Giving Growth Back its Good Name

One of the clear expressions at the initial Greenway public workshops was that we are not very proud of what is being built these days. While people are attracted to the choices offered by new homes and stores, they hate the traffic and understand that each new outlying subdivision and franchise outlet is slowly destroying the traditional character of their towns. As a result, growth is considered a threat. Slow-growth or no-growth sentiments confront many development proposals.

How do we grow and change without sacrificing our communities? Growth is most often associated with good things: trees and gardens grow, children and families grow, knowledge grows. The Greenway Guides offer the opportunity to give growth back its good name. They build on traditional development patterns, showing how to maintain the rural features that define Dutchess County and connecting communities together with green corridors, not highway strip districts.

Smart Growth... The Greenway Compact Program is a "Smart Growth" strategy, consistent with initiatives across the country that have been endorsed by a broad coalition of national environmental organizations, public officials, farm advocates, New Urbanists, builders' associations, and groups representing developers. *Greenway Connections* complements the Smart Growth programs being practiced in many other states by providing a regional perspective, but stressing action at the local level, by encouraging priority growth areas to focus development in well planned patterns, rather than random sprawl, and by relying on incentives and guidelines, not rigid requirements.

The Greenway Guides are intended to, over time, with every decision, help create better communities. To some extent, the Guides are based on the principle that "a picture is worth a thousand words." They give strong visual clues about the kind of development a community welcomes, yet still allow flexibility in the local planning review process. The Guides are like a toolbox, but success can only be measured by the places we build. Each subdivision and site plan review represents a unique set of issues and challenges. But if the community agrees to basic principles up front, the review process will thrive from a balanced, coordinated, and more streamlined approach.

Using the Guides

The Greenway Guides are designed as a three-ring binder so additional or updated guide sheets can be inserted and used as a living, growing sourcebook. The Guides are organized by project type and location in relation to the county's primary landscape patterns:

A. Protecting the Countryside - How to comfortably fit low density development into the rural landcape without destroying its open space and agricultural characteristics.

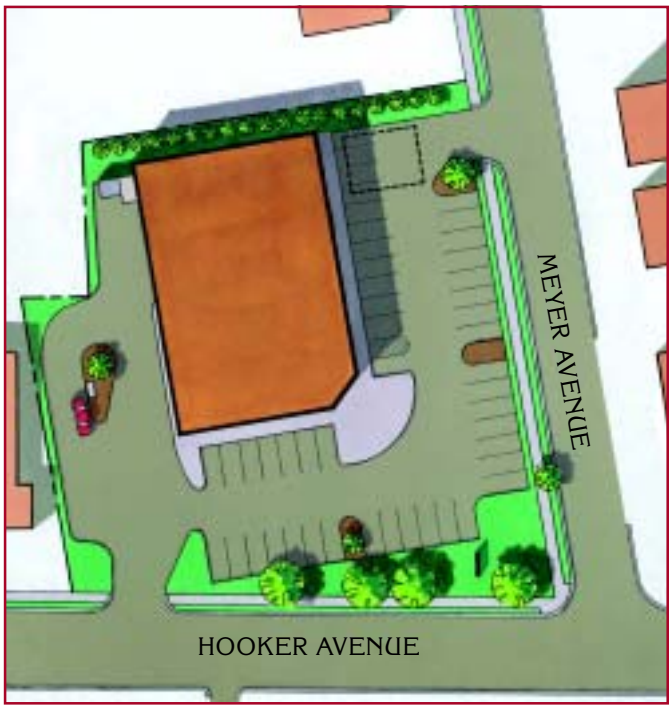
B. Strengthening Centers - Ways to reinforce traditional settlement centers, including hamlets, villages, cities, and their immediately surrounding growth areas, or build new town centers.

C. Improving Suburbs - Methods to improve outlying single-use suburban districts, including highway commercial strips and separate tracts of single-family housing.

D. Greenway Connections - Strategies to create natural corridors and green linkages between settlement centers and countryside, such as transportation networks, trails and open space systems.

E. Site Specifics - Site plan details, such as sign guidelines, landscaping and lighting details, or parking recommendations.

How to take a fresh look at a commercial site plan:



As an example... This proposal for a corner pharmacy in the City of Poughkeepsie (left), with its front yard parking, emphasis on asphalt over landscaping, standard pole sign and franchise architecture, and lack of pedestrian connection to the front sidewalk, could be redesigned by following the Guides.

See Guides:
- B2 - Walkable Communities
- C1 - Commercial Strip Redevelopment
- D3 - Highways into Greenways
- E1 - Landscaping
- E2 - Signs
- E3 - Parking Lots
- E4 - Lighting
- E5 - Street Trees

The final design (right) featured a well landscaped frontage saving the existing mature trees, parking to the side and rear, a low sign, and store entrance directly off the sidewalk. This more compact, neighborhood-scale design also saved the house to the rear from demolition.

Greenway Guides

A. Protecting the Countryside

1. Fitting into the Landscape
2. Preventing Strip Subdivisions
3. Site Sensitive Utilities
4. Saving Farmland with Development

B. Strengthening Centers

1. Priority Growth Areas
2. Walkable Communities
3. Building in Context

C. Improving Suburbs

1. Commercial Strip Redevelopment
2. From Congestion to Circulation

D. Greenway Connections

1. Connected Habitats
2. Stream Corridor Protection
3. Highways into Greenways
4. Wellhead and Aquifer Protection

E. Site Specifics

1. Landscaping
2. Signs
3. Parking Lots
4. Lighting
5. Street Trees

FITTING INTO THE LANDSCAPE

Rural development should fit into its natural surroundings, rather than be superimposed as a dominant element in the countryside.

Why Fit In?

We should expect to enjoy and appreciate our environment, even after development occurs. This is possible if we identify and maintain the essential open space system of each location. Conservation subdivisions with smaller average lot sizes will preserve the important natural characteristics of the site and forever provide residents proximity to a rural setting. The ability to require conservation subdivisions is allowed by New York State Town Law, Section 281.

A rural farm house sheltered in the treeline stands in contrast to the new house lots now dividing up the former fields.

Ideally, most new construction will be encouraged in and around centers or in traditional hamlet-scale groupings, but low density development will still continue in rural areas. Local planning boards can insure that developers blend new buildings into the landscape by requiring that they **identify the open space system PRIOR to submitting any plan for subdivision.** Some sites will be more complicated than others, but identifying the open space system is the necessary first step for "fitting in." Once site characteristics are fully understood, then suitable areas for development are delineated. Within these areas, house lots and roads are located. Only as a LAST STEP are the lot lines drawn in.

Rural Development Guidelines

- **Minimize the clearing of vegetation and preserve important natural features.**
- **Retain stone walls, hedgerows, and other rural landscape elements.**
- **Place buildings and access roads in treelines, on mildly sloping ground, or along the edges of fields; avoid construction in open fields or on ridgelines.**
- **Locate structures and septic systems more than 100 feet from streams or ponds to protect water quality.**
- **Re-use farm roads or country lanes whenever possible, rather than constructing new wide roads.**
- **Maintain or enhance scenic views. Protecting the character of the landscape also protects the property's most valuable assets.**

Open Space System Components

- Agricultural Lands
- Wetlands and Floodplains
- Steep Slopes
- Mature Tree Stands
- Views from the Road
- Aquifer Recharge Areas
- Significant Plant and Wildlife Habitats
- Cultural Features, such as stone walls, barns, and historic buildings

"The ultimate goal is the creation of an interconnected network of protected open space weaving through each community."

Randall Arendt

How to Create Conservation Subdivisions

Step 1

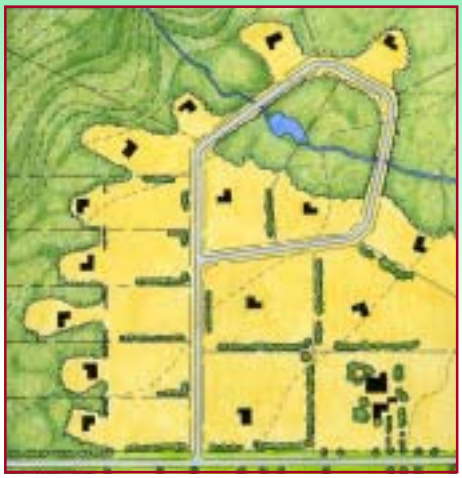
Require a map of the open space system for the parcel and surrounding area.

Step 2

Conventional sketch layout determines maximum lot count under existing three-acre zoning.

Step 3

The same number of houses can fit in to the landscape while preserving 80 percent of the open space.



Locate Development Pocket

A sketch analysis of the area provides all the basic information to calculate how a development can fit into the landscape - what land should be protected and potential development pockets.

Typical Superimposed Subdivision

- Productive farmland lost forever.
- Pleasant view from road eradicated.
- Stream corridor cut off by backyards.
- Large lots divide up and dominate the landscape.
- Individual road for each subdivision.
- Costly road and bridge construction.
- No chance for residents to enjoy special site features.

Conservation Subdivision

- Large farm field protected.
- Rural view from road retained.
- Trail system allows access to stream.
- Smaller, but substantial individual lot sizes with central green.
- Potential connection to adjacent parcel.
- Less expensive construction costs.
- Residents have views of open field and direct access to woods.

Maintaining Conservation Areas

There are three primary methods to secure the open space system:

1. dedicate for public park land;
2. create a conservation easement and maintain open space through a Homeowners' Association or agreement with a conservation organization; or
3. develop easements for certain community rights on private property, such as trails.

The second and third options will be used most frequently. Open space subdivisions are only possible when local planning boards believe enough in the conservation subdivision process in order to insist on making these techniques work.

Common Uses for Protected Open Space System

- Agriculture
- Community Gardens
- Forest Management
- Trails
- Visual or Sound Barriers
- Common Septic Fields
- Pastures or Paddocks
- Meadows
- Recreational Fields
- View Protection
- Wildlife Habitat

Sources:

Randall G. Arendt, *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks,* 1996

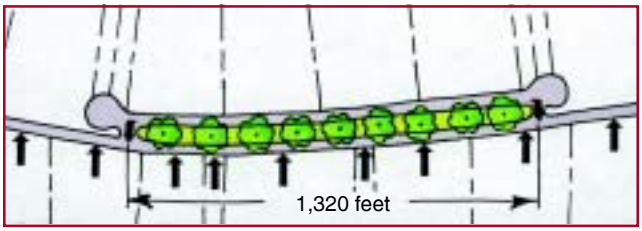
Dutchess County Department of Planning and Development, *Rural Development Guidelines,* New York Planning Federation, 1994

PREVENTING STRIP SUBDIVISIONS

Build new housing in the countryside off side roads or shared drives, screened from the public view, rather than lining rural roads with house lots or commercial uses.

Just a few new houses along an existing public road, subdividing less than five percent of the surrounding land, can block the views of 100 percent of the open landscape. Unfortunately, the cheapest way to develop is to take advantage of the public road system to provide direct access to newly cut-off parcels. Small subdivisions, usually less than ten lots at a time, are lining the roads with individual lots, each with a separate driveway spaced 100 feet or so apart. As a result, vast amounts of fields, forests and open land in Dutchess County are being hidden behind back yards.

Similar to strip commercial development, strip residential subdivisions not only block views from the public roads, the rows of separate driveways create multiple conflict points for the flow of through traffic. This piecemeal pattern of development is all too quickly stealing our rural heritage, destroying the scenic character of the road system, and making the roads less safe. Towns should encourage alternative patterns for minor subdivisions that gradually create a connected interior street system, or at the very least promote shared drives with provisions for possible future connections.



Ten residential parcels in the Town of Washington share a frontage road, providing a landscaped buffer and a safer, quieter street for the home owners, compared to multiple lots with potential driveways across the state highway.

Subdivisions should be designed to settle back into the countryside.

Conservation development off a side road system (top) preserves open space and farmland views and provides substantial green setbacks, rather than the same number of house lots facing the frontage (bottom).

Strip Subdivision
Case Study

Robinson Lane, just outside the hamlet of Fishkill Plains showing the horse farm to the east and two initial house lots on the left in 1988.

Before

After

Spencer Ainsley/Poughkeepsie Journal

Robinson Lane after the edge of the farm was subdivided into "Rolling Meadows Subdivision", 15 one-acre lots facing the road.

One of the prettiest, tree-lined rural roads in southern Dutchess, Robinson Lane once looked something like this.

The mature maple trees were removed for multiple driveways.

The transformation of Robinson Lane from a distinctive scenic road to a routine residential strip is typical of numerous subdivisions along rural roads throughout the county. It is just too easy for land owners to lop off a few lots along the public right-of-way. Planning Boards should look for longer term solutions that protect the safety, capacity, and rural character of our road system.

In this case, a creative 15-lot alternative could be placed along a private drive or street built to reduced specifications that directly connects the new houses with the existing hamlet,

- allowing easy walking to the nearby stores and neighborhood schools;
- creating more scenic house sites facing farmland and natural ponds, not a busy road;
- reinforcing the hamlet center with a secondary street system;
- preserving the farm frontage as a greenbelt surrounding the hamlet;
- providing a protected street and front yards for children; and
- retaining the rural, tree-lined country road.

Sources:
Dutchess County Department of Planning, *Planning For Service Roads*, 1986
Rebecca Paley, *Lane's New Meets Old, East Fishkill Looks at Zoning*, Poughkeepsie Journal, April 26, 1999

SITE SENSITIVE UTILITIES

Conserve special site features and rural qualities through a creative combination of on-site and shared utility systems.

The norm for areas not served by central water and sewer systems is to insure that each lot be able to handle a home's water and wastewater requirements, including room for a second field in case of septic system failure. This practice encourages the standard subdivision approach of carving an entire site up into lots, rather than realizing the full natural or open space potential of the site as outlined in "Fitting into the Landscape (A1)." It also has worked to dictate a standard minimum lot size of one acre to handle the margins of safety required by the Department of Health.

However, there are many ways to reduce lot sizes so that we can permanently protect the natural assets of a site. These possibilities are well within the technical grasp of local engineers, are possible to achieve within existing health code requirements, and need not result in costly delays in approvals.

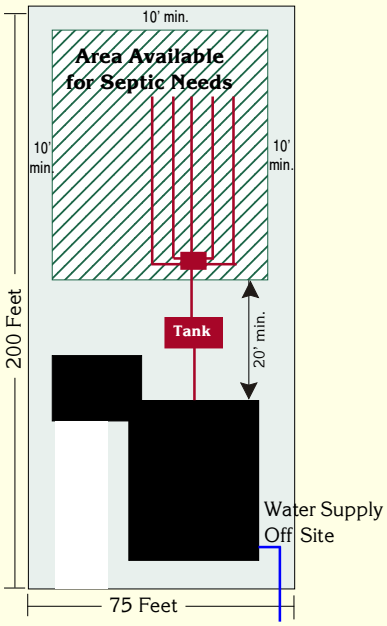
A Village-Scale Lot in a Rural Setting

We can have the best of both worlds. First, we get a lot big enough for our house, garage, gardens and expansion. But we also get built-in assurance that our house will always be in a unique and protected setting. Depending on where we are, that setting might include a stand of trees, a wetland, a significant view point, a trail segment, a meadow, a buffer to the highway, or a common green area.

The figure to the right illustrates a village-scale lot in a rural area. This lot would work equally well in a 1, 2, 3, 5, or 10 acre zone. The difference is that more land can be protected in areas zoned for low densities.

This layout is for 15,000 square feet or about one-third acre. The lot includes an expansive area for a septic system, sufficient to meet Health Department requirements for a four bedroom home (including a 100% field replacement space).

By using a community water supply, developers often gain considerable flexibility in maintaining certain site features and the rural setting.




Living Technologies, Inc.

Maintenance of community water and septic not an obstacle

1. Town reviews development proposals according to adopted goals and procedures.
2. Town agrees to or requests County Water and Wastewater Authority to assume water and wastewater facility responsibility.
3. Authority reviews (when requested) and Health Department approves plans.
4. Town Board or County Legislature establishes districts or zones of assessment.
5. Town or Authority assumes ownership of facilities and carries out maintenance.

Water and Wastewater Alternatives for Conservation Subdivisions

Towns, developers and health officials have many proven methods to solve water and wastewater requirements. Some of these solutions are illustrated below. Soil type, land cover, zoning, slopes and other variables make each site a unique challenge.

A Continuum of Choices

- Reduce lot size to one acre (in zones greater than one acre minimum), with balance placed in conservation use.
- Provide community wells with smaller average lot sizes, depending on slope, soil type, etc.*
- Provide shared septic systems, allowing flexible lot sizes, some 1/4 acre or less, or multi-family mixed with single-family.
- Use a combination of shared water system and common septic systems.
- Use a common septic system with a secondary treatment unit.
- Use a "package plant" treatment system which discharges into an intermittent or full flowing stream.

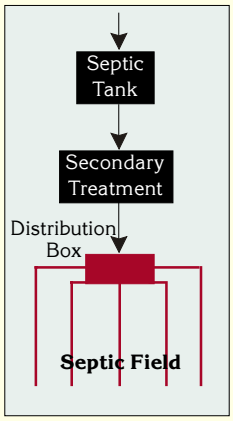
Shared and community systems must be owned and operated by a municipality or County Water and Wastewater Authority.

. . . which can be applied in countless ways

This proposed 54-acre subdivision in a two acre zone calls for only 20 acres to be used for housing. The development is served by a community well. Ten smaller homes, perhaps townhouses, are integrated into the site plan, as well as two estate lots. The small units discharge wastewater into a common septic field. Two houses share a septic system because of poor soils.

Innovative natural treatment systems use plants, fish and bacteria to digest wastewater in a greenhouse setting that resembles a botanical garden and school laboratory. This plant serves 1,600 residents in the City of South Burlington, Vermont.

Living Technologies, Inc.



Secondary Treatment to Enhance Septic Performance

Secondary in-ground treatment systems, costing about $8-$10/gallon ($3,000 per household), are available to provide aerated, biological treatment, further reducing biological oxygen demand and suspended solids before the effluent enters the field.

The Dutchess County Health Department sends a flow confirmation letter to the New York State Department of Environmental Conservation before it issues a permit.

Sources:

Living Technologies, Inc., *A Living Machine,* 1999

New York State, *Appendix 75-A Wastewater Treatment Standards - Individual Household Systems,* 1990

New York State Department of Health, *Individual Residential Wastewater Treatment Systems: Design Handbook,* 1996

Dutchess County Department of Health, *Water and Wastewater Systems: Design and Construction Standards,* 1998

SAVING FARMLAND WITH DEVELOPMENT

Create farm conservation and development plans that allow future home sites to co-exist with active farmland, conserve the best agricultural soils, and discourage roadside sprawl.

Many farmers rely on the occasional sale of home sites to supplement farm income. The result can be piecemeal or strip residential development that undermines a town's rural qualities. Farm conservation plans offer an alternative strategy that protects equity, farmland, and views. Land owners subdivide home sites as needed over time according to a pre-approved plan based on conservation design principles.

The primary goal is the conservation of productive farmland for the long-range continuation of farm operations. Maintenance of open land is not an issue when conserved farm acreage continues to be part of the working landscape.

When farm conservation and development plans work, agricultural operations and views will still look like this.

Because every farm is different, each farm conservation plan will be unique. The location of acreage that is most appropriate for residential development will depend on the natural features of the landscape and on the density that the farm owner considers most compatible with the long-term operation of the farm. Plans may also identify potential acreage for a farm-related business or cottage industry.

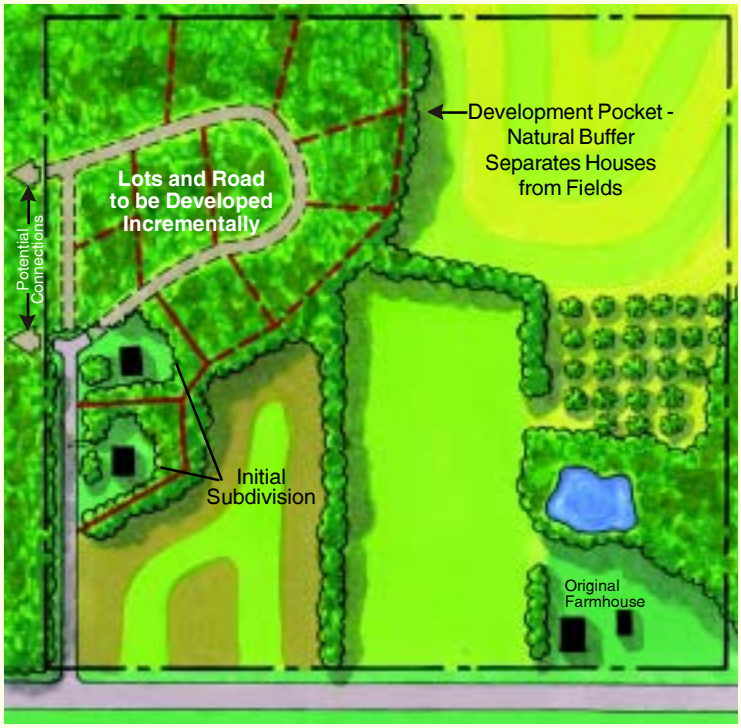
A simple example:

On a 100-acre farm in a five-acre zoning district, the total potential density, excluding farmstead, roads, steep slopes, wetlands and water, may be 15 five-acre lots.

Locate development pocket on 25 acres of marginal land, hiding the houses and roads within woodlands and along the far edges of open fields.

Approve incremental subdivision plan for up to12 lots within the 25-acre development pocket, reducing minimum lot size.

Negotiate a **density easement** allowing 3 additional lots on the remaining 75 acres. Full density (15 lots) may be reached over time at the discretion of the farm owner. Even at full density, more than 50 percent of the farm is protected.



Conservation and Gradual Development on a Working Farm

Limited Development Option

Reduce density by subdividing large tracts of land on which development is restricted by conservation easements.

The Dutchess Land Conservancy created a limited development plan for a 340-acre farm in the Town of Amenia, allowing only one home site on each of three subdivided parcels, and protecting the remainder of the subdivided acreage with easements. The farm owners were able to capitalize on the residential value of home sites on scenic but marginal farmland and continue to cultivate a significant portion of subdivided cropland through lease-back arrangements with their new neighbors.

- *Shared access via existing farm road*
- *Leased farmland under easement*
- *Homes located off farmland*

Dutchess Land Conservancy

Flexible Farm Incentives

1. Use conservation design guidelines to locate residential development, reserving the best farmland. (See "Fitting into the Landscape," A-1.)
2. Determine density option that best meets farm owner's goals, securing easement appropriate for concentrated density.
3. Locate home sites within identified development pocket; waive road frontage requirements and road standards to allow access via shared driveways or reduced-width local roads.
4. Review and approve conservation plan, waiving time limits and fees for incremental subdivision.
5. Incorporate approved plan as an addition to a municipal Farm Conservation Map.
6. Assure fast-track approval for future subdivisions based on pre-approved plan, maintaining agricultural assessment until subdivision occurs.

Help is available *from planning staff and land conservancies for farm owners who wish to prepare farm conservation plans and for municipalities that encourage farm planning.*

Who Benefits?

Farm conservation planning offers **the farm owner**...

- capital for reinvestment or expansion
- a broader range of density options
- more flexibility in locating home sites
- control over the pace of subdivision
- incremental extension of shared access roads
- reduced costs when planned lots are actually subdivided

Farm conservation planning helps **the community**...

- prevent repeated, uncoordinated subdivision
- move home sites away from scenic roads
- keep farmland on its tax rolls
- protect important farm soils
- support the agricultural economy
- retain the defining character of our countryside

Sources:
Regional Plan Association, *Tools and Strategies: Protecting the Landscape and Shaping Growth*, 1990

PRIORITY GROWTH AREAS

Focus development in community-identified growth areas, both infill redevelopment sites and land in and immediately around existing or proposed centers, rather than encouraging most new construction on outlying greenfields or farmland.

Fill in the Gaps First

Gaps in the streetscape, including empty parcels, derelict buildings, and especially oversized parking lots, break the traditional row of storefronts along the main streets and need infill repair, just like a missing tooth in a smile. With the wholesale demolition of the 1950s and 1960s Urban Renewal period, flight to the suburbs, and abandonment of many large manufacturing sites, there are abundant opportunities to heal the empty spots in and directly around cities, villages, and hamlet centers.

A community can start with an inventory of potential redevelopment sites and a set of strategies to attract infill interest. You should not only look for vacant properties, but also existing buildings that could be substantially expanded on the site or marginal structures that are clearly incompatible with historic areas. Often just the act of identification through a community sanctioned public process will spur action by existing owners or outside investors. Publicly owned properties or larger redevelopment sites can be advertised through a Request for a Proposal (RFP) process to solicit competitive ideas for redevelopment.

Infill project based on traditional neighborhood patterns for three single-family houses with shared driveway and rear garages on a half-acre vacant lot in the Village of Millbrook.

American Village Homes

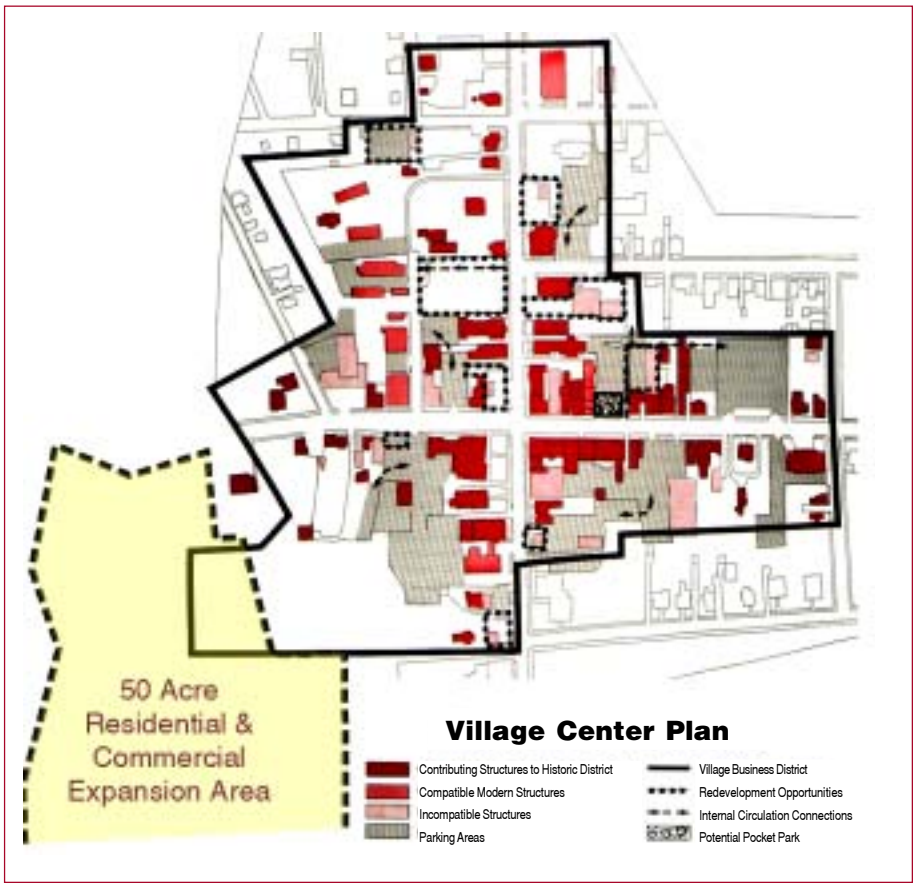
Construction crane places modular two-family house on a narrow infill lot in the City of Poughkeepsie.

Priority Expansion Areas

Building close to existing population centers makes communities more walkable and takes advantage of infrastructure already in place, such as streets, transit lines, water and sewer systems, parks, and schools. Also, as hamlets, villages, and city neighborhoods organically grow and fill in, they can support a wider range of activities for their residents. Dispersed development wastes both rural land and everyone's tax dollars, extending expensive services to scattered, outlying areas.

Key Strategies for Compact Communities

- Town, village, and city plans should identify land in or near centers that can be targeted for development, consistent with design guidelines, as well as sensitive land and historic properties that need to be protected.
- Ideal high priority development districts include vacant or underutilized land within walking distance of traditional centers, logically extending the existing compact neighborhood patterns.
- Communities can shift development from outlying farm properties or important scenic land to priority growth areas through a coordinated rezoning process, a transfer of development rights program, or other incentives.
- Towns can identify locations for new centers, either in the immediate vicinity of existing residential areas without services or in prime locations along public transportation routes. The Hyde Park Plan, for example, encourages growth in existing core areas and the transformation of large outlying subdivisions into mixed use neighborhoods.



The Village of Rhinebeck's Master Plan identifies specific infill redevelopment sites, as well as a 50-acre parcel within easy walking distance to the Village Center for potential commercial and residential expansion.

Sources:
Urban Land Institute, *Smart Growth, Economy, Community, Environment,* 1998

WALKABLE COMMUNITIES

Plan for pedestrians as a top priority in all cities, villages, and town centers, creating a safe and attractive network of sidewalks and crossings within a 5 to 10 minute walk of the center.

One of the fundamental requirements of a successful center is making people feel comfortable walking around. Virtually everyone is a walker, if you include wheelchair users who also need good sidewalks. And walkers are shoppers. Except for banks and burger joints, people still have to get out of their cars to become customers. Attractive sidewalks are the economic lifeblood of centers, good for bottom-line business by enticing people to browse from store to store, rather than making only one quick stop.

A convenient sidewalk system insures a proper balance between walking and vehicles, helping to restore the street as a social space. Too often walkers are only considered obstructions to the flow of faster traffic, even though slower speeds are essential in centers. Over 80% of pedestrians are killed in 40 mph accidents, while only 15% die at 20 mph. One out every seven traffic fatalities are pedestrians (1 of 4 in New York State), so we need to put a much higher priority on safe sidewalks and crosswalks.

The First Steps to Walkability

Step 1- Take photos or videotape your streets
If the main sidewalks are not fairly full in the afternoons and friends are not stopping for long conversations on the corners, go to Step 2.

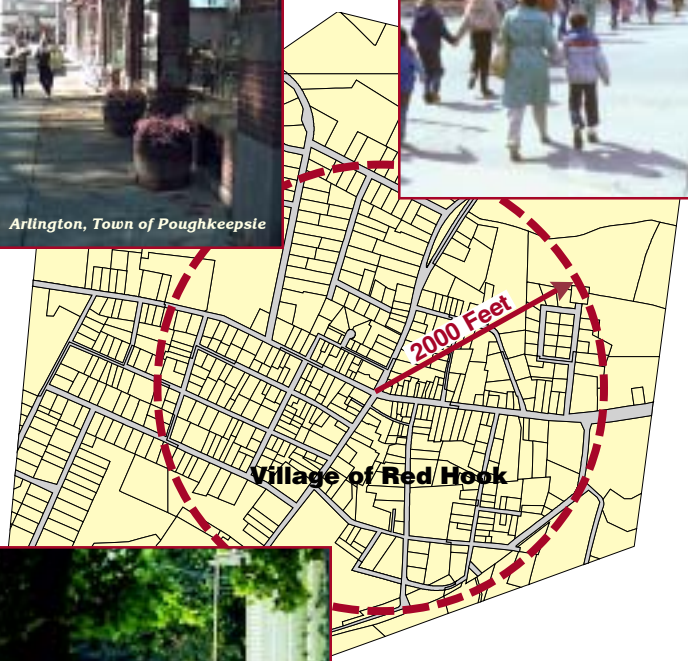
Step 2 - Observe and talk to seniors and kids
Over 30% of people cannot drive because of age, income, or disability. If a 12-year-old and her grandpa cannot easily walk from their homes to the center, find a nice place to sit, and some interesting things to do, go to Step 3.

Step 3 - Map all pedestrian features
Do an inventory of sidewalks, crosswalks, benches, bus stops, bike racks, and high pedestrian generators (post offices, schools, public parking, etc.). Also note obstacles to walking, such as 30+ mph or overly wide roads, lack of sidewalks and crosswalks, no buffer from traffic, gaps between storefronts, or stores behind parking lots.

Step 4 - Agree on a list of priority projects
Work with public officials, business owners, and other key groups to fill in the gaps to a continuous walking network, beginning with easier tasks like striping new crosswalks, mapping sidewalk extensions, and getting local boards to include pedestrian enhancements in every site plan.


Arlington, Town of Poughkeepsie


Arlington, Town of Poughkeepsie




Village of Fishkill

A compact mix of community uses and a continuous pedestrian network within a 1/4 mile to 2,000 foot radius of the neighborhood center encourages walking for short trips, to nearby schools, and between stores in the business area.

Pedestrian-Friendly Guidelines

Sidewalk Design:

- 5-foot minimum width (6-foot wide better); 8 to 15 feet in main street commercial areas.
- 7-foot minimum height clearance.
- Durable materials (concrete or brick pavers best).
- At least 5 feet (preferably 6 feet) back from curb to separate walkers from traffic and road spray, allow room for street trees and snow storage, and prevent side slopes at each driveway.
- Meet Americans with Disabilities Act requirements.

Sidewalk Locations:

- Both sides along central circulation streets, in commercial districts, near schools, and in residential areas with more than 4 units per acre.
- At least on one side in residential areas with 1 to 4 units per acre.
- Optional one side or wide shoulder in areas with less than 1 unit per acre.

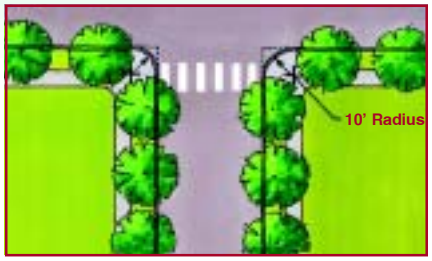
Crosswalks:

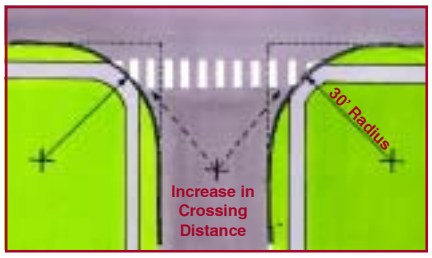
- As short as possible with small corner radii.
- About 10 feet wide, well lit, boldly marked with bar stripes or textured surface, and at every major intersection and selected higher volume mid-block crossings.
- Extend curbs/sidewalks into parking lanes to shorten crosswalks and increase visibility.

Traffic:

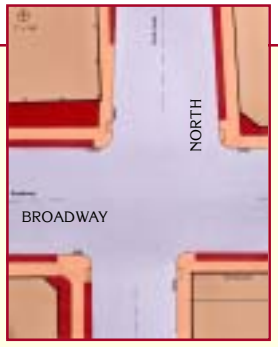
- Slow speeds to under 30 mph in centers, preferably under 20 mph in higher pedestrian areas.
- Provide pedestrian signals and eliminate right turn on red at major crossing locations.

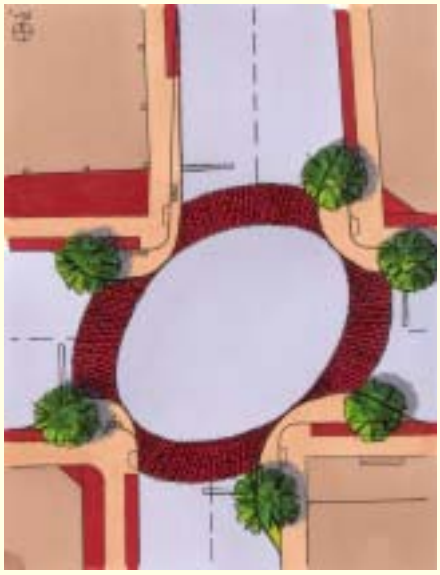
New York drivers need to be reminded that walkers have rights too. Additional crosswalks with bold markings will help announce equal access for walkers and cars in centers.





Corner radii in centers should be as small as possible to shorten crosswalks and slow down turning vehicles. Where a traditional 5 to 10-foot radius produces a 36-foot crossing distance, a new 30-foot radius can create a 60-foot crosswalk.





A redesign for the "four corners" intersection in Tivoli calls for textured brick crosswalks, street trees, and flared sidewalks out into the parking lanes to slow traffic, increase pedestrian visibility, and prevent illegal parking too close to the intersection.

Pedestrians are the lost measure of a community... To plan as if there were pedestrians may be a self-fulfilling act.

Peter Calthorpe

Sources:
Anton Nelessen, *Visions for a New American Dream*, 1993
Peter Calthorpe, *The Next American Metropolis, Ecology, Community, and the American Dream*, 1993

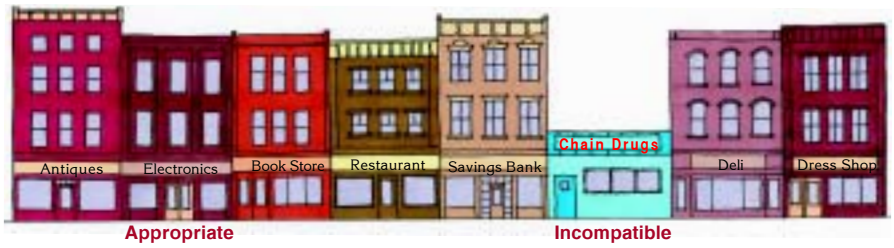
BUILDING IN CONTEXT

Insist on new construction that is compatible with the existing community context and nearby distinctive or historic buildings, while still adding interest and variety to the streetscape.

Architecture is the most visible expression of local history and a new building's contribution to its community. Yet new structures often clash with their older neighbors, sometimes because designers want to make a personal statement or because tight budgets produce bland, boxy buildings.

With exceptions for landmark or civic structures set in prominent locations, new buildings in older areas should relate to the surrounding context to form a more unified sense of streetscape. As one author put it: "Buildings which do not talk to their neighbors are rude." New structures can be differentiated from historic buildings and show progress over time primarily in the details and variations on the overall themes. Repetition of design in multiple building projects or false historic reproductions should also be avoided.

A major addition to this historic bank building in Rhinebeck uses similar building forms and rear parking to blend in with the historic district.



New structures in centers should have similar or complementary heights, materials, colors, window proportions and sign placements.

Context and Compatibility

Compatibility with respected neighborhood buildings can be judged by the following major points of comparison:

- **Heights** are within range of district norm, with one-story structures discouraged in central areas.
- **Front setbacks** form a continuous streetscape, having no big gaps or front yard parking.
- **Roof shapes, slopes, and cornices** are consistent with prevalent types in the area.
- **Rhythm of building spacing along the street and overall scale** are not interrupted.
- **Proportions for facades and window openings** are in harmony with historic types.
- **Materials, textures, and colors** are similar, with natural and traditional building materials preferred.
- **Site details** (porches, entrances, signs, landscaping, lighting, screened parking and mechanical systems) complement traditional examples in the area.

Two new buildings of the same size: one breaks up the facade into complementary roof lines and window shapes; the incompatible example has a bulky mass, conflicting roof and window forms, and front yard parking.

Franchises can Respect Local Identity

The look-alike architecture and standard pole signs of chain stores, gas stations, franchise restaurants, and supermarkets visually dominate many commercial districts. To be "attractive", meaning both visually appealing and a magnet for business from nearby residents and outside visitors, a place must be distinctive. Just as rarity increases the value of goods, unique places create community pride and economic success. So how can communities ensure that buildings and signs reflect their distinctive local or regional character, rather than accepting anywhere architecture? By simply asking for better:

- Use illustrated guidelines or an exemplary building photo file to positively depict what types of buildings the community values.
- Invite the public to help define local identity so the community will clearly support demands for distinctive building and site design.
- Be prepared by designating local landmarks and historic districts to be protected from demolition or incompatible changes.
- Consider making uses like gas stations, fast food restaurants, and drive-thru businesses special permit uses with specific conditions that help new structures fit in with existing neighborhoods.
- Offer pre-application meetings, rather than just reacting to prepared site plans, so applicants do not waste time and money having to revise standard or unacceptable designs.
- Ask applicants to graphically demonstrate how new buildings will reflect existing precedents in the area.

This fast food franchise in Freeport, Maine was convinced to retrofit a historic house with a rear addition, not demolish and build a new structure.

Hyde Park negotiated with a chain doughnut shop to have a peaked roof, a stone facade that reflects the Town's stone walls, and side and rear yard parking.

Two Recent Chain Drug Stores in Poughkeepsie

This standard franchise design looks the same as hundreds of other places, with a blank wall facing Main Street, and a parking lot surrounding the building.

After input from the neighborhood association, this store was placed on the corner with a direct sidewalk connection, side yard parking, and architecture that better blends with the area.

Sources: Brent C. Brolin, *Architecture in Context: Fitting New Buildings with Old,* 1980
Ed McMahon, "Have It Your Way," *Planning Commissioners' Journal*, Fall 1995
David Sucher, *City Comforts: How to Build an Urban Village*, 1995

COMMERCIAL STRIP REDEVELOPMENT

Stop the spread of strip commercial zones lining our roadways and begin to reclaim the strip into more contained sub-centers with shared driveways and parking, higher quality landscaping and architecture, and a mix of adjacent uses.

Zip Up the Strip

A common complaint at the public workshops was the ugliness and traffic congestion created by strip development.

How did people define the strip?

- dependence on cars for every movement
- traffic jams; too many lights and driveways
- asphalt landscape of oversized parking lots
- big pole and wall signs in clashing colors
- lack of coordinated landscaping
- cheap-looking boxy architecture
- every town starts to look alike

But people also like the convenience of discount stores, supermarkets, and popular restaurants. How can we accommodate the larger scale and convenience of highway business uses without having strip zones divide our communities in half and destroy their distinctive character?

First, put a firm limit on the length of any commercial district, and instead allow any necessary commercial expansion in greater depth. In this sense, shopping plazas and regional malls are preferable to long, narrow strip zones because they concentrate commercial uses and encourage shared parking and walking between stores. Commercial districts look and function best when larger "big box" uses and parking lots are placed to the rear with a connected row of smaller, more attractive storefronts set close to the road and along entrance drives. This screens the parking and establishes more traditional and walkable street frontages.

Then, transform the strip into a commercial boulevard with limited left hand turns. Multiple driveways for each use lead to traffic back-ups, more accidents, and the eventual need for expensive road widenings. Clustered commercial districts allow shared entrance drives spaced further apart and internal service roads to link nearby uses and parking lots. Every site plan is an opportunity to upgrade the landscaping with street trees, coordinate access, and slowly "zip up the strip" by making connections along and across the street.

Seven Steps to Retrofit the Strip

Communities can begin to reclaim existing shopping strips outside village and town centers by agreeing to a long-term redesign program that gradually transforms strips into mixed use sub-centers with each successive site plan application:

Existing Strip District

1. Restrict further development of outlying highway frontage and limit existing commercial districts to under 1/2 mile in length;

2. Consolidate entrances along the road to a few main driveways with internal service streets based on a block system to connect businesses in between;

3. Help unify the streetscape with continuous street trees, high quality landscaping, and, where possible, planted medians to prevent unlimited left hand turns;

4. Build sidewalks and crosswalks throughout the area to create connections to shared parking, public transportation, walking between stores and to nearby housing;

Coordinated Circulation and Landscaping

5. Fill in the fronts of large parking lots with small, closely spaced or attached storefronts to build a street frontage with courtyard parking behind;

6. With buildings up front, attractive architecture, wall signs and sidewalks can be featured along the frontage, not parking lots and pole signs;

7. Encourage a mix of housing and other uses adjacent to the shopping to begin to build a walkable neighborhood rather than a strictly commercial driving district.

Rebuilding a Commercial Center Step by Step

FROM CONGESTION TO CIRCULATION

Tame traffic congestion with a three-prong approach: strictly limit access driveways along major roads, disperse vehicles on interconnected secondary street systems, and mix land uses closer together to encourage alternatives to the automobile.

Curing traffic congestion is hopeless task when every movement means getting into a car. Spread-out suburban development patterns require us to lug along 2,000 pounds of steel wherever we go, often wasting a half gallon of gas to pick up a quart of milk. The standard answer to congestion, adding more asphalt, has proven to just induce more traffic, so all too soon the wider roads are clogged again.

Uncontrolled access with multiple driveways along major roads leads to traffic tie-ups and more accidents caused by constant turning movements. The road from suburban congestion to smoother circulation involves a movement toward mixed land use patterns and the consistent application of "access management" strategies to keep traffic moving smoothly, increase safety, visually improve the roadway, and avoid expensive road expansion projects.

Minimize Driveways on Major Roads

Overly wide access drives allow unpredictable turning movements, often at unsafe speeds. One narrower entrance (24 feet for two-way) will slow entering vehicles and provide space for street trees and landscaping.

Paired one-way access drives cause multiple curb cuts too close together, lots of traffic conflict points, excessive breaks in the sidewalk, and repetitive enter/exit signs.

- Limit access drives to at most one per parcel unless a traffic analysis or unique conditions fully justify another curb cut.
- Close excess entrances and narrow overly wide driveways during any new site plan approval.
- Share access with neighbors whenever possible.
- Place entrance at the edge of the parcel so driveways can be shared.

A few uses, like gas stations on small sites, may need two driveways to provide through circulation, but third or fourth curb openings, especially those too near an intersection, should be closed and the front landscaped.

These adjacent businesses in Hyde Park share a narrow 16-foot entrance drive between buildings and a common exit onto an existing side road, along with consistent stone walls and the bulk of the parking to the rear.

Landscaped Medians allow sheltered left hand turns, provide safe refuge for pedestrian crossings, and create beautiful boulevards. Approximately two-thirds of accidents involve left turns. Raised medians in suburban areas have significantly fewer accidents than central two-way left turn lanes or undivided arterials.

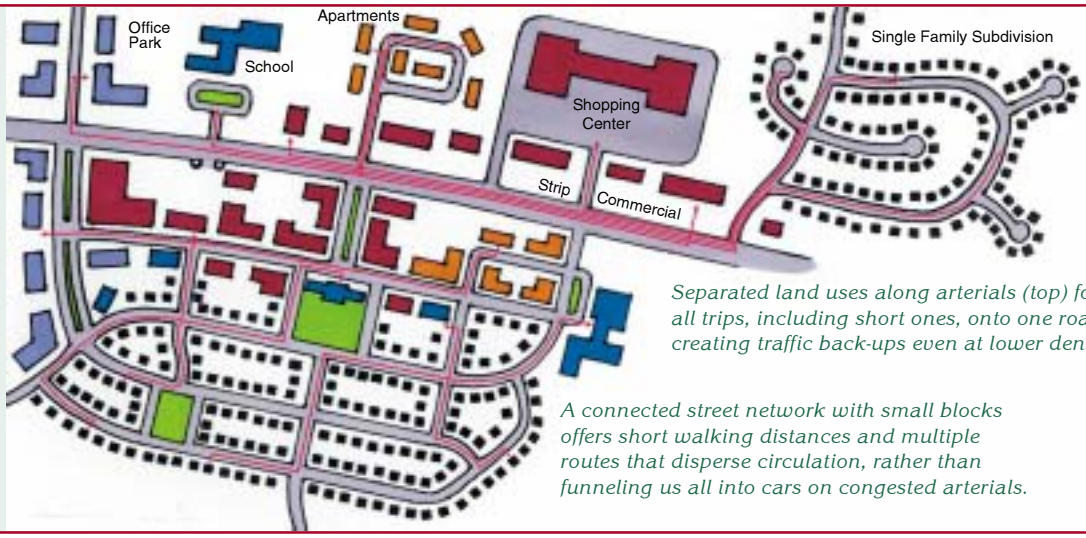
*Center medians combined with shared access drives can ease congestion and dramatically reduce potential accident points (**X**). Fewer driveways also allow space for businesses to expand, creating a more continuous pedestrian-friendly frontage.*

Build Connections Between Sites

- Cluster buildings and develop in depth with common entrances and internal circulation.
- Link adjacent parking lots and build continuous service roads toward the rear of properties.
- Provide temporary stub drives to connect to adjacent parcels when they are developed.
- Locate structures and parking lots to facilitate secondary streets based on a block system.

Rear service road between shopping centers in Hyde Park, connects over 30 stores with exits at two widely spaced traffic signals.

Compact, mixed use communities with interconnected streets, sidewalks, and transit linkages are the best long-term solution for traffic congestion.



Separated land uses along arterials (top) force all trips, including short ones, onto one road, creating traffic back-ups even at lower densities.

A connected street network with small blocks offers short walking distances and multiple routes that disperse circulation, rather than funneling us all into cars on congested arterials.

Sources:
Michael Leccese and Kathleen McCormick, *Charter of the New Urbanism,* 2000
Town of Rhinebeck, *Design Standards,* 1999

CONNECTED HABITATS

Identify and preserve significant wildlife habitats and connected vegetative corridors, as large and continuous as possible, in the development process.

Land clearing, fences, roads, drained wetlands, paving, and domesticated landscapes encroach upon, and eventually replace, natural landscapes. As the forests become more fragmented by suburban uses, plant and animal species retreat and disappear. Species extinction is occurring at an alarming rate.

We treasure our natural heritage and we consider sustainable landscapes to be a worthy goal. "Connected Habitats" presents a way to develop homes for people without destroying the home bases of other species.

Whose Land Is It?

A Shared Landscape...

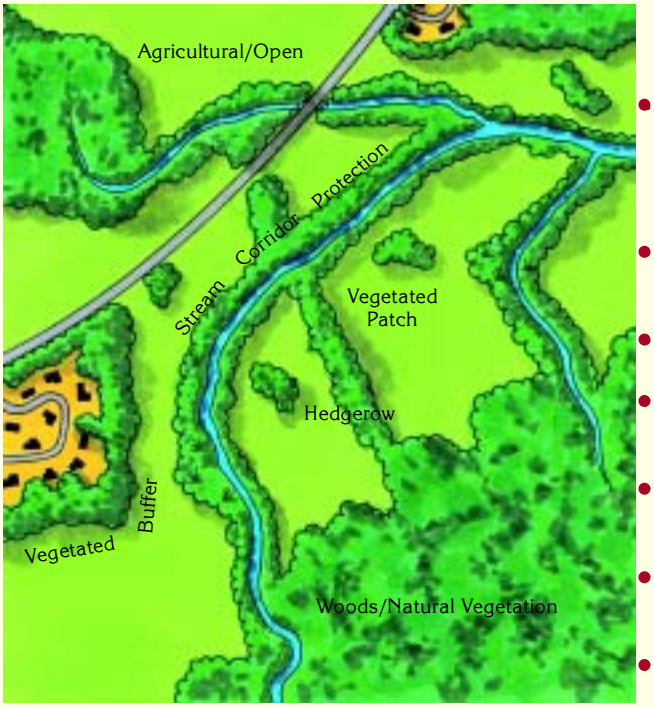
We belong to a living and changing community of interdependent parts, including the surrounding soils, water, air, plants and animals.

The flora and fauna staked claim to Dutchess County long before human settlement. While mountaintops, steep slopes and wet areas have provided some self-defense from development, the remainder of the land area also contains essential wildlife habitats. This guide extends the concept of Fitting into the Landscape (A1), to **coexistence** by identifying a process to maintain our natural heritage, even as we grow and prosper.

Land ownership and subdivisions only meet human needs. But possession of space and habitats are common to all species. For some species needing deep woodlot protection, 1,800 feet to the forest interior or more than 7,000 contiguous acres may be necessary. We should begin by asking that the straight line of the surveyor be drawn only after a site's inherent qualities, including its wildlife attributes, are understood.

Habitat Size Requirements

Less than 20 acres	Cottontail Skunk Squirrel
20-99 acres	Brown Headed Cowbird Whitetail Deer Wild Turkey Black Capped Chickadee
100-999 acres	Coyote Bobcat Red Fox Red Tail Hawk
More than 20 acres	Ovenbird Red Shouldered Hawk



Habitat Protection Goals

- Map and maintain a system of stream bank protection areas, hedgerows, road and trail corridors, wetlands, development buffer areas, small and medium sized forest patches, and woodland reservations.
- Strive for connectivity (vegetated corridors) and proximity (stepping stones) among the vegetated open space tracts.
- Limit development on large, consolidated open space tracts.
- Allow smaller wildlife areas (patches) of 20 acres or more to be liberally scattered throughout the town.
- Work to establish soft feathered edges along woodland boundaries.
- Allow fingers of wild land to connect with suburban and urban districts.
- Encourage use of native species in landscaping.

Creating a Network Landscape

We possess an impressive network of wooded open space. It shows up on USGS maps, aerial photographs, and town and county land use maps. The figure above depicts a system of connected habitats. This map shows a kind of "natural zoning," boundaries encompassing protected home regions for many wildlife species. **Local conservation advisory commissions (CACs)** and the **Environmental Management Council (EMC)** are in an ideal position to help the town develop wildlife preservation strategies.

Local Management

Habitat system planning should happen townwide in communication with adjacent municipalities, as well as on a site-by-site basis. Localities should know and publicize habitat requirements of wildlife residents.

Inventory →

- Identify species
- Map habitat locations
- Determine conflicts or threats

Strategies →

- Set protection goals
- Involve public
- Adopt policies

Implementation

- Engage applicants
- Approve land use regulations
- Agree to permanent conditions (e.g., easements, no development areas, purchase of critical areas)

5 Methods to Protect Habitats

1. Require very low density residential and conservation zones in prime wildlife areas.
2. Use conservation subdivisions to preserve habitats.
3. Use setback requirements and development policies to protect wetlands and stream corridors.
4. Selectively purchase critical conservation areas or secure protective easements on these properties.
5. Designate priority growth areas and provide for utility districts to encourage compact development patterns.

Sources:
DeGraaf and Rudis, *New England Wildlife: Habitat, Natural History and Distribution,* USDA, 1992
Dutchess County Department of Planning and Dutchess County Environmental Management Council, *Natural Resources,* 1985
T.T. Forman, *Land Mosaics: Ecology of Landscapes and Regions*
National Audubon Society, *Migrating Birds and the Great Northern Forest,* December 1993

STREAM CORRIDOR PROTECTION

Retain and incorporate natural vegetation as buffers between developed or farmed areas and rivers, streams and creeks.

At the Water's Edge

The link between land and water is a critical zone for natural development and human history, as well as the future health of our waterways. Directly adjacent to the water, this zone has a saturated water table close to the surface and sometimes becomes subject to floods. Often these streamside borders contain the highest diversity of wildlife. They have been referred to as "nature's condominiums."

Streamside plants and forests are crucial to the protection and enhancement of water quality. Many stream corridors have been cleared of vegetation through agricultural and developmental practices. This has compromised wildlife habitats, and led to increased pollution and flooding downstream. Since most streams flow through private property, corrective measures are dependent upon effective education of, and participation by, property owners.

Wooded buffer areas provide multiple benefits.

10 Benefits of Streamside Protection

1. Percolation and groundwater recharge is improved.
2. Sediment is reduced.
3. Excess nutrients and chemical pollutants are filtered.
4. Stream bank erosion is reduced.
5. Nutrients become available for desired plant growth.
6. Flooding is moderated.
7. Water temperatures are lowered for habitat improvement.
8. Woody and leaf debris contribute to aquatic habitat.
9. More visual diversity and beauty.
10. Better habitat and safe corridors for animals.

How to Care for Stream Corridors

Municipalities have significant capacities to protect stream corridors. Zoning can include minimum stream setback requirements. Many communities require that sensitive lands be subtracted in lot yield calculations. Federal floodplain regulations and state and local wetland protection measures can prevent ill advised development in, and adjacent to, wetlands (state-regulated wetlands require a 100-foot buffer setback). Conservation subdivisions (See A1) can be designed to protect water and wildlife resources. By identifying prime wildlife corridors (See D1), towns can add another dimension to their protection strategies. The Dutchess County Soil and Water Conservation District provides technical expertise and has access to funding sources. Local Conservation Advisory Commissions and the Environmental Management Council are also excellent sources for inventory work and implementation plans.

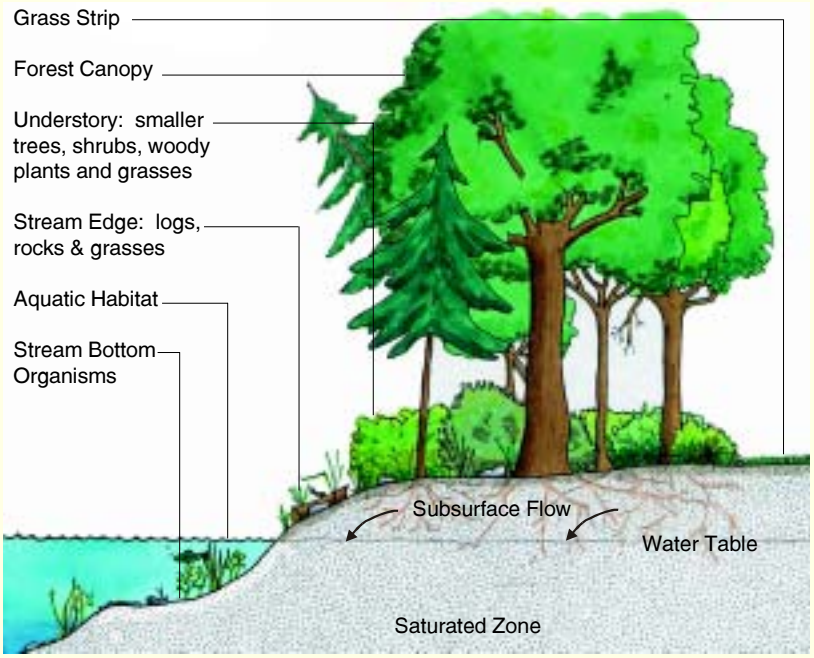
Protection Guidelines

D.C. Environmental Management Council

Towns must determine which waterway corridors are best suited for trails, wildlife routes, or simply aesthetic and water quality buffers.

- Maintain a minimum 60-foot vegetative filter along the stream corridor. Increase widths when:
  - soils are gravelly, sandy, and well drained, or have low phosphorus absorption capacity;
  - slopes are steeper (sometimes even 5 percent);
  - adjacent to sensitive wetlands; or
  - vegetation lacks forest species or grassy strip.
- When possible, implement a three zone buffer design (15 ft. mature tree edge; 60 ft. strip managed trees and shrubs; 20 ft. grass strip) to remove nutrients, sediment, animal-derived organic matter, and pesticides from surface runoff.*
- Establish 100-300 foot buffer when planning for wildlife corridors or to set back from septic systems, manure concentrations, or other potential water contaminants.
- Use a wide variety of native trees, shrubs, and plant species.
- Choose species which are tolerant of flooding.
- Prevent channelized storm water flow into the buffer.

D.C. Environmental Management Council



Protected stream corridors should include large trees near the stream's edge to shade the water, maintaining dissolved oxygen for successful fish habitats.

Sources:

R.L. Sneider, *Streamside Protection--Why Bother,* Cornell Cooperative Extension, 1998.

R.L. Sneider, *Streamside Management--Do's and Don't's,* Cornell Cooperative Extension, 1998.

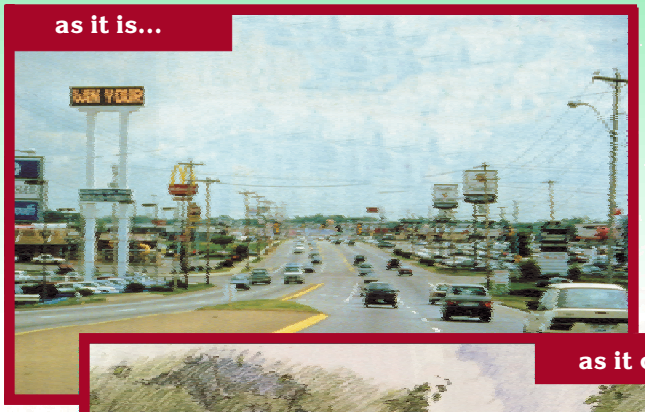
Tjaden & Weber, *Riparian Buffer Management, Fact Sheet 733,* Maryland Cooperative Extension, 1998.

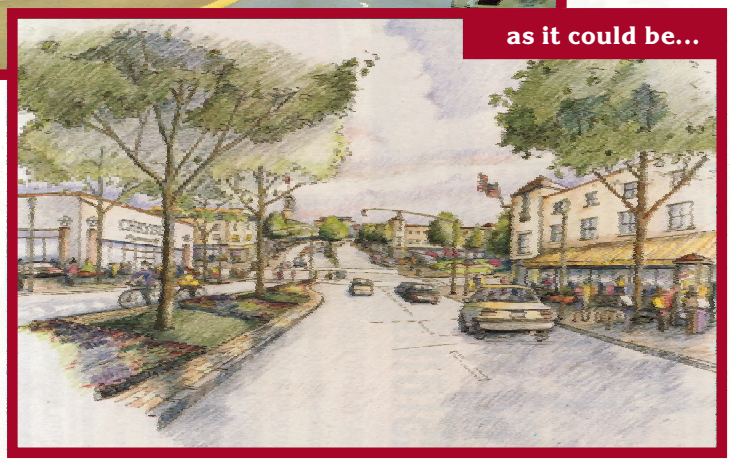
*USDA, *Riparian Forest Buffers,* NA-PR-07-91.

HIGHWAYS INTO GREENWAYS

Treat roads and streets as our most important public open space system and the most visible opportunity to create a network of scenic Greenways.

The view from the road is the most common way residents visualize their community and the means by which visitors decide whether it is worth stopping. Streets are the circulation system that binds together buildings into neighborhoods. Publicly owned road rights-of-way are the places where communities can most directly control their future. To make residents proud of their community and attract new businesses and visitors, improve the public streetscapes - make them more like parkways and less like traffic sewers.





Wilmington Area Planning Council

Strip commercial areas can be gradually converted to Greenway routes with good signs and landscaping standards, shorter building setbacks, sidewalks, street trees, and rear parking.

Rural Roads

River Road in Rhinebeck and Red Hook is a state-designated scenic byway that illustrates some of the best elements of rural roads: stone walls, mature trees, historic structures, farm fields and open views.

Like a Drive in the Park... The first Greenways were roads, designed by Frederick Law Olmsted as tree-lined "park-ways" to connect Prospect Park in Brooklyn with the ocean and nearby parks. The model Greenway route in Dutchess is the Taconic State Parkway - a river of greenery that flows through the center of our county. The roadside views of farmland and open space vistas are an essential part of our identity and what makes this area so attractive to outside visitors and new businesses.

Preserving the rural qualities of our countryside means preventing roadsides from being lined by new houses or strip commercial districts, which block views and slow down the even flow of traffic. Most development should be clustered in and around traditional village or hamlet settings, not strung out along the roadways. Important rural features, like farm fields, stone walls, barns, and roadside trees, should be retained at every opportunity.

Streetscapes

The models for Greenways in centers are the urban boulevard and the tree-lined village Main Street. The most significant single design change that will help turn a bland block into a more welcoming, unified streetscape is a row of street trees between the sidewalks and the curb. Street trees and continuous storefronts set close to the sidewalk provide a sense of enclosure to the street that helps to slow down traffic, tie the street together, and create a feeling of balance between pedestrians and vehicles.

Scenic Center Streets include:

- Sidewalks behind planting strips with rows of street trees
- Narrow lanes for slow speeds
- Planted medians, where possible
- Frequent, boldly marked crosswalks
- On-street parking
- Continuous storefronts along sidewalks
- Parking lots toward the side or rear
- Pedestrian scale signs and lighting
- Slow speed limits under 30 mph

Existing Arterial Through Hamlet

52' Width Discourages Pedestrian Crossings
5 Lane Wide Appearance Promotes Speeding

Pedestrian Friendly Main Street

- Crosswalks Shortened with Flared Sidewalks
- Street Trees and On-Street Parking serve as Buffer Zone between Sidewalk and Traffic
- Median Acts as Pedestrian Refuge Island
- 2-Lane Boulevard Slows Traffic in Hamlet

The long term goal:

Create an interconnected Greenway system of scenic roads and streets, bike routes, open space corridors, waterways, and sidewalks linked to trails throughout Dutchess County and the region.

Millerton is working to integrate the Harlem Valley Rail Trail through the countryside with the sidewalk and street system in the village. The trail design, widened around the old train station to form a village green, will be combined with streetscape improvements meant to turn highways into Greenways.

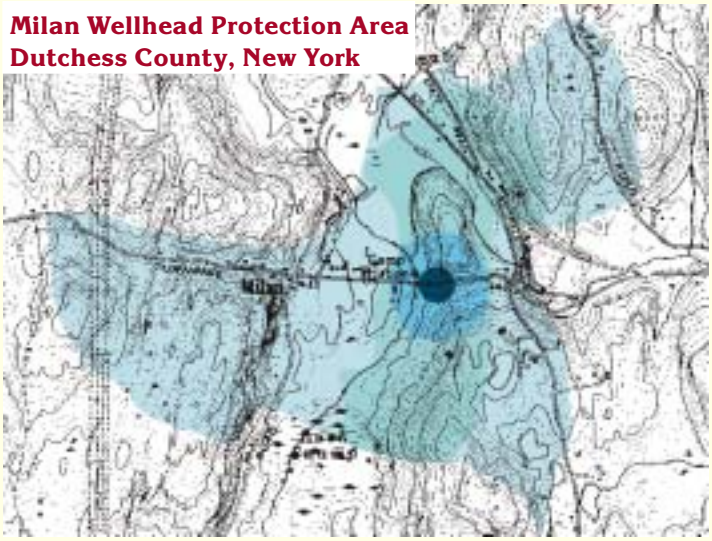
Sources: Wilmington Area Planning Council, *Connections to the 21st Century*, 1999
Dutchess County Department of Planning, *Improving the Visual Quality of Roadways*, 1987

WELLHEAD AND AQUIFER PROTECTION

Designate wellhead protection areas and adopt measures against potential sources of aquifer contamination to ensure long-term sources of clean drinking water.

The cleanup of a contaminated groundwater source can be 30 to 40 times more costly than preventing it in the first place, and some contaminants are virtually impossible to remove. Contaminants can make their way through soil and fractures in the rock to underlying groundwater aquifers, then travel to a water supply well. The pumping action of larger public wells can actively draw contaminants into wells. Unsealed or abandoned wells can further act as direct conduits for contamination of groundwater, as can carbonate geology with its solution channels and sinkholes.

Milan Wellhead Protection Area
Dutchess County, New York

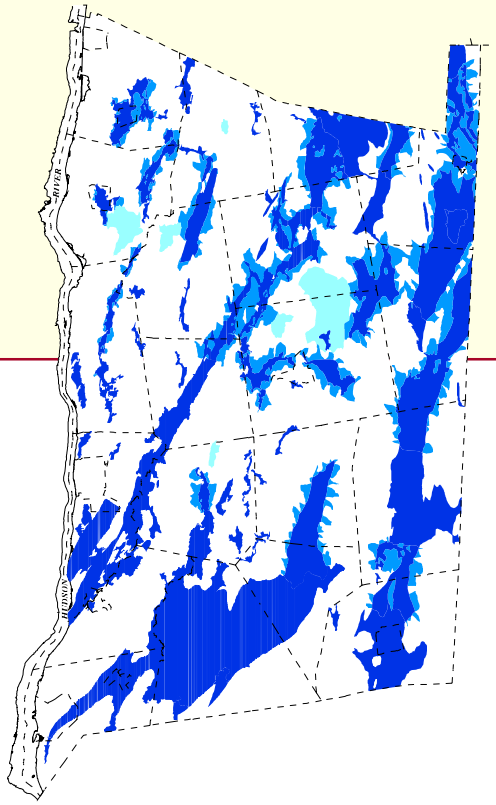


- Secondary Management Area
- Primary Management Area
- 1 Year Time of Travel
- 200-Foot Remedial Action Area

Define the area to be protected

Choose a method of defining the wellhead and aquifer protection areas, such as:

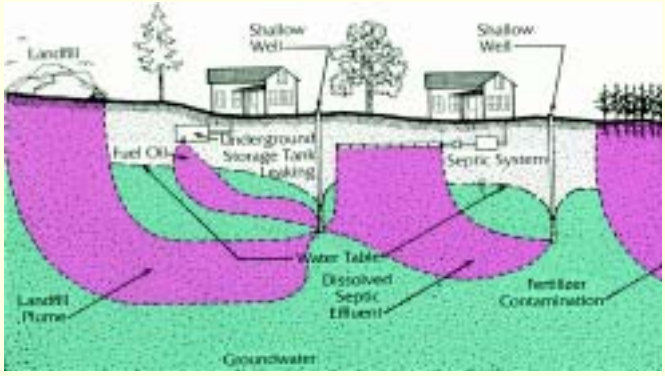
- Detailed delineation of one or more wellheads or an aquifer area by a professional hydrogeologist.
- Generalized delineation of one or more wellheads by a non-professional.
- Map priority protection areas.



Dutchess County Aquifer Protection Areas

- **Zone I** Permeable deposits directly overlying the aquifer
- **Zone II** Less permeable deposits located upgradient from the aquifer
- **Zone III** Area which may contribute to the aquifer through stream infiltration

Identify Potential Sources of Contamination

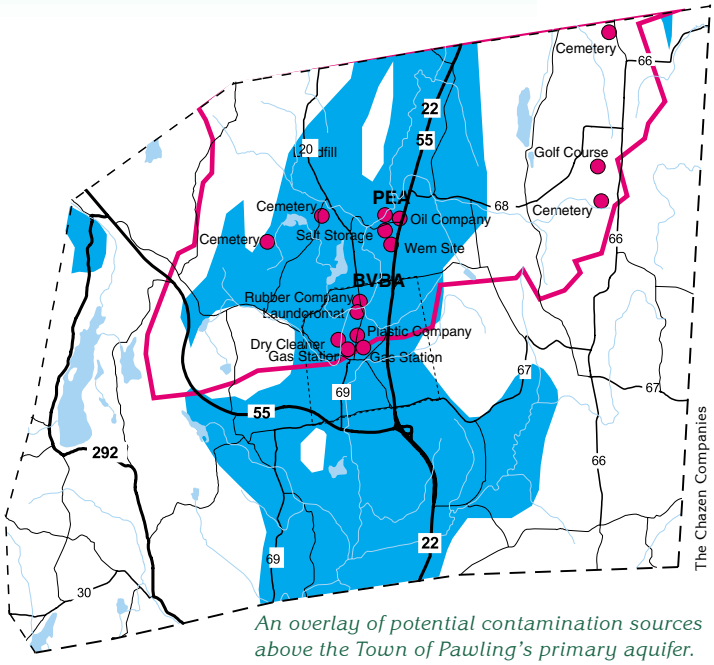


Water contamination occurs when the intensity or location of certain land uses exceeds the natural cleansing capacity of the vegetation and soils.

- **Residential uses**, such as septic systems, yard chemicals, and abandoned wells.
- **Agricultural uses**, such as feedlots, manure storage, and improper pesticide application.
- **Commercial uses**, such as gas stations, dry cleaners, junkyards, and car washes.
- **Industrial uses**, such as chemical manufacturing, storage tanks, pipelines, and mining.
- **Institutional uses**, such as landfills, deicing operations, sewage treatment plants, and cemeteries.

Map Potential Contamination Sites

- Review available data at the Dutchess County Environmental Management Council, Department of Health, the NYS Department of Environmental Conservation, or your local town offices.
- Interview residents to gain historical knowledge.
- Conduct a field survey of aquifer and wellhead protection areas.
- Map and describe potential contamination sources as an overlay to the protection areas.



An overlay of potential contamination sources above the Town of Pawling's primary aquifer.

Develop and Implement a Plan of Action

1. Enlist widespread public support and participation.
2. Coordinate protection program with neighboring communities and larger watershed planning area. Aquifer protection requires an intermunicipal approach. The four towns and two villages in the Harlem Valley have prepared a strategy to protect their common aquifer system that can be a model for others in the region.
3. Select priority tools for wellhead and aquifer protection, including:
   - zoning restrictions, such as setbacks, buffers, and overlay districts;
   - land acquisition or protective easements;
   - septic system maintenance programs;
   - wellhead protection signs;
   - monitoring and remediation of contaminated sites.
4. Devise timeline and determine resources and responsibilities.

Clean water is among everyone's top concerns.

Sources:
The Chazen Companies, *Harlem Valley Watershed Investigation,* 1998
Horsley Witten Hegemann, Inc., *Water Supply Protection Program for Dutchess County, New York,* 1992
New York State Water Resources Institute, Cornell University, *Groundwater Contamination,* November 1988

LANDSCAPING

Make the landscaping on every site plan part of the larger open space system, incorporating natural features of the site, using native plants whenever possible, and connecting to the greenery patterns on adjacent parcels.

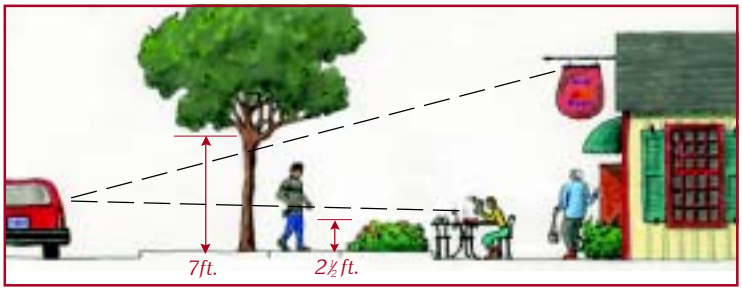
Landscaping is too often considered as decoration for the leftover edges after the site has been leveled and buildings and parking lots are designed. Standardized planting formulas, such as a line of junipers along the front, are primarily intended to screen or hide the ugliness of the parking lot and even the proposed buildings.

Good landscaping works with the architecture to enhance the site, not hide it. Plantings should be designed to reintegrate the developed property into its surrounding natural system.

Landscaping benefits go well beyond appearances:

- absorbs dust and air pollution
- reduces wind velocities
- dampens noise levels
- moderates temperatures (10-15 degrees cooler in wooded areas)
- reduces soil erosion/storm runoff
- filters water supplies
- provides bird and wildlife habitat
- increases property values

This restaurant in Rhinebeck replaced the front parking lot with attractive landscaping, outdoor seating, and a stone monument sign, putting its parking to the side behind a berm and street trees.



Overhead street trees along frontage, combined with low plantings, focus attention of passers-by on storefronts.

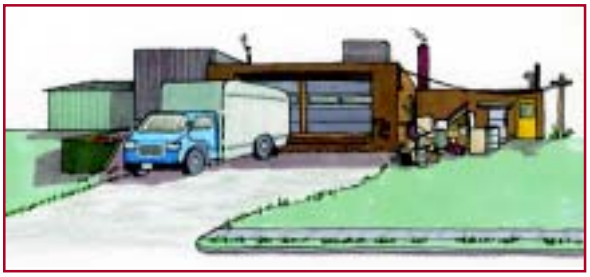
The very term "landscape" cannot be described within the property lines of a single parcel. Site plans, therefore, need to establish connections to the street and surrounding area. In centers the cultivated landscape usually involves more formal layouts with consistent setbacks, front yards that flow down blocks, and regularly spaced street trees and sidewalks to define the street edges. In outlying rural areas the landscaping forms become more organic, relating to natural topography, woodlands, open meadows, wandering paths, and plants in more informal groupings. In all cases plantings on the site need to respond to the surrounding landscape patterns, regional climate, and soil conditions.

All-too-typical shopping center with minimal landscaping exposes large parking lot and pole sign.

Supermarket in Hyde Park features a low wooden sign and a 150-foot wide natural landscape buffer as part of a continuous open space system with stone wall frontages approaching the Franklin D. Roosevelt Historic Site.

General Landscaping Principles:

- Establish an open space system for each site, connected to the surrounding natural area or landscaping patterns on adjacent properties.
- Shape the site plan to take full advantage of existing natural features, such as mature trees, rock outcrops, slopes, stone walls, or streams.
- Set minimum open space guidelines for landscaping/permeable surfaces (can range from 10% in city centers to 75% in rural residential areas).
- Use low maintenance native plants when possible to reinforce the character of the region.
- Stress plantings along the public frontage, especially street trees and continuous landscaping to reinforce the flow of the street and bridge gaps between buildings.
- Encourage a diversity of plant species and combine trees with low plantings to provide contrasting forms.
- Use landscaping to frame views of architecture or open vistas.
- Generously landscape parking lot edges and dividing islands with shade trees and low plantings (Hyde Park and Pawling require at least one 3-inch diameter tree for every 10 spaces and 15% landscaped area within the perimeter of large lots).
- Include enforceable maintenance requirements in permit approvals.



Unsightly views, such as rear storage areas, can be screened with natural combinations of evergreens and low plantings or berms.

Sources:

Gary O. Robinette, *Local Landscaping Ordinances,* 1992

Urban Land Institute, *Value By Design: Landscaping, Site Planning and Amenities,* 1994

SIGNS

Integrate signs into their site by using building signs as accessory elements within high quality architecture and embedding any freestanding signs into the overall landscaping.

Signs often form the first and lasting impression of a place. Effective and attractive signs are especially important in areas where the economy benefits from outside visitors. Since they must provide instant information from moving vehicles, overly complex signs or cluttered groupings are a dangerous distraction to drivers. Allowing signs to compete by being bigger, brighter, and more garish than their neighbors is a self-defeating spiral toward an ugly streetscape that just repels potential customers. Everyone wins when cities and towns instead encourage competition for the most creative signs, designed to be eye-catching because of their distinctive qualities, not because they dominate the site or block views of adjacent buildings.

Signs Should Not Shout

Sign standards cannot regulate content, but can limit size, location, number of signs and even the number of words, all in the interest of traffic safety and a legitimate concern for community appearance. Fewer words and colors are best (suggested maximum of 6 words and 3 colors), combined with a symbol or logo for quick recognition. Sign variances should not be granted lightly, only under unique conditions and when minimal exceptions will not be undesirable to the character of the community.

A good sign passes three tests:
It conveys its message clearly and quickly;
It compatibly fits within the structure and its surroundings;
It promotes the visual image of the entire community.

Natural looking materials are preferred, including wood and metal signs with stone, masonry, or landscaped bases.

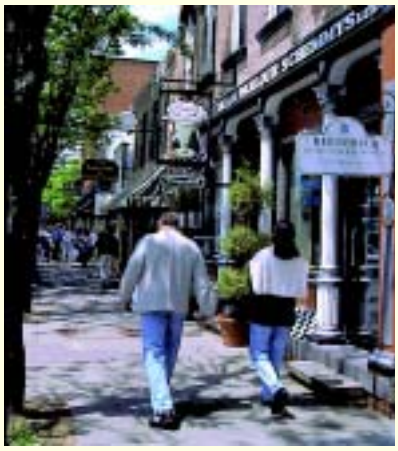
Dark backgrounds with light lettering are recommended. They are much easier to read and, if internally lit signs are allowed, cause far less glare.

This monument-style sign proves that franchise outlets will conform to community standards if local boards stand firm.

Certain distracting signs should not be allowed and existing ones phased out over a set time period, such as flashing, moving or glaring signs, roof signs, and portable or reader board signs.

Too many signs, including one blocking the sidewalk, create visual chaos and detract from the entire area.

Building Signs, including wall and window signs, projecting signs, and awnings, should be subordinate features, framed within interesting architecture. Signs too often overwhelm the structure and obscure architectural details, but when architecture and signs work as a complementary arrangement, the entire building becomes a sign of quality.



An excellent wall sign and a projecting picture sign combine with adjacent awnings and storefront signs to create a diverse, inviting, and historically compatible streetscape at a pedestrian scale.

A clash of conflicting wall and window signs allows none of these village storefronts to stand out. Limit window signs to under 20 percent of glass area.

Plastic, metal, and vinyl awnings are generally inappropriate and should not be used to provide excessive sign area, especially when internally lit at night.

Encourage awnings in traditional forms and canvas-like materials to add color and depth to storefronts and provide shelter and shade to sidewalks.

Buildings should not be allowed to have roof lines and false facades primarily designed to emphasize overly large signs on bland boxes.

A unique and attractive sign, large enough to be seen, yet low enough to complement its landscaped setting.

Freestanding signs are only needed when buildings are set back too far from the street for signs to be seen. Otherwise, and especially in centers, building signs are sufficient and separate freestanding signs should be avoided. Low, monument-style freestanding signs are recommended over taller pole or pylon signs because ground-based signs can be better integrated with landscaping. At 4 to 7 feet high, they can also be directly seen from the eye level of drivers and are less likely to obstruct views of neighboring properties or the sky.

Large, off-premise signs mar the landscape and should be removed. Billboards can be phased out according to time limits in state law, with exceptions for industrial zones and along certain federal highways.

Reader boards should be discouraged because they add too many extra words and secondary signs as they multiply down the road. Signs should be used primarily for identification, not advertising.

The effectiveness of any landscaping effort along the frontage is clearly degraded by dominant pole or pylon signs in overly bright colors.

Directory signs with multiple listings are distracting and are not safely read from the road. Grouped businesses should be limited to wall signs and one freestanding sign identifying the plaza or building with, if deemed necessary, at most 3 or 4 individual names.

Sources: Scenic Hudson, Inc., *Signs of the Times*, 1992

PARKING LOTS

Treat parking strictly as an accessory use, with parking lots to the side and rear of buildings and featuring quality landscaping and architecture along the frontage, not views of asphalt.

Individually, cars are shiny and colorful, much admired for their streamlined shapes. So why are parking lots, full of sleek cars, so uniformly ugly? Lots of cars become masses of metal, clashing colors, crammed in rows like all the frustration of traffic congestion congealed. And how did the word "park" become linked with these asphalt lakes of encrusted oil? Asphalt lots are anti-earth, repelling greenery, summer sticky hot and winter icy slick. Whose fault is all this asphalt, and why are we herding all our cherished cars into these ever-expanding tar pits surrounding every building?

Put the Park in Parking

Parking can complement the building and street if it does not visually dominate the site. People often meet where they park their cars, so include places to casually talk out of the flow of traffic. Well designed and landscaped sites will yield more long-term value than the original investment, increasing financial returns for developers 5 - 15% according to a 1994 Urban Land Institute study.

- **Instead of empty lots, build parking groves and parking courts**, with a significant number of shade trees and surrounded by low hedges, stone walls or attractive fencing.
- **Divide the rows with planting strips and tree islands**, averaging a tree every 6 to 10 spaces.
- **Set landscaping guidelines for the interior of lots**; the zoning for Pawling and Hyde Park, for example, requires at least 15% of the inside area for larger lots be landscaped with trees and other plants.
- **Insist on a continuous landscaping treatment along any frontage** with street trees and low plantings and denser evergreens or fencing along residential neighbors.
- **Break up the blacktop and reduce water runoff** by using bricks, pavers, or textured surfaces for crosswalks and stalls, with grass block overflow areas.

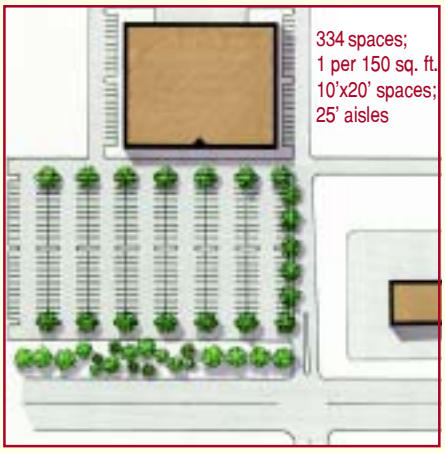
Artist: Robert Irwin, Computer Image: John Bacz

Dia Center for the Arts in Beacon has proposed a distinctively landscaped parking grove with three types of flowering trees that promise abundant shade and an enticing entrance area.

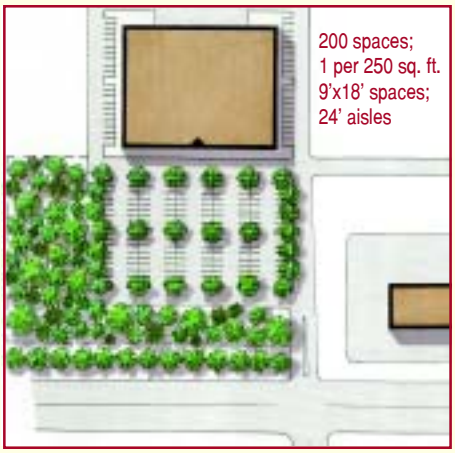
Diamond shaped tree islands 6 feet wide provide a shade tree every 4 to 6 stalls, without losing a single parking space. Planting islands with gaps in the curbs can allow natural drainage of stormwater.

Less Wasted Spaces

A Case Study



This proposal for a 50,000 sq. ft. store would have required 334 spaces based on outdated, overscaled parking standards.

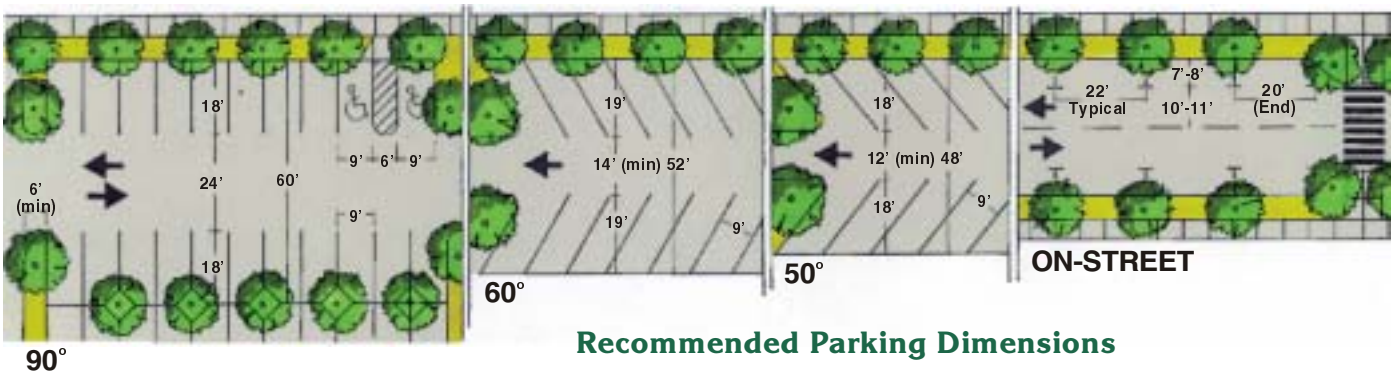


The asphalt area can be cut in half by simply using current standards from sources such as the National Parking Association and Urban Land Institute.

Breaking up the parking into two areas further reduces lot sizes and also allows room for smaller stores along the frontage to screen the parking lots.

Surface parking covers 60% of most suburban shopping centers and office sites. Outdated zoning laws often require parking lots with twice as much parking area as needed on a typical day, thus reducing building and landscaping potential on a parcel. Smaller, more flexible parking standards can emphasize architecture over asphalt and increase tax revenues from new infill businesses, as well as reduce stormwater pollution and help heal ugly gaps between buildings. And remember, there is no such thing as free parking. Each surface space costs $50 per month on average to build and maintain, so smaller lots mean more available money for higher quality landscaping and site improvements.

- **Keep car places small**, breaking up large lots and encouraging shared parking between adjacent uses.
- **Put parking lots behind the building lines**, featuring instead fine architecture and front yard landscaping.
- **Add convenient on-street parking,** when possible, to count toward parking requirements and reduce lot sizes.
- **Encourage flexibility**; several localities, including the Town of Clinton and the Village of Fishkill, allow boards to waive up to half the required spaces for a trial period, rather than build more spaces than needed.
- **Use updated parking requirements** with efficient stalls and aisle sizes (see below) and current use standards.



Recommended Parking Dimensions

Sources:
Mark Childs, *Parking Spaces,* 1999
Anton Nelessen, *Visions for the New American Dream,* 1993
Richard W. Willson, *Suburban Parking Requirements,* Journal of the American Planning Assoc., Winter 1995

LIGHTING

Make street and commercial lighting distinctive and human-scale in central places, while preventing excessive glare or wasted light into the night sky.

Attractive site and street lighting extends the viability of centers and commercial uses, makes public areas feel more secure, and promotes entertainment activities after the primary work day. But existing lighting often features uniform fixtures on overly high poles, broadcasting too much light on neighboring properties or into the night sky. Even light levels are more important for comfort and security than high contrast lighting that produces glare and dark shadows.

Common Lighting Problems:

Glare	too bright; shines off the site or into drivers' eyes
Energy Loss	inefficient costs; wasteful lighting of surrounding area
Color	certain fixtures create an unattractive blue-green or yellow glow
Sky Glow	lighting up the night sky, washing out view of the stars

Excessive lighting; gas station lighting should be focused under the canopy with recessed fixtures to avoid off-site glare.

A dark-sky advocacy group estimates that over one billion dollars is wasted every year in the United States polluting the heavens with light and depriving everyone's view of the night sky. Under clear conditions, roughly 2,500 stars and the Milky Way are visible; on the same night city residents might only see 25 or so scattered stars. Lighting that is adequate for the intended task, but not overly bright, and fixtures that focus all light on the intended area and allow no light into the sky can save considerable money and bring back the stars.

Good lighting design can make a place dazzle, entice, or softly glow, highlighting the building and the street without obscuring the night sky.

High fixtures broadcast light over the road, but often cast shadows on sidewalks. Historic quality and pedestrian scale fixtures focus light on streets, sidewalks, and storefronts in centers, not the upper floor windows.

Lighting Guidelines:

- Do not over-light: people begin to feel comfortable at 0.1 to 1 foot-candle; 2 - 5 footcandles are only needed in high security areas; more than 5 footcandles are usually a waste of energy and a source of glare. Manufacturers can provide standards.
- Include full shielding that eliminates glare, especially off-site, with no light above the horizontal level into the night sky.
- Avoid mercury vapor and low pressure sodium fixtures, as well as laser lighting or searchlights for advertising purposes.
- Encourage lighting that accents distinctive architectural features, but discourage "uplighting" or illuminated banding that is primarily for advertising purposes.
- High pressure sodium is most efficient for highway lighting; metal halide is preferred for commercial and pedestrian areas to give better color quality; incandescent bulbs can be used for low wattage (under 150) accent/specialty lights.
- Make main street and pedestrian area lighting human-scale (10 - 15 feet high); parking lot lights need not exceed 15 - 20'.
- Space fixtures approximately four times the height.
- Light outdoor signs from the top; if internally lit signs are allowed, dark backgrounds and light lettering produce less glare and are easier to read.
- Exceptions may need to be considered for stadium lighting and other specialty activities, short-term events, and tree lighting or other decorative bulbs under 75 watts.

Poor | Good

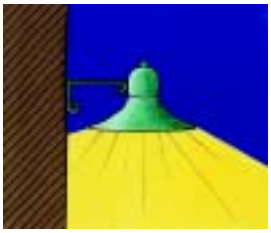
Ground floodlights uplighting sign and sky

Top-mounted fixtures focus light on sign

Post lamp that broadcasts light

Post lamp that directs light down

Typical yard light



Wall light with reflector

Outdoor Lighting Options	Maximum Hours	Color	Comments
Incandescent	not efficient (3,500 hours)	full spectrum white light	attractive low wattage accent and display lighting or for residential uses
Mercury Vapor	efficient	blue-green hue	rarely recommended, often prohibited
Low Pressure Sodium	efficient (18,000 hours)	orange glow	makes everything look yellow or gray; narrow spectrum favored by astronomers
High Pressure Sodium	very efficient (24,000 hours)	yellowish cast	best where light distribution is valued more than appearance, such as highway lighting
Metal Halide	efficient (20,000 hours)	clear white light	best for pedestrian and retail areas; products look good and parking lots feel brighter, safer

Sources:
James Bradley, *City Lights,* Metropolis, April 1996
Town of Rhinebeck, *Design Standards,* 1999
Ulster County Planning Board, *Planners Memorandum: Outdoor Lighting,* 1998

STREET TREES

Plant continuous rows of street trees between the roadway and sidewalk in developed areas, as well as trees along rural roads to create green corridors through the countryside.

Create a canopy of roadside trees

Trees have long been used in Dutchess County to define the edges of both rural roads and city streets, providing windbreaks for farmland and shade for village sidewalks. Too often these days the tangle of utility wires takes priority over trees, or for the sake of wider roads and higher speed traffic, roadside trees are cut down while utility poles remain. Trees should be placed close to the road and each other to create a park-like canopy.

Academy Street, City of Poughkeepsie, c. 1910

Street trees also:

- clean the air by absorbing polluting gases (carbon monoxide, sulfur dioxide, ozone);
- provide shade to lower summer temperatures;
- visually unify the varied architecture, parking lots, and setbacks along streets;
- help slow down traffic by narrowing the field of vision from highway proportions;
- give a sense of protection from traffic for walkers on the sidewalk; and
- increase adjacent property values (homes by an average of 5 to 10 percent).

Residential streets with large setbacks and no street trees look so wide that they induce higher speeds.

Narrower residential streets lined with trees provide a pedestrian scale and sense of enclosure to help slow traffic.

Street trees along a main commercial street are perhaps the single most effective physical addition to make sidewalks seem welcoming and more walkable. Trees placed between the sidewalk and curb form a protective row to make walkers feel safely separated from traffic. Trees should be spaced close together: 20 - 30 feet in centers with slow speed limits and farther apart (30 - 40') and slightly back from the road in higher speed situations.

In rural areas trees along the road can be in more naturalistic patterns, although many farm lanes in Dutchess County were traditionally lined with rows of maples. A shift in street trees close to the road is an excellent way to mark the entrance to a village, hamlet, or school zone and help reinforce slower speed limits.

Street trees need to be hardy varieties, salt and drought resistant, free from droppings that mar sidewalks and cars, and tall enough to frame the street and not block the view of storefronts. Cornell Cooperative Extension can provide advice on appropriate species.

Street trees in the Village of Rhinebeck not only shade the sidewalk, they give a sense of visual enclosure that helps slow traffic. Street trees can also hide the view of overhead utility wires.

This new section of Route 55 features brick pavers and street trees, which when fully grown will create an attractive boulevard quality and reduce the apparent width of the road.

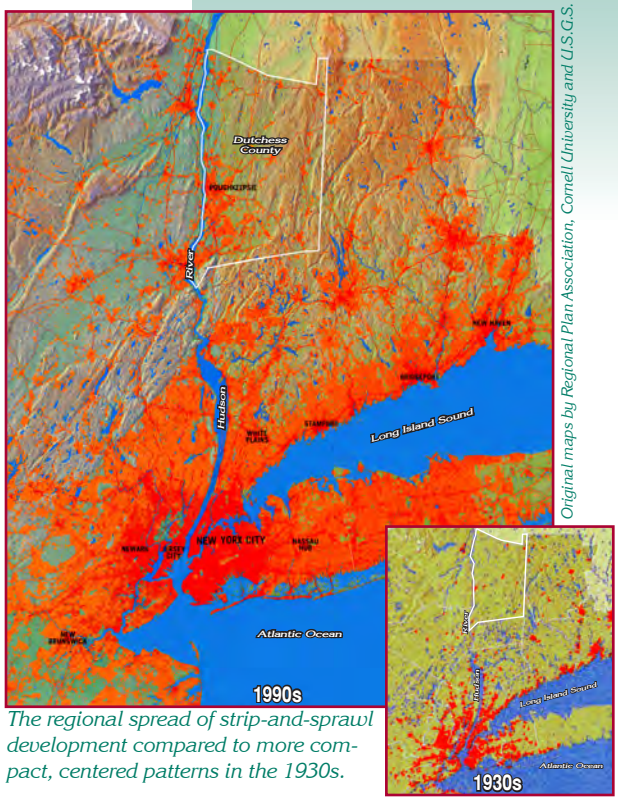
To begin to implement the Greenway Program, federal funding has been secured to place landscaping and street trees in the Route 9 median in front of the Samuel F. B. Morse Historic site.

Sources:
Gary Moll and Sara Ebenreck, *Shading Our Cities,* 1989
American Forests and National Association of Home Builders, *Building Greener Neighborhoods,* 1995

CENTERS AND GREENSPACES

Define smart growth within a traditional and ecological pattern of Centers and Greenspaces, where new development should either:

- ***strengthen an existing city, village, hamlet, or town center;***
- ***transform a suburban strip or subdivision(s) into a center in the form of a walkable, mixed-use neighborhood; or***
- ***fit gently into the rural countryside as a background element, preserving continuous natural and agricultural greenspaces.***



Original maps by Regional Plan Association, Cornell University and U.S.G.S.

The regional spread of strip-and-sprawl development compared to more compact, centered patterns in the 1930s.

Most development before 1950 focused around walkable centers, surrounded by expansive rural and natural landscapes. Forming a combined ecosystem, cities and smaller centers concentrated diversity and innovation in commerce and culture, while large areas of farms, woods, and wetlands generated a wide diversity of natural species.

This interconnected pattern of central places and surrounding greenspaces, evolved over centuries and embedded in nature, has now segmented into suburban forms that mandate driving for every major movement. Commercial strips line most highways and residential sprawl spreads far into the countryside, fragmenting both communities and nature. Auto-dependency also fuels a basic contradiction: low-density sprawl creates high levels of traffic congestion.

Limited land, unlimited traffic aggravation, and escalating local taxes to service all those scattered subdivisions make the continued strip-and-sprawl conversion of outlying areas unsustainable. Global energy and climate concerns make policy changes even more urgent. A Greenway-inspired Centers and Greenspaces approach that re-centers most new development into walkable, mixed-use forms can protect our natural and agricultural heritage, end wasteful land, energy, and pollution practices, and provide a wider range of transportation choices, from walking, biking, and cars to transit alternatives.

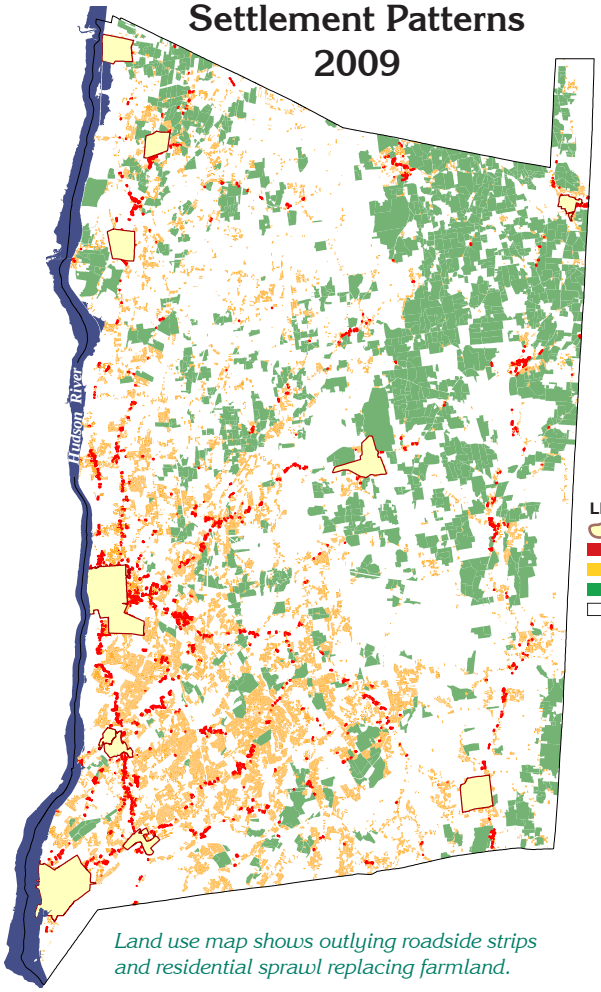
Centers Save Greenspaces

Village of Red Hook

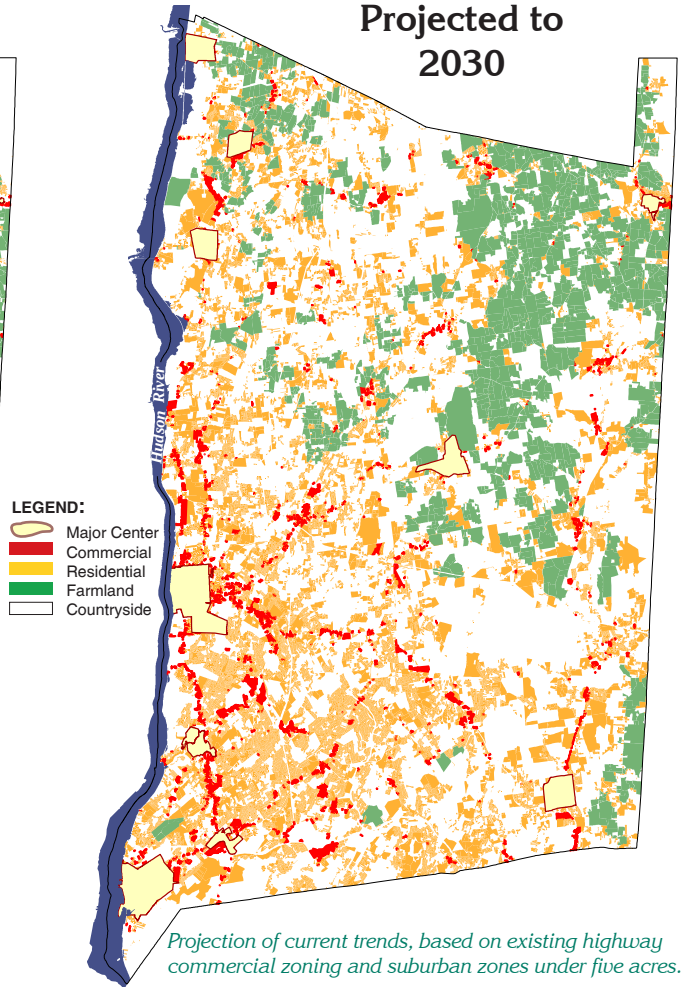
- Reinforce existing centers and main streets with new infill buildings and redevelopment;
- Mix uses to promote walking from housing to stores, jobs, parks, schools and civic uses;
- Integrate major centers with transit services;
- Locally identify **priority growth areas** for close-in expansion and conversion of strip districts or subdivisions into new centers.

Town of Amenia

- Employ a range of protection measures for farmland and natural wildlife areas;
- Adopt rural and agricultural zoning, not suburban residential standards;
- Plan for continuous greenspace systems, rather than just parcel-based solutions;
- Locally identify **priority greenspaces** for future public or private conservation.



Land use map shows outlying roadside strips and residential sprawl replacing farmland.



Projection of current trends, based on existing highway commercial zoning and suburban zones under five acres.

Spreading Strip-and-Sprawl Patterns or the Hudson Valley Green Way.

"Greenway principles support reinforcing centers as primary growth areas, fitting any outlying development into the natural landscape to preserve farmland and open spaces, and providing strategies to pull together separated subdivisions and commercial districts into more connected neighborhoods or mixed use centers." *Greenway Connections*, 2000, page 27

The **Centers and Greenspaces** initiative integrates land use, transportation, and ecological planning to implement Greenway principles and prevent strip-and-sprawl patterns. The goal is to encourage municipalities to identify natural and agricultural greenspaces for possible protection and priority growth centers with positive development potential. The Centers and Greenspaces approach was first applied in the Rhinebeck Town Plan and a Red Hook intermunicipal plan, then with the Towns of Poughkeepsie and Pleasant Valley and the City of Beacon. These plans not only identified growth centers and greenspaces, but also tried to illustrate what new close-in development might look like. The Centers and Greenspaces map builds on these local examples and will evolve on the interactive website as new municipal plans and projects are completed.*

The **Centers and Greenspaces** map is based on existing conditions in Dutchess County, but is designed as a future Greenway vision map, highlighting four indispensable patterns for an interconnected natural and human ecosystem:

Centers - Concentrated places of community life, cultural history, and commercial exchange, including cities, villages, and hamlets and historically organized within a 1/4- to 1/2-mile walking radius. Priority locations for growth, including infill, redevelopment, extensions, and emerging mixed-use centers by primarily retrofitting existing strips and subdivisions.

Greenspaces – Outlying natural areas and working farms, combined into a continuous countryside and essential for food production, water quality, and diversity of habitats. Priority for protection measures, especially the large, continuous "biodiversity blocks" necessary for area-sensitive species (over 1,000 acres and undivided by roads over 25 vehicles per hour).

Greenway Corridors – Floodplains, waterway and wetland systems, hedgerows, stepping stone patches, and other critical connections between greenspaces for natural species, wildlife movement, and water protection.

Greenway Routes - Transportation linkages between centers, forming a landscaped Greenway network from trails to sidewalk systems and from regional rail lines and parkways to boulevards and tree-lined main streets.

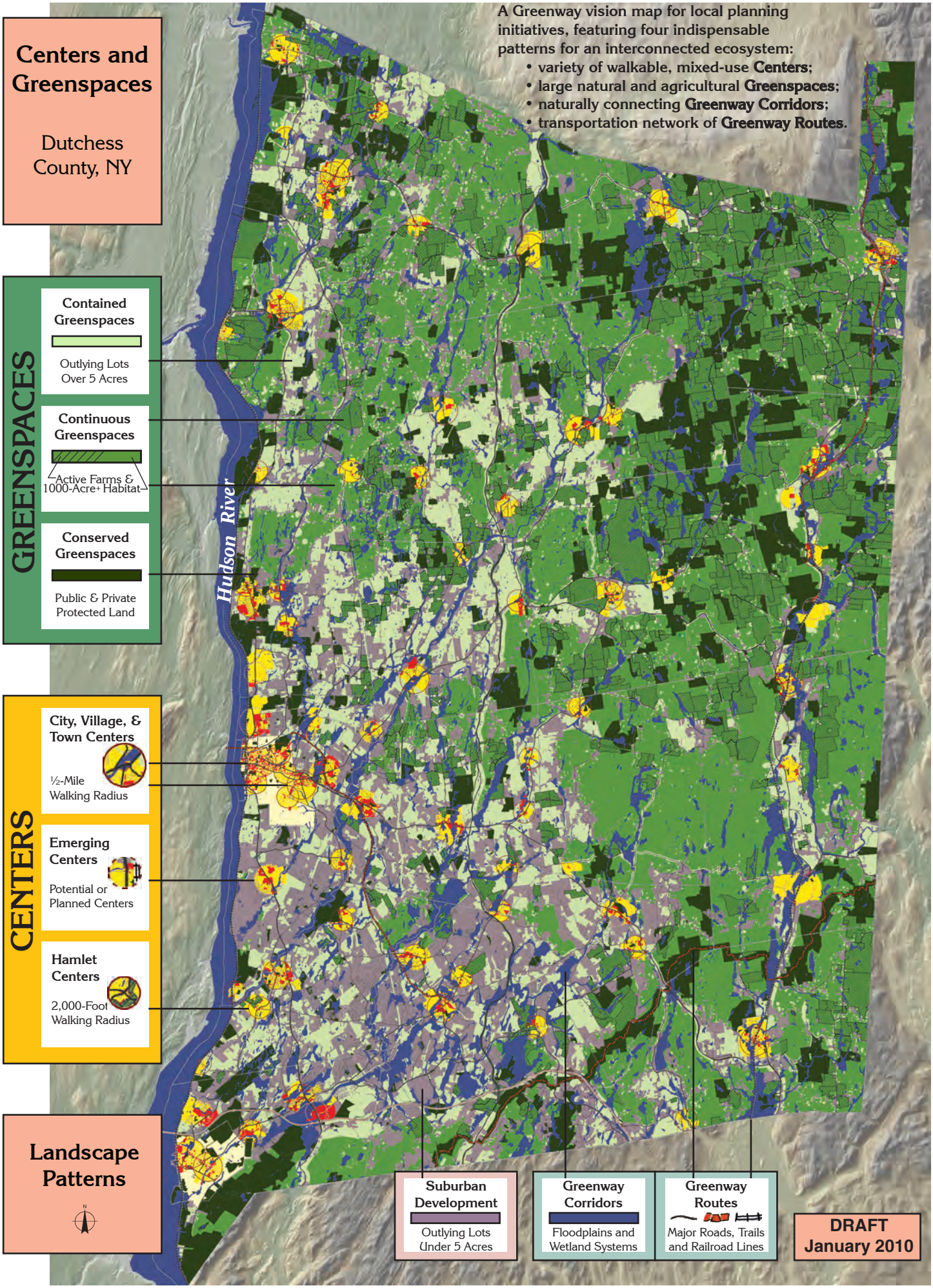
***This guide will be linked to an interactive web-based planning tool at dutchessny.gov featuring a full range of digital map layers at the county, town, and village levels, as well as our best local examples where Centers are designed to save Greenspaces.**

Centers and Greenspaces

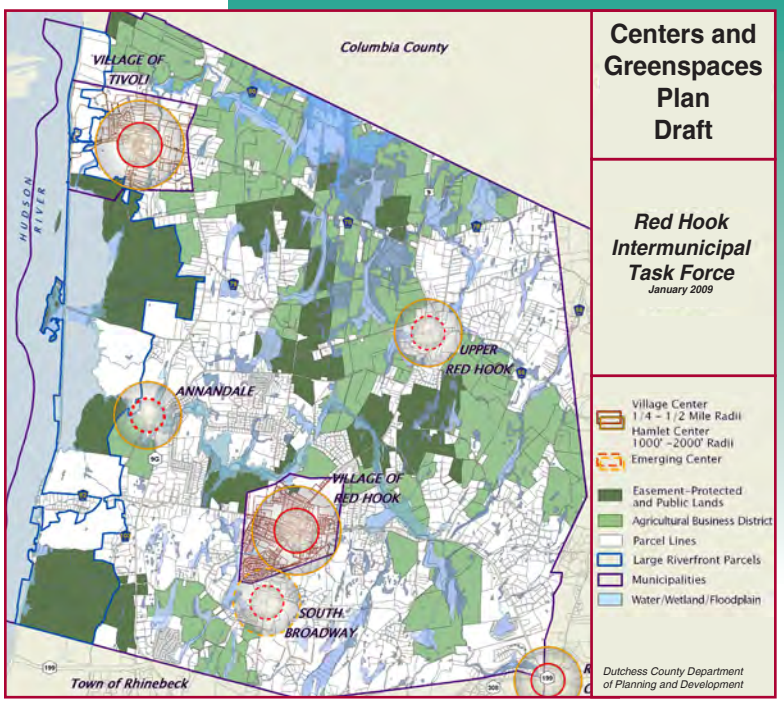
Dutchess County, NY

A Greenway vision map for local planning initiatives, featuring four indispensable patterns for an interconnected ecosystem:

- variety of walkable, mixed-use **Centers**;
- large natural and agricultural **Greenspaces**;
- naturally connecting **Greenway Corridors**;
- transportation network of **Greenway Routes**.

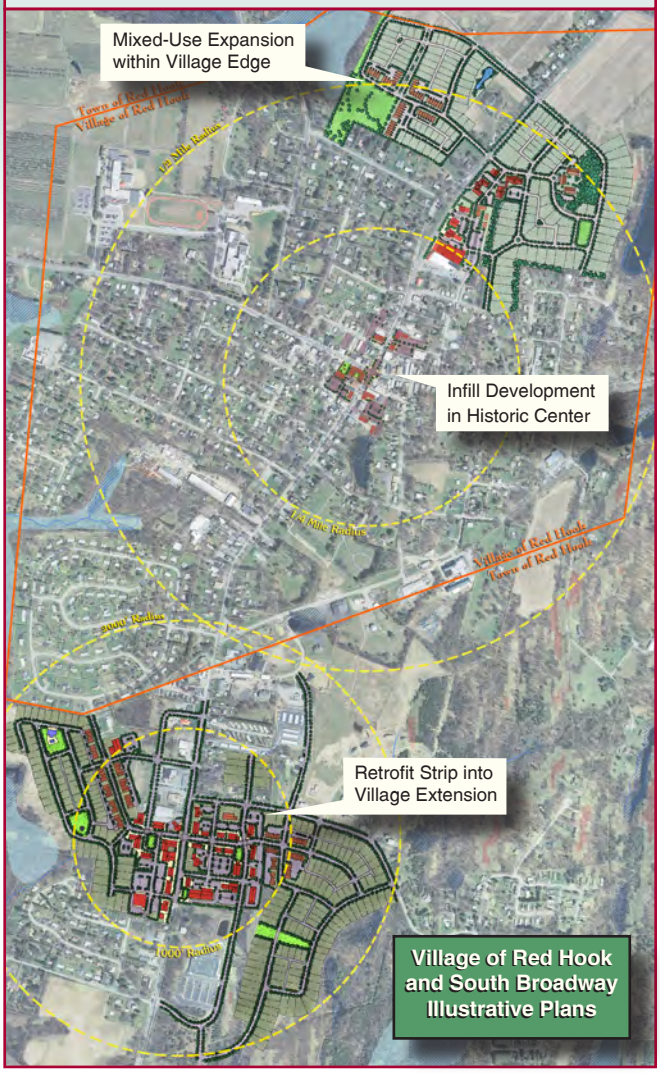


Centers and Greenspaces: Priority Planning at the Local Level



Major goals:

- Permanently protect farming, important farmland, and the rural countryside;
- Strengthen the residential and commercial base of the existing villages and hamlets;
- Transform the South Broadway strip into a traditional village entrance-extension;
- Use close-in smart growth development to help finance much-needed sewer systems.



Red Hook Centers and Greenspaces Plan

In January 2009, an Intermunicipal Task Force from the Town and Villages of Red Hook and Tivoli proposed zoning changes to save farms, protect rural character, reinforce traditional village centers, and promote economic development. The Centers and Greenspaces plan identified over 50 farms to be included in an Agricultural Business District, designed to replace the current mostly 3-acre suburban-scale zoning and permit greater business opportunities for farmers. The Town's existing purchase of development rights program would receive funds through incentive zoning for development located close to the Village. The zoning package included detailed Illustrative Plans and standards for walkable, mixed-use neighborhoods to ensure compatibility with existing centers and to provide design guidance for future development proposals.

Instead of reacting to random development locations, the plan offers a positive vision for where growth is mutually beneficial, acting as an advertisement for new economic investment and streamlining the review process. A Fiscal Impact Study showed that the Centers and Greenspaces strategy could increase the commercial tax base and reduce the potential for town-wide residential development, limiting both sprawl and school tax impacts.

Suburban Development	Traditional Neighborhood Centers
Spread out, disconnected patterns	Compact extension of existing centers
Segregated by use and income	Mix of uses, variety of housing types
Entirely automobile-dependent	Walkable scale, ¼- to ½-mile radius
More exclusive and expensive lots	More moderate housing alternatives
Fewer choices for singles and seniors	Starter housing and downsizing options
Spreads sprawl/dissipates community	Reverses sprawl/concentrates community

Red Hook Intermunicipal Task Force Report

Sources: Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck, *Suburban Nation*, 2000
Richard T. T. Forman, *Land Mosaics, The Ecology of Landscapes and Regions*, 1995
Elizabeth A. Johnson, Michael W. Klemens, *Nature in Fragments, The Legacy of Sprawl*, 2005

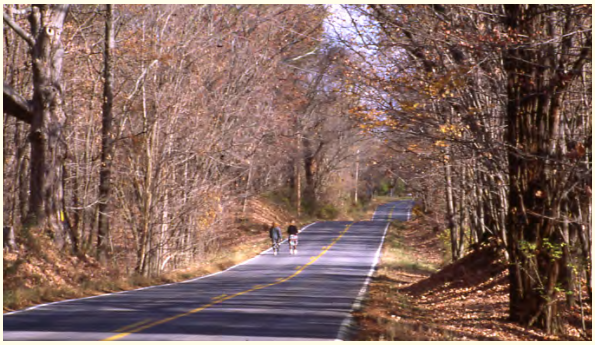
RURAL ROADS

For low-volume rural roads, retain the narrow widths, natural edges, and scenic winding character of traditional roads, rather than imposing wider, suburban-scale standards into the countryside.

Older roads in rural areas are often 16 to 18 feet wide. However, modern road standards routinely require wider specifications in response to increased speeds and liability concerns. Local roads are straightened and widened, clearing away all vegetation, destroying stone walls and other historic features, and making unnecessary rock cuts and uniform slopes. Even off of narrow, naturally graded roads, new driveways are often required to be much wider than the main road, with curbing and storm drains that are out-of-place in rural areas.

The results of wider roads in rural areas tend to be faster vehicle speeds, more serious crashes, and higher construction and long-term maintenance costs. Excessive speeds help make the death rate per vehicle mile for rural areas much higher than the rate for urban areas. Rural roads should be context sensitive, designed to reflect the character of the surrounding countryside, and compatible with slower farm equipment, nearby vegetation, and crossing wildlife.

Unique roadside features, such as stone walls and farm fences, add to the scenic qualities of rural roads and entice drivers to slow down and enjoy the views.



Wide vegetation clear zones are unnecessary on lower volume rural roads - 10 feet is desirable for all-purpose rural roads or at curves, and 2 to 5 feet for low-volume access roads under 40 mph.[1]

Rural Road Guidelines

(especially where traffic is under 400 vehicles per day[1])

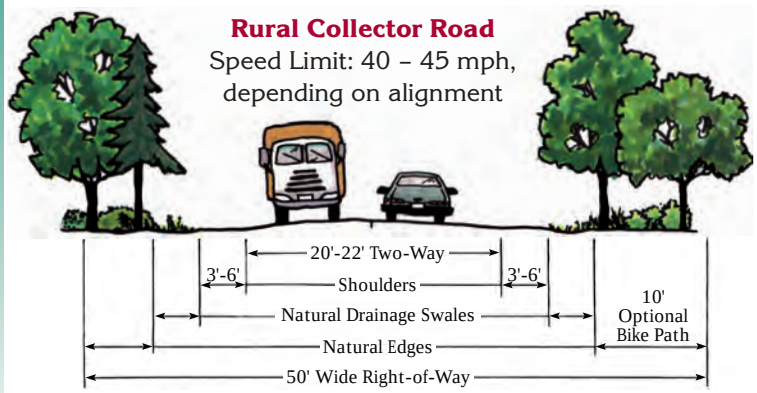
- Adopt road standards that are consistent with local rural conditions, not imported from suburban areas;
- Maintain natural and cultural roadside features, such as rock outcroppings, stone walls, and rows of trees;
- Limit grading and clearing to the minimum necessary, based on traffic volumes and visibility at curves;
- Only use curbing when natural drainage is not feasible;
- Minimize road width, except for roads with significant truck use;
- Reduce access points by promoting shared driveways;
- Use wooden or box beam guide rails, where appropriate, rather than standard galvanized models;
- Consider alternatives to standard asphalt, such as porous paving, chip seal, or gravel;
- Designate local scenic roads and establish standards for long-term protection and maintenance.

This guide is intended for local roads, not higher volume state or county thoroughfares.

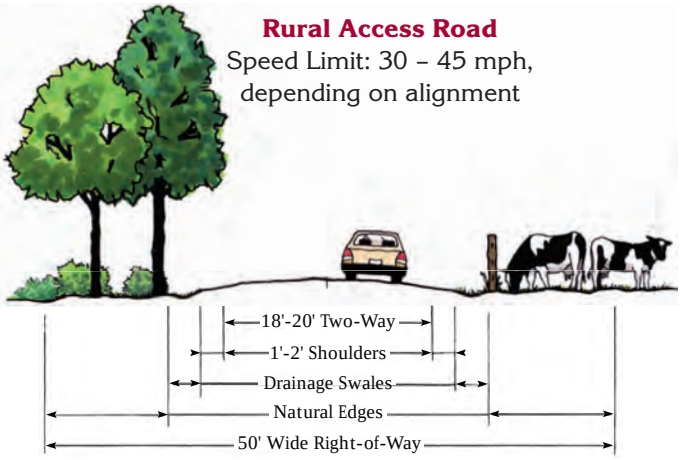
Rural Road Guidelines

(especially where traffic is under 400 vehicles per day[1])

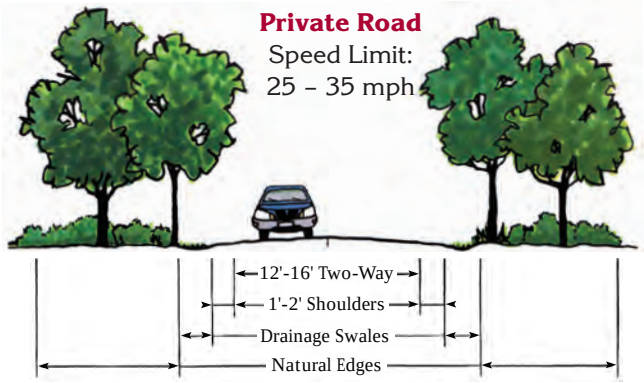
Rural Collector Road, 22 feet wide plus shoulders



Rural Access Road, 16 feet wide



Private Road with pull-outs, 13 feet wide



**For guidelines on a wider range of road types, including roads with separated walking or bike paths, see Design Guide for Rural Roads.[2]*

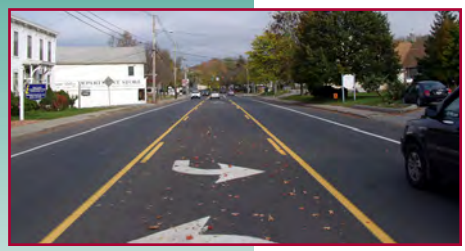
Sources:

[1]Cornell Local Roads Program, *Highway Standards for Low-Volume Roads in New York State*, 2008

[2]Dutchess Land Conservancy, *Design Guide for Rural Roads*, 1998

SLOWER, SAFER STREETS

Design narrow streets in cities, villages, and hamlet centers with buildings close to sidewalks, street trees, and other pedestrian-friendly features that promote slower speeds.



Narrow streets with short setbacks and framed by buildings like an outdoor room are safer, since closer clearances to storefronts, on-street parking, and overhanging trees tend to slow vehicle speeds. Studies show that narrow lanes and street trees can reduce the severity of car crashes, with one eight-year study finding that injury accidents rose over 400% as streets increased in width from 24 feet to 36 feet.[1]

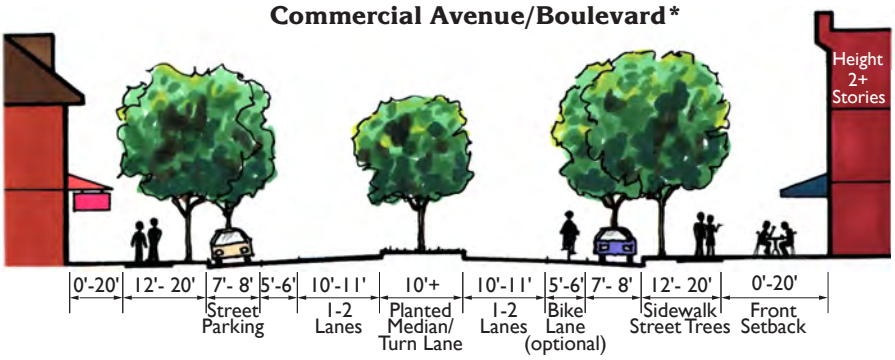
Skinnier streets with tighter corner radii also shorten crosswalks, use less land, reduce stormwater runoff, and cut construction and maintenance costs, contributing to less expensive initial housing prices and lower long-term taxes. Narrow, pedestrian-friendly streets reduce speeds more reliably than just speed limit signs or irregular enforcement. And slowing traffic to 30 mph can actually move more cars through an area per hour than faster speeds, which compel drivers to increase gaps between vehicles. Safe, smoothly flowing traffic should be the goal for street design in centers.

Compare two main streets: one is difficult to cross and looks like a highway, while the other is narrow, balancing cars with walkability.

Commercial Street Guidelines for Centers

Lower Broadway, Kingston

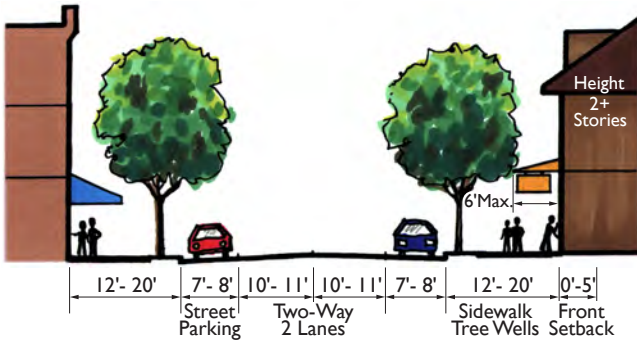
Commercial Avenue/Boulevard*



- ***DESIGN SPEED 30 MPH***
- ***CURB RADIUS 20'- 30'***
- ***STREET TREES 30'- 40' O.C.***
- ***STREET LIGHTS 15' MAX. 40'- 60' O.C.***
- ***EXTENDED CURBS AT CROSSWALKS***
- ***RIGHT-OF-WAY 66' MINIMUM***

Main Street, Beacon

Commercial Main Street*



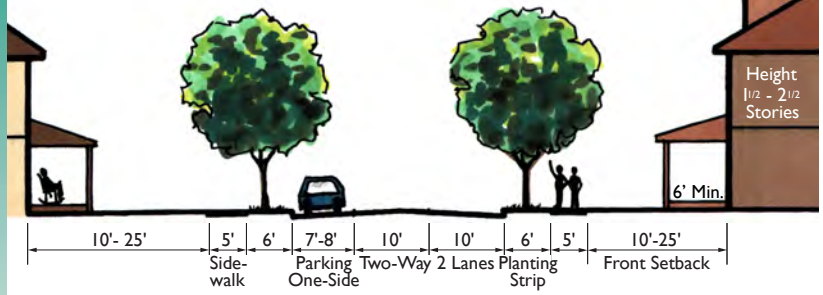
- ***DESIGN SPEED 20 - 25 MPH***
- ***CURB RADIUS 15'- 25'***
- ***STREET TREES 25'- 30' O.C.***
- ***STREET LIGHTS 15' MAX. 40'- 60' O.C***
- ***EXTENDED CURBS AT CROSSWALKS***
- ***RIGHT-OF-WAY 56' MINIMUM***

This guide is intended for local streets, not higher volume state or county thoroughfares.

Residential Street Guidelines for Centers


Maiden Lane, Uptown Kingston

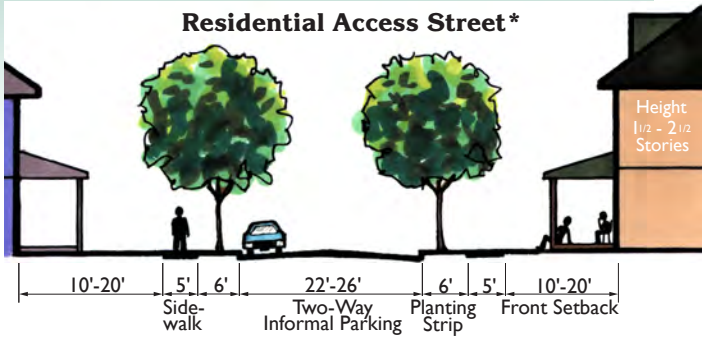
Residential Collector Street*



- ***DESIGN SPEED 30 MPH***
- ***CURB RADIUS 15'- 20'***
- ***STREET TREES 30' O.C.***
- ***RIGHT-OF-WAY 50'***


Crescent Road, City of Poughkeepsie

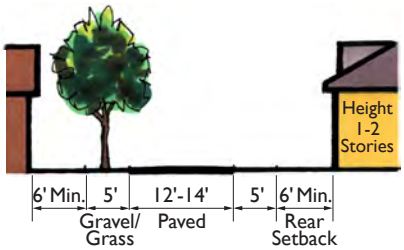
Residential Access Street*



- ***DESIGN SPEED 20 MPH***
- ***CURB RADIUS 10'-15'***
- ***STREET TREES 30' O.C.***
- ***RIGHT-OF-WAY 44'-50'***


City of Poughkeepsie

Residential Rear Lane*



- ***DESIGN SPEED 10 MPH***
- ***RIGHT-OF-WAY 22'***
- ***ACCESS FOR GARAGES, GARBAGE, UTILITIES AND ACCESSORY UNITS***

**Street designs adapted from guidelines for the LaGrange Town Center.*

What about fire and emergency access?

Street design must consider both traffic and fire safety, but vehicle crash injuries far outnumber fire injuries, by up to 185 to 1. Having multiple ways to get to a fire from an interconnected street system with short blocks and rear access lanes is more important than making all streets wider and prone to higher everyday traffic speeds. The Village of Tivoli significantly narrowed two of its main intersections for traffic and pedestrian safety, but first chalked the proposed curb lines on the pavement and made sure that the fire trucks could still easily make the turns.


Curb extensions narrow intersection, Village of Tivoli

Sources:

Dan Burden, *Street Design Guidelines for Healthy Neighborhoods*, Local Government Commission, 1999

Walter M. Kulash, *Residential Streets, Third Edition*, Urban Land Institute, 2001

[1]Philip Langdon, "Context-sensitive design makes headway with planners, engineers," *New Urban News*, June 2003

BUILDING BICYCLE NETWORKS

Develop local and regional Bicycle Plans, establishing a network of bicycle facilities to safely connect bicyclists of all abilities to schools, jobs, shopping, transit, parks, and other destinations.

Nationwide, half of all trips are 3 miles or shorter, less than a 20 minute bike ride, and one out of four trips is less than one mile, a 5 minute bike ride. Building bicycle networks makes many trips possible by bike - the most efficient self-powered vehicle ever invented. Bicycling benefits our health and reduces pollution, car traffic, and our dependence on oil.

Under New York State's Vehicle and Traffic Law (Article 34, Section 1231), "Every person riding a bicycle ... upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle." The Complete Streets Act of 2011 requires that bicyclists' needs be considered in the planning, design, construction, reconstruction, re-striping and rehabilitation of roads that receive federal and state funding. Except where expressly prohibited, bicyclists may ride on all streets and should be accommodated.

The vast majority of bicycle facilities in Dutchess County are shared lanes, where bicyclists typically ride on the right side of the right-most travel lane.

Five types of bicycle facilities should be considered based on the land use context, character of the road, and potential users' needs. All facilities should have smooth pavement and be swept regularly to remove debris. A system of 'wayfinding' signs is helpful to direct cyclists to connecting bicycle facilities and nearby destinations.

clrp.cornell.edu

Sharrows highlight bicyclists' right to ride in the travel lane, away from hazards such as the "door zone" of parked vehicles.

Shared Lanes

Shared lanes are appropriate in centers on streets with average speeds below 30 mph, and on rural roads with fewer than 1,000 vehicles per day and speeds below 50 mph.

- Streets in hamlets, villages, and cities should be designed for speeds below 30 mph to safely accommodate bicyclists.
- By law, bicyclists may use the full lane if needed to avoid debris, bad pavement, parked vehicles, other obstacles, or to make a left turn.
- A Shared-Lane Marking (or "sharrow") can be used to indicate a narrow shared lane, where motorists may have to leave the lane to pass a bicyclist. Sharrows are appropriate on streets with speed limits up to 35 mph.

whitefish.org

Paved shoulders are most applicable on higher-speed and higher-volume rural roads.

Paved Shoulders

Paved shoulders allow bicyclists to ride separately from motor vehicles. Bicyclists travel in the same direction as traffic in the adjacent lane. Shoulders should be a minimum of 4 feet wide; 5 feet if there's a curb; and 6 feet or wider on segments with a grade over 5%, speeds over 50 mph, more than 10,000 vehicles per day, or more than 30 trucks or buses per hour.

Bicycle Lanes

Bicycle lanes provide a dedicated on-road space just for bicyclists. They are useful on village, city or suburban streets where bicyclists travel at significantly different speeds than other traffic, especially those with speeds over 30 mph or more than 10,000 vehicles per day.

- Bike lanes should be a minimum of 4 feet wide if there is no curb or on-street parking; 5 feet if there is a curb or on-street parking; and 6 feet if there are more than 30 trucks or buses per hour or speeds over 45 mph.
- Separate the bike lane from the adjacent lane with a stripe or a 2- to 3-foot painted buffer. Mark with a bicycle symbol.

nacto.org/citiesforcycling

Intersections must be designed carefully to accomodate turns; see Sources below for detailed design guidance.

ibpi.usp.pdx.edu

Identify a bicycle boulevard with distinctive signs and pavement markings.

Bicycle Boulevards

Bicycle boulevards are bicycle-priority streets. They are typically low-speed (25 mph or slower) residential streets parallel to a major street, designed to connect bicyclists to destinations while avoiding traffic on major streets.

- Reduce speeds and cut-through traffic with traffic calming treatments.
- Limit the use of stop signs on the Bicycle Bouvlevard to allow continuous travel.

resetsanfrancisco.org

A bike lane can be protected with bollards, planters, or a curb, creating a "cycle track".

Shared-use paths should be paved, but they do not require a curb. Consider a centerline stripe at intersection approaches and in areas with limited visibility (such as around curves).

Shared-Use Paths

Shared-use paths function best when they have a separate right of way, as with a Rail Trail. In some cases, they run along a roadway, set back from the road (a "sidepath"). Shared-use paths separate bicyclists from the roadway and serve two-way pedestrian and bicycle travel.

- Shared-use paths should be a minimum of 10 feet wide, or 11 to 14 feet wide if there are more than 300 peak hour users, 30% or more pedestrians, or steep grades or curves.
- Shared-use paths work best if there are fewer than 5 intersections or driveways per mile. Install yield or stop signs for the lower volume approach (path or road) at intersections.
- Sidepaths should have at least a 5 foot buffer from the roadway. Driveways and uncontrolled intersections can create safety issues, as drivers do not expect bicyclists riding in the opposite direction of traffic.

A Note about Sidewalks

In most cases, riding on sidewalks is less safe than riding on the road. Motorists exiting or entering driveways and intersections do not expect a bicyclist on the sidewalk, and have little room to stop. Pedestrians may stop or change direction abruptly. Riding visibly and predictably on the road, in the same direction as traffic, is typically recommended.

Bicycle Parking

Short-term parking (such as at shops, restaurants, or parks) should be provided by bicycle racks. "Inverted U" racks are recommended. They should be in a convenient, visible location near the entrance. Long-term parking (such as at offices, transit stations, or schools) should be provided by a secure, sheltered facility - a bicycle cage, lockers, or a bicycle room (such as in a parking garage).

CDTC, Albany, NY

Bicycle parking is critical - people are much more likely to ride to a destination if there is a convenient, secure place to lock their bike.

Sources:

- AASHTO Guide for the Development of Bicycle Facilities (4th edition): https://bookstore.transportation.org/Item_details.aspx?id=1943
- NACTO Urban Bikeway Design Guide: http://nacto.org/cities-for-cycling/
- Pedestrian and Bicycle Information Center: http://www.bicyclinginfo.org/
- Poughkeepsie-Dutchess County Transportation Council: http://www.dutchessny.gov/pdctc.htm

CONVENIENCE STORES WITH GAS PUMPS

Feature a well-designed store at the front of the parcel, with the gas pumps, canopy and accessory parking toward the rear.

The typical gas station layout from the past with a couple of pumps in front and the repair bays in a building out back, no longer works well with the current demand for a convenience store, customer parking, more pumps, and an oversized canopy. Although each site requires a different design, we need an alternative model that features an attractive store up front, rather than the less appealing gas pumps and expansive asphalt pad.

Putting the parking and pumps toward the back allows a direct walking connection to the store entrance, as well as a safer transition distance between vehicles turning in quickly from the road and those backing out of parking spaces and moving around the pumps. It also makes rear connections between neighboring businesses easier to coordinate.

Without an emphasis on locally inspired architecture, front canopy franchise formats can create look-alike boxes and asphalt landscapes on almost every main corner.

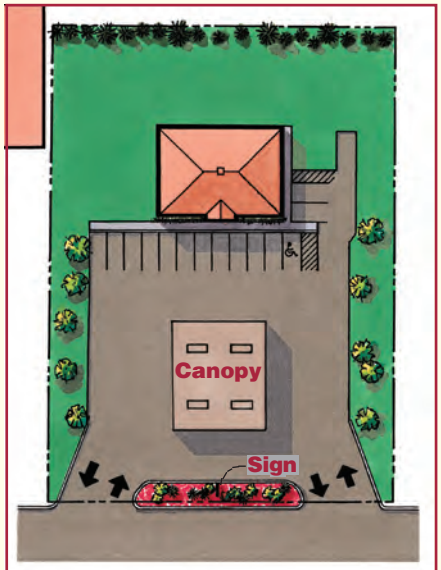
Guidelines for Gas/Convenience Stores

- **Highlight the store up front** in a well-landscaped setting with the parking, pumps, and canopy in a secondary position toward the rear.
- **Reflect traditional architecture** of the community and region in building and roof forms, window proportions, materials, colors and details.
- **Provide a direct sidewalk connection** to the store entrance at the front or side of the building.
- **Design all four sides of the store** with windows and other architectural features to avoid visible blank walls.
- **Connect the canopy with the primary store structure** whenever possible, and coordinate the roof design and supports even if not attached.
- **Use recessed, non-glare lighting under the canopy**, pedestrian-scale lighting around the building, and medium height downlighting in the parking area.
- **Encourage a monument-style sign** integrated into a planter or landscaping and/or a wall or hanging sign, not standard pole signs or canopy signs.

An attractive convenience store near Kingston, R. I. with the canopy to the rear, quality landscaping and side yard parking, but no sidewalks.

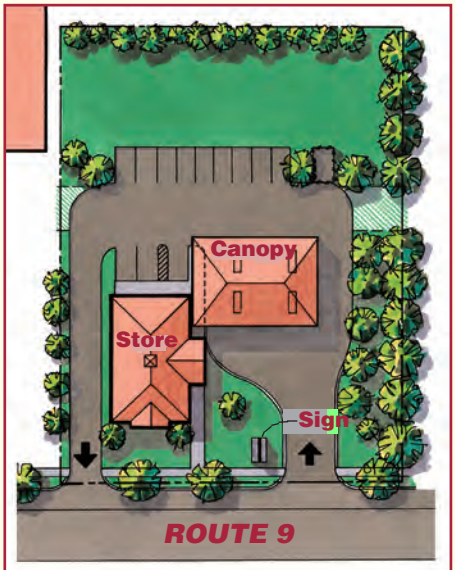
A wood gas station sign in Rhinebeck that is integrated with the site's landscaping and building materials.

A Dutchess County Case Study



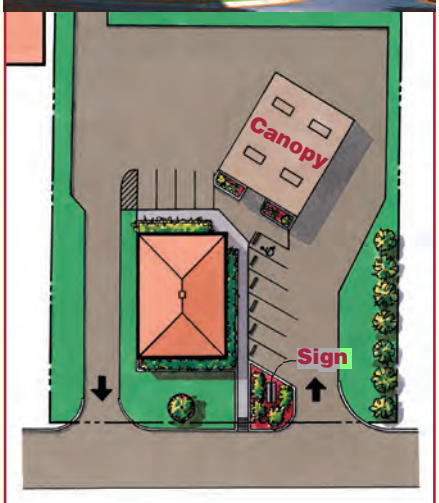
Originally Proposed:

A typical layout with the store set back from the road, no sidewalk connections, canopy looming in front, overly wide driveways, and an uninterrupted block of blacktop, bigger than two basketball courts.



Recommended Alternative:

The store is up front in a landscaped yard with a direct walkway connection to the side entrance. The canopy is attached to the building toward the rear, still visible from the street. Note the potential rear connections to adjacent businesses.



Approved and Built:

At this gateway location, the Rhinebeck Board insisted that the pumps be behind the store. The applicant preferred the angled canopy to allow some side yard parking, but the store entrance was placed too far back.

Canopy Design

Some canopies, as big and bright as a hovering spaceship, are used not just to cover the pumps, but to act as a giant billboard for the business, with brash colors and multiple signs. As an accessory feature to the primary uses, which center around the store building, canopies should never visually dominate the site. Canopies are roof structures and should be patterned after traditional roof types and structural supports in the area. Canopy and roof signs should be prohibited.

Glaringly bright canopy lighting actually reduces overall visibility by making adjacent areas look dark by comparison. Balanced downlighting is more effective than overly bright lighting (see Lighting Guide), and all canopy lighting should be recessed.

All-too-typical overbearing, over-lit front canopy

This side canopy in LaGrange was designed to reflect the roofline and cornice details of the old store building.

A model sketch plan for an attached canopy to the rear of a proposed convenience store in the Town of North East.

Source:

Clark Wagner, *A New Urbanism Approach to Service Station Design*, American Planning Association, Jan. 2001

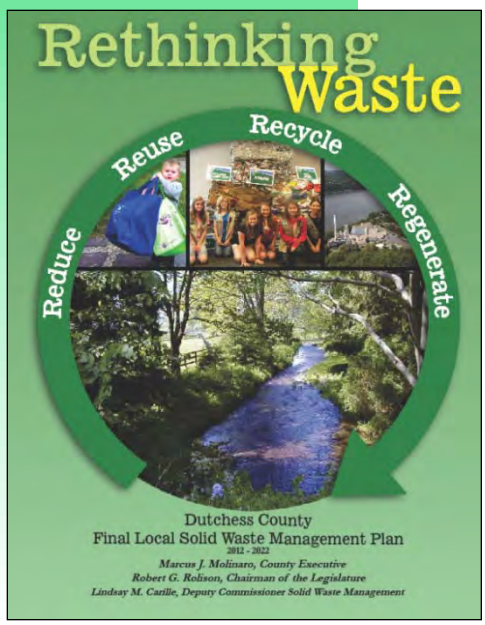
RECYCLING AND WASTE COLLECTION

Provide for the separation and collection of recyclable materials, as well as the proper placement and screening of containers, as an essential part of every site plan and development review.

Recycling is good for the environment, cost effective, and a requirement under Dutchess County law since 1990. Just as nature fully recycles water and nutrients, we can make sure that most waste products are not wasted, but instead reused as part of a whole systems approach to the flow of materials.

Priorities for rethinking the concept of waste are, first, to substantially reduce the amount of unnecessary waste generated, and then to maximize the reuse and recycling of materials that would otherwise be discarded. Recycling is one of the best and easiest ways to dramatically decrease the amount of waste being buried or burned.

Now that Dutchess County curbside collection has gone single stream, it is simpler than ever to recycle. Single stream collection and processing allows a full range of recyclable materials - paper, cardboard, plastics, glass, and metals - to be mixed together in the same bin. The materials are separated at the recycling facility. This means only two containers are needed for almost all trash and recycling collection.



Dutchess County's 2013 Local Solid Waste Management Plan

Make Recycling Routine

Planning for recycling should include placement of recycling bins in all common areas, such as sidewalks, parks, entrances to businesses, and public areas of larger residential complexes.

Recycling bins should be placed adjacent to every trash container. If recycling bins are placed too far apart from trash bins, people will often pick the closest container and throw their trash in the recycling bin or recyclables in the trash bin. When no recycling bin is provided, almost everything will be thrown in the trash.

Label containers so it is easy to tell which is for trash and which is for recyclables. The color of the bins, a recycling logo and images all help to easily identify a recycling container. Blue and/or green containers with the chasing arrows symbol are widely recognized to indicate recycling.

The Village of Rhinebeck provides a variety of attractive street features, including street trees, planters, benches, and these solar compactors, which allow convenient and efficient collection of trash and recyclables.

Collection Area Design

Waste and recycling containers are serviced by large, heavy trucks that have limited maneuverability and restricted visibility directly behind the truck. Employees of commercial uses or residents of larger housing complexes need to be able to conveniently carry recyclables and trash from the point of generation to the containers. Other design requirements include:

Safe and easy access. Collection is primarily automated; the vehicle drives straight into the container area and remotely raises the receptacle into the truck. A clear maneuvering area with a level concrete container pad and front apron to bear the weight of the vehicle is necessary. If local codes limit early morning collection hours, trucks must be able to access containers during business hours through a full parking area or with vehicles stacked in a drive-thru.

Adequate space. A minimum of two containers, one for recyclables and one for waste, is necessary. If a high volume of cardboard will be generated, a third container may be desirable. A restaurant or other large food operation may also need containers for food scraps and cooking oil collection and recycling.

Enclosures. Secure enclosures create a clean and attractive site. The minimum gate width is typically 12 feet to accommodate the truck. Gates should be able to swing open to 120 degrees with an open position securing mechanism. A separate pedestrian entrance is encouraged.

Durable materials. Collection areas are subject to heavy use, so gate hardware should be strong enough to accommodate repetitive swinging and enclosures should be made of durable materials, protected in the front by steel corners or bollards. Lightweight fencing will not last well.

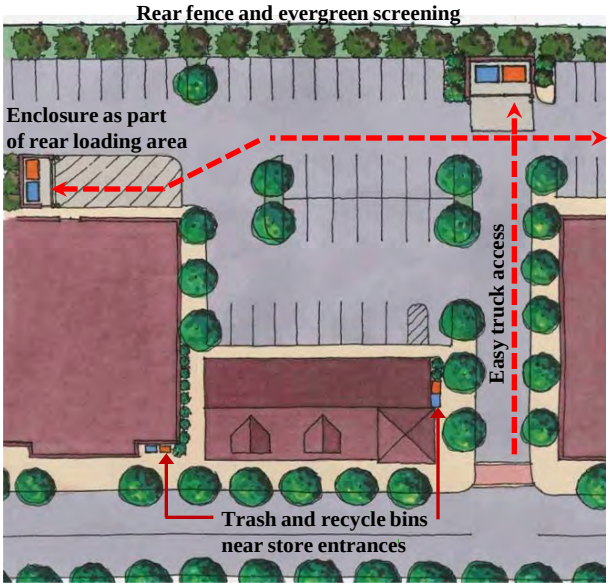
Overhead clearance. If the enclosure is roofed, sufficient room to open the container lids 90 degrees needs to be provided. Generally, eight feet is needed to move the container away from the roofed enclosure, with a 20-foot clearance of overhead obstructions for the vehicle to lift and empty the container.

Screening and Cleaning. Supplemental screening with evergreen trees and other plants protects the views of nearby neighbors, and regular cleaning controls unwanted pests and odors. High-quality landscaping and solid, opaque materials that are compatible with the architecture of the buildings help integrate the enclosure with the rest of the site plan.

This enclosure features attractive, durable materials that match the adjacent buildings, steel corner posts, separate pedestrian door, and evergreen screening with rear fence.

Incorporating an enclosure into the building context can encourage higher quality architectural treatment and better ongoing maintenance and cleanliness.

A well-built walk-in enclosure at a smaller office building keeps the site attractive for the residential neighborhood.



Model Site Plan:
Enclosures should be located toward the rear of the site, typically at the end of a driving aisle. Shared driveways, internally connected parking lots, and shared enclosures facilitate efficient collection from neighboring businesses.

The best sources for information on trash and recycling collection are the waste haulers licensed in Dutchess County. Consult with the local hauler early in the project. They can estimate the amount of capacity required, evaluate the placement of the containers, and spot design flaws in the enclosure or waste management system.

Source: *Rethinking Waste, Dutchess County Local Solid Waste Management Plan, 2012-2022*

GREEN INFRASTRUCTURE

Manage rainwater runoff near its source to emulate the area's pre-development hydrology, using green infrastructure practices that allow rainwater to percolate into the soil.

Green Infrastructure, also known as low impact development, light imprint, or environmentally sensitive design, is used to avoid or minimize the impact of rainwater runoff on the environment, especially upon wetlands and water bodies located downstream from development. New buildings, streets, and parking lots introduce impervious surfaces and modify the existing ground cover and vegetation, thereby accelerating runoff, increasing flooding, and intensifying the amount of pollutants and sediment that drain to water sources.

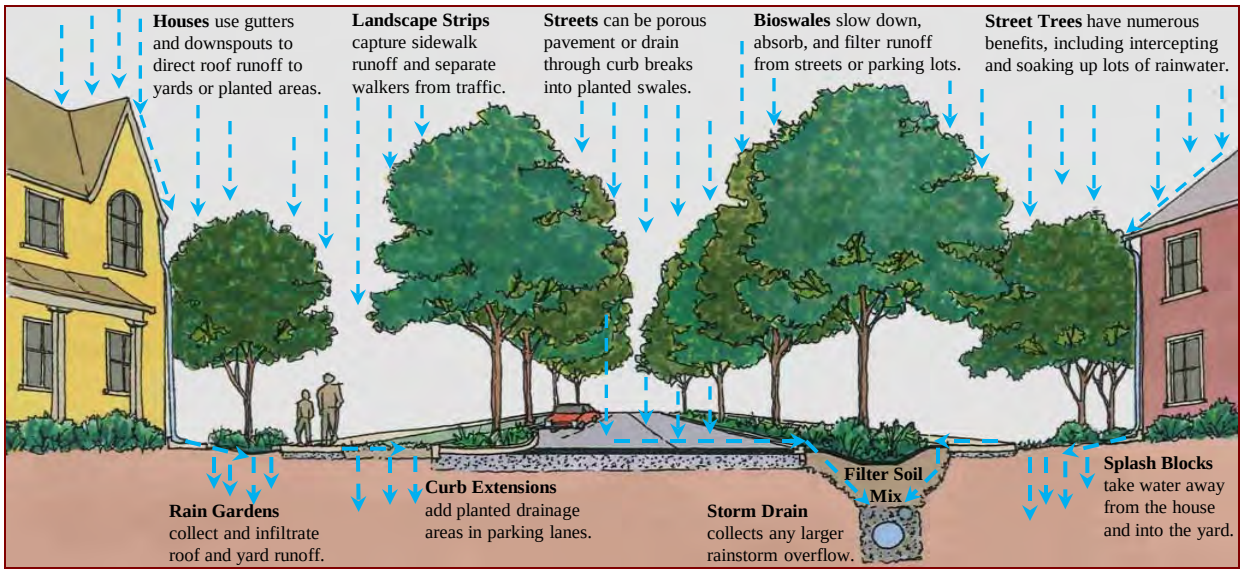
The conventional approach to handling increases in runoff is to use storm drains and pipes to convey the runoff to a detention pond or nearby waterbody. This not only modifies the natural water cycle of the land, it involves highly engineered solutions that are expensive to construct and maintain. A much better approach is to replenish the groundwater by retaining the hydrologic cycle as close to the natural pre-development state as possible.

The New York State Stormwater Management Design Manual provides guidance on implementing and designing Green Infrastructure techniques. Under the New York State Stormwater Pollution Discharge Elimination System (SPDES), Green Infrastructure methods are required for new development that will disturb one acre or more of soil, but these best practices should be implemented for projects of any size and redevelopment projects.

Bioretention swale at Marist College collects runoff from the parking lot, absorbs and filters rainwater, and includes an overflow grate for any flooding.

Mark K. Morrison Landscape Architecture

Green roof with greenhouse and vegetable gardens at New York City school reduces runoff and provides students all-season, hands-on ecological education.



Model green drainage strategies for a residential street.

Green Infrastructure Principles:

Conserve existing natural land. Reuse of sites and buildings in developed places saves farmland, woods, wetlands, and natural drainage systems.

Promote compact development. For example, building at an average of eight dwelling units per acre rather than one unit per acre consumes far less land, creates fewer roads and parking lots, and can reduce impervious surfaces in the watershed by 60% and overall runoff per dwelling by 74%.

Take advantage of existing site features. Existing trees, well-drained soils, and natural drainageways may be used to emulate the pre-development hydrology, fit development into the site, and reduce infrastructure costs.

Minimize new impervious surfaces. Less impervious area means less runoff treatment, so avoid excessive paving, road widths, and parking lots.

Absorb stormwater near the source. Provide the maximum level of on-site infiltration that is feasible, given the constraints in the area.

Green Infrastucture Techniques:

Green roofs absorb rainwater with lightweight soils and plantings or they can used to grow food in urban areas.

Roof downspouts should be directed to rain barrels, cisterns, yards, or planted areas, not stormwater pipes or impervious driveways and roads.

Rain gardens are small landscaped depressions that gather and infiltrate rainwater, usually planted with native, ornamental vegetation.

Bioswales are linear vegetated ditches along roads and parking lots, used for infiltration instead of conventional curbs and storm drain systems.

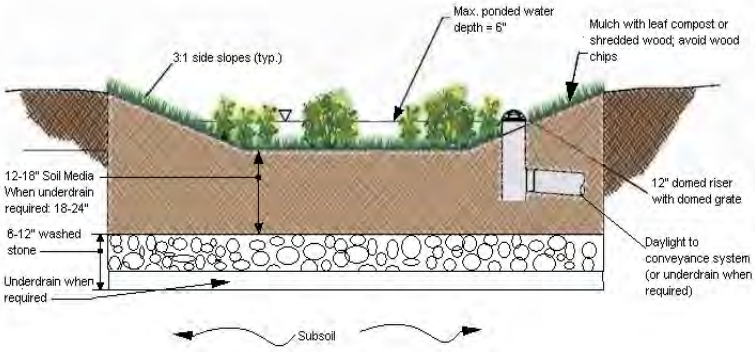
Stream daylighting replaces sub-surface pipes with an open stream to improve water quality, increase flood storage, and provide wildlife habitat.

Dry wells and infiltration chambers are underground storage structures, often used under parking lots on smaller parcels or in urban locations.

Planting trees is an effective way to soak up rainfall. In urban areas they can be used in planter boxes along sidewalks, roads, and parking lots.

Planted curb extensions are landscaped areas extending into parking lanes to absorb road runoff, provide space for street trees, and slow traffic.

Permeable pavement, including porous concrete and asphalt, pavers, and open block systems, allow water to pass through into a gravel base below.



Profile of a typical rain garden from the New York State Stormwater Management Design Manual, August 2010

Local Case Study: New York State Parks Taconic Region Headquarters in Staatsburg, Hyde Park

The park offices received the highest level of green building certification by incorporating a full range of energy and cost efficient features, such as low-flow water fixtures, geothermal heat pump system, solar panels, and model green infrastructure techniques.

Adaptive reuse of a vacant 1930s school building in the National Landmark Hudson River Historic District.

NYS Parks Taconic Region

Underground pipe converted back into a stream, pond, and native vegetation for natural drainage and riparian habitat.

Rain garden built into a planter box at the building entrance.

NYS Parks Taconic Region

Permeable pavement and brick pavers in the parking lot with reinforced grass overflow parking to the rear.

Sources:

Rutgers Cooperative Extension, *An Introduction to Green Infrastructure Practices*, Fact Sheet FS1197, December 2012

USEPA, *Using Smart Growth Techniques as Stormwater Best Management Practices*, December 2005