

Multiphased Management Task Faced By Our 50 States

Phase II, Project Utility

An eastern state reports on highway maintenance aimed at both safety and beauty.

MASSACHUSETTS ties safety and beauty together in a practical approach to highway roadside development.

In reporting on the Bay State program, Joseph L. Beasley, highway landscape supervisor for the Department of Public Works, states that new visionary thinking and new approaches in roadside development can enable the industry to conceive and prepare roadsides for future generations.

Highways, Beasley says, are wide corridors passing through our countryside. After many years of practical experience in the field and dozens of completed projects, he feels that prior to, and after highway development, there is a need for adequate land acquisition in order to fully protect this corridor. Proper development will then improve this corridor.

Beasley does not believe that trees can be planted just for the sake of planting trees. In Massachusetts, there is a reason and need for every tree, shrub or yard of mulch used. Though it may appear that larger than necessary quantities of planting materials are being used in the Bay State program, he points out that the amount is only 30% of the total needed to replace the areas stripped of plants and trees during construction of new highways.

One goal of the program, which is in line with President Lyndon Johnson's beautification program, is to salvage all remnants of land left after a highway has



Example of formal planting in the Massachusetts program is this interchange located at intersection of Routes 128 and 37 near Braintree. Joseph L. Beasley, Department of Public Works, reports that bridge abutments, including bed plantings and individual trees are mulched with 3 inches of wood chips.

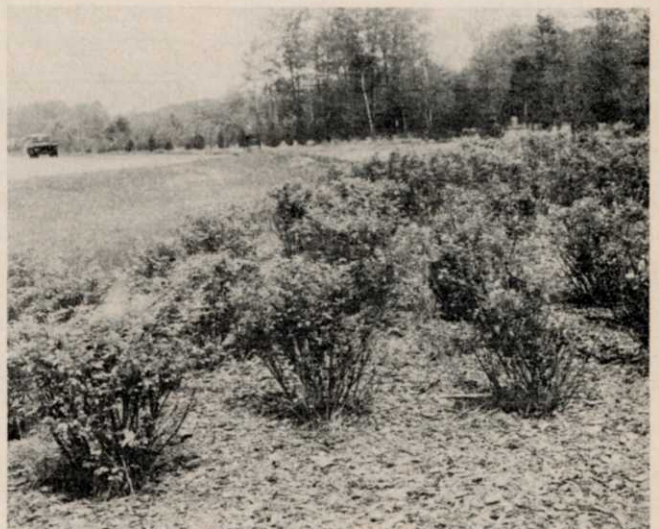
been constructed. Both those pieces of land in urban and rural areas are used as small parks or planted with trees or shrubs for posterity. Emphasis in urban areas is for more large-scale landscaping, including greater scope and use of larger plant material.

Roadsides on urban sections of

the Interstate System are usually narrow. This limits possibilities in development. Careful study and use of specialized plant material is needed to develop them. Each stretch of highway and each interchange presents an individual problem. Many times plant-

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Roadside rest area near Swansea on Route 195 contains successful planting with wood chip mulch. Massachusetts plan calls for giving prime consideration to shade trees in such areas. Note evergreens and natural growth in background.



Massachusetts Program

(from page 9)

ings are advantageous. In other cases they are hazards creating blind, accident-prone areas.

The Massachusetts program also calls for making maximum use of local, natural growth in the area. Natural growth is not a cure-all, but does have a prominent place in roadside design along with turf and the more sophisticated plantings.

Turf Established

Minimum of 30 feet

Grass is planted for a distance of 30 feet on both sides of all roadways in the state. This produces the necessary sight distance for safety. It also prevents the roadway being shaded and helps in snow and ice control operations. Tree hazards close to road surfaces are also eliminated. Open turf areas on each side of the highway give the feeling of ample width so that motorists make full use of travel lanes. Beasley points out, however, that the 30-foot distance on each side of the roadbed is only a starting point. Fill slopes with guardrails are never planted to grass, but to some low-growing natural growth cover. Turf should never be seeded or laid on cut slopes beyond a point five feet from the toe of the slope, or at a distance greater than can be reached by the cutterbar of a tractor mower. Turf many times is used effectively at distances much greater than 30 feet, usually on fairly level areas. In short, the back line of the turf is not maintained as a straight line parallel with the road surface, but is varied from place to place.

Beyond this turf back line, to the outer limits disturbed by construction, first consideration is in replacing the type of natural growth removed. For example, if pine growth has been removed, the area is designed for use of woody mulch and pine seedlings, spaced about 5 feet on centers. If all survive, salvage thinning is done at a later date.

Plantings such as these increase in value and the roadsides improve in appearance each year. Turf areas are more apt to decline as the years pass.

Beasley's recommendations for planting based on the Massachusetts system call for mass planting of trees and shrubs. Various plantings are drifted into one another. Trees are planted in groves, groups, or clumps to present a natural appearance. Following are what he considers satisfactory locations for planting:

1. Plant as near as possible to location line.
2. On highways with wide layout groups of growing trees, plant halfway between shoulder and location line with taller growing shade trees and evergreens planted in back of or between these groups and the location line.
3. In bowl areas at interchanges, trees are not planted less than 35 feet from the ramp road and not less than 15 feet outside the toe of the slope, so that they will not interfere with sight distance or mowing.
4. Trees are planted and grouped in such a manner that they cause minimum interference with mowing equipment or other maintenance operations and overhead utility lines.
5. Evergreens are planted in checkerboard fashion on abutment slopes and on the fill slopes of interchanges.
6. Trees set out in groups consist of 3 to 5, 7, or 15 of the same species. At interchanges or wide layout areas, 15 or 20 in a group is common.
7. Willow trees are used only in moist locations and far enough back within the layout to allow for their size at

full maturity.

8. Gravel pits, dumps, maintenance areas and other such views are screened with evergreens.
9. Unsightly areas which are difficult to mow and not practical to grade and seed are planted with groups of trees or evergreens.
10. Planting of trees at roadside rest areas for shading are given prime consideration.

Unsatisfactory locations of tree plantings are important, too, in design and planning. Unsatisfactory spots listed by Beasley are: Under utility wires unless the specie is low growing; in grassed areas between curbing and sidewalk; on the inside of curves where sight distance would be decreased appreciably; in areas close to street intersections at grade or at drives where sight distance would be decreased; less than 12 feet from edge of shoulder on narrow layout highways and less than 35 feet on wide layout or limited access highways; in straight rows or at set distances; in median strips less than 30 feet in width; in open areas within the layout where there is already a suitable background of trees and shrubbery; in dividing strips of ramps; in front of attractive bridge abutments; and where planting may screen vistas or picturesque scenery.

By way of summary, Beasley believes that better roadside turf management can help solve maintenance problems. Further, it is the responsibility of the industry, he feels, to leave a heritage of green and beautiful roadsides for future generations to enjoy.

Massachusetts Plan For Safety and Beauty

1. Recognize that highways are a corridor passing through our countryside—to be improved and protected—for safety and beauty, and for future generations.
 2. Salvage construction remnants of land—for small parks or tree plantings.
 3. Treat each stretch of highway and each interchange as an individual project.
 4. Make maximum use of natural growth in area.
 5. Grass first 30 feet alongside highway for safety (and vary the backline of grass).
 6. Maintain an awareness that a beautiful highway is a safe highway.
 7. Plan planting locations carefully.
 8. Continue to develop the policy that careful management helps solve maintenance problems.
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