2. Where a plaza is between the building and the street, the Minimum and Maximum Building Setback from Street Curblines shall be the depth of the plaza.

Illustration of Building Setbacks



Building Setbacks:

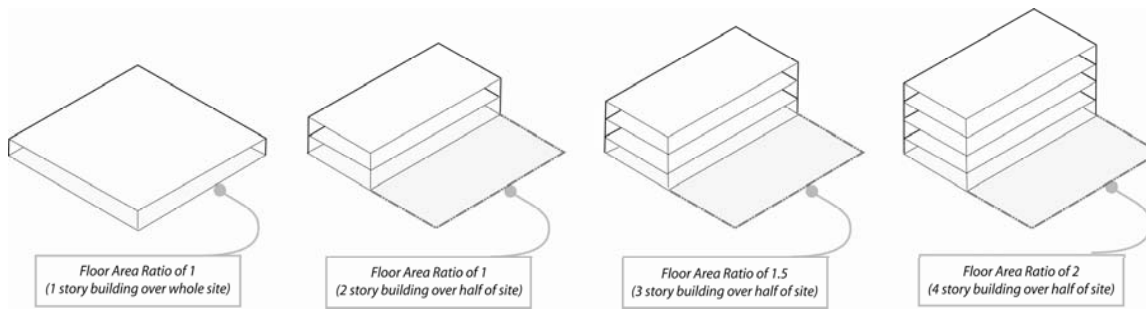
The NTMU district does not have yard setbacks. Instead, it has building setbacks from curblines, property lines, and other buildings.

- *The building setbacks vary according to the type of street a building fronts. Busier arterial streets have larger setbacks.*
- *To encourage walkability and an urban mixed use character, buildings must be relatively close to streets. This is governed by a maximum building setback.*
- *Taller portions of buildings, those portions from 40 feet to 75 feet, must be set back further from streets or other buildings. This can be accomplished by either stepping the building back or by moving the lower portion of the building back to match the setback requirement for the upper portion.*

These building setback standards give property owners flexibility while also ensuring a walkable streetscape.

- D. Minimum Building Setback from property lines not abutting streets:
1. Portions of buildings sharing a party wall: 0 feet.
 2. Portions of buildings not sharing a party wall, up to 40 feet in height: 10 feet.
 3. Portions of buildings not sharing a party wall, from 40 to 75 feet in height: 20 feet.
- E. Minimum setback between any portions of separate buildings not sharing a party wall:
1. Portions of buildings up to 40 feet in height: 20 feet.
 2. Portions of buildings from 40 to 75 feet in height: 40 feet.
- F. Minimum building and parking setback from abutting residential properties that are not part of the proposed New Town Mixed Use Development: 40 feet
- G. Minimum surface parking area setback from street ultimate right-of-way lines and property lines: 10 feet
- H. Maximum Building Height: 75 feet or 6 stories, whichever is less.
- I. Maximum Impervious Coverage: 85%.
- J. Floor Area Ratio
1. Maximum Floor Area Ratio (FAR) with no bonus: 1.5.
 2. Maximum Floor Area Ratio with bonuses, as described in section 6: 2.5.

Illustration of Floor Area Ratio



Floor Area Ratio:

Floor area ratios (FAR) control the total amount of development that can occur on a property. The ratio is the amount of building square footage, excluding parking garages, in relationship to the lot area. In this model ordinance, the floor area ratio is used to encourage extra improvements through bonuses. If communities are uninterested in these extra improvements, then the floor area ratio regulations can be eliminated.

Section 5. Design Standards

All development within the NTMU District shall comply with the following design standards:

A. General Layout and Street Pattern

The following general layout and street pattern requirements shall be shown on the Master Plan:

1. Various land uses shall be laid out and spaced to make walking from one land use to any other land uses as easy as possible.
2. Retail uses shall be located as physically close to as many of the following on and off-site features as possible: existing retail areas, transit stops, existing collector or higher classification streets, and proposed plaza areas.
3. Single-use residential buildings, when proposed, shall be located and designed to provide a transition between abutting off-site residential zoning districts, when they exist, and the nonresidential uses in the NTMU district.
4. NTMU developments shall be laid out with streets, in accordance with the following standards:
 - a. Streets shall be laid out to create blocks, and blocks shall not exceed 800 feet in length before being interrupted by a street intersection, unless the reuse of existing buildings longer than 800 feet or the presence of unique barriers, such as a creek or a grade-separated highway, preclude the creation of a street intersection. In such cases, blocks shall be as small as feasible. Alley and driveway intersections shall not be used to meet the block length requirement.
 - b. All proposed buildings, except structured parking garages, must be located within a certain distance of a street, as shown in section 4.C, Building Setback from the edge of street curblines. Buildings do not have to meet these standards from alleys or driveways.
 - c. Streets shall be interconnected with each other and with streets on abutting properties in a grid or modified grid pattern.
 - d. Streets shall be extended to abutting properties in logical locations, as determined by the municipal governing body. When warranted by unique circumstances, the municipal governing body may allow driveways to be used instead of streets for these connections, provided access for the driveway is guaranteed to the abutting property.
 - e. On tracts of ten (10) acres or more, new streets within an NTMU development shall have a street connectivity index of 1.40 or more. The street connectivity index shall be computed by dividing the number of new street links (defined as street segments between intersections and/or cul-de-sac heads) by the number of new street intersections/permanent cul-de-sac heads.
5. At least every 500 linear feet, blocks shall include public pedestrian connections through the block between generally parallel streets, unless the reuse of existing buildings longer than 500 feet or the presence of unique barriers, such as a creek or grade-separated highway, preclude the creation of a pedestrian connection.

General Layout:

Although it is difficult to regulate layout and design, it is also critical that NTMU developments have good layouts, with uses in logical places, open space centrally located, and streets interconnected.

Streets:

NTMU developments are designed around streets, which can be either public or private. Buildings are located close to streets, and streets are laid out in a relatively fine pattern (no more than 800 feet apart) to encourage pedestrian activity.

Alleys and driveways can also be used in NTMU developments. Building location, parking garage location, and block length requirements do not apply to alleys and driveways.

6. Developments shall be designed to support existing and/or future public transportation service through the provision of transit shelters, public transportation pick-up areas, roads and driveways designed to handle the weight and length of a forty-foot bus, and other similar features.
7. On tracts next to passenger rail stations and/or on tracts of twenty (20) acres or more, the layout of uses and buildings shall be designed to encourage pedestrian access to the existing passenger rail service or to future public transportation service.

B. Building Design Standards

1. Building Orientation and Entrances

- a. Front facades of buildings shall be oriented towards existing and proposed streets, with an every day entrance in the front façade. Buildings with multiple front facades shall have entrances in each front façade, corner entrances, or, if permitted by the municipal governing body, entrances in only some of the front facades.
- b. All primary building entrances shall be accentuated. Permitted entrance accents may include: recessed, protruding, canopy, portico, or overhang.
- c. Loading doors, service doors, and loading docks shall not be located in any façade facing a street or any portion of a façade within 35 feet of a street.

2. Walls and Windows

- a. Blank walls shall not be permitted along any exterior wall facing a street or passenger train station. Walls in these locations shall comprise a minimum of 35 percent window area and a maximum of 75 percent window area, with windows interspersed across the façade.
- b. Ground floor facades of retail, restaurant, and related uses facing a street or passenger train station shall comprise a minimum of 50 percent clear window area, with windows providing views of display areas or the inside of the building. These ground floor windows shall begin between 12 to 24 inches above ground level and shall end above 86 inches above ground level.
- c. Smoked, reflective, or black glass in windows is prohibited.
- d. Walls or portions of walls where windows are not provided shall have architectural treatments designed to break up the bulk of the wall, including at least four of the following treatments: masonry but not flat concrete block; concrete or masonry plinth at the base of the wall; belt courses of a different texture or color; projecting cornice; projecting metal canopy; decorative tilework; trellis containing planting; medallions; opaque or translucent glass; artwork; vertical/horizontal articulation; lighting fixtures; or a similar architectural element not listed above, as approved by the municipal governing body.

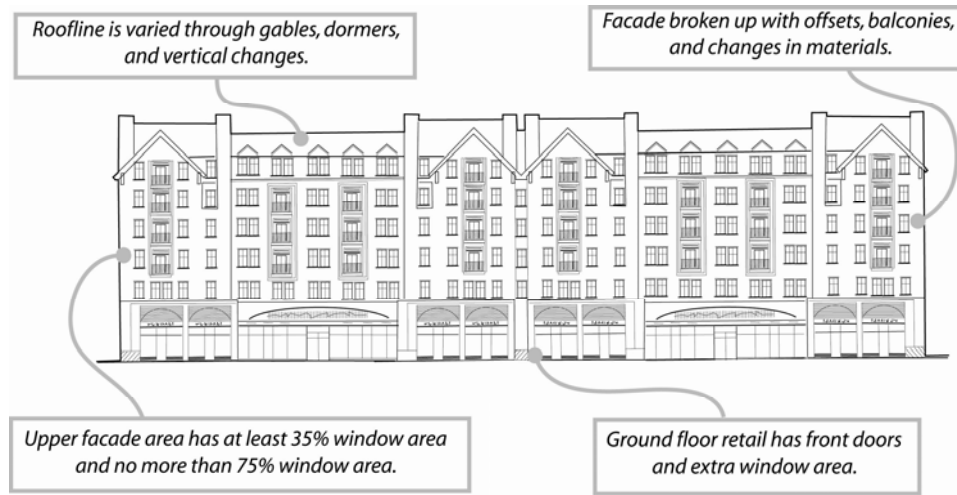
Building Design Standards:

Buildings should be varied to create an appealing streetscape from the pedestrian's perspective.

Windows:

Some businesses, such as drug stores, do not want to have clear windows along the ground floor. Municipalities may want to allow blank walls with architectural treatments for these uses in certain locations.

Illustration of Façade Requirements



- e. Rear and side facades shall have colors and materials that are similar to the front façade and shall blend with structures within the development. Any development with more than one building on the site shall have a common and coherent architectural theme throughout the development.

3. Roofs

- a. Building ridgelines or roof planes facing a street, parking area, or walking area must be interrupted at least once every one hundred (100) feet by the inclusion of at least two of the following: a gable, a dormer, a vertical change of five (5) feet or more, a tower, a dome, a barrel vault, a projecting cornice, an articulated parapet of five (5) feet or more, or the inclusion of a similar architectural feature.
- b. Buildings shall use parapets or mansard type roof styles to conceal flat roofs, elevator and stair shafts, large vents, and rooftop equipment such as HVAC units along all roof edges.

4. Building Massing

- a. Buildings shall be designed to achieve a fine-grained texture by dividing large facades into the appearance of several sections or smaller buildings to avoid the appearance of a large, monotonous building mass.
- b. Buildings must have at least a 3 foot break in depth in all front facades for every one hundred (100) feet of continuous façade. Such breaks may be met through the use of bay windows, porches, porticos, building extensions, building recesses, balconies, towers, and other architectural treatments.

Design Guidelines:

As an alternative to specific design standards in the zoning ordinance, municipalities might want to create design guidelines in a separate document that can be referenced by the zoning ordinance.

- c. In addition to the required 3 foot break, building facades of two hundred (200) feet or more facing a street, surface parking lot, passenger train station, or walking area shall include design elements that will break up the façade, such as awnings, porches, canopies, towers, balconies, bays, gables, changes in materials, changes in façade treatments, etc.

C. Parking Design Standards

1. Surface Parking

- a. Surface parking lots shall be located to the rear of principal buildings or to the side. Surface parking shall not be located between a building and a street.
- b. Surface parking shall not extend more than 70 feet in width along any street without being interrupted with a principal building.
- c. Parking lots visible from a street shall be continuously screened by a 3-foot-high wall/fence or hedge. Parking lots adjacent to a residential use shall be continuously screened by a 6-foot-high wall/fence or hedge. Screening shall also include street trees.
- d. Surface parking lots within a block in an NTMU development shall be interconnected by access driveways.
- e. Each lot created within an NTMU development shall provide cross-access easements for its parking areas and access driveways guaranteeing access to adjacent lots within the same block that are zoned NTMU. Interconnections shall be logically placed and easily identifiable to ensure convenient traffic flow.

2. Structured Parking

- a. Except for their pedestrian and vehicular entrances, structured parking garages, or structured parking within a principal building, that is located within fifty (50) feet of a street curblin at street level shall have office, entertainment, institutional, apartment lobby, retail, restaurant, or a related use in occupied space along 70% of the first floor of the structured parking that faces the street.
- b. Structured parking shall have design treatments such as colonnades, arcades, awnings, landscaping, street furniture, and other public amenities to create the appearance of an occupied building. Blank walls are not permitted.
- c. Cars shall be generally visually screened from the street through features such as grills, lattices, mock windows, louvers, false facades, etc.. Such screening shall be in keeping with the rest of the building's architectural style and materials.

Off-Street Parking:

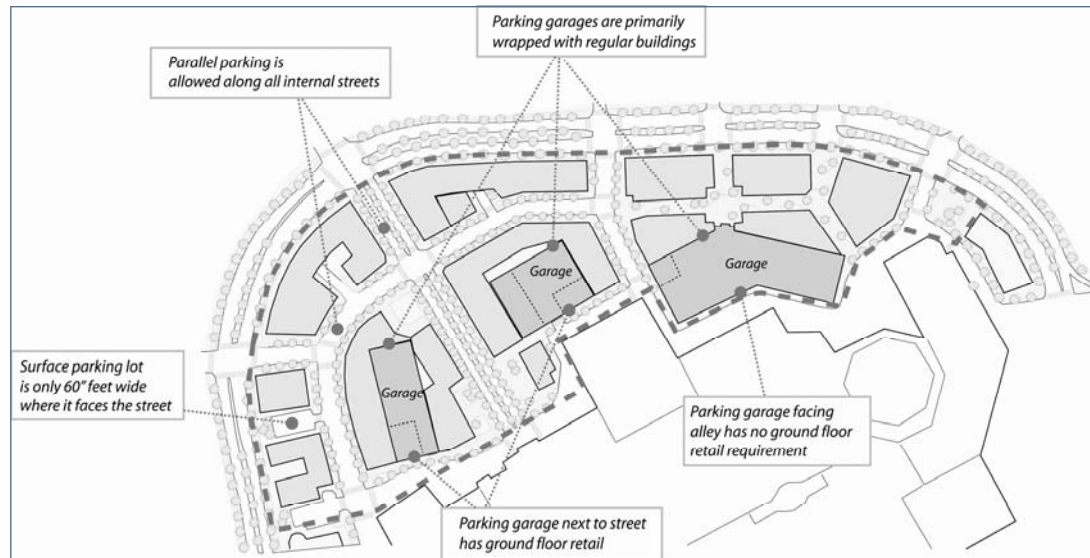
Nowadays, off-street parking can dominate developments. The NTMU district minimizes the impact of off-street parking garages and lots.

Street Level Uses in Structured Parking:

Structured parking garages close to streets are required by this ordinance to have occupied ground level space for stores or other uses. However, structured parking garages on alleys and driveways do not have to provide ground floor stores next to the alley or driveway.

Garages located in retail areas should always have ground floor retail or other space if the garage directly fronts a street with stores and restaurants along it.

Illustration of Parking Requirements



3. Access to Off-Street Parking. When feasible, vehicular access to off-street parking facilities shall be from a street, alley, or driveway that has no retail or related uses facing this street or alley. When this is not feasible, access shall be located as far from retail or related uses' front facades as possible.

D. Pedestrian Design Standards

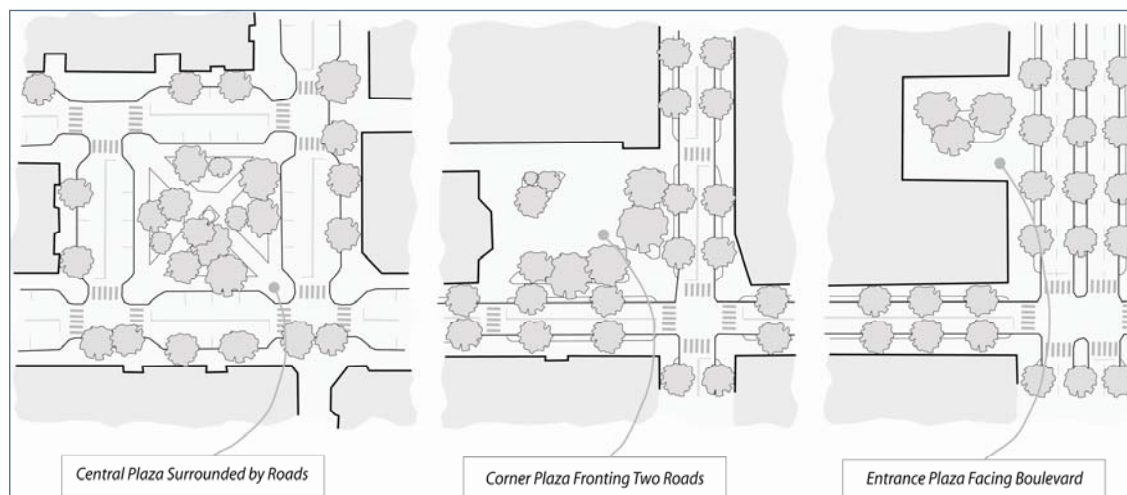
1. Sidewalks, with a minimum unimpeded width of 8 feet, are required along all street frontages with Retail, Restaurant, and Related Uses. Sidewalks with a minimum width of 6 feet are required along all street frontages with other uses.
2. Sidewalks are required to connect the street frontage to all front building entrances, parking areas, plazas, and any other destination that generates pedestrian traffic. Sidewalks shall connect to existing sidewalks on abutting tracts and other nearby pedestrian destination points and transit stops.

E. Open Space and Plaza Design Standards

1. Required open space areas shall only consist of plazas, central greens, playing fields, playing courts, playgrounds, trails, greenways with trails, pedestrian malls, promenades, picnic areas, and other similar types of usable, public space, designed in accordance with section ____ of the municipal Subdivision and Land Development Ordinance.

2. Required open space areas shall be designed as focal points within the development and shall make public access as easy and straightforward as possible. Public access shall be guaranteed to all required open space through a deed restriction or other means acceptable to the municipal governing body.
3. Plazas shall meet the following requirements:
 - a. NTMU developments shall provide 1 square foot of plaza area for every 40 square feet of gross building floor area; however, NTMU developments with less than one hundred thousand (100,000) square feet of gross floor area are not required to provide any plaza area. Because of limits on the maximum size of plazas, more than one plaza area may be required in larger developments.
 - b. Individual plazas shall be no smaller than 2,500 square feet and no larger than 40,000 square feet.
 - c. Plazas shall be surrounded on all sides by either streets or the front facades of buildings. Perpendicular or angled parking spaces shall not abut plazas. When streets abut a plaza, the opposite side of the street from the plaza shall have building front facades rather than parking lots or open space facing the plaza.
 - d. At least 25%, but no more than 80%, of the plaza shall be landscaped with trees, shrubs, and mixed plantings with year round interest.
 - e. Plazas shall be centrally located within the NTMU development and easily and conveniently accessible from all residential and non-residential buildings. Plazas shall be integral to the development and designed as a focal point for the NTMU development.

Illustration of Plaza Designs



Open Space Areas:

Because NTMU developments are relatively dense and normally being built in developed areas, the amount of required open space is limited. Therefore, the open space that is provided should be very high quality and very usable. Standards for plazas, the most important type of open space in these developments, are included in the zoning district. Standards for other types of open space are outlined in the Appendix and should be incorporated into the municipality's Subdivision and Land Development Ordinance.

Usable open space areas include:

- *Plazas, which are intended as focal points and gathering places.*
- *Central Greens, which function like plazas but have more landscaping.*
- *Playing Fields, which provide active recreation and might include soccer or baseball fields.*
- *Playing Courts, such as basketball and tennis courts.*
- *Playgrounds, which contain play equipment and benches.*
- *Trails, which can connect to larger municipal-wide trails.*
- *Pedestrian Malls and Promenades which encourage walking and contemplating with landscaping, artwork, and benches.*
- *Picnic Areas, which provide seating and tables for outdoor eating.*

- f. The plaza shall not be used for parking, loading, or vehicular access, except emergency and maintenance vehicular access.
- g. Plazas shall include a defining central element, such as a large fountain, sculpture, gazebo, pond, or similar feature. They shall also be improved with a variety of other amenities, such as small fountains, public art, shade trees, trash containers, benches, decorative pedestrian lights, trellises, and/or other similar features. These improvements shall be provided in locations and amounts that are acceptable to the municipal governing body.

F. Lighting Standards

- 1. Adequate lighting for pedestrians and vehicles shall be provided in all areas open to the public.
- 2. Lighting shall be shielded to meet the following requirements:
 - a. No light shall shine directly from a light source onto the ground, into the windows, or onto improvements of an abutting property, although incidental light may be permitted to fall on abutting property. Such incidental lighting shall not exceed one-half an ISO foot candle at ground level on the abutting property.
 - b. No light, except street lights, shall shine directly onto public roads.
- 3. Where the abutting property is residentially zoned and used, lighting shall meet the following requirements:
 - a. Light fixtures shall be directed towards the proposed development and away from the abutting property.
 - b. The light source itself must not be visible from the abutting residential property.
 - c. Light fixtures shall be set back at least twenty (20) feet from the property line.
 - d. Light fixtures located within the building setback area that adjoins a residentially zoned and used property shall be no more than ten (10) feet in height.
- 4. No parking lot lighting standard or building fixture designed to illuminate the ground shall exceed eighteen (18) feet in height from grade level, and no pedestrian lighting standard shall exceed fourteen (14) feet in height from grade level.

- G. Refuse Area Design Standards. The storage of refuse shall be provided inside the building(s) or within an outdoor area enclosed by either walls or opaque fencing at least 6 feet in height. Any refuse area outside of the building shall be designed to be architecturally compatible with the building(s) and shall not be located in the front of the building.

Lighting Standards:

This ordinance has standards for controlling negative lighting impacts. Municipalities that control lighting elsewhere in their zoning ordinance may want to delete this section.

H. Screening Design Standards

1. All wall-mounted or ground-mounted mechanical, electrical, communication, and service equipment, including satellite dishes and vent pipes shall be screened from public view by parapets, walls, fences, landscaping, or other approved means.
2. Service and loading areas must be visually screened from streets and pedestrian ways and must be located to the side or rear of buildings.

I. Outdoor Dining Design Standards

1. Outdoor dining areas shall not impede pedestrian traffic flow. A minimum pathway of at least 5 feet free of obstacles shall be maintained.
2. Advertising or promotional features shall be limited to umbrellas, a menu board, and canopies.

J. Outdoor Storage. Outdoor storage is not permitted.

Section 6. Bonus Provisions

- A. NTMU developments that provide workforce housing in accordance with the following requirements shall receive a FAR bonus of .5:
1. At least fifty percent of the development's building floor area is residential, and at least ten percent (10%) of the dwelling units are sold or leased as workforce housing units.
 2. External building materials and finishes are the same in type and quality for workforce units as for the market rate units.
 3. Workforce dwelling units are dispersed among the market rate units throughout the development.
 4. Workforce dwelling units only differ from market rate dwelling units with regard to interior finishes and gross floor area, provided:
 - a. The bedroom mix of workforce dwelling units is in equal proportion to the bedroom mix of the market rate dwelling units.
 - b. The differences between the workforce dwelling units and the market rate dwelling units do not include improvements related to energy efficiency.
 5. Workforce dwelling units shall be affordable by and restricted to those households whose income does not exceed one hundred percent (100%) of the United States Housing and Urban Development (HUD) defined Area Median Income (AMI) for Montgomery County. Affordability shall be determined by _____ municipality.

Bonus Provisions:

This model ordinance includes bonus provisions for workforce housing and green buildings. However, bonuses could be written to encourage a variety of public benefits, such as:

- *Historic preservation*
- *Green roofs*
- *Riverfront trails and open space*
- *Green streets and improved stormwater facilities*
- *Reservation or construction of road re-alignments or extra right-of-way*
- *Energy star buildings*
- *Public art*

6. For-sale workforce dwelling units shall be deed restricted to guarantee long-term affordability, in accordance with the following requirements:
 - a. The deed restriction shall limit future purchasers to those households whose income does not exceed one hundred percent (100%) of the HUD AMI for Montgomery County.
 - b. The deed restriction shall limit future sales prices of workforce dwelling units to the initial sale price plus the following:
 - (i) Inflation, as measured by the Consumer Price Index (All Urban Customers, Philadelphia CMSA, Residential Real Estate), for the period of time the seller resided in the unit.
 - (ii) Fair market value of improvements made to the unit.
 7. Rental workforce dwelling units shall be rented at 30 percent of the AMI minus the cost of utilities, updated annually based on current HUD definitions. These rents will be in effect for the life of the development. If the unit is sold at a future date, the above workforce housing provisions will apply to any transaction.
- B. NTMU developments with one hundred percent (100%) green buildings, in accordance with one of the following definitions, shall receive a FAR bonus of .5:
1. Green buildings shall include buildings that meet the silver or higher designation in the Leadership in Energy and Environmental Design (LEED) program, as determined by the Green Building Certification Institute.
 2. Green buildings shall include buildings that meet any national, generally-accepted certification that is equivalent to the LEED silver or higher designation.

Green Building or Energy Star:

Instead of using green building standards, some municipalities have substituted energy star rankings.

appendices

Part

5

new town mixed use district

Part 5 of this publication contains supplemental zoning and subdivision and land development regulations that complement the New Town Mixed Use District.

This part contains the following appendices:

Appendix 1. Parking

Appendix 2. Streetscaping Standards

Appendix 3. Usable Open Space Standards

Appendix 4. Transit Facility Standards

Appendix 5. Building and Use Characteristics

Appendix 6. Definitions

Appendix 7. National Examples

Appendix 1 - Parking Standards

- A. Parking Ratios. Any building or structure erected, altered, or used and any lot used or occupied for any of the following purposes shall be provided with the minimum number of parking spaces set forth below, except as adjusted for reserve parking, shared parking, on-street parking, or public transportation.

Use	Requirement
Retail commercial sales, excluding drive through facilities	1 space per 300 feet of gross floor area
Restaurants and other food or beverage establishments, excluding drive through facilities	1 space per 200 square feet of gross floor area
Professional, administrative, and/or business offices	1 space per 300 square feet of gross floor area
Convention centers, meeting facilities, banquet halls	1 space per every 4 persons of seating capacity
Banks or financial institutions, excluding drive through facilities	1 space per 300 square feet of gross floor area, or 5 spaces, whichever is greater
Hotels	1 space per rented unit, plus .5 spaces per employee on the largest shift
Bed and breakfast facilities	1 space per guest room, plus 2 spaces for the primary dwelling and/or innkeeper
Museums	1 space per 450 square feet of gross floor area
Theaters	1 space per 200 square feet of gross floor area, or 1 space per 5 seats, whichever is greater
Schools	2 spaces per classroom
Day care centers	.75 spaces per employee on largest shift, plus 1 space per 10 pupils designed for the safe and convenient loading and unloading of pupils
Post offices	1 space per 450 square feet of gross floor area
Community centers	1 space per 300 square feet of gross floor area
Libraries	1 space per 450 square feet of gross floor area

COMMENTARY

This section contains a list of suggested parking requirements for a wide variety of uses that could be found in a typical NTMU District. All of the uses in this section are contained in this model ordinance. These parking ratios can be incorporated into a municipality's normal off-street parking chapter of the zoning ordinance.

The uses and ratios listed here were derived from a number of sources, including the American Planning Association's Planning Advisory Service Report Number 510/511, "Parking Standards."

Use (<i>continued</i>)	Requirement (<i>continued</i>)
Personal service businesses	1 space per 200 square feet of gross floor area
Studios or galleries for dance, music, fitness, art, or photography	1 space per 8 students, plus 1 space per full time employee OR 1 space per 200 square feet of gross floor area, whichever is greater
Bowling alley	2 spaces per lane, plus 1 space per 200 gross feet of accessory uses (ie. bars, restaurants, game rooms, etc)
Racquet sports	2 spaces per court, plus .5 spaces per employee
Health club	1 space per 350 square feet of gross floor area
Transit facilities	1 space per 3 employees on the largest shift
Apartment units	1 space per unit
Townhouses	1.25 spaces per unit
Twins	1.25 spaces per unit
Single-family detached homes	1.5 spaces per unit
Workforce housing units	1 space per unit

- B. Parking Held in Reserve. If the number of spaces required above is substantially larger than the number of spaces anticipated by the applicant, then the applicant may hold some of the parking in reserve while ensuring adequate area for potential future parking demand.
1. Suitable area that meets all dimensional and design requirements must be available on the overall site for one hundred percent (100%) of the required parking, either through surface, structured, or on-street parking.
 2. The number of spaces which must be provided initially may be reduced by up to fifty percent (50%) by (a municipal governing body) upon recommendation by the municipal planning commission. All engineering, including stormwater engineering, shall be designed based on total parking requirements, including the reserve.
 3. Applicants that anticipate needing less than one hundred (100) percent of the total parking spaces required shall design their developments with suitable area for the eventual construction of the balance of the required parking spaces. These spaces, until their construction, shall be held in reserve by the applicant. The reserve parking spaces shall be constructed by the applicant.

The parking ratios included in this section are suggested ratios. In calculating these ratios, the density of this district has been taken into consideration, along with the potentially easier pedestrian, transit, and bicycle access which could cut down on automobile parking needs. Individual municipalities should tailor their ratios to their unique situations.



Reserve Parking. This lets applicants reduce the amount of parking initially built. This can have a positive impact on both the natural and built environments. The regulations do require that an appropriate area be set aside for the reserve parking, in case the municipality determines that this parking is needed after all.

cant if and when determined necessary by the (municipal governing body), upon recommendation of the municipal zoning officer.

4. The (municipal governing body) may require installation of additional parking spaces under the following conditions:
 - a. When there is evidence of a continued overflow of parking as installed by the applicant.
 - b. When a re-evaluation of the parking capacity by the Zoning Officer shows that future parking needs will not be met. The parking capacity shall be re-evaluated whenever there is a change in use, ownership, number of employees, number of residents, building size, and/or land area.
- C. Maximum Parking. The maximum amount of permitted parking shall be 120% of the minimum required parking, unless the (municipal governing body) requires installation of additional parking.
- D. Shared Parking
 1. The parking spaces required in the above standards may be reduced when two or more establishments share the same parking area, whether on the same lot or on abutting lots, subject to the following conditions:
 - a. That some portion of the shared off-street parking area lies within 500 feet of an entrance, regularly used by patrons, into the buildings served by the shared parking facilities.
 - b. That access and parking easements are prepared and recorded for each property affected by the shared parking.
 2. The minimum amount of shared parking required shall be calculated according to the following formula:
 - a. Calculate the minimum amount of parking required for each land use as if it were a separate use.
 - b. To determine peak parking requirements, multiply the minimum parking required for each proposed land use by the corresponding percentage in the table below for each of the five time periods.
 - c. Calculate the column total for each of the five time periods.
 - d. The column (time period) with the highest value shall be the minimum shared parking requirement.

Maximum Parking. Some developers build much more parking than is needed to meet the actual needs of tenants. This unnecessary parking creates more stormwater runoff, increases pollution, and reduces the amount of useful development that can occur. To avoid these problems, municipalities may want to cap the amount of parking by having a maximum parking ratio. For example, the zoning ordinance could cap the parking at 120% of the minimum required parking. For a 12,000 square foot retail use, the minimum amount of parking is 40 spaces; the maximum amount would be 48 spaces.

Shared Parking. Different uses have various peaks of demand for parking. For example, most parking for offices takes place during the day, while most of the parking for movie theaters takes place in the evenings and on weekends. These two uses - office and a movie theater - could share their parking, reducing the total amount of parking to be built.

Shared Parking Requirements						
	Weekdays			Weekends		
Use	8 am - 6 pm	6 pm - Midnight	Midnight - 8 am	8 am - 6 pm	6 pm - Midnight	Midnight - 8 am
Office	100%	10%	5%	10%	5%	5%
Retail	70%	90%	5%	100%	70%	5%
Hotel/Motel	75%	100%	100%	75%	100%	100%
Restaurant	60%	100%	10%	60%	100%	20%
Entertainment/ Recreation	40%	100%	10%	80%	100%	50%
Residential	60%	100%	100%	80%	100%	100%

- E. On-Street Parking. On-street parking spaces within a development may be counted towards the minimum amount of required parking.
- F. Bonus for Proximity to Public Transportation. Buildings located within 1/4 mile of an active passenger rail station may reduce their amount of required parking by ten percent (10%).

Shared Parking Example

The table to the left looks complicated but is straightforward to use. The following example illustrates how the table works:

A proposed development has the following amounts of required parking;

- Office (90,000 sf) = 300 spaces
- Retail (30,000 sf) = 100 spaces
- Restaurant (10,000 sf) = 50 spaces
- Apartments (100 units) = 100 spaces

Without shared parking, this hypothetical development would need **550** spaces.

With shared parking, this mixed use development needs the following parking, by time slot:

- Weekday 8 AM to 6 PM - 460 spaces
- Weekday 6 PM to 12 AM - 270 spaces
- Weekday 12 AM to 8 AM - 125 spaces
- Weekend 8 AM to 6 PM - 240 spaces
- Weekend 6 PM to 12 AM - 235 spaces
- Weekend 12 AM to 8 AM - 130 spaces

Therefore, with shared parking, the development only has to provide **460** spaces to cover the weekday time period from 8 AM to 6 PM. This is 90 fewer spaces than it would need otherwise.

Appendix 2 - Streetscaping Standards

The following sidewalk and crosswalk standards have been tailored for a New Town Mixed Use situation; however, most of the standards are applicable to other parts of a community, and these regulations could be added to a community's regular sidewalk standards in the Subdivision and Land Development Ordinance.

A. Sidewalks and Crosswalks

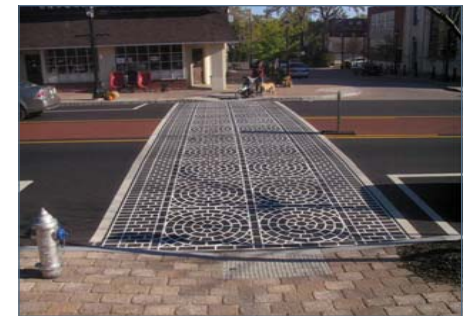
1. Sidewalks are required along all street frontages, alleys, and internal driveways. Sidewalks along alleys may be waived if an applicant can demonstrate that these areas are not anticipated to have pedestrians. Sidewalks shall meet the following width requirements:
 - a. In areas that predominantly consist of retail, restaurant, and related uses on the ground floor of buildings, sidewalks shall have a minimum unimpeded width of 8 feet.
 - b. In all other areas, sidewalks shall have a minimum unimpeded width of 6 feet.
2. Sidewalks shall be constructed of durable, attractive materials like brick, stone, or high quality concrete accented with pavers. Sidewalk materials shall be continued across curb cuts when possible.
3. Arterial streets shall be separated from sidewalks by a 6-foot wide landscaped strip, decorative verge area, or expanded sidewalk area, so as to allow for street trees and to buffer pedestrians from automobile traffic. All other streets shall be separated from sidewalks by a 4-foot wide landscaped strip, decorative verge area, or expanded sidewalk area.
4. Sidewalks shall be required to connect the street frontage to all front building entrances, parking areas, plazas, other usable open space areas, and any other destination that generates pedestrian traffic. Sidewalks shall connect to existing sidewalks on abutting tracts and other nearby pedestrian destinations and/or transit facilities.
5. All sidewalks shall have accessibility ramps and shall comply with the regulations of the Americans with Disabilities Act.
6. Crosswalks not more than 10 feet and not less than 6 feet wide shall be required at all street intersections and wherever necessary to provide safe pedestrian access to buildings, open space areas, and public transit facilities.
7. Crosswalks shall be constructed of inlaid thermal plastic, patterned surface dressing, or stone/brick/concrete pavers that make them easy to view and distinguish from the rest of the roadway. Crosswalk borders shall be highlighted with white lines at least 6 inches in width. Minor streets within the development may have painted white crosswalks.

COMMENTARY

This section contains suggested subdivision and land development ordinance standards for streetscaping. These standards can be placed in a separate section that only applies to NTMU developments; put into different parts of the subdivision ordinance's design standards chapter; or put into separate design guidelines that are referenced in the municipality's codes.

Municipalities considering large-scale projects may want to consider having stand-alone design guidelines specifically adopted for the project, so as to provide uniformity for important design elements throughout the construction process.

Sidewalks should be wide enough for the anticipated activities in a commercial area - such as outdoor dining or window shopping. Wider widths than 8 feet may be necessary when significant numbers of pedestrians are likely. Sidewalks should be clear of obstacles, such as signage or planters.



Crosswalks like the one above make for a very visible road crossing.

Traffic calming is applicable in most parts of a community; however, because it is a relatively new concept, most Subdivision and Land Development Ordinances do not have specific standards. The following detailed standards could be included in a municipality's ordinance.

A. Traffic Calming Devices

Developments shall incorporate one or more of the following traffic calming devices to slow traffic and improve pedestrian mobility and safety. The location, type, and number of traffic calming devices shall be determined by the municipal governing body in consultation with the municipal engineer.

1. Curb extensions/bulb-outs.
 - a. Curb extensions/bulb-outs narrow the street cartway at intersections and mid-block locations to make pedestrian crossings shorter and/or reduce the perceived width of long, straight streets.
 - b. Curb extensions/bump-outs shall extend at least 6 feet from the rest of the curblines into the street.
 - c. Curb extensions/bump-outs shall be at least 15 feet in length.
 - d. Curb extensions/bump-outs must leave at least 20 feet of cartway for travel lanes on arterial streets, and 18 feet of cartway on all other streets.
2. Raised median islands.
 - a. Raised median islands are narrow islands between travel lanes that are designed with breaks in landscaping and curbing for pedestrians.
 - b. Raised median islands shall be at least 6 feet wide; however, the municipal governing body may allow this width to be reduced to 4 feet when existing street cartway and sidewalk widths warrant a narrower width.
 - c. Raised median islands shall be a minimum of 20 feet in length; however, the municipal governing body may allow this length to be reduced to 12 feet when a longer length would interfere with a driveway.
 - d. Portions of raised median islands not used for sidewalk area shall be landscaped.
3. Traffic circles.
 - a. Traffic circles are raised islands located in the center of an unsignalized intersection.
 - b. Traffic circles shall be designed to give vehicles adequate turning radii within the intersection, with all traffic negotiating the circle and circulating in a counterclockwise direction.

Traffic calming devices slow traffic and improve pedestrian mobility. The standards in this appendix are taken from design guidelines published by the Pennsylvania Department of Transportation in their 2001 handbook, Pennsylvania's Traffic Calming Handbook.



However, many of the standards contained in this appendix are very specific, and may not fit within the context of every municipality or every development proposal. If these standards are added to a municipality's Subdivision and Land Development Ordinance, the standards that do not apply can always be waived if necessary.

- c. The diameter of traffic circles may not be less than 13 feet.
 - d. At least 16 feet of street width must be located between the traffic circle and the closest curbline.
 - e. Traffic circles shall be designed with mountable curbs.
 - f. Traffic circles shall be landscaped.
4. Speed humps.
- a. Speed humps are raised, elongated surfaces on the roadway designed to slow traffic.
 - b. Speed humps shall be 3 to 4 inches in height.
 - c. Speed humps shall be at least 14 feet in length.
 - d. Speed humps shall be constructed across the cartway, from curb to curb.
 - e. Speed humps shall have a parabolic cross section.
 - f. Speed humps are only allowed on local streets with a grade of less than 8%. They are not permitted on collector or arterial streets.
5. Speed tables.
- a. Speed tables are raised, flat topped surfaces on roadways, often built with brick or other textured materials on the flat section.
 - b. Speed tables shall be 3 to 4 inches in height.
 - c. Speed tables shall have a total length of 22 feet, with 6 foot ramps on each end and a flat 10 foot section in the middle.
 - d. Speed tables shall be built from curb to curb.
 - e. Speed tables shall not be installed on arterial streets.
6. Raised crosswalks.
- a. Raised crosswalks are marked and elevated pedestrian areas that are an extension of the sidewalk at mid-block locations or intersections.
 - b. Raised crosswalks shall be 3 to 6 inches in height.
 - c. The ramps on each side of the crosswalk shall have a grade of 4% to 8%.
 - d. The flat area of the crosswalk shall be at least 10 feet in width.
 - e. Raised crosswalks shall be installed curb to curb.
 - f. Raised crosswalks shall not be installed on arterial streets.

Municipalities should encourage innovation when considering traffic calming improvements. For example, there are numerous ways to incorporate best practice stormwater management improvements or sustainable design into traffic calming techniques, just by adding materials like porous paving or planting strategically placed landscaped areas.



Photos from www.pallikarimage.org by Dan Burden

7. Raised intersections.

- a. Raised intersections are intersections, including crosswalks, that are raised above the street cartway level.
- b. Raised intersections shall be 3 to 6 inches in height.
- c. The ramps on each side of the raised intersection shall have a grade of 4% to 8%.
- d. Raised intersections shall cover the whole intersection, including crosswalk areas.
- e. Raised intersections shall not be installed on arterial streets.

Street furniture and streetscape elements are important for encouraging a walkable environment. Municipalities may want to require these improvements wherever more compact development is allowed.

A. Street Furniture and Streetscape Elements

1. Street furniture shall be provided and include (though not limited to) benches, trash and recycling receptacles, planters, and bike racks. Street furniture shall be decorative, functional, and properly scaled to the space.
2. Street furniture shall be provided to the (municipal governing body's) specifications on style and/or color, and shall be given final approval by the (municipal governing body).
3. Street furniture shall be properly maintained by the property owner and be constructed of durable materials such as cast iron, aluminum, stainless steel, or similar materials.
4. All furniture and streetscape items shall be offset from the curb by a minimum of 1.5 feet to avoid car door obstruction. Furniture intended for seating shall be set back from the curb by a minimum of five feet from arterial roads without on-street parking.
5. A minimum of five linear feet of seating, such as a bench or a cluster of chairs, shall be provided for every 1,000 square feet of plaza area on public or private land. Areas seating at least 4 people at a time shall be provided at the rate of one per block face, outside of plaza areas.
6. Between two and four paired trash and recycling receptacles shall be placed along each block face with more than 40,000 square feet of commercial uses; one pair at each end of the block and additional receptacles spaced evenly between. A minimum of one additional trash receptacle shall be provided for each 5,000 square feet of public open space.
7. Sidewalk mounted trash receptacles shall have at least three feet clear on all sides from any standing object including, but not limited to, parking meters, lights, and sign posts.
8. One drinking fountain shall be provided for each 10,000 square feet of usable public open space.
9. Freestanding planters and protective devices, such as bollards, shall be installed between side walks and adjacent vehicular traffic to help shape the pedestrian environment.



Photos from www.publicimages.org by Dan Hardin

Street furniture, such as the above bike racks, adds a distinctive element to the streetscape. Care should be taken to choose appropriately styled furniture.

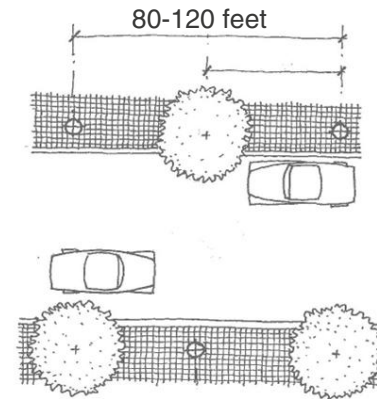
Streetscaping needs to be properly maintained. Municipalities may want to consider having a business district association contribute towards care.

10. All new retail and office development shall provide a minimum of one bicycle parking rack per 20,000 square feet of gross floor area or fraction thereof. A minimum of one bicycle parking rack shall be provided for every 10,000 square feet of public open space.
11. Bicycle racks shall be located in highly visible, well lit areas near building entrances; bicycle parking areas shall not obstruct walkways. Bicycle parking may be provided within a building, but the location must be easily accessible for bicyclists. Establishments that provide internal bicycle parking may also want to consider providing lockers and shower facilities to encourage employees to bike to work.

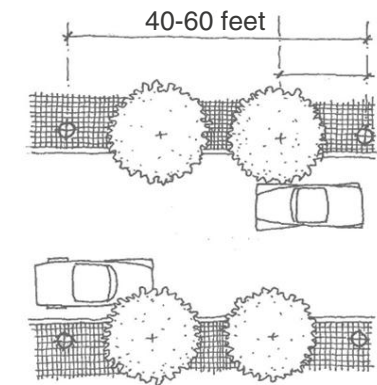
Lighting is another critical element of NTMU developments. Municipalities that do not have lighting standards in their zoning or subdivision ordinances may want to adopt the following standards.

A. Site and Streetscape Lighting

1. Applications for development in the NTMU District shall include a lighting plan.
2. Lighting that is oriented for vehicles shall be generally spaced at 100' - 120' on center in a staggered pattern.
3. Pedestrian-oriented streetlights shall be provided and spaced at 40' - 60' on center, paired across the street or, 80' - 120' on center in a staggered pattern. They should be centered on a line 20 inches from the face of curb.
4. With approval from the (municipal governing body) these spacing guidelines may be modified to meet minimum safety standards and provide a logical rhythm or cadence. Minor adjustments may be necessary to avoid utilities, vaults, and other conditions.
5. Public areas and open spaces shall be lit for safety and ease of visibility.
6. Lighting fixtures and luminaries, both pole-mounted and building-mounted, shall be consistent and/or compatible with any existing light fixtures, and the (municipal governing body) shall have final approval over the style and placement of all lighting fixtures.
7. Light fixtures shall be constructed of durable, attractive materials and be easy to maintain. Light poles be constructed of durable materials such as cast iron, aluminum, stainless steel, or similar materials.
8. Where the abutting property is residentially zoned or used, nonresidential uses shall direct light fixtures toward the proposed development and shield the residential properties from direct lighting or glare. The light source itself must not be visible from the abutting residential property.
9. No streamers or festoon lighting, comprising a group of incandescent light bulbs, shall be hung or strung on a building or any other structure.
10. No flashing or intermittent or moving lights, including lights on signs, shall be permitted.



Staggered pedestrian streetlights



Paired pedestrian streetlights

Streetlight placement and spacing can be varied to be oriented to either vehicles or pedestrians. The illustrations above show two options for pedestrian-scaled lighting.

Appendix 3 - Usable Open Space Standards

The following requirements apply to all proposed usable open space in New Town Mixed Use developments.

A. General Usable Open Space Standards.

1. Usable open space areas shall be focal points of the community and key public assets. These areas must be visible and accessible from a public walkway or sidewalk, and shall not be in utility areas, stormwater management areas, or behind buildings.
2. At the discretion of the (municipal governing body), stormwater management ponds may be used as usable open space areas when these ponds function as a walkable focal point.
3. Usable open space areas shall be located within 200 feet of an adequate parking area for the open space area or within 200 feet of a public street.
4. Usable open space areas shall connect to outdoor cafes, restaurants or building entrances and have maximum direct sunlight. Necessary shade shall be provided by trees, canopies, trellises, building walls or tables with umbrellas.
5. Usable open space areas shall be generally flat and unconstrained, and at-grade with sidewalks whenever possible. At most, a three-foot differential between the sidewalk and the space may be allowed for physical definition of space.
6. Trails, paths, and sidewalks shall be clearly marked and separated from vehicular travel ways and shall connect to the sidewalk system.
7. No parking, loading or vehicular access is allowed in or on the open space, other than for emergency or maintenance vehicles.
8. The applicant must submit a maintenance plan describing how improvements will be managed and maintained. The responsibility for maintenance shall rest with the owner of the property.
9. Usable open space areas shall be deed restricted to permanently preserve the area and to guarantee permanent public access.

B. Specific Open Space Standards

1. Central Greens
 - a. Buildings abutting central greens shall have entrances facing the central greens.
 - b. Central greens shall be surrounded on all sides by either streets or the front facades of buildings, with at least 45% of its perimeter surrounded by public streets.

COMMENTARY

Designing Usable Open Space

Open space areas, both attractive and functional, should be an integral part of the NTMU District. Since the NTMU is a relatively dense district, the open space areas will likely be small and therefore, should be designed thoughtfully to maximize their usefulness. Additionally, some of these amenities are more appropriate for the outskirts of or within the residential areas permitted by this model ordinance.

These standards are intended to supplement a municipality's existing open space standards in the Subdivision and Land Development Ordinance. These standards can be waived by the local governing body when appropriate reasons for the waivers are presented.



Central Green

- a. Central greens shall contain both open grassed-areas and more formally landscaped areas, as well as pedestrian facilities, such as sidewalks, paths, benches, or gazebos. At least sixty percent of any central green shall be landscaped with trees, vines, shrubs and seasonal flowers, as well as lawn area around these features.
 - b. Central greens shall also include central public amenities, such as (but not limited to) a water feature, fountain, gazebo, bandshell, sculpture, play sculpture, etc..
 - c. Central greens shall be at least 10,000 square feet in size but no greater than 40,000 square feet.
2. Trails or Greenways with Trails
- a. To the maximum extent feasible, trails and greenways with trails shall be installed in areas where significant natural and scenic resources exist on a site.
 - b. Trails shall be located in prominent areas with visual interest. The primary portion of trails and area of greenways shall not be constructed along private yards (unless separated by a fence and/or safety buffer), public or private streets or rights of way, parking areas and drive-ways, or stormwater detention facilities.
 - c. Trails or greenways with trails must be at least a half a mile in length, must directly connect with an existing trail that is at least half a mile in length, or must provide a critical link in a future trail shown in the municipality's Open Space Plan. Trails or greenways shall also directly connect with the development's retail area via a sidewalk connection or pathway
 - d. Trails that are multiuse shall be at least 10 feet wide with an aggregate 6-foot wide shoulder and shall be constructed of macadam or a similar quality material. Pathways shall be at least 5 feet wide. The entire trail corridor shall be a minimum of thirty (30) feet in width.
 - e. A corridor up to 30 feet wide containing the trail or greenway with trail shall be considered usable open space and shall count toward fulfilling the requirements of the NTMU District.
3. Picnic Areas
- a. Picnic areas shall be located adjacent to playground areas, trails, greenways with trails, playing fields, playing courts, and scenic resources at appropriate and convenient spots.
 - b. Picnic areas shall be used only during daylight hours; no lighting shall be installed.
 - c. At least 2 picnic tables shall be provided for each picnic area.
 - d. Adequate refuse and recycling containers shall be provided.
 - e. Shelters and/or shade trees and other landscaping shall be provided at all picnic areas.
 - 1) Two trees of at least two-inch caliper shall be provided for every 1,000 square feet of picnic area



Photo from www.pedbikeimages.org by Amie Lux

A riverside trail in Milwaukee.



Picnic Area

- 2) Gazebo or picnic-type shelters may be used in addition to, but not in exchange for, any landscaping requirements.
 - f. Picnic areas shall be at least 3,000 square feet in size, and at least 30 feet wide.
 - g. Picnic tables shall be set back at least 10 feet from lot lines, 10 feet from the ultimate right-of-way of local access streets, and 25 feet from the ultimate right-of-way of collector or arterial streets.
4. Playgrounds
- a. Playgrounds shall include structured play equipment designed for the use and enjoyment of children.
 - b. Playgrounds shall be used only during daylight hours; no lighting shall be installed.
 - c. Sitting areas, including benches, shall be provided for the convenience of persons supervising children.
 - d. Two trees of at least two-inch caliper shall be provided for every 1,000 square feet of playground area; gazebo or picnic-type shelters may be used instead of half the required shade trees.
 - e. When a playground is placed adjacent to playing fields, practical measures, such as fencing and orientation of facilities, shall be used to reduce hazards, especially from balls, Frisbees, or other flying objects.
 - f. Playgrounds shall be at least 2,500 square feet in size (within any fenced areas) and 35 feet wide.
 - g. Playground equipment shall be set back at least 10 feet from lot lines, 10 feet from the ultimate right-of-way of local access streets, and 100 feet from the ultimate right-of-way of collector or arterial streets.
 - h. Playgrounds shall be located within residential areas, and shall be easily visible from the street.
5. Playing Fields
- a. Playing fields shall be used only during daylight hours; no lighting shall be installed.
 - b. Playing fields shall consist of a lawn area, unobstructed by trees, shrubs, benches, and other playground equipment. Applicants shall locate trees and shrubs at the perimeter of playing fields to define their limits, enhance their appearance, and filter noise that may be generated by any activities.
 - c. Playing fields shall be gently sloped, not less than 1 percent nor more than 3 percent grade, and shall be well drained so as to be suitable for use in good weather.



Playground

- d. Playing fields may be fenced and sitting areas may be provided along the perimeter if desired by the applicant.
 - e. Playing fields shall be at least 8,000 square feet in size with a minimum width of 80 feet.
 - f. The minimum setbacks to the edge of a playing field shall be at least 50 feet from any dwelling unit. The minimum setback from the ultimate right-of-way of streets shall be 25 feet from local access streets, and 50 feet from collector or arterial streets.
 - g. Playing fields shall be located in residential areas or near the edges of an NTMU development.
6. Playing Courts
- a. Playing courts shall be constructed in accordance with specifications approved by the municipal engineer, and shall be oriented in a north-south direction.
 - b. Minimum dimensional standards shall be as follows:
 - 1) For court areas of standard size:
 - a) Tennis courts shall be a minimum of 60 feet x 120 feet.
 - b) Basketball courts shall be a minimum of 70 feet x 104 feet.
 - 2) These standards can be divided accordingly to allow for half-court areas.
 - 3) Minimum setbacks to the edge of paving:
 - a) From any dwelling unit: 50 feet.
 - b) From the ultimate right-of-way of streets: 25 feet from local access streets, 50 feet from collector or arterial streets.
 - c) From any lot line: 15 feet.
 - c. Tennis courts shall be fenced around the entire perimeter with minimum ten foot high fencing.
 - d. Basketball courts shall be fenced with minimum six foot high fencing under the following conditions:
 - 1) When the edge of the pavement is less than 30 feet from a lot line, that edge shall be fenced.
 - 2) When the edge of the pavement is less than 30 feet from an area sloping steeply downward from the court, the edge shall be fenced.
 - e. Lighting may be provided for nighttime use of courts, so arranged that no glare affects abutting residences on nearby streets, on a demand-activated basis, until no later than 10:00 pm.



Playing Field

Playing field and court standards may be amended to include specific kinds of sports and activities depending upon the needs of the community. If the community specifically feels baseball, soccer, or football fields may be a better fit, the dimensional standards should be adjusted to reflect this need.

Soccer field sizes for youth teams vary greatly, but an adult (male) field is generally 50-100 yards wide by 100-130 yards long. A standard baseball diamond is actually a square that is 90 feet on each side. Total size of a football playing field is 120 yards long and 160 feet wide.

- f. Landscaping shall be provided along the exterior perimeter of the playing courts, outside of the fenced-in area if applicable. Up to 50 percent of the landscaped area may be planted with shrubs, and one tree of at least two-inch caliper shall be planted for every 200 square feet of planting area. In addition to any required trees and shrubs, all of the landscaped area shall be covered with grass, organic mulch, or live groundcover.
 - g. Playing courts shall be placed at convenient locations within residential and/or retail areas, and may be used as a transitional use between more naturalized open space areas.
7. Pedestrian Malls or Promenades
- a. Pedestrian malls or promenades shall be developed within the equivalent of a street right-of-way, with a minimum 50 foot right-of-way width. Buildings shall be set back from the right-of-way area the same distance as from a street. The pedestrian mall shall intersect a public street in the same manner that a street would.
 - b. Except for landscaping, pedestrian paving shall cover the entire right of way. Paving shall be enhanced, decorative paving and not asphalt.
 - c. Paving sections shall be designed to accommodate emergency as well as delivery vehicles. Necessary clear zones shall also be kept so that vehicles may access the buildings. Deliveries shall be restricted to hours when the pedestrian mall is not open to the public.
 - d. Loading dock entries shall not face onto pedestrian malls.
 - e. Seating areas, which may include benches or seats grouped around or attached to a table, must be provided along each block face at a rate of five linear seat of seating for each 300 linear feet of pedestrian mall.
 - f. Landscaping shall be provided throughout pedestrian malls or promenades and shall comprise at least 25% of the pedestrian area. Up to 50 percent of the landscaped area may be planted with shrubs or flowers in planters and pots. Additionally, one tree of at least two-inch caliper shall be planted for every 500 square feet of planting area. In addition to any required trees and shrubs, the landscaped area shall be covered with grass, organic mulch, or live groundcover where appropriate.
 - g. Between two and four paired trash and recycling receptacles shall be placed along each block face with more than 40,000 square feet of building area.



Playing Court



A pedestrian mall in Asheville, North Carolina



A pedestrian mall in Santa Monica, California.

Photo from www.pedbikeimages.org by Dan Burden

Appendix 4 - Transit Facility Standards

A. Bus Shelters

1. Bus shelters shall be no less than five (5) feet distant from the curb line or a road's edge.
2. Placement shall be at a conspicuous location with a clear sight distance in the direction of all traffic flow of no less than three hundred (300) feet. Bus shelter placement shall not block the sidewalk.
3. Except where bus shelters may be on opposite sides of the same street, no shelter shall be placed closer than three hundred fifty (350) feet to another shelter.
4. Bus shelters shall be on properly graded foundations substantially anchored against the elements and constructed to be free from standing water and stormwater runoff.
5. Streets adjacent to bus shelters shall have a pull off area that can accommodate the full length of at least one full-size 40-foot bus.
6. Bus shelters shall have a minimum of 5 linear feet of seating.
7. Advertisements, maps or other informational displays on a bus shelter may only be placed on the two (2) surfaces of one side wall of the shelter. There shall be no advertisements for alcohol or tobacco products, nor any advertisements of a sexually explicit or violent nature.
8. The operator or owner of the shelter shall be responsible to pay for the cost of maintenance of the shelter in a first-class, clean, and safe manner. All lighting shall be regularly serviced by the operator or owner who shall also be responsible for providing receptacles for trash and recycling, as well as emptying them regularly.
9. Lighting shall be provided under the roof of the shelter. Lighting shall be adequate for the safety of waiting transit users, but shall not cast illumination or glare on adjacent roads or properties.
10. Bus shelters shall meet all applicable municipal, state, and federal building codes, rules, and regulations and shall meet the following size and structure requirements:
 - a. Shelters shall be at least 13.5 feet wide, 6.5 feet deep, and 8 feet tall.
 - b. Shelters shall be no more than 22 feet wide, 12 feet deep, and 15 feet tall.
 - c. The front of the shelter (the vertical plane closest to the street upon which the rear wall faces) shall be open and unobstructed. The rear and side walls shall be made of safety glass.
 - d. The frame of the structure shall be aluminum.
 - e. The foundation/flooring shall be a concrete pad at least 4 inches thick.
 - f. All shelters shall be covered with a roof.

COMMENTARY

Public transportation improvements are of regional importance and as such, should be done in cooperation with the proper regional authorities. SEPTA or PART may need to be included if transit facility improvements are a part of any future developments.



Bus Shelter

B. Train Stations

1. Train stations shall contain train boarding platforms, sheltered passenger waiting areas, and bicycle storage areas, and may contain bus shelters as well.
2. Boarding platforms shall be high-level platforms and shall be designed to allow convenient access by those who are walking and bicycling.
3. Boarding platforms shall be at least 450 feet in length, which would accommodate a 6 car train. Platforms that run down the center of a train station shall be at least 30 feet in width. Platforms that run down the side of a train station shall be at least 16 feet in width.
4. Boarding platforms shall be designed to allow convenient access by buses to the stations while avoiding major additional operating costs to bus operators. Bus stops or shelters located at the station facility shall be no greater than 300 feet from the nearest boarding platform.
5. Boarding platforms and station facilities shall be visible from arterial streets and nearby activity areas to increase the visibility and personal security of waiting patrons.
6. Boarding platforms shall provide at least four (4) benches, each capable of seating 4 people. All seating shall be located under a permanent canopy or shelter.
7. Areas surrounding the station shall have sidewalks or pathways providing direct access between the boarding area and adjacent streets (with features such as well-lit walkways and wayfinding signs). All walkways shall be lighted for safety.
8. Sidewalks shall also be provided next to any boarding platforms when parking is adjacent to the platform so as to separate pedestrians from nearby vehicular traffic.
9. Train stations shall be designed to accommodate bicycle access.
10. Bicycle storage shall be available for at least 12 bicycles at each train station.
11. The operator or owner of the train station shall be responsible and pay the cost of maintenance of the shelter in a first-class, clean, and safe manner. All lighting in and around the train station shall be regularly serviced by the operator or owner, who shall also be responsible for providing receptacles for trash and recycling, as well as emptying them regularly. Trash and recycling receptacles shall be located near the platform boarding areas.
12. Lighting shall be provided on the boarding platform(s). Lighting shall be adequate for the safety of waiting train users, but shall not cast glare on adjacent roads or properties.



Bus Stop and Shelter at Train Station



High-Level Platforms at Rebuilt Train Station

- C. Maintenance and Use Agreement. Permission shall not be granted by the municipal entity to permit the installation or operation of any public transit facility shelter unless the operator or owner shall first enter into an agreement with the municipality in a form satisfactory to the municipality for recording, binding upon the operator or owner and their successors and assigns evidencing their agreement to the terms of the use including, but not limited to, the use and maintenance of the public transit facility shelter and providing for the removal of the public transit facility shelter whether in the public right-of-way or on private property when specifically requested to do so in writing by the municipality for any reason whatsoever within the sole discretion of the municipality.



New Train Station

Appendix 5 - Building and Use Characteristics



Celebration, FL.

EPA Smart Growth



Columbus, OH.

www.pedbikeimages.org by Dan Burden



Silver Spring, MD.

EPA Smart Growth



Longmont, CO.

EPA Smart Growth

COMMENTARY

The typical design of suburban national chain stores does not fit with the NTMU District. National stores are frequently designed for people arriving by automobile at high speeds, and these buildings draw attention via oversized signage, big, boxy buildings, and large parking lots.

The NTMU district works best when stores are designed to be pedestrian-oriented, as shown in the examples in this appendix.

Common Site Needs

All retail, entertainment, and restaurant uses have site needs that must be accommodated, including:

- *Parking. With NTMU development, parking is not in front of buildings in big parking lots; instead, it is in parking garages or to the side and rear of buildings. Many town center developments built around the nation have this type of parking.*
- *Loading. Loading docks can be located in alleys, to the back of buildings, or even within parking garages. These areas should always be screened with walls and landscaping.*
- *Trash. Some businesses can keep their trash within their buildings. Those that cannot can put trash to the rear of buildings in enclosed areas or inside parking garages.*
- *Customer Loading Areas. Customer loading areas are challenging but can be located to the rear and side of buildings.*



Silver Spring, MD



Ardmore, PA

Restaurants and Cafes

Restaurants are usually between 5,000 and 10,000 square feet and often have amenities like outdoor seating in new town centers. Pedestrian traffic and repeat visitors are crucial to a restaurant's success in a town center development, since views from people driving by are less frequent. A popular restaurant can draw traffic throughout the week, thus extending the hours of use of the town center (and potentially the size of the market area).

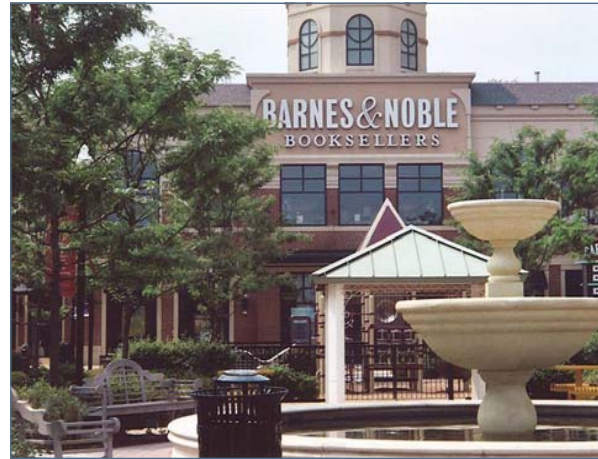
Cafes are typically on the small size, around 2,000 square feet. Cafes typically have limited menus and are very suitable to the pedestrian environment promoted by the NTMU District.

Fast food restaurants are usually around 2,000 - 5,000 square feet in size. A fast food restaurant that only provides for take-out (or specializes in one particular product, like cupcakes or coffee beans) may be even smaller at less than 2,000 square feet.

Within town centers, traditional fast food restaurants tend to be located away from high-end merchants. Most suburban fast food restaurants have specific distinctive designs and logos, as well as on-site parking and circulation patterns that fit their customers. Communities should work with developers to have fast food retailers better fit the NTMU standards within the model. These issues are sometimes addressed by combining fast food retailers into a food court.



Philadelphia, PA



Arlington, VA



Gaithersburg, MD

Bookstores

Bookstores frequently serve as mini-anchors, and can range in size from 25,000 to 45,000 square feet. They are visited frequently by shoppers and sell a variety of merchandise outside of books.

The addition of cafes and evening events and readings to many chain bookstores has upped their importance as community meeting spots and may also extend the hours that shoppers and visitors come to town center developments.

Drugstores

Drugstores, or pharmacies, are less frequently found in town centers but can serve as important mini-anchors. Traditional drugstores are usually about 5,000 square feet, but newer-style drug superstores are usually more than 10,000 square feet. Although a drug superstore may fill the role of a variety store, because of the range of products it sells, it may be in competition with the nonfood areas of a supermarket.

Department Stores

Most department stores being built nowadays are discount retailers, with usually between 90,000 and 150,000 square feet of space. Some of these stores are now being designed in a two story walkable format, with structured parking and front doors facing the street.



Silver Spring, MD



Washington DC.

EPA Smart Growth



Ardmore, PA

Supermarkets

Supermarkets, when designed to cater to a more urban population, are a popular anchor tenant in mixed use town centers because they constantly draw in both residents and passersby. Supermarkets can range from 20,000 square foot neighborhood grocers to larger stores that range between 45,000 and 75,000 square feet in size. Newer supermarkets in urban areas can be more than one story. Some accommodate drivers with subterranean structured parking; others cater to upscale shoppers by providing spacious cafes or prepared food counters on a separate level of the store. Similar to supermarkets are superstores or warehouse clubs, like Sam's or Costco. These are even larger stores, though typically with less ambiance. These types of stores range from 110,000 to 135,000 square feet.

Supermarkets have specific land use requirements - like parking spaces that can handle frequent customer turnover and entrances that open directly onto the parking areas. They require loading docks for trucks, truck turning areas, and special trash storage and pickup areas. Given the architectural requirements of the NTMU District, a screened court behind the store may be the best way to handle these needs.



Philadelphia, PA



Silver Spring, MD



Philadelphia, PA

Entertainment Facilities

Movie theaters, with their iconic retro-styled facades, are a common addition to new town centers. Newer theaters can contain upwards of 30 screens and 100,000 square feet, making them key anchor tenants. Operating hours for movie theaters are longer than traditional retail stores, so they keep visitors and shoppers around for longer periods of time. The peak parking demand is later in the day, making shared parking more feasible.

Other potential entertainment uses include video arcades, indoor play areas for children, or bowling alleys. Arcades can run the gamut from smaller facilities at around 10,000 square feet with classic video games to larger 60,000 square foot facilities with capacity for meeting rooms and restaurants. Bowling alleys tend to range in size from 17,000 to 25,000 square feet. Newer lanes include room for bars and restaurants, as well as other entertainment like pool tables, video games, and room for bands and other acts to perform. Indoor play spaces can range from a 3,000 square foot drop-in (and supervised) play areas to large indoor skate parks at 40,000 to 50,000 square feet.



Silver Spring, MD



Exton, PA



Silver Spring, MD



Seattle, WA



Ardmore, PA

Other Retail Options

Specialty shops are a big draw at town centers. Clothing and accessories stores, for example, cover a wide range of store types, qualities, and styles. Stores of this type may make up a large percentage of the stores in a town center development. Chain stores of this type range in size from 6,000 to 13,000 square feet.

Jewelry stores may occupy a small amount of square footage, but tend to have high sales per square foot because of the (relatively) high value of the merchandise.

Shoe stores are another likely addition to the town center store mix. They tend to bring in a high level of sales per square foot. Athletic shoe stores tend to be fairly large, at around 20,000 square feet. Specialty shoe stores that cater just to women, men, or children tend to be smaller.

Home appliances (such as kitchen and cookware as well as home and office electronics) and music-related stores are also frequently found in town center developments. Consumer spending on items like computers, video game equipment, cell-phones, and mp3 players is not high enough to make these types of stores a top draw to a town center development - but they seem to draw consistent foot traffic. Music-related stores tend to be sized at around 15,000 square feet. Home electronics stores, with a wider variety of goods, range in size from 30,000 to 60,000 square feet.

Appendix 6 - Definitions

ACCESSORY BUILDING - A subordinate structure, the use of which is incidental to that of the principal building, but is located on the same site as the principal building.

ALLEY - A narrow pedestrian or automobile lane that provides access to the rear of lots and/or buildings, and may provide access to structured parking.

ARCADE - An area contiguous to a street or plaza that is open and unobstructed to a height of not less than 12 feet and that is accessible to the public at all times. Any portion of an arcade occupied by building columns, landscaping, statuary, pools, or fountains shall be considered part of the arcade for the purpose of computing floor area.

AWNING - A roof-like cover, often of fabric, metal, or glass, designed and intended for protection from the weather or as a decorative embellishment, and which projects from a wall or roof of a structure over a window, walk, door, or the like.

BALCONY - A projecting platform that is open, roofless, surrounded by a railing, and which is suspended or cantilevered from, or supported solely by, the principal structure.

BARREL VAULT - A semi-cylindrical roof shape which extends an arch over a space.

BAY - A compartment projecting outward from the wall of a building and containing a window or windows.

BLOCK - A unit of land surrounded on all sides by streets or other transportation or utility rights-of-way, or by physical barriers to continued development such as bodies of water or public open spaces.

BUILDING - A structure that has a roof and walls, including structured parking, and stands permanently in one place.

CANOPY - A roof-like structure, including an awning, that projects from a wall of a building over a door, entrance, or window; or a freestanding or projecting cover above an outdoor service area, such as at a gasoline service station.

CENTRAL GREEN - A centrally-located open space area available for unstructured recreation, its landscaping consisting of grassy areas and trees.

COLONNADE - a sequence of architectural columns.

DORMER - A window vertical in a roof or the roofed structure containing such a window.

DRIVEWAY - A privately maintained vehicular access way on residential or commercial properties.

FLOOR AREA RATIO - The total building square footage (building area), excluding any structured parking facilities, divided by the site size square footage (site area).

FRONT FAÇADE - Those portions of a building's exterior elevation which face and are most closely parallel to any abutting street.

GABLE - The generally triangular portion of a wall between the edges of a sloping roof.

COMMENTARY

This appendix includes definitions of words used in the New Town Mixed Use District which might not normally be found in a municipality's definition section. Communities may wish to add the definitions in this section to the definitions section in their current zoning ordinance. Uses not defined specifically shall be attributed to the general dictionary definition.

The definitions included in this section were derived from existing zoning ordinances and the American Planning Association's Planning Advisory Service Report Number 521/522, "A Planners Dictionary."

GREENWAY - An open space conservation area that provides passive recreational opportunities and may have pedestrian and/or bicycle trails

GROUND FLOOR FAÇADE - Those portions of a façade which face and are most closely parallel to the floor that is most closely above or on the same plane as the sidewalk.

MANSARD - A roof with two angles of slope, the lower portion of which is steeper, has an angle greater than 45 degrees, and derives part of its support from the building wall.

MASTER PLAN - A zoning plan to demonstrate use and design compliance for a tract as a whole, to be used as sub-areas of the tract are developed.

MULTIUSE TRAIL - A trail that permits more than one type of user group at a time, creating a two-way shared use area. The trail is constructed of a hard paved surface or hard compacted cinder to facilitate wheeled and pedestrian trail traffic.

PARTY WALL - A wall common to but dividing contiguous buildings; such a wall contains no openings and extends from its footing below the finished ground grade to the height of the exterior surface of the roof.

PATH - A temporary or permanent area that is normally dirt or cinder although some paths are asphalt or concrete. A path typically indicates the common route taken by pedestrians between two locations.

PARAPET - That portion of a wall which extends above the roofline.

PEDESTRIAN MALL - An area of street-like proportions given over entirely to pedestrian traffic, where the need for a vehicular right-of-way is not great and vehicular traffic can be routed elsewhere.

PEDESTRIAN ORIENTED - An area designed with an emphasis primarily on sidewalks and other passage-ways to allow for ease of walking, rather than on auto access and parking areas.

PICNIC AREA - A centrally located space sufficient for two or more picnic tables with the option of a roofed overhead shelter.

PLAYGROUND - A publicly accessible area developed with structured play apparatuses for active play and recreation.

PLAYING COURT - A recreational area with one or more structured playing fields or courts for competitive sports, such as, basketball, or tennis.

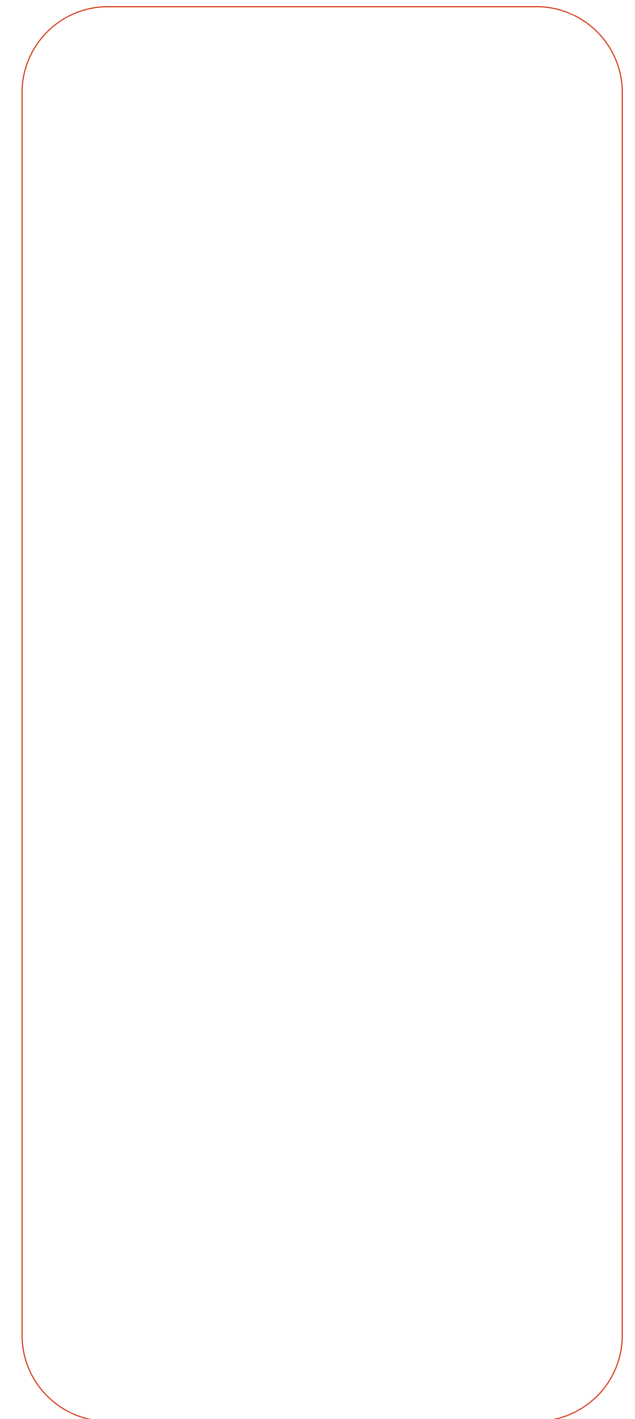
PLAYING FIELD - A grassy recreational area for recreational activity.

PLAZA - An open space that may be landscaped, or paved, typically surrounded by buildings or streets and used for passive recreation and relaxation.

PORCH - A covered but unenclosed projection from a front, rear, or side wall of a building that may or may not use columns or other ground supports for structural purposes.

PORTICO - A porch that leads to the entrance of a building, or extends as a colonnade, with a roofed structure over a walkway, supported by columns or enclosed by walls.

PRINCIPAL BUILDING - A building, or buildings, in which the principal use of the lot is situated.



STORY - A complete horizontal section of a building, having one continuous or practically continuous floor.

STREET - A publicly-accessible thoroughfare that provides the principal means of access for vehicular traffic to abutting property.

STREET CONNECTIVITY INDEX - a numerical measurement used to quantify how well a roadway network connects destinations.

STREETSCAPING - Improvements that may either abut or be contained within a public or private street right-of-way or accessway that may contain sidewalks, street furniture, landscaping, street lighting, trees, and similar features.

STRUCTURED PARKING - A structure or portion thereof composed of one or more levels or floors used primarily for the parking or storage of motor vehicles. Structured parking may be totally below grade (as in an underground parking garage) or either partially or entirely above grade with those levels being either open or enclosed.

STRUCTURED PARKING GARAGE - A partially or entirely above grade structure of two or more floors with the primary purpose of providing parking for motor vehicles. This term encompasses both commercial parking facilities as well as private parking structures. Structured parking garages may be designed to have commercial space on the ground floor.

SURFACE PARKING - Parking or storage areas for motor vehicles that are entirely at street grade and not enclosed by a building. This includes both on-street and off-street parking.

SURFACE PARKING LOT - A specific off-street area, at street grade, for the parking or storage of motor vehicles.

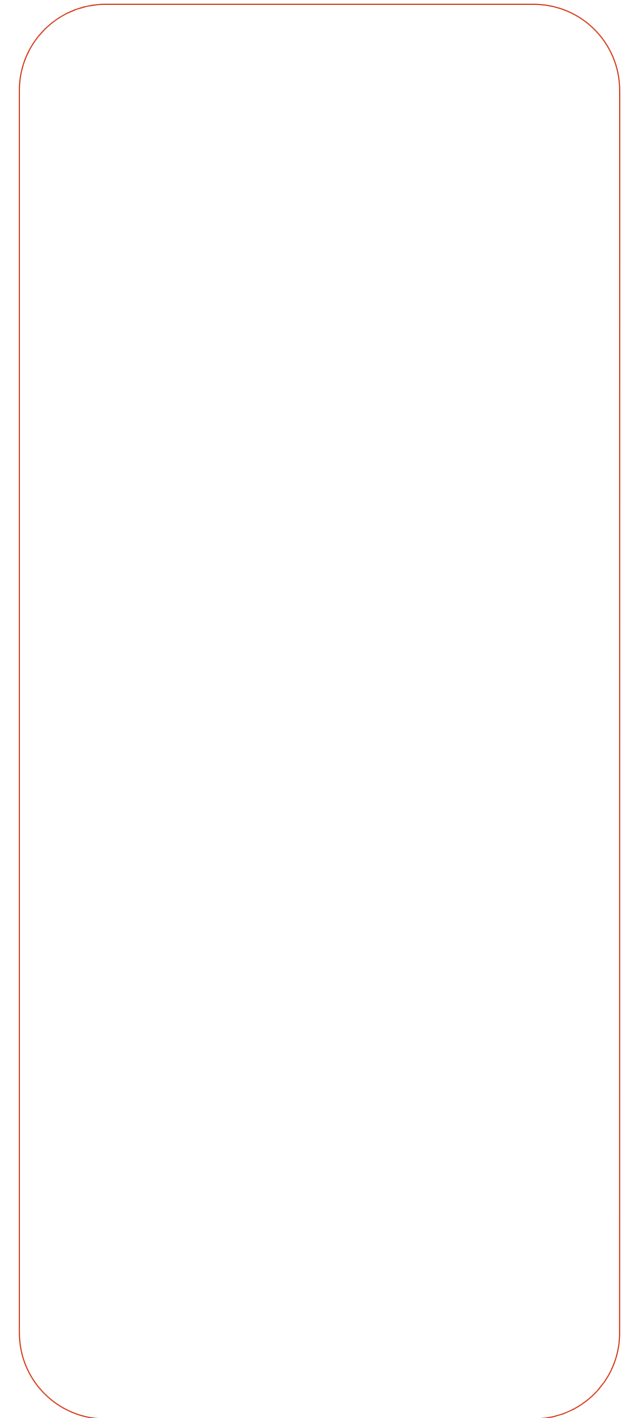
TRAIL - A pathway that is open to the public and is designed for and used by pedestrians and bicyclists.

TRANSIT FACILITY - An area designated as a waiting, pick-up, or drop-off area for bus and/or train riders.

TOTAL BUILDING FLOOR AREA - The total square footage of all habitable area of a building, not including covered outdoor space, as measured from the outside of all exterior walls and supporting columns.

USABLE OPEN SPACE - Land or water areas that are suitable and retained for use as active or passive recreation areas.

WORKFORCE HOUSING UNITS - Housing, both for-sale and rental units, built to be afforded by households making no more than 100 percent of the area median income.



Appendix 7 - National Examples

* Some examples are constructed in phases.
Figures below represent anticipated totals for each master plan.

Excelsior and Grand - St. Louis Park, Minnesota

Year Built: 2002

Previous Uses on Site: Outdated strip commercial uses on a blighted arterial

Total Site Acreage: 15 acres

Uses: - 660 apartments and condominiums
- 91,000 square feet retail space
- 1,650 parking spaces

Additional Features: Part of a larger 125 acre Park Commons Initiative with extensive recreational amenities and an amphitheater.



Metropolitan Council



University of Minnesota's Metropolitan Design Center

The Market Common Clarendon - Arlington, Virginia

Year Built: 2001

Previous Uses on Site: Parking lot, limited strip commercial uses

Total Site Acreage: 10 acres

Uses: - 300 apartments / 87 townhomes
- 240,000 square feet retail space
- 100,000 square feet office
- 1,200 parking spaces

Additional Features: Infill project surrounded by dense redevelopment and existing neighborhood. Uses townhomes and a pocket park as a transition to the existing neighborhood.



Rockville Town Square - Rockville, Maryland

Year Built: 2006

Previous Uses on Site: Aging strip shopping center, gas station, aging townhomes

Total Site Acreage: 12 acres

Uses: - 644 apartments and townhomes
- 175,000 square feet retail space
- Library and Arts and Innovation Center
- 3 Parking Garages

Additional Features: 15% of residential units are affordable, moderately priced dwelling units. 600,000 square feet of office space is also proposed on 2.5 acres adjacent to the site.



South Side Works - Pittsburgh, Pennsylvania

Year Built: Opened in phases between 2002 and 2004

Previous Uses on Site: Former steel mill shut down in the 1980s

Total Site Acreage: 123 acres

Uses:

- 352 residential units
- 330,000 square feet retail
- 700,000 square feet office

Additional Features: Also includes a sports medicine complex and practice fields, hotel, fitness center, and riverfront pavilion.



Crocker Park - Westlake, Ohio

Year Built: 2004

Previous Uses on Site: Undeveloped land adjacent to a shopping center

Total Site Acreage: 75 acres

Uses:

- 900,000 square feet residential
- 550,000 square feet retail
- 250,000 square feet office

Additional Features: High profile destination with frequent events receives 28 million visitors a year according to site manager.



Gables West Village - Dallas, Texas

Year Built: 2006

Previous Uses on Site: Former roadway

Total Site Acreage: 1.1 acres

Uses:

- 75 residential units
- 17,916 square feet retail

Additional Features: Project was developed as infill on a one acre site that used to occupy a public street until a new highway interchange allowed the roadway to shift and open the site to development.



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