

NEW YORK STATE OF OPPORTUNITY | Division of Local Government Services

# Site Plan Review

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## Site plan defined

Rendering, drawing, or sketch prepared to specifications, containing necessary elements (listed in zoning ordinance or local law), **which shows the arrangement, layout and design of the proposed use of a single parcel of land as shown on plan**



General City Law §27-a  
Town Law §274-a  
Village Law §7-725-a

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## Focus on single parcel

- Can be used without zoning
- Applicable to many uses
- Projects may range in size
- Change in use may trigger review if provided for in local law
- Consider comprehensive plan



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### Designating review board

Governing board may retain review authority or delegate authority to review some or all uses to another board:

- Planning board
- Zoning board of appeals as "original" jurisdiction
- Other authorized boards

Once delegated, decisions are not appealed to the governing board

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### All uses more intensive than two-unit residential



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### All uses more intensive than two-unit residential



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## Zoning districts more intensive than R-2



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## Local site plan review regulations

- Specify uses requiring site plan approval
- Specify review board
- Indicate who will enforce conditions
- Specify submission requirements
- List local procedures
  - Public hearings not required by statute
- List elements or criteria for review

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## Examples of elements for review

- Proposed grades & contours
- Sewage & storm drainage
- Utilities
- Traffic, access & parking
- Building placement
- Architectural features
- Lighting & signage
- Screening & landscaping
- Relationship with adjacent uses

Only elements specified by governing board by law or ordinance

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### Traffic impacts



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**INSTITUTE OF TRANSPORTATION ENGINEERS  
COMMON TRIP GENERATION RATES (PM Peak Hour)**

Land Use	Unit of Measurement	Trips Generated per Unit	Suburban	Urban
Residential Subdivision	Dwelling Units	.99	-	-
Walk in Bank	1000 SF GFA	12.13	-	-
Drive in Bank	1000 SF GFA	20.45	-	-
Drive-thru Coffee Shop	1000 SF GFA	83.33	-	-
Gas Station w/Convenience Store	1000 SF GFA	88.35	-	-
Drive-thru Fast Food	1000 SF GFA	-	32.67	78.74

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### Access management

- Limit access points
  - Increase spacing
- Sight distance
- Intersections
- Side road access
- Internal roads
- Parallel access roads



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### Ingress and egress



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### Parking and internal traffic patterns



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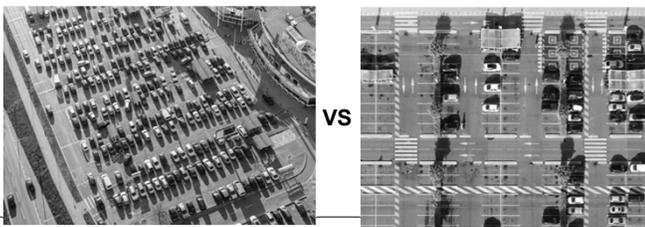
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### Pedestrian friendly internal circulation



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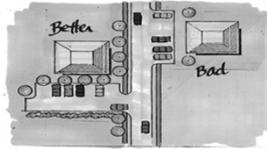
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### Bike-ped friendly parking placement

- Everyone is a pedestrian, but site design is often designed for the car
- Better building orientation
  - Pedestrian friendly
    - Scale
    - Visual interest
    - Access



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### Building orientation, architectural features



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### Review elements

Pedestrian friendly parking placement

This is not what we mean by parking in the rear of the building



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## Lighting and noise

**Causes Light Pollution**

**Minimizes Light Pollution**

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## Landscaping, buffering, storage

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## Site plan layout & materials

- Survey map
- Location map
- Scale
- Physical features
- Existing & proposed:
- Buildings
- Roads & site access
- Parking & loading
- Water & sewer
- Stormwater
- Other utilities

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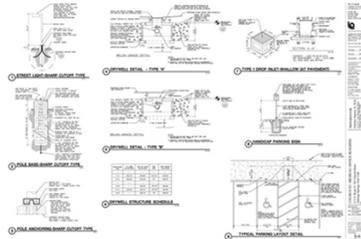
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### Sample detail sheet

- Utilities
- Stormwater
- Parking
- Landscaping
- Access
- Sidewalks
- Signage
- Lighting



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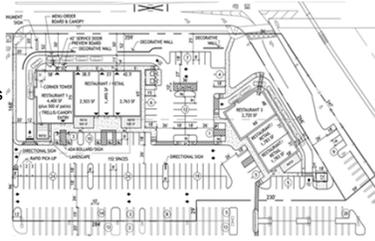
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### Parking plan

- Location & number of parking spaces
- ADA compliant spaces
- Signage location & dimensions
- Measurement & materials of parking spaces & drive aisles
- Location of loading areas, dumpster & bypass lane
- Location of landscape islands
- Turning movements for largest vehicles to access site



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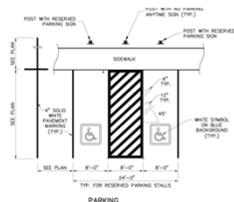
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### Parking detail



2 RESERVED PARKING STRIPING & SIGNAGE

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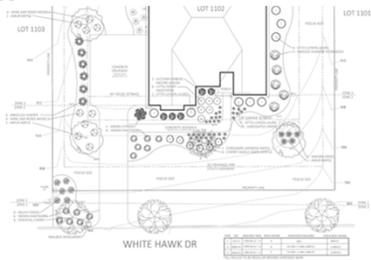
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### Landscape plan

- Location of plantings
- Chart listing trees, shrubs & groundcover materials number, sizes and plant names for each
- Irrigation system or notes



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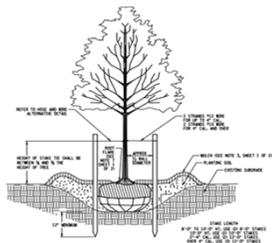
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### Tree planting details



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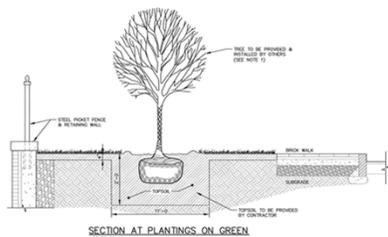
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### Tree & sidewalk detail



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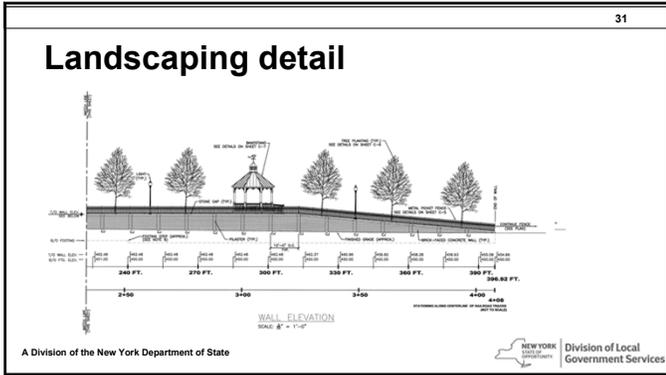
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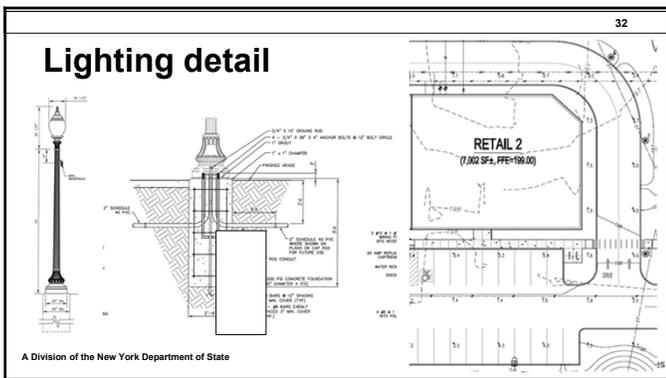
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## SEQR compliance

- Must complete SEQR before making final local decision
- Require Environmental Assessment Form (EAF) with application submission
- Establish lead agency if coordinated review
- Make determination of significance
  - Positive (EIS required) or negative declaration
- “Complete application”
  - Negative declaration issued
  - Positive declaration issued and Draft Environmental Impact Statement (DEIS) accepted for public review
  - NYCRR Part 617.3

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### Public hearing

- Not statutorily required, but could be required locally
- Hold within 62 days of "complete application" (SEQR)
- If DEIS hearing, hold in conjunction with SP hearing
- Open Meetings Law
- Publish legal notice in newspaper of general circulation at least 5 days prior
  - Extend to at least 14 days when DEIS hearing
- Mail notice 10 days prior:
  - Applicant
  - County planning (GML 239-m) if applicable
  - Adjacent municipality (GML 239-nn) if applicable

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### County referrals GML §239-m

Must be referred to County Planning Agency if within 500 feet of the boundary of:

- Municipality
- State or county park or recreation area
- R-O-W of state or county road
- R-O-W of county-owned stream or drainage channel
- State or county land on which a public building is located
- Farm operation in a state agricultural district
  - Except for area variances

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### Notice to adjacent municipalities

- GML § 239-nn requires notice of public hearings held for approvals on property within 500 feet from municipal boundary for:
  - Site plan review
  - Special use permit
  - Subdivision review
- Notice clerk of adjacent municipality at least 10 days prior to public hearing by mail or email

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### Professional project review services

Office of State  
Comptroller  
Opinion 90-14

Review costs may be charged to applicant, if locally authorized.

Local regulations can specify pre-established fees

- Possible municipal budget item
- Staff training

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### Parkland

Land or money in lieu of parkland for residential recreation needs

- General City Law §27-a.6
- Town Law §274-a.6
- Village Law §7-725-a.6



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### Security agreements

If improvement will not be installed prior to issuance of certificate of occupancy, be sure to get a security agreement

- Cash in escrow
- Performance bond
- Letter of credit



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## Enforcement

- Authorize CEO/ZEO to enforce site plan completed as agreed, and any conditions imposed
  - Require approval conditions be met to extent practicable prior to issuance of certificate of occupancy or compliance
- Could be stated in site plan local law, zoning code, or statement of CEO/ZEO duties




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## Decision and appeals

- Must render within 62 days after close of hearing
- File with municipal clerk within 5 business days
  - 30 day statute of limitations for appeal
- Decisions are not appealed to governing board
- Aggrieved parties may file appeals under Article 78 Civil Practice Law and Rules in New York State Supreme Court
  - Appellate Division
  - Court of Appeals

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**Division of Local Government Services**  
 518-473-3355  
[localgov@doh.ny.gov](mailto:localgov@doh.ny.gov)  
<https://dos.ny.gov/training-assistance>

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# Design Principles for Commercial and Industrial Sites

By Holly L. Thomas

*Site plan decisions have a lasting effect on a community's appearance and function. The design of development projects is, therefore, a matter of public concern. This report briefly presents elements that form the basis for better site planning and twelve principles for designing and evaluating commercial and industrial site plans. It is a framework for a series of educational briefs that will address many of these principles in more detail.*

## Keys to Better Site Planning

Several elements ensure that new development or redevelopment projects will turn out well for all concerned.

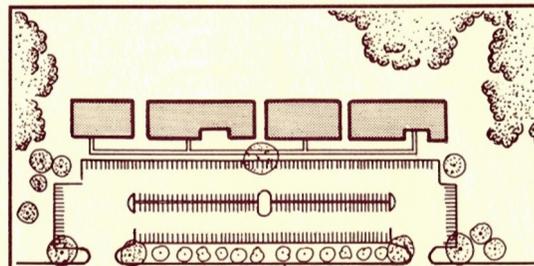
**First, a well thought-out comprehensive plan and zoning consistent with that plan should support high standards for all development.** Weak regulations lead to weak or cumbersome decisions. Outdated or inconclusive plans are not likely to match the community's needs and are difficult to defend if challenged.

**Second, zoning and site plan standards should be well crafted, up to date, and innovative.** They should include design guidelines or standards to ensure that new development will fit harmoniously with the best of what already exists.

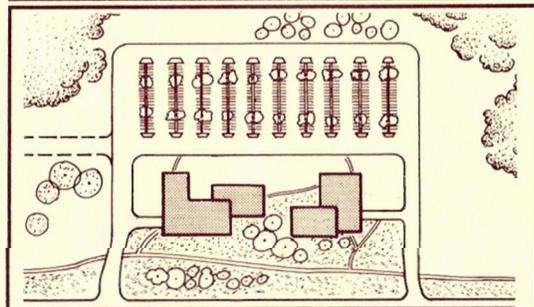
**Third, the community must lead developers to consider the interrelationships among sites.** These interrelationships can include traffic patterns, open space connections, routes for bicyclists, pedestrians, and transit vehicles, visual impacts, links to housing and recreation for prospective employees and clients, and so on.

**Fourth, every project should be held to the high standards needed to accomplish the community's goals.** Local officials should consistently enforce environmental protection, open space, landscaping, parking, circulation, pedestrian access, and other standards.

**Fifth, the community should understand how its standards can improve a project's quality and marketability.** Development is a risk-ridden business and these risks are voluntarily incurred. The best designers and developers know how to profit while meeting community standards and are attracted to careful communities.



**Typical Light Industry/Commercial Plaza**  
*Parking in Front Dominates Site, Perfunctory Landscaping, Required Open Space Concentrated at Rear of Site, Building Shapes Uninteresting and Monolithic, No Sidewalk Links, No Plan Made for Access to Adjacent Site*



**Preferred Light Industry/Commercial Plaza**  
*Parking in Rear, Landscaping Dominates Site, Required Open Space Used to Enhance Site Design, Building Shapes More Interesting, Pedestrian Trail Provided, Accessway to Adjacent Site Reserved for Future Use*

## Site Planning Principles

With these keys in mind, the following 12 site planning principles should be applied.

- 1. Preserve and Take Advantage of Natural Features**
  - Shape the site plan around important natural features, not vice versa; look at these features before the design is even conceived. For example, consider mature trees, rock outcrops, slopes, wetlands, and stream channels as landscape components and opportunities, not obstacles.
  - Use natural features as amenities to minimize maintenance costs and environmental impacts and to relate footpaths and the landscape plan to the larger open space system.

## 2. Design and Protect the Open Space System

- Establish a minimum open space requirement, and arrange it on each site so that it works as part of a system rather than only as a percentage of lot size.
- Develop an open space system plan for each site, in addition to the landscape planting and drainage plans.
- Link the natural open space system to the landscaping plan by landscaping with native species and low maintenance plants as much as possible.
- Develop community landscaping standards and street tree programs. Encourage groups to "adopt" street fronts, boulevard medians, and other landscaped public spaces to maintain and improve them.

## 3. Give Pedestrians Priority

- Include walkways in all commercial and industrial site plans; use them to link parking lots, transit stops, and buildings on site and with adjacent properties. Provide connections to nearby residential, recreational, and institutional uses as well.
- Coordinate these pedestrian systems with access for buses and vans.
- Provide benches, shade, and human-scale lighting.
- Provide planted or landscaped strips between the sidewalk and road. Enforce requirements that the landscaping be kept in good condition.
- Encourage traditional street-front designs that group buildings close to roads and use windows to appeal to **passersby in community centers, instead of strip-mall** designs with deep setbacks and less interesting facades.

## 4. Control the Coverage

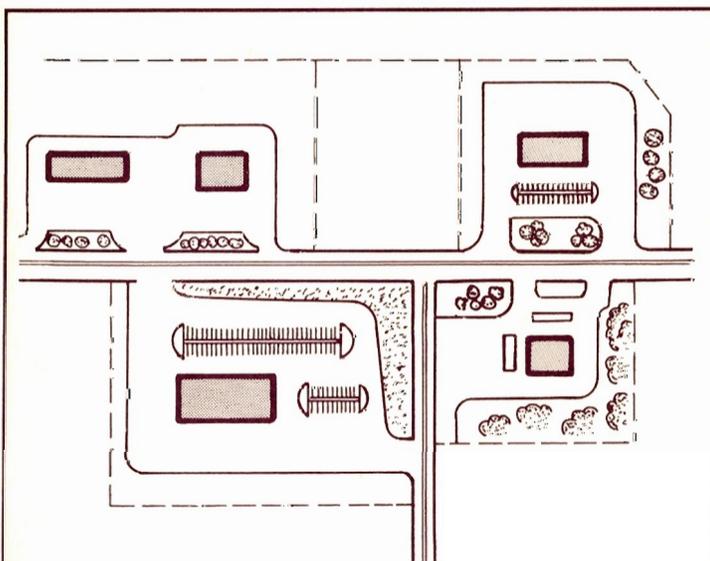
- Establish maximum coverage limits for all paved or impervious surfaces, including all parking areas and drainage systems.
- Tailor those limits to the community; densely settled areas such as cities, village centers, and some hamlets warrant a higher coverage allowance than more sparsely developed areas.

## 5. Minimize Traffic Impacts

- Require developers to construct and maintain links to adjacent uses. Where adjacent parcels will not be developed for some time, require the developer to leave the accessway clear and provide for its future construction through deed restrictions and bonds or contributions to a transportation improvement fund.
- Require or provide incentives for the sharing of access points, especially near intersections with traffic lights.
- Limit the opportunity for left turns or cross-traffic turns that require new median cuts or an additional signal on a major highway. These turns should be handled through service roads or existing traffic lights.

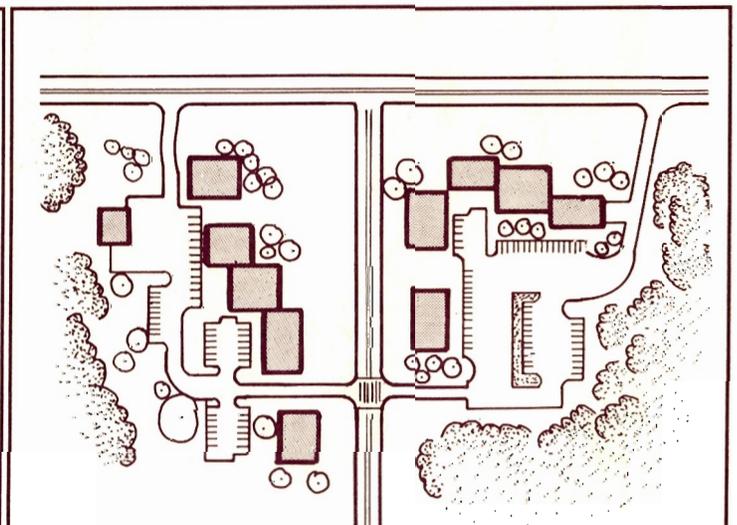
## 6. Encourage Bus, Bicycle, Van Access

- Design new projects so that they can accommodate transit vehicles with suitable turning areas, drop-off points, and bus shelters.
- Include bike parking areas and bikeways within all major site designs and downtown development plans. Connect but do not necessarily combine them with pedestrian routes.



### **Typical Commercial Intersection**

*Parking in Front, Each Site Has Own Access to Main Road, Minimal and Fragmented Landscaping, Generic Architecture*



### **Preferred Commercial Cluster**

*Parking Behind Buildings, Shared Access to Both Roads, Ample and Unified Landscaping, More Interesting Architecture*

## 7. Break Up, Conceal, and Buffer the Parking Lots

- Place parking along the side and rear of buildings rather than in front. In community centers, place the buildings near the streets to further conceal the parking and to link the site to the streetfront and sidewalk systems.
- Generously landscape the lot and its perimeter. Include the area within the parking fields in the landscape plan as well, with the planting distributed among islands of shrubs and shade-giving trees.
- In areas that can handle the traffic concentration or where low speeds are called for (as in a community center), offer bonuses in commercial footage in exchange for the construction of parking decks and underground parking areas.
- Use the most current parking generation rates to ensure that parking lots are not over- or under-sized. Allow complementary uses to share some of their parking spaces.
- For large projects, allow developers to postpone full construction of the parking lot until demand is evident. A performance bond can ensure proper compliance.
- In congested highway corridors or downtowns link the required lot size and permitted square footage to efforts to limit traffic. For example, give bonuses for effective ride-sharing and shuttle bus programs.
- Make the parking fit the normal need, not the worst case scenario, and provide alternative, unpaved parking areas for peak volumes. For example,

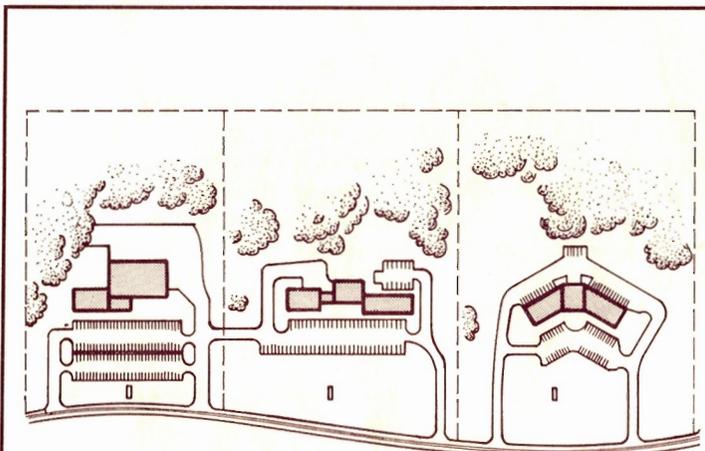
shopping centers can provide grassed fields with trees to accommodate holiday shoppers instead of paving every conceivable space.

## 8. Encourage a Mixture of Uses

- Look for opportunities to encourage a mixture of uses in one building as well as on one site, as long as those uses complement each other and the site is an appropriate size. Work with building code officers to tailor permitted uses within any one building to fire code and insurance requirements.
- Encourage the mixing of residential, commercial, and office spaces in downtown or main street business districts and strive for a traditional "main street" feeling in the site design.
- Encourage second and third floor apartments over small businesses.

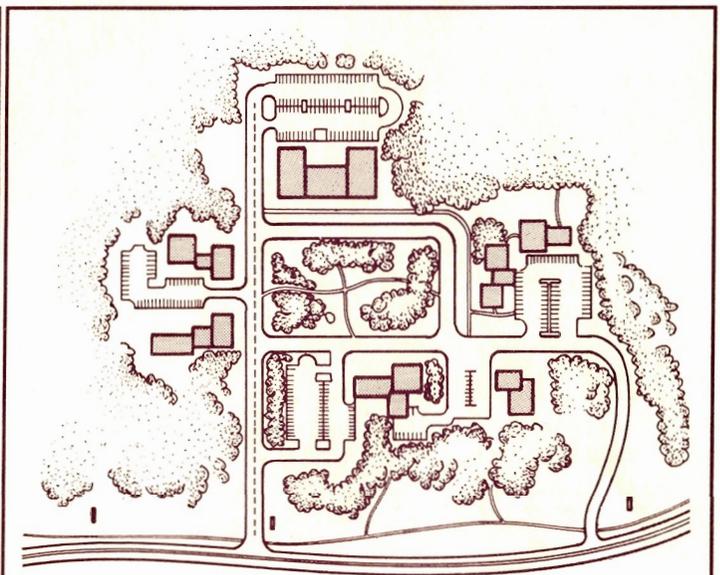
## 9. Use Architecture that Fits the Community

- Make sure that site plan regulations specifically include architectural quality and compatibility among the items to consider in any review.
- Develop specific illustrated architectural guidelines based on local standards, patterns, and preferences.
- In high density areas such as town centers, hamlets, cities and other appropriate areas, use short maximum setbacks to require that buildings be placed near the street. This will help conceal the parking areas and make the sign and landscape designs effective at a smaller scale.



### **Typical Commercial/Office Strip**

*Parking in Front, Multiple Curb Cuts, Maximum Visual Intrusion and Site Clearance, No Trail System, Unpleasant Pedestrian Environment, No Common Open Space, Existing Woodland Pushed to Rear of Sites*



### **Preferred Commercial/Office Group**

*Parking in Interior of Site, Shared Access to Main Road, Minimal Visual Intrusion on Landscape, Sidewalk and Trail System, Common Space for Site Workers and Visitors, Existing Woodland Used as Landscape Buffer*

- Encourage conversions of older houses, in keeping with community design themes, rather than their demolition and replacement.

## 10. Provide a Sense of Public Interest and Public Space

- Include benches and public spaces, covered walkways, arcades, awnings, etc. in the entryways, walkways, and open space systems wherever feasible.
- Make the commercial site interesting and lively. For example, include restaurant patios, courtyards, cafes, or other appropriate outdoor activity areas.

## 11. Improve the Signs

- Develop design guidelines that call for coordinated styles and materials.
- Limit the number and size of signs permitted for each use or site.
- In high traffic corridors, reduce the number of permitted signs to limit the visual distraction they cause.
- Discourage the use of menu signs with numerous items or long lists of stores.
- Incorporate signs into the architecture. Encourage the use of wall signs rather than free-standing signs.
- Establish sign districts for areas of special concern.

## 12. Use Design Standards to Pull It All Together

- Develop illustrated guidelines and standards tailored to the appearance and priorities of the community. These should include landscape designs, parking arrangements, sign themes, walkway designs, connections with adjacent properties, and architectural features (such as preferred building materials, height limits, building mass, facade treatments, and roof and window patterns).
- Make the illustrations widely available to residents and developers to give them a clearer idea of what the community wants and where it is willing to be flexible.
- Build in enough flexibility to meet the needs of specific projects while insisting that they enhance the community character.

## Taking the Initiative

If local officials and residents don't know what they want their community to be like, a developer cannot be expected to know. Every community must figure out what it wants and write it down. Then it can develop, apply, and enforce standards built on these concepts and others that match its vision. Some of the steps each municipality can take to lead development in the right direction are:

- Periodically survey community opinion about specific needs and ideas, and incorporate these preferences into site-specific strategies and comprehensive plans.
- Publicly acknowledge and reward good examples of architectural or site design and landscaping.
- Provide incentives for and commend examples of cooperation among landowners, businesses, and residents involved in specific community improvement projects (i.e. downtown clean-up campaigns, providing flower beds and landscaping near shared walkways and parks, maintaining planted medians along public highways, etc.)
- Enlist volunteers and civic groups in designing and maintaining areas for public use or benefit, including street trees, mini-parks, walkways, open space links between commercial and residential sites, etc.
- Seek out developers for important sites targeted for commercial or industrial use instead of reacting only to whomever comes before your local boards. Look for a track record of creative and responsible site design.
- Identify and work with owners of lands planned for conservation or a mixture of development and conservation to develop fair and specific ways to protect those lands while allowing for its appropriate use.
- Keep an eye on what is happening in adjacent communities and anticipate how it might affect your own.



## Conclusion

Municipal boards can work with developers and achieve community goals if their comprehensive plans and local zoning laws reflect these twelve principles. By incorporating the principles into official documents, decision makers will strengthen their legal authority and will be able to negotiate effectively with developers and residents. Specific illustrated design guidelines based on these principles will further improve the process. Having clear guidance available will also make it easier for community leaders to combine incentives with regulations to produce projects worthy of acclaim.

This is one of a series of brief reports the Planning Department is preparing on community design issues. Subsequent reports will examine design principles in more detail.

*Illustrations Adapted From:*

*The Fort Drum Land Use Team. Community Design Guidelines Manual, Watertown, NY: The Fort Drum Land Use Team, 1990.*

*Yaro, Robert D., Randall G. Arendt, Harry L. Dodson, and Elizabeth A. Brabee. Dealing with Change in the Connecticut River Valley: A design Manual for Conservation and Development. Amherst, MA: Center for Rural Massachusetts, University of Massachusetts at Amherst, 1988.*

**Financial assistance for this Technical Memorandum was received from the U.S. Department of Transportation and the New York State Department of Transportation. The conclusions and recommendations are the responsibility of the Dutchess County Department of Planning.**

# INSTITUTE OF TRANSPORTATION ENGINEERS COMMON TRIP GENERATION RATES (PM Peak Hour)

(Trip Generation Manual, 10th Edition)

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location	
				General Urban/ Suburban	Dense Multi- Use Urban
<b>PORT AND TERMINAL</b>					
30	Intermodal Truck Terminal	1,000 SF GFA	1.72		
90	Park-and-Ride Lot with Bus Service	Parking Spaces	0.43		
<b>INDUSTRIAL</b>					
110	General Light Industrial	1,000 SF GFA	0.63		
130	Industrial Park	1,000 SF GFA	0.40		
140	Manufacturing	1,000 SF GFA	0.67		
150	Warehousing	1,000 SF GFA	0.19		
151	Mini-Warehouse	1,000 SF GFA	0.17		
154	High-Cube Transload & Short-Term Storage Warehouse	1,000 SF GFA	0.10		
155	High-Cube Fulfillment Center Warehouse	1,000 SF GFA	1.37		
156	High-Cube Parcel Hub Warehouse	1,000 SF GFA	0.64		
157	High-Cube Cold Storage Warehouse	1,000 SF GFA	0.12		
160	Data Center	1,000 SF GFA	0.09		
170	Utilities	1,000 SF GFA	2.27		
180	Specialty Trade Contractor	1,000 SF GFA	1.97		
<b>RESIDENTIAL</b>					
210	Single-Family Detached Housing	Dwelling Units	0.99		
220	Multifamily Housing (Low-Rise)	Dwelling Units	0.56		
221	Multifamily Housing (Mid-Rise)	Dwelling Units	→	0.44	0.18
222	Multifamily Housing (High-Rise)	Dwelling Units	→	0.36	0.19
231	Mid-Rise Residential with 1st-Floor Commercial	Dwelling Units	0.36		
232	High-Rise Residential with 1st-Floor Commercial	Dwelling Units	0.21		
240	Mobile Home Park	Dwelling Units	0.46		
251	Senior Adult Housing - Detached	Dwelling Units	0.30		
252	Senior Adult Housing - Attached	Dwelling Units	0.26		
253	Congregate Care Facility	Dwelling Units	0.18		
254	Assisted Living	1,000 SF GFA	0.48		
255	Continuing Care Retirement Community	Units	0.16		
260	Recreation Homes	Dwelling Units	0.28		
265	Timeshare	Dwelling Units	0.63		
270	Residential Planned Unit Development	Dwelling Units	0.69		
<b>LODGING</b>					
310	Hotel	Rooms	0.60		
311	All Suites Hotel	Rooms	→	0.36	0.17
312	Business Hotel	Rooms	0.32		
320	Motel	Rooms	0.38		
330	Resort Hotel	Rooms	0.41		
<b>RECREATIONAL</b>					
411	Public Park	Acres	0.11		
416	Campground / Recreation Vehicle Park	Acres	0.98		
420	Marina	Berths	0.21		
430	Golf Course	Acres	0.28		
431	Miniature Golf Course	Holes	0.33		

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location	
				General Urban/ Suburban	Dense Multi- Use Urban
432	Golf Driving Range	Tees/Driving Positions	1.25		
433	Batting Cages	Cages	2.22		
434	Rock Climbing Gym	1,000 SF GFA	1.64		
435	Multi-Purpose Recreational Facility	1,000 SF GFA	3.58		
436	Trampoline Park	1,000 SF GFA	1.50		
437	Bowling Alley	1,000 SF GFA	1.16		
440	Adult Cabaret	1,000 SF GFA	2.93		
444	Movie Theater	1,000 SF GFA	6.17		
445	Multiplex Movie Theater	1,000 SF GFA	4.91		
452	Horse Racetrack	Seats	0.06		
454	Dog Racetrack	Attendees	0.15		
460	Arena	1,000 SF GFA	0.47		
462	Professional Baseball Stadium	Attendees	0.15		
465	Ice Skating Rink	1,000 SF GFA	1.33		
466	Snow Ski Area	Slopes	26.00		
473	Casino/Video Lottery Establishment	1,000 SF GFA	13.49		
480	Amusement Park	Acres	3.95		
482	Water Slide Park	Parking Spaces	0.28		
488	Soccer Complex	Fields	16.43		
490	Tennis Courts	Courts	4.21		
491	Racquet/Tennis Club	Courts	3.82		
492	Health/Fitness Club	1,000 SF GFA	3.45		
493	Athletic Club	1,000 SF GFA	6.29		
495	Recreational Community Center	1,000 SF GFA	2.31		
<b>INSTITUTIONAL</b>					
520	Elementary School	1,000 SF GFA	1.37		
522	Middle School / Junior High School	1,000 SF GFA	1.19		
530	High School	1,000 SF GFA	0.97		
534	Private School (K-8)	Students	0.26		
536	Private School (K-12)	Students	0.17		
537	Charter Elementary School	Students	0.14		
538	School District Office	1,000 SF GFA	2.04		
540	Junior / Community College	1,000 SF GFA	1.86		
550	University/College	1,000 SF GFA	1.17		
560	Church	1,000 SF GFA	0.49		
561	Synagogue	1,000 SF GFA	2.92		
562	Mosque	1,000 SF GFA	4.22		
565	Daycare Center	1,000 SF GFA	11.12		
566	Cemetery	Acres	0.46		
571	Prison	1,000 SF GFA	2.91		
575	Fire and Rescue Station	1,000 SF GFA	0.48		
580	Museum	1,000 SF GFA	0.18		
590	Library	1,000 SF GFA	8.16		

# INSTITUTE OF TRANSPORTATION ENGINEERS COMMON TRIP GENERATION RATES (PM Peak Hour)

(Trip Generation Manual, 10th Edition)

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location	
				General Urban/ Suburban	Dense Multi- Use Urban
<b>MEDICAL</b>					
610	Hospital	1,000 SF GFA	0.97		
620	Nursing Home	1,000 SF GFA	0.59		
630	Clinic	1,000 SF GFA	→	3.28	5.18
640	Animal Hospital / Veterinary Clinic	1,000 SF GFA	3.53		
650	Free-Standing Emergency Room	1,000 SF GFA	1.52		
<b>OFFICE</b>					
710	General Office Building	1,000 SF GFA	→	1.15	0.87
712	Small Office Building	1,000 SF GFA	2.45		
714	Corporate Headquarters Building	1,000 SF GFA	0.60		
715	Single Tenant Office Building	1,000 SF GFA	1.74*		
720	Medical-Dental Office Building	1,000 SF GFA	3.46		
730	Government Office Building	1,000 SF GFA	1.71		
731	State Motor Vehicles Department	1,000 SF GFA	5.20		
732	United States Post Office	1,000 SF GFA	11.21		
733	Government Office Complex	1,000 SF GFA	2.82		
750	Office Park	1,000 SF GFA	1.07		
760	Research and Development Center	1,000 SF GFA	0.49		
770	Business Park	1,000 SF GFA	0.42		
<b>RETAIL</b>					
810	Tractor Supply Store	1,000 SF GFA	1.40		
811	Construction Equipment Rental Store	1,000 SF GFA	0.99		
812	Building Materials and Lumber Store	1,000 SF GFA	2.06		
813	Free-Standing Discount Superstore	1,000 SF GFA	4.33		
814	Variety Store	1,000 SF GFA	6.84		
815	Free Standing Discount Store	1,000 SF GFA	4.83		
816	Hardware / Paint Store	1,000 SF GFA	2.68		
817	Nursery (Garden Center)	1,000 SF GFA	6.94		
818	Nursery (Wholesale)	1,000 SF GFA	5.18		
820	Shopping Center	1,000 SF GFA	3.81	3.81	4.92
823	Factory Outlet Center	1,000 SF GFA	2.29		
840	Automobile Sales (New)	1,000 SF GFA	2.43		
841	Automobile Sales (Used)	1,000 SF GFA	3.75		
842	Recreational Vehicle Sales	1,000 SF GFA	0.77		
843	Automobile Parts Sales	1,000 SF GFA	4.91		
848	Tire Store	1,000 SF GFA	3.98		
849	Tire Superstore	1,000 SF GFA	2.11		
850	Supermarket	1,000 SF GFA	9.24		
851	Convenience Market (Open 24 Hours)	1,000 SF GFA	49.11		
853	Convenience Market with Gasoline Pumps	1,000 SF GFA	49.29		
854	Discount Supermarket	1,000 SF GFA	8.38		
857	Discount Club	1,000 SF GFA	4.18		
860	Wholesale Market	1,000 SF GFA	1.76		
861	Sporting Goods Superstore	1,000 SF GFA	→	2.02	1.65
862	Home Improvement Superstore	1,000 SF GFA	→	2.33	3.35
863	Electronics Superstore	1,000 SF GFA	4.26		

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location	
				General Urban/ Suburban	Dense Multi- Use Urban
864	Toy/Children's Superstore	1,000 SF GFA	5.00		
865	Baby Superstore	1,000 SF GFA	1.82		
866	Pet Supply Superstore	1,000 SF GFA	3.55		
867	Office Supply Superstore	1,000 SF GFA	2.77		
868	Book Superstore	1,000 SF GFA	15.83		
869	Discount Home Furnishing Superstore	1,000 SF GFA	1.57		
872	Bed and Linen Superstore	1,000 SF GFA	2.22		
875	Department Store	1,000 SF GFA	1.95		
876	Apparel Store	1,000 SF GFA	→	4.12	1.12
879	Arts and Craft Store	1,000 SF GFA	6.21		
880	Pharmacy / Drugstore without Drive-Through Window	1,000 SF GFA	8.51		
881	Pharmacy / Drugstore with Drive-Through Window	1,000 SF GFA	10.29		
882	Marijuana Dispensary	1,000 SF GFA	21.83		
890	Furniture Store	1,000 SF GFA	0.52		
897	Medical Equipment Store	1,000 SF GFA	1.24		
899	Liquor Store	1,000 SF GFA	16.37		
<b>SERVICES</b>					
911	Walk-In Bank	1,000 SF GFA	12.13		
912	Drive-In Bank	1,000 SF GFA	20.45		
918	Hair Salon	1,000 SF GFA	1.45		
920	Copy, Print, and Express Ship Store	1,000 SF GFA	7.42		
925	Drinking Place	1,000 SF GFA	11.36		
926	Food Cart Pod	Food Carts	3.08		
930	Fast Casual Restaurant	1,000 SF GFA	14.13		
931	Quality Restaurant	1,000 SF GFA	7.80		
932	High-Turnover (Sit-Down) Restaurant	1,000 SF GFA	→	9.77	9.80
933	Fast Food Restaurant without Drive-Through Window	1,000 SF GFA	28.34		
934	Fast Food Restaurant with Drive-Through Window	1,000 SF GFA	→	32.67	78.74
935	Fast Food Restaurant with Drive-Through Window and No Indoor Seating	1,000 SF GFA	42.65		
936	Coffee/Donut Shop without Drive-Through Window	1,000 SF GFA	36.31		
937	Coffee/Donut Shop with Drive-Through Window	1,000 SF GFA	→	43.38	83.19
938	Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	1,000 SF GFA	83.33		
939	Bread / Donut / Bagel Shop without Drive-Through Window	1,000 SF GFA	28.00		
940	Bread / Donut / Bagel Shop with Drive-Through Window	1,000 SF GFA	19.02		
941	Quick Lubrication Vehicle Shop	1,000 SF GFA	8.70		
942	Automobile Care Center	1,000 SF GFA	3.11		
943	Automobile Parts and Service Center	1,000 SF GFA	2.26		
944	Gasoline / Service Station	1,000 SF GFA	109.27		
945	Gasoline / Service Station with Convenience Market	1,000 SF GFA	88.35		
947	Self Service Car Wash	Wash Stalls	5.54		
948	Automated Car Wash	1,000 SF GFA	14.20		
949	Car Wash and Detail Center	Wash Stalls	13.60		
950	Truck Stop	1,000 SF GFA	22.73		
960	Super Convenience Market/Gas Station	1,000 SF GFA	69.28		
970	Winery	1,000 SF GFA	7.31		

**Note: All land uses in the 800 and 900 series are entitled to a "pass-by" trip reduction of 60% if less than 50,000 ft<sup>2</sup> or a reduction of 40% if equal to or greater than 50,000ft<sup>2</sup>.**

\*From 9th edition, no PM peak hour in 10th

An area designated as **General Urban/Suburban** in the *Trip Generation Manual* is an area associated with almost homogeneous vehicle-centered access. Nearly all person trips that enter or exit a development site are by personal passenger or commercial vehicle.

The area can be fully developed (or nearly so) at low-medium density with a mix of residential and commercial uses. The commercial land uses are typically concentrated at intersections or spread along commercial corridors, often surrounded by low-density, almost entirely residential development. Most commercial buildings are located behind or surrounded by parking.

The mixing of land uses is only in terms of their proximity, not in terms of function. A retail land use may focus on serving a regional clientele or a services land use may target motorists or pass-by vehicle trips for its customers. Even if the land uses are complementary, a lack of pedestrian, bicycling, and transit facilities or services limit non-vehicle travel.

An area designated as **Dense Multi-Use Urban** in the *Trip Generation Manual* is a fully developed area (or nearly so), with diverse and complementary land uses, good pedestrian connectivity, and convenient and frequent transit. This area type can be a well-developed urban area outside a major metropolitan downtown or a moderate size urban area downtown.

The land use mix typically includes office, retail, residential, and often entertainment, hotel, and other commercial uses. The residential uses are typically multifamily or single-family on lots no larger than one-fourth acre. The commercial uses often have little or no setback from the sidewalk. Because the motor vehicle still represents the primary mode of travel to and from the area, there typically is on-street parking and often public off-street parking.

The complementary land uses provide the opportunity for short trips within the Dense Multi-Use Urban area, made conveniently by walking, biking, or transit. The area is served by significant transit (either rail or bus) that enables a high level of transit usage to and from area development.