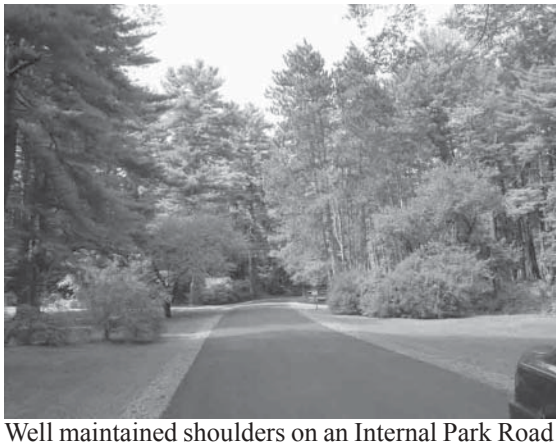
Shoulders



Well maintained shoulders on an Internal Park Road in Pittsfield State Forest (Berry Pond Circuit Road).

Issues

Shoulders are the useable area or graded area between the edge of the travel lane and the curb line or edge of embankment. Shoulders direct surface drainage off the roadway and toward a subsurface drainage system. They serve as "recovery areas", allowing errant vehicles to correct their direction without leaving the roadway or risk hitting roadside obstructions. Shoulders also provide an area for pullover in an emergency, avoidance maneuvers, bicycle travel, parking, and snow storage. Shoulders may be paved or unpaved and vary in width from less than one foot to 10 feet.

Many early roadways, designed before the automobile, have narrow or minimal shoulders. Current traffic demand can use all available pavement for travel. Several issues arise: (a) there may be no place along the roadway for emergency uses such as speed enforcement or breakdowns; (b) the roadway is unfriendly to cyclists; and (c) the perception of speed on narrow roadways is heightened. Motorists may experience compromised safety and comfort on crowded roads. Calming theory includes creating just this perception through narrowness.

When park visitors pull off the roadway to park or enjoy the view, they can damage shoulders by causing erosion and destroying vegetation. Because vegetation at the edge of the roadway is a character-defining feature, these informal pull-off areas are a problem. Large recreational vehicles and SUVs on park roads increase pressures on shoulders, leading to crumbling pavement and eroded slopes.

For some Internal Park Roads, wide, grassy shoulders also serve as fire breaks, helping to contain forest fires. On Summit Roads, shoulders were narrow and unpaved, and, in most cases, vegetation grew up to the edge of the travel way. Estate Roads were generally built without any shoulder unless the roadway served a more formal purpose.

Goal

Preserve the historic configuration of shoulders and avoid any increase in pavement width.

Guidelines

- Rehabilitate shoulders only if necessary to

  (a) support bicycle use with no net widening of roadway by widening the shoulder and narrowing the adjacent travel lanes (new travel lanes must meet minimum width requirements), or
  (b) provide police pullover spaces for speeding motorists.

  In the latter case, study the entire roadway to identify the least intrusive locations and to minimize impact on parkland.

- Where repeated repaving of the road has raised the road surface higher than the shoulder area, regrade the shoulder to a shallow roadside swale while assuring that the shoulder slope is safe and erosion potential is minimal, or lower the roadway through full-depth reconstruction of the roadway.

- Where possible, reestablish vegetation on the shoulders using methods that sustain vegetation, while still occasionally supporting the weight of a vehicle, such as the method developed for non-sandy areas at Acadia National Park in Maine: scarifying the deteriorated shoulder area to an adequate depth, and covering with an aggregate/topsoil mixture, and reseeding with a native plant mix.

- Where shoulders have inappropriate informal pull-off areas, discourage pulling off through compatible signage, plantings and appropriate barriers, if necessary. Avoid parking stones, which detract from the character of the parkway landscape.

- Where wide shoulders are appropriately used for parking, and bicycle use levels permits, allow shared shoulder use by cyclists, such as dedicated bicycle use during peak commuter hours, with appropriate signage.

Lane Number and Width

Issues

The number of lanes and lane width are character-defining features which contribute to the parkway experience and have a profound impact on historic character. DCR parkways are not designed to be primary travel routes and should not be substantially modified to accommodate increasing traffic demands.

Most parkway roadways have a maximum of two lanes in each direction. Parkways in rural settings typically have one lane in each direction, and on Summit Roads in steep terrain, a parkway is often a one-lane/one-way loop. Lane width ranged between 9 and 12 feet.

As traffic volumes increased, some roadways were widened, and auxiliary turning lanes were introduced, in many cases diminishing historic parkway character.

Goal

Preserve original lane number and widths. Avoid increasing traffic capacity by increasing the number of lanes or making lanes wider. Avoid any net loss of parkland.

Guidelines

- Evaluate existing lane configurations and lane widths, traffic demand, and traffic composition, to assure a safe roadway that enhances all permitted transportation modes, while being consistent with parkway purposes, character and context. Keep the number of lanes consistent throughout the various sections of the parkway, and in keeping with the historic context of the roadway.

- In areas where parkways are over capacity, explore other measures to manage traffic or reduce demand, such as increased opportunities for sharing lanes with cyclists and appropriate traffic calming measures (such as lowered speed limit, eight (8) inch granite curb, speed tables, and warning striping spaced thirty (30) feet apart).

- Before deciding to widen or to add auxiliary turning lanes, transit service areas, or parking lanes, evaluate the impact on parkland and the historic landscape. Avoid impact on the historic landscape for a nominal capacity and safety benefit. Avoid auxiliary turning lanes, which can have a significant negative impact on the historic parkway, either displacing landscape next to the road, or displacing or eliminating the median.

- In cases where the capacity and safety benefit strongly favor the development of auxiliary lanes, identify areas where the added capacity of auxiliary lanes may be offset by the reduction of other lanes if they are no longer needed and could be reclaimed for parkland.

- Remove parking or travel lanes to increase space for bicycle use or green space, after assessing its impact on the roadway's historic design and current function. Throughout the design process, involve the public and local municipalities.

- Avoid widening lanes, which may simply encourage driving above the design speed, with no gain in safety.

- In areas where travel lanes are wider than necessary, narrow them to as little as eleven (11) feet to slow traffic and increase safety, reclaim green space, and restore the historic roadway and landscape.

Typical Roadway Lane Widths (feet) (ADT= Average Daily Traffic)				
Parkway Type	ADT < 400 vpd Pleasure Vehicles Only	ADT < 400 vpd General Traffic (Trucks permitted)	ADT > 400 vpd Pleasure Vehicles Only	ADT > 400 vpd General Traffic (Trucks permitted)
Connecting Parkway	9-10	10-11	10-11	11-12
Park Border Roads	9-10	10-11	10-11	11-12
Internal Park Roads	9-10	10-11	10-11	10-11

Pavement Markings

Consistent marking on the VFW Parkway in West Roxbury delineates a bicycle lane.

Issues

Urban parkways are usually marked with double yellow centerlines, white shoulder lines, stop lines and crosswalks. Words, arrows and channelizing markings at intersection islands and rotaries are also common. These markings are required to maintain safe travel conditions and are intended to be consistently and uniformly applied in accordance with current national safety standards on most parkways, with certain exceptions. The trend towards use of wider longitudinal pavement markings is in response to the nation's aging population and its perceived need for increased visibility. Introduced well after many of the parkways were first built, and modified over time, pavement markings are not generally considered to be character defining features for historic parkways.

Where parkway roadways accommodate not only drivers, but also pedestrians, cyclists and rollerbladers, clear pavement marking to delineate safe use is essential.

Goal

Mark pavement to promote safe conditions for all parkway users.

Guidelines

- Design pavement markings to meet the requirements of the ITE *Manual on Uniform Traffic Control Devices.*

- Mark travel lanes to assure a consistent width (as measured from the center of the centerline to the center of the shoulder line) for consistency within each segment of each parkway, as based on an engineering evaluation. Likewise, mark shoulders for consistent width as measured from the center of the shoulder line to the edge of pavement or curb.

- For longitudinal pavement markings for centerlines, lane lines and shoulder lines, use lines no greater than four (4) inches wide, except where a six (6) inch width will match widths on adjacent roadways.

- Avoid delineating lanes wider than necessary. Excessive width invites fast driving and allocates space for cars that could accommodate bicycle use.

Road Surface

This unpaved road at Borderland State Park in North Easton is not open to public vehicles and is an enjoyable walking surface.

Issues

The predominant material for most parkway roadways is bituminous concrete. Until the early twentieth century, parkway roadways were unpaved "broken stone", gravel or dirt roadways. The roadways were intended for the use of bicycles, horses and horse drawn wagons and carriages.

The change from unpaved to paved roadways was an important response to changes in vehicular use. During the first two decades of the 20th century, many parkways were maintained for both automobile travel and pleasure carriages, with one side of a median paved with bituminous concrete to accommodate two-way automobile traffic and the other side paved with crushed stone for horse-drawn carriages. By the 1930s, dual use ended and bituminous concrete became the norm.

Without periodic maintenance, the bituminous concrete surface will deteriorate. If aggregate materials on unpaved road surfaces are not regularly replenished, the crown on the road diminishes and areas of compaction or erosion are created. Resurfacing reduces the height or reveal of curbs and their ability to channel surface drainage, and keep stray vehicles on the road.

Although bituminous concrete is usually the appropriate roadway surface, some non-urban parkway roadways with light traffic such as Internal Park Roads are still unpaved. Users enjoy these lightly traveled unpaved country roads.

Goal

Assure a safe properly graded and well-drained road surface appropriate to the level of use.

Guidelines

- Follow the DCR paving specification for bituminous concrete.

- Restore adequate curb reveal lost through resurfacing. If curb reveal is below the recommended minimum of six (6) inches, use cold planing. Resurface unpaved roads with aggregate and regrade crowns. Recycle removed bituminous concrete.

- In the Design Control Report, determine the appropriate roadway surface for each historic parkway in light of its historic design and current function. Where possible and desirable for interpretive and visual purposes, remove paving or replace with alternative paving. Evaluate non-bituminous alternatives such as chip seal and resin pavement systems.

- Where the side of the road is curbless and the road edge is deteriorated, reconstruct the pavement. Extend the compacted aggregate base material at least two feet beyond the pavement edge. Grade the finished surface down away from the pavement at a slope of no more than one inch per foot. In addition, determine if subdrains or surface drainage improvements are needed to maintain the integrity of the pavement section and prevent further pavement edge deterioration

Medians

The median on Woodland Road in Middlesex Fells Reservation in Medford and Stoneham separates travelways on different alignments.

Issues

The median is an important character-defining feature on many parkways which have two lanes in each direction. Typical medians have mature shade trees in a generous strip of turf of uniform width, and are bordered by separate travelways on the same alignment. Far less frequently, parkways in wide corridors may have travelways on different alignments separated by generous medians of varying width, providing even better integration of roadway into the parkway terrain. Curbs are not always used. Medians combine safety and scenic benefits. Historically, some parkways used medians to separate conflicting modes of travel—trolley lines from vehicles, or pleasure vehicles from general traffic. They are most typical of Connecting Parkways, but also can be found on Border Roads, River Parkways, and Ocean Parkways.

Medians of uniform width typically vary from ten to thirty feet wide. Atypical medians as narrow as three feet are paved in concrete or asphalt, since they cannot support trees or be easily mowed. Medians this narrow impart a highway quality that detracts from parkway character.

Medians wide enough to support shade trees accentuate the experience of the landscape, which are at most two lanes away from the roadway user. Particularly in highly urbanized contexts, medians provide parkways with an amenity that is in short supply—trees and grass; where the parkway corridor is narrow, the median that is wide enough to support shade trees plays the essential unifying element.

While medians vary in width, it is highly desirable to provide a width that can accommodate two rows of shade trees. Unfortunately, over the years, many medians have been reduced in width to provide additional travel lanes, especially dedicated turn lanes.

Goal

Preserve existing medians.

Guidelines

- Wherever space permits, provide a median wide enough to accommodate two (2) rows of shade trees. If space does not permit two rows, provide a median wide enough to accommodate a single row of shade trees..

- Provide a curb when the median planted with shade trees is too narrow to meet clear zone safety standards, that is, less than seven (7) feet to the tree trunk (that is, a total median width of fourteen feet).

- Select replacement species that are historically appropriate and well suited to the site.

- If the roadway lane widths or number can be reduced, and historical research supports it, establish a new median or add to the width of an existing median. If it is already over twenty-four (24) feet wide, add to the landscaped shoulders of the roadway instead.

Recommended Treatment for Median by Width	
Median width	**Recommended treatment**
Less than 4 feet	Flush pavers or other material.
4 to 6 feet	Grass, some tree species (too narrow for root spread for most)
6 to 12 feet	Grass, trees, one row or staggered (too narrow for two rows)
12 to 24 feet	Grass, two rows of trees, staggered if rows are less than 15 feet apart.
24 feet and up	Grass, two rows of trees, tree clumps

Vegetation

Trees are often adjacent to the roadway, as on the Estate Road at Maudslay State Park, Newburyport.

Issues

Trees and grass, and in some instances shrubs, perennials and other non-woody species are critical character-defining features. Protection of vegetation is essential to the historic integrity and quality of parkways across the state.

Rows of stately shade trees forming tunnel-like canopies are the glory of many parkways. Trees are often located closer to the roadway than would be allowed today on roads with comparable traffic volume. Some planting of inappropriate ornamental small trees has occurred where the historic character calls for large shade trees. Shrubs are used in rotaries more frequently than they are on Connecting Parkways.

While the Design Team usually focuses on vegetation within the parkway cross section, some projects will include vegetation within the wider parkway. Farther back from the roadway (but rarely in medians), typical vegetation is either (1) a designed landscape of trees and shrubs on turf, mostly indigenous species, including evergreens, in a naturalistic or random pattern or (2) typical Southern New England forest cover including indigenous shrubs, such as along Internal Park Roads and Border Roads.

Areas once groomed are now undergoing natural succession. Although this process can provide opportunities to increase the ecological and aesthetic quality of the landscape, it also may be changing the historic character or appropriate setting of the parkway. Invasive species can significantly alter the species composition even within established southern New England forests. Volunteer indigenous and invasive species of trees and shrubs are typical along River Parkways, Border Roads, and Internal Park Roads with limited maintenance. The *Massachusetts Prohibited Plant*

List includes approximately 150 invasive species, mostly shrubs and herbaceous species, but also including four tree species: Black Locust, Common Buckthorn, Norway Maple, and Tree of Heaven. (Refer to Appendix L.)

Throughout the urban parkways, particularly along the shoulders, trees suffer from drought stress, car exhaust, deicing salt deposition, mechanical injury by mowers and maintenance trucks, soil compaction by runners and bicyclists, soil loss through erosion, lack of pruning, invasive species competition, and diseases and pests. Lack of pruning poses a safety as well as scenic issue.

Use of a single species increases susceptibility to wholesale loss. On the other hand, the adaptable Norway Maple, once a favored shade tree, has become invasive. Some areas originally designed for large shade trees have been planted with ornamental understory trees, which are historically inappropriate.

Turf grass is the typical ground cover in the Connecting Parkways as well as River and Ocean Parkways and Estate Roads. These areas often become barren patches of soil due to erosion and compaction. Turf shoulders are susceptible to deicing salt damage. The most intensively used turf, particularly along pathway edges preferred by joggers, is especially subject to compaction.

Parkways are vulnerable to invasive shrub species. Historic shrub selections may have been non-native species that are now considered invasive. Even desirable shrubs require more maintenance per unit of ground covered than do trees and grass.

Goal

Preserve and protect parkway vegetation.

Guidelines

- Ensure that the historic character of trees and contributing vegetation is not inadvertently lost or inappropriately altered. Support stewardship and ecological values.

- Wherever the vegetation has deteriorated or is absent—and space permits—plant new vegetation consistent with historic parkway character.

- Select native shade tree and shrub species and varieties (replant historic choices or close substitutes) unless exotic species are consistent with historic exotic landscape. Refer to historic plant lists and planting plans in the Design Control Report. Unless the use of a single species is character-defining, select a variety of tree and shrub species for a more robust ecosystem, rather than continuing to rely on a single species that may become susceptible to diseases and insect infestations.

- Protect and care for champion trees. Start a replacement program for lost champion trees.

- Locate proposed trees so that different species are compatible with one another in stature, form, branching pattern and leaf texture and will reinforce parkway planting character.

- In planting, follow best practices to ensure its establishment and survival to maturity; avoid placing root ball too deep or burying the trunk flare in excess soil or mulch, and assure regular watering until tree is established. As a general guide, for every inch of trunk caliper a tree needs one year for establishment. Assure adequate observation of planting operations.

- On medians or in the space between the paved roadway and a sidewalk or pathway, provide a width of six (6) feet minimum, optimally at least eight to ten (8–10) feet for healthy tree growth. Plant trees no closer to the curb than five (5) feet consistent with the selected clear zone design control, to allow for long-term trunk growth. For grass, plant fine-leaved fescues, which require only two mowings per season and are adaptable to inhospitable conditions. Turf coverage will reduce water transpiration and soil compaction of the shoulder zone.

- For special tree row or allee planting, use same species or species of similar height and spread, space trees evenly, optimally no closer than fifteen to twenty (15-20) feet on center, taking into account coordination with light pole spacing.

- In places where vegetation is deteriorated or absent, and space permits, plant new vegetation following best tree planting and post-planting management practices to ensure its establishment and survival to maturity. Protect from mower injury and construction equipment and water adequately.

- Along roadways once bordered by lawn and now colonized by invasive plants or compacted and eroded, reestablish mowable grass and aerate regularly, water and fertilize.

- Replace damaged or dead invasive tree specimens by a native or non-invasive species.

- Remove invasive shrub species and replace with native species, if they can be adequately maintained. Monitor removal over a three-year period to ensure that removal is completely successful. Consult the *Massachusetts Prohibited Plant List* (see Appendix L) for tree, shrub and perennial species considered invasive.

- As small understory trees planted in place of deciduous shade trees die off, replace with deciduous shade trees.

Curbs

An eight-inch curb on the high-traffic VFW Parkway in West Roxbury is compatible with parkway character and helps calm traffic.

Issues

Curbs delineate the edge of a parkway, control stormwater runoff, define and protect pedestrian walkways, and, in some cases, enhance aesthetic value especially in urban and heavy traffic contexts. They also protect roadside and median plantings from wayward vehicle tires, soil erosion and compaction, road salt, oil, fuels and transmission fluid.

There are two types of curbing, vertical curb and mountable curb. Vertical curb is intended to contain vehicles within the driving surface and prevent them from pulling off the road. Vertical curbs are particularly important for protecting vegetation. Vertical curb is appropriate for low speed rather than high speed roadways. Therefore, where vertical curb already exists, low speeds are intended. Mountable or sloped curbs come in a number of different shapes and permit vehicles to cross over them.

Although some of the early Connecting Parkways had curbs only at corners, later Connecting Parkways usually had continuous curbs, and the earlier parkways were retrofitted with them. Where Connecting Parkways still lack them, cars may pull off the road and compact the soil.

A variety of curbs are used on historic parkways, including granite, either sloped or vertical, and quarter-round cement concrete. In the New England weather, granite is the most durable material. The quarter-round cement concrete curb on many former MDC parkways is inset with small (2”-3”) cobblestones. These mountable curbs were installed in the 1950s, at the end of the period of historic significance of the parkways; it has not been considered historic or character-defining. Over the past half century, as the concrete fails at the joints, weeds gain a foothold and accelerate failure. Another more recent form, though not widely used, is a sloping curb made of three courses of granite pavers set in concrete. It is not holding up well either.

Curb reveal, or vertical exposed curb height, has been reduced over the years by additional layers of pavement. When curb reveal decreases, its ability to contain stormwater, define the road edge for drivers, and protect pedestrians and vegetation diminishes. Roadside erosion is increased.

Internal Park Roads without heavy traffic typically lack curbs, except at some parking areas, significant intersections such as an entrance to an education center, and in steep terrain requiring gutters for storm drainage.

Goal

Preserve historic curb if structurally intact.

Guidelines

- Where new curb is deemed appropriate, use vertical granite with a six (6) inch reveal, with two exceptions: (1) where driving speeds exceed the design speed for a high-traffic parkway, use vertical curbs with an eight (8) inch reveal, and (2) at access points for maintenance equipment, use sloped granite curb with a four (4) inch reveal.

- Where an obstruction such as a rock outcrop exists behind vertical curb and cannot be removed, provide a minimum horizontal clearance of 1.5 feet from the face of the curb to the obstruction.

- Restore 6-inch curb reveal either by resetting the curb, if no negative impact to adjacent trees occurs, or by milling the existing pavement and resurfacing to achieve the desired reveal. Reset uneven granite curb, unless such treatment would cause damage to trees. Install curb where it is missing along medians and shoulders where addition of curbs would be desirable for protection of vegetation or channeling of water. Assure adequate setting bed and mortar joints throughout.

- Whenever repair or replacement of the pre-cast concrete-and-cobble curb from the 1950s is necessary, unless subsequently determined to be character-defining features, replace with vertical granite curbs.

- In locations where curb does not exist and the pavement edge is substantially deteriorated, repair the damage and end the cause of the deterioration. Do not install curb unless no other options are feasible.

Clear Zone

Character-defining ledge along the Jamaicaway.

Issues

Clear zones are unobstructed, traversable areas at the edge of the roadside where motorists who have driven their vehicles off the road may safely recover control of the vehicle. The frequency and severity of roadside accidents can be reduced where clear zones (or recovery areas) are provided.

The creation of a clear zone requires removal of all fixed objects and grading a traversable slope within a certain distance from the travel lane. This distance is dependent on the travel speed and traffic volume on the parkway and may be referenced in the latest edition of the *Roadside Design Guide*, published by the American Association of State Highway and Transportation Officials.

Many parkways lack clear zones. Magnificent old trees and rock outcrops line the roadway. These character-defining features enhance the parkways.

Vertical curb is used on low-speed roadways (below 40 mph) and is not recommended where higher travel speed is allowed. Therefore, where vertical curb already exists, the roadway is intended to operate under 40 mph. Utility poles, signs, trees, rock outcrops, and other fixed objects may be located behind the curb on these low speed roadways.

These guidelines will be particularly useful at the project stage of determining design controls.

Goal

Maintain or improve parkway safety and preserve character defining roadside features through a careful evaluation of the parkway clear zone.

Guidelines

- Undertake an engineering evaluation of roadside safety in reference to the latest clear zone guidelines published by American Association of State Highway and Transportation Officials.

- Determine if there is any accident history associated with roadside obstacles within the clear zone.

- If necessary, increase the recovery area to whatever is practical, considering the accident history, the potential impact on right of way, construction cost, and appropriate site context. Keep such increases in width to an absolute minimum.

- Protect character-defining large trees.

- If certain objects such as light poles or sign posts are required within the clear zone and cannot be removed, use a design with breakaway or other safety device.

Traffic Barriers

Guardrails and access control barriers include steel beams with a W cross-section (Type-SS or Thrie Beam), mounted on steel posts at Hampton Ponds State Park, Westfield.

Traffic barriers—guard rails, fences and gates—are highly prominent features on many parkways. Most post-date the period of historic significance, and are not considered character-defining features. Of all the modifications to roadways, traffic barriers have had the most negative impact on parkway character.

Traffic barriers for safety, for control of access, and gates are discussed below.

- For safety

  Issues

  Guardrails protect motorists from roadside hazards and pedestrians from traffic. Modern guardrails, lining one or both sides of the roadway for long distances, block views and impart a highway character. Other types of barriers are also used for relatively short distances.

  Guardrails are most common on Connecting Parkways with large traffic volumes. The typical design—Type-SS or Thrie Beam galvanized steel or pre-cast concrete barriers ("Jersey barriers") diminish the visual quality and historic integrity of the parkways.

  "Wooden rustic fences" were appropriate to park-like settings with compelling vistas. Along many Internal Park Roads formerly under the care of the Department of Environmental Management, the CCC constructed guardrails fashioned from wood logs resting on wooden posts, or the Department installed three-cable barrier systems mounted on wooden posts. The Type-

SS or Thrie Beam guardrails and Jersey barriers used today lack the charm of the old log rails. The issue here is safety. The log rails lack the safety features needed for certain speed limits.

Some parkways have barriers with three cables on wood posts recalling slower speeds before World War Two (Middlesex Fells, 1934).

Cortan steel guardrails were considered as alternatives because they weather to a rust-brown, which blends into the winter woods. However, their form is intrusive and rusting steel leaves stubborn stains on the sidewalk and curb.

Typical steel-backed timber guardrail, National Park Service.

Steel-backed timber guardrail is closer in appearance to the historic wooden fence guardrail used on the former MDC parkways. A wood rail backed with a steel plate is supported on timber posts. The steel plate provides the needed tensile strength. The "weak posts" provide the breakaway capability required for the safety of errant drivers. The wood members provide a more rustic appearance than the steel and concrete normally used in barriers. This railing is often used on National Park Service roads, as well as on the Merritt Parkway in Connecticut. Cost is comparable to the cost of the Thrie Beam. At this time, timber remains the best option from an aesthetic point of view and meets safety standards if steel backed.

Goal

Minimize the use of guardrails, and where used, minimize the visual intrusiveness of guardrails. Install no new Type-SS or Thrie Beam guardrails.

Guidelines

- Carefully evaluate the need for guardrails, in accordance with the AASHTO *Roadside Design Guide*, especially if visually intrusive or historically inappropriate. Where guardrails are not necessary for safety or access control purposes, remove them or do not use them.

- Where guardrails on roads are indicated for safety reasons, use a steel backed timber/weak post system as the preferred design. On a given parkway, use the same design for all guardrails installed for safety purposes. Replace existing Type SS or Thrie Beam guardrails with a steel-backed/weak post system.

- For Control of Access

This use of local Roxbury puddingstone harking back to Olmsted controls access on the Jamaicaway in Boston.

Issues

Some roadway edges where no safety guardrail is provided may require barriers to prevent vehicular trespass to the adjacent land or to channel movements. The placement on the road surface or adjacent ground of loose boulders, stone blocks, granite curbs, concrete Jersey barriers or hippo-teeth concrete bollards detracts from parkway character. Wooden bollards are sometimes used as well and are generally less obtrusive, but do not last long.

Goal

Where vehicular access to parklands needs to be controlled, and safety guardrails are not required, provide access barriers compatible with the landscape setting.

Guideline

- Select a design which does not exceed the scale, strength and size needed for the specific purpose. Use timber guardrails, wood fences or bollards.

▪ Gates

Gates at Maudslay State Park in Newburyport are a character-defining feature.

Issues

Although not found on urban parkways, gates are common on non-urban Internal Park Roads without through traffic. They restrict non-employee vehicular access onto park land, or they are used to restrict off-season or nighttime vehicular access to the parkway itself.

Goal

Design gates to be consistent with one another and compatible with other site furnishings.

Guideline

- Paint metal gates to blend with the landscape. Use reflectors instead of bright paint for safety. Avoid decorative gates unless consistent with the historic design of a facility such as a former estate.