

Rhode Island Highways

Best Practices Design Guide



Governor Lincoln D. Chafee
Office of Special Projects



Rhode Island Department of Transportation
Michael Lewis, Director

December 2014



A Message from the Governor

Rhode Island is a beautiful state. The oceanside, Narragansett Bay, abundance of authentic historical sites, forests, wetlands and woodlands, urban neighborhoods, and remote villages, all contribute to community character and visual appeal few can match.

Our roadway corridors should also be as beautiful as possible. Structures such as the Newport Bridge and the I-Way have become Rhode Island icons, greatly enhancing the travelers' experience.

This Guide establishes best practice standards for design and management of the infrastructure and buffer areas falling under the jurisdiction of the Rhode Island Department of Transportation. The Guide is comprehensive—addressing a complement of elements, including: architecture, lighting, siting and installing of art, surface treatments, graffiti control, vegetation management, and minimizing the visual intrusion of commercial signs.

This Guide is user-friendly and graphically cites examples of best practices from all over the United States. Hereafter, I hope this reference will be valuable in the development of infrastructure projects and management practices that enhance the aesthetic appeal of our roadways in a manner worthy of our beautiful state.

Sincerely,

Lincoln D. Chafee
Governor

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The Guide was written and edited by: Jonathan Stevens, William Kinsella, Kaitlynn Ward, Timothy Sandiford, Andrew Braca, Taylor Knoop, Hannah Petrie, Isaura Dos Santos, and Andrew Sayer of Governor Chafee's office and Director Michael Lewis, Deputy Director Phillip Kydd, Kazem Farhoumand, Ann Hollands, Vincent Palumbo, Lisa Martinelli, Siobhan Stephens Catala, Melissa Long, Peter Healey, Robert Smith, Michael Hebert, and Robert Shawver from the Rhode Island Department of Transportation. Images courtesy of the Rhode Island Department of Transportation, Governor Chafee's office, Gretchen Dow Simpson, or acquired from internet sources in the public domain. Front Cover image courtesy of Matthew Merola.

1. Notable Transportation Infrastructure Design

Rhode Island

Transportation infrastructure projects noteworthy for their architecture, landscape design, beauty, distinctiveness and place-making character include:

Clarence Hussey Bridge (1925)	Wickford	Distinctive architecture
Mount Hope Bridge (1929)	Bristol and Portsmouth	Distinctive architecture
Stillwater Viaduct Bridge (1933)	Smithfield	Distinctive architecture
Pell Newport Bridge (1969)	Newport and Jamestown	Distinctive architecture
Providence River Project (1988-92)	Providence	Distinctive architecture
Jamestown Parkway (1992)	Jamestown	Scenic landscape
Cranston Canyons (1994)	Cranston	Terraced landscape
I-Way (1998-2014)	Providence	Distinctive architecture, landscape
Route 403 (1999-2013)	North Kingstown	Landscape
Pawtucket River Bridge (2010-2013)	Pawtucket	Distinctive architecture, lighting
Discover Beautiful RI Project (2011-14)	I-95, I-195	Landscape, welcome signs, murals
Sakonnet Bridge (2012)	Tiverton and Portsmouth	Distinctive architecture, lighting

Clarence L. Hussey Memorial Bridge

Designed and built in 1925 by the State Division of Public Works, the Clarence L. Hussey Memorial Bridge is located in Wickford. It is the only example of concrete through-arch construction in the state—an experimental engineering design at the time—altogether more notable as for being designed by State engineers.



Mount Hope Bridge

Completed in 1929, the Mount Hope Bridge is a 6,130-foot long steel suspension bridge, the first in the United States to incorporate artistic lighting in its design. It received the 1929 American Institute of Steel Construction Artistic Bridge Award.



Stillwater Viaduct Bridge

The Stillwater Viaduct Bridge is a 450-foot long, open spandrel, three-ribbed, concrete arch bridge constructed in 1933, as part of bridge building campaigns initiated by the State in the 1920s and 1930s. The structure is eligible for listing on the National Register of Historic Places. RIDOT rehabilitated the structure in 2012, maintaining the historic character of its structural elements.



Newport Pell Bridge

The Newport Pell Bridge, constructed in 1969, is a steel suspension bridge that is 11,248 feet in length and spans the East Passage of Narragansett Bay. It is the longest suspension bridge in New England and the eightieth longest in the world.



Providence River Relocation Project

Through the reclamation and redirection of the once-covered Woonasquatucket and Moshassuck Rivers, the Providence River Relocation Project (1988-1992) transformed a blighted area into a refreshed public space attracting thousands of visitors per year. This project created 1.5 miles of pedestrian river walks with twelve new bridges, restoring historical links to surrounding neighborhoods and opening the area to small boat traffic.



Jamestown Parkway

The Jamestown Parkway is a four-lane divided highway traversing Conanicut Island. This section of Route 138 was substantially redeveloped in 1992, designed to complement the scenic and historic vistas by installing distinctive landscape and timber guardrails, and by enhancing rural character through bridge masonry facing and new stone walls installed by Native American artisans using traditional methods.



Pawtucket River Bridge No. 550

Completed in 2013, this new deck arch bridge replaces an earlier bridge on Interstate 95 dating to 1958. Designed with Art Deco treatments and artistic lighting design, the bridge has become the newest visitor attraction to historic Pawtucket. In 2013 the bridge was awarded the American Institute of Architects-Rhode Island Honor Award for Urban Design, and in 2014 the Illuminating Engineering Society Award of Merit.

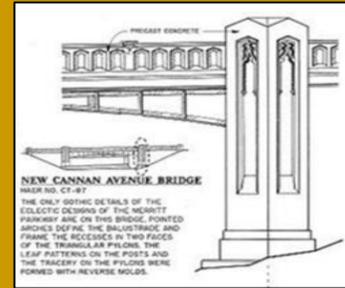


Sakonnet River Bridge

Opened in 2012, the Sakonnet River Bridge is a concrete and steel bridge that includes a separated thirteen-foot wide path for pedestrians and cyclists on its north side. The bridge features LED lighting that illuminates the center median light posts, piers, and bronze plaques that depict the emblems of the State of Rhode Island, Tiverton and Portsmouth. The project earned a Prize Bridge Award from the National Steel Bridge Alliance in 2014.



Merritt Parkway, Connecticut



The Merritt Parkway, completed in 1938, was designed by the Connecticut Highway Department and is notable for incorporating topographic and landscape features in its design. The sparing use of barriers and guardrails further enhances the driving experience. The sixty-nine unique bridges were designed by George Dunkelberger and the landscape was designed by W. Thayer Chase.

The Merritt Parkway's scale and distinctive period architecture, combined with conservative vegetation management, make it one of the most iconic roadways in the United States. The landscape is lush and integrated into the driving experience. Intrusions are minimal. Listed on the National Register of Historical Places and as a National Scenic Byway, the Merritt Parkway sets a new aesthetic standard for limited access highways.

(Sources: <http://loc.gov/pictures/item/cto484>, <http://www.ct.gov/dot/cwp/view.asp?a=4109&q=475074&PM=1>)

2. New Construction Best Practices

2a. Architectural Design Elements

Architectural design elements are distinctive decorative details in highway design, which can include fixtures, plaques or bollards.

Sakonnet River Bridge (Route 24/Route 138)



Day

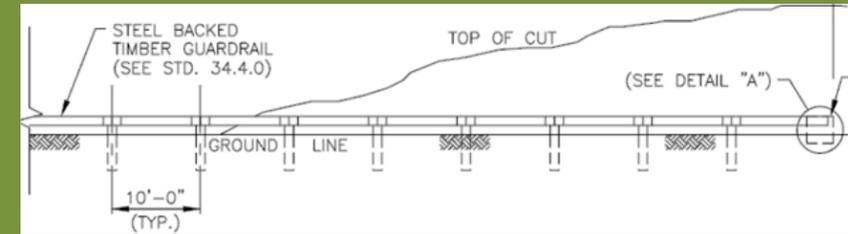


Detail



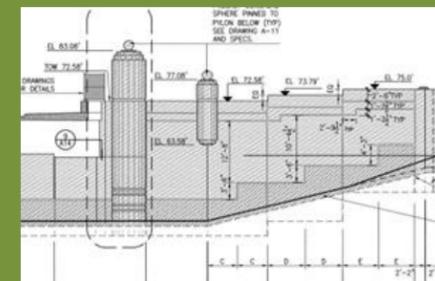
Night

Wood Guardrails



Route 138, Jamestown

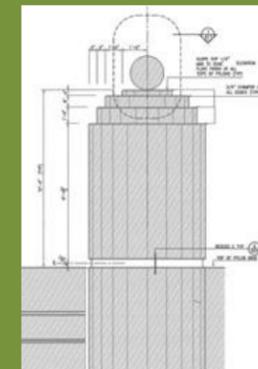
I-Way



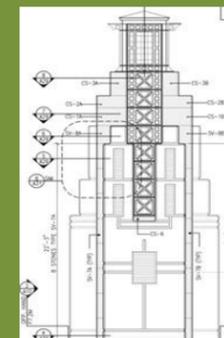
Bridge Abutment Architecture



Bridge Abutment Architecture Detail (Bollard)



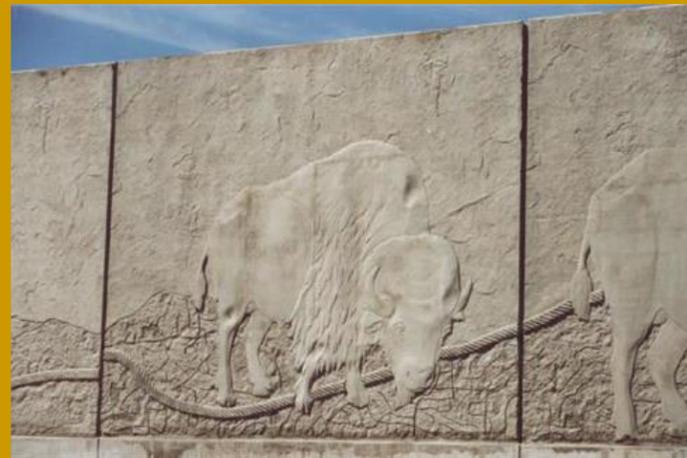
Bridge Light Fixture



2b. Pattern and Texture Treatments

Pattern and texture treatments are shapes, colors, or other distinctive decorative elements which substantially cover hard concrete surfaces to help beautify plain exteriors.

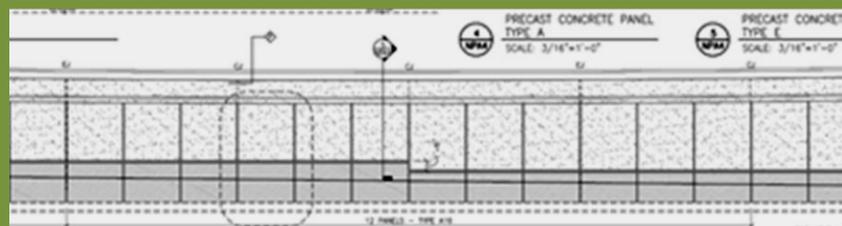
Colorado T-Rex Project



A nineteen-mile stretch of Interstate 25 in the Denver metro area incorporates bas-relief art based on local history and geography, set into precast concrete retaining and noise abatement walls. The imagery includes indigenous grasses and regional birds, such as swallows and magpies, as well as references to farmlands and teepees.

(Sources: <https://www.fhwa.dot.gov/hfl/costory.pdf>, <http://www.braaksmadesign.com/t-rex/>)

Rhode Island -Decorative Vertical Walls



I-95, I-Way, Providence

California, Kansas

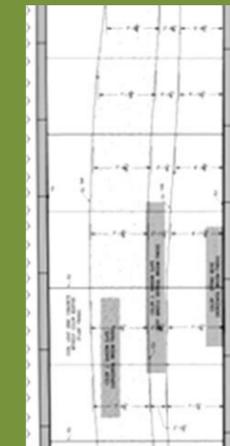


Caltrans, U.S. Highway 101, California



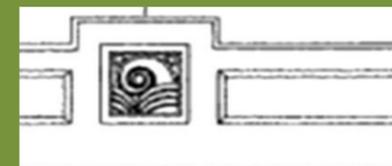
Kansas DOT, U.S. Route 54, Kellogg Woodlawn Interchange

Rhode Island – Median Treatments



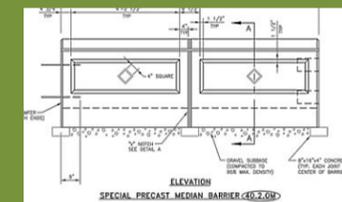
I-95, I-Way, Providence

Concrete median barrier treated with colored dye



I-95, I-Way, Providence

Precast concrete wall imprinted with design



I-95, I-Way, Providence

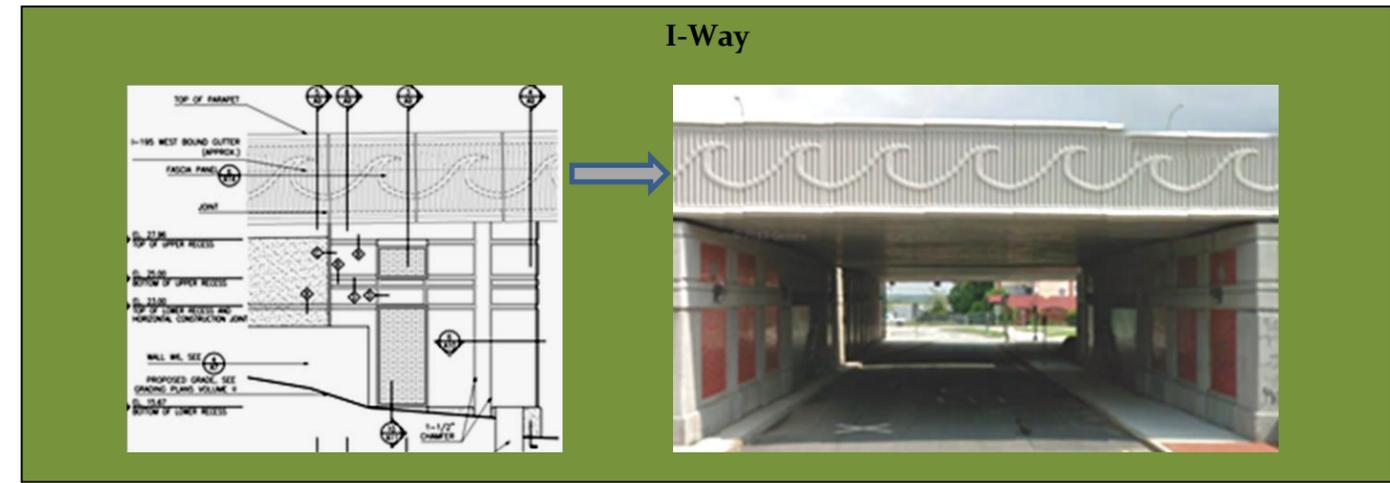
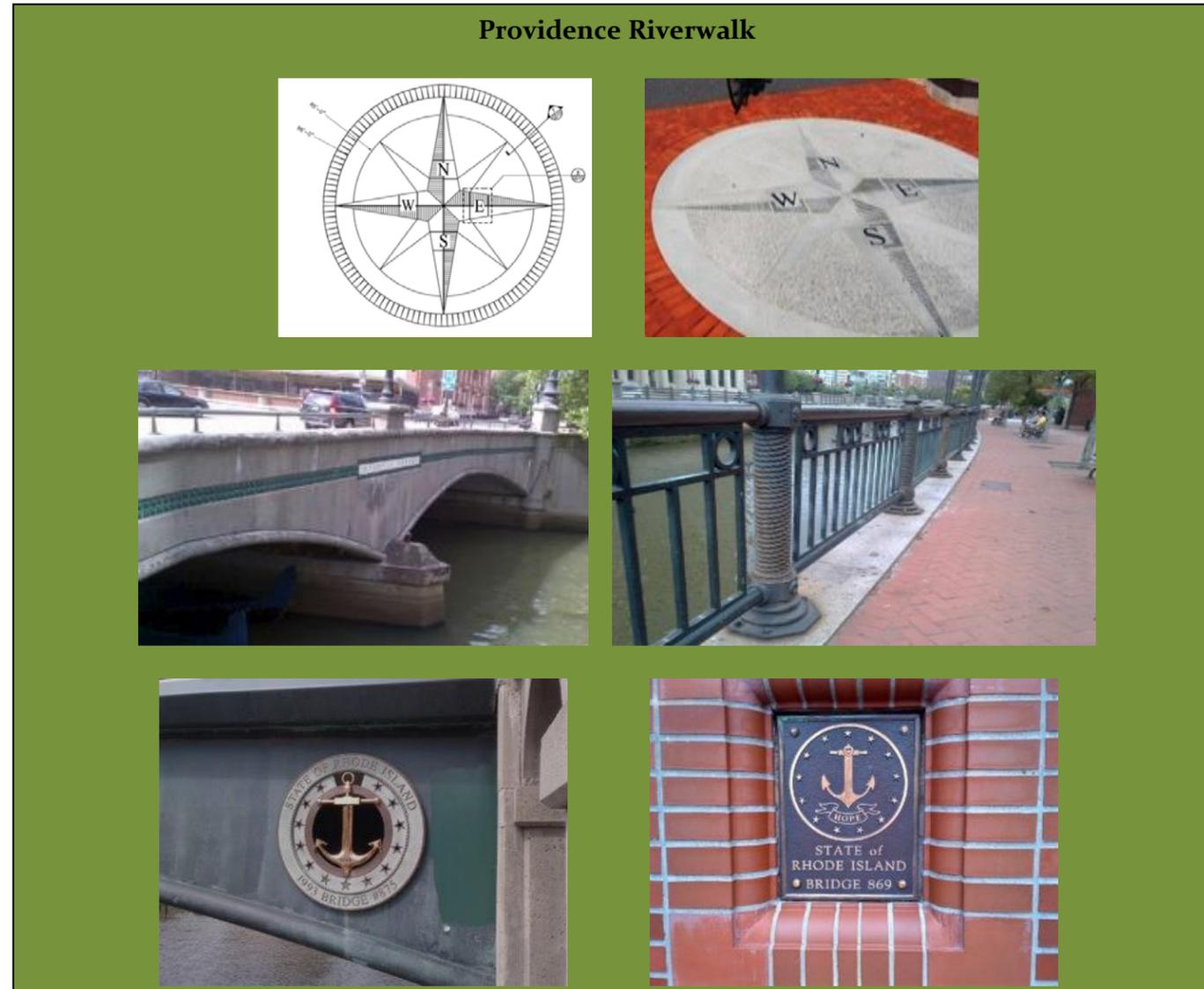
Precast concrete median barrier imprinted with design



3. Aesthetic Enhancements

3a. Signature Details

Signature details are symbols, shapes or figures intended to be standalone decorative elements, accentuating a design element associated with a sense of place.



3b. Aesthetic Lighting

Aesthetic lighting uses designs and fixtures to enhance the visual appeal of a structure. Fixtures are usually embedded within the design of a bridge, underpass, overpass, or highway corridor.



Sakonnet River Bridge



Route 24 and Route 138, Tiverton and Portsmouth

Other Notable Bridge Lighting Designs



City of Minneapolis & Minnesota DOT, I-35W



Florida DOT, Merrill P. Barber Bridge



New York DOT, Niagara River Peace Bridge



Arkansas DOT, Little Rock Bridge

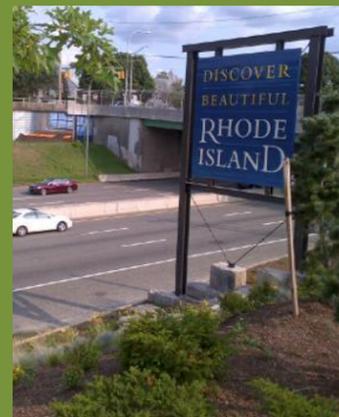
3c. Welcome Signs

Welcome Signs provide an important first impression for motorists.

“Discover Beautiful Rhode Island” Pawtucket Gateway

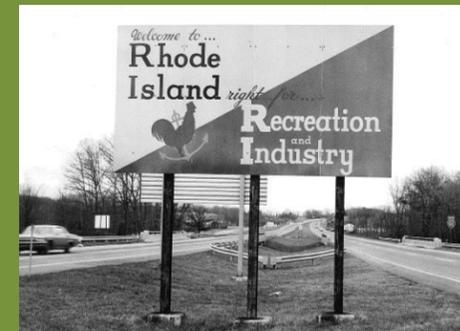


Before 2012-14 upgrades



Completed project

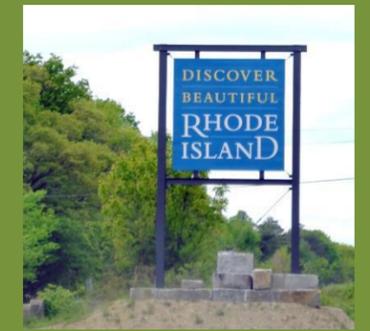
Discover Beautiful Rhode Island



1966



2003



2014

New signs were recently installed at Rhode Island’s major state gateways: I-95 in Hopkinton and Pawtucket, I-195 in East Providence, I-295 in Cumberland, Route 146 in North Smithfield, Route 24 in Tiverton, and on the Airport Connector in Warwick. Smaller versions of the new state welcome sign will be produced and installed by RIDOT at local state gateways.

The “Discover” design was funded by a grant from the Townscape Institute and Preserve Rhode Island. Governor Chafee appointed a review committee for the design process whose members included: Lt. Governor Elizabeth Roberts, RIDOT Director Michael Lewis, Rhode Island Department of Environmental Management Director Janet Coit, Ronald Lee Fleming of the Townscape Institute, Valerie Talmage of Preserve Rhode Island, Jerauld Adams, Vice Chair of the Commerce Corporation, former RISD President Roger Mandle, and artist Gretchen Dow Simpson. The designer was Andrew Barresi of Roll Barresi Associates.

The sign is designed to evoke feelings of Rhode Island’s Industrial Revolution period and its maritime heritage—the logo is based on authentic Colonial paint colors and period granite block quarried in Coventry and Westerly in the 1870’s. Recovered from a previous highway project, this material was recycled to be used as pedestals for the signs.

As the Gateway program was adopted as an element of the State Transportation Improvement Plan (TIP), the larger signs, mural and landscape installations were eligible for federal matching funds.

Survey of State Welcome Signs



3d. Wayfinding Signs

Wayfinding Signs use distinctive logos, color, and font design to affect a local “brand”. They should be aesthetically pleasing and memorable, while effectively directing drivers to desired destinations.

The quality and effectiveness of local wayfinding signage varies greatly. Some municipalities such as Newport and Bristol have distinctively designed signs spatially distributed for maximum visitor benefit and placed in a context-sensitive manner. In other localities, an absence of wayfinding signage is a frequent concern of local business owners and cultural site managers.

A quality program is possible if local government can build consensus among its local community leaders as to designating priority destinations and to design guidelines. The new Rhode Island State Highway Beautification Advisory Committee will support these efforts in collaboration with RIDOT and local communities, to better coordinate wayfinding signage from the highway to local destinations.

The Federal Highway Administration’s (FHWA) “Manual on Uniform Traffic Control Devices” (MUTCD) includes designations for wayfinding signs along limited access roadways - the shape, color and size of these signs dictate specific meanings. Distinctive fonts and graphics are helpful for visitors to discern specific information.

Federal Wayfinding Design Standards



Brown cultural / recreational sign



Green guide sign



Blue service sign

Brown Cultural / Recreational Signs, installed and maintained by RIDOT, direct motorists to parks, historic districts and sites, recreational areas and scenic vistas. Such signs are approved by the State Traffic Commission.

Green Guide Signs are installed at RIDOT’s discretion, and direct motorists to significant institutions or districts. As long as MUTCD standards are met, sign design can include variations in font type, size, and spacing.

Blue Service Signs may be established by RIDOT for specific services that request identification of their business. Eligible service categories are limited to: gas, food, lodging, camping, attractions, and 24-hour pharmacies.

Wayfinding: Raleigh, North Carolina



Wayfinding Signs: City of Newport



In the early 1990s, the City of Newport partnered with the Newport County Chamber of Commerce, the Newport County Convention and Visitors Bureau, the Townscape Institute, and others to create a new wayfinding system based on an original design. Designer Andrew Barresi created the “Newport 1639” brand logo, depicting a white silhouette of a Colonial merchant ship on a field of navy blue. The sign shape and structure are custom-designed as well. Destinations are stated clearly and simply.

The most effective wayfinding sign systems are simple, elegant and employ a high degree of coordination and consistency in color, design and site locations.

Establishing an effective wayfinding sign program is expensive, and depends on community resolve. Design, fabrication, siting and installation of a series of wayfinding signs require local governments and their partners to broker the interests of elected officials, tourism advocates, local businesses, and cultural destinations.

While Newport’s wayfinding sign system has proven highly effective within the City limits, the white-on-blue motif is not able to be extended to its principal highway entrance (Route 138/Newport Pell Bridge) because of Federal standards and specifications for sign colors and fonts.

3e. Murals

Murals are original works of art, installed on walled surfaces, which enhance beauty and sense of place.

Wisconsin, New Mexico, California



Wisconsin DOT, Marquette Interchange



New Mexico, Route 66



New Mexico, Route 84



California, Highway 101



California, I-580

Arizona I-10 Freeway Underpass



Wheat Scharf staff



Freeway Underpass

Wheat Scharf Associates, a local landscape architecture and urban design firm, designed the Arizona I-10 underpasses at Grant Road and St. Mary's Road in collaboration with nearby neighborhoods to create art appreciated by the community. According to Wheat Scharf employee Caryl Clement, "The public wanted two basic things: elements of nature and a sense of identity." The design drew upon natural features specific to Arizona, such as green triangles to represent mountains and streaming blue lines to represent the Santa Cruz River. It also features white tiles depicting the Kitt Peak Observatory, located to the west, and aluminum plaques with images of University of Arizona, located to the east, and bird designs featuring the Harris's hawk, which is common in southern Arizona.

(Source: <http://tucsoncitizen.com/morgue/2008/05/07/84572-is-it-a-freeway-or-a-really-long-museum/>)

Nancy Gaucher-Thomas, Merle Mainelli & Ken Speiser, Eddy Street Underpass



Model



Installation



Completed project

This 300-foot underpass functions as the gateway between Providence's Jewelry District and the Hospital District, which includes Rhode Island Hospital, Hasbro Children's Hospital, and Women and Infants Hospital. In consultation with Brown University architectural historian Dr. Dietrich Neumann, RIDOT designed a new lighting installation, including LEDs to wash the sidewalks with diffused light. To celebrate the 150th anniversary of Rhode Island Hospital, parent company Lifespan "adopted" this spot for the purpose of installing this artwork. Original artwork for the site was created by artists Nancy Gaucher-Thomas, Marle Mainelli, and Kenneth Speiser. Once dark, gloomy, and uninviting to pedestrians, the site now invites drivers and pedestrians to enjoy this vibrant work of art.

Rhode Island's Mural Projects 2011-2014

Governor Chafee's office and RIDOT recruited nationally-recognized artists/illustrators with Rhode Island roots: Anthony Russo, Gretchen Dow Simpson, and David Macaulay. Fidelity Investments, Bank RI, and The Rhode Island Commodores funded honoraria for the artists; Mr. Macaulay subsequently donated two additional original works.

Anthony Russo's mural ("Racing Sailboats") on the Wampanoag Trail overpass on I-195 in East Providence celebrates the 2012 return of America's Cup competition to Rhode Island after 29 years. Mr. Russo's work has been featured in publications such as: the New York Times, the Washington Post, Esquire, and Rolling Stone.

Gretchen Dow Simpson's mural series ("Windows") in the S Curves in Pawtucket exemplifies Rhode Island's industrial heritage, and was inspired by US Interior Secretary Ken Salazar's 2012 visit, in support of establishing a National Park in the Blackstone River Valley. Ms. Simpson's work has been featured on 58 covers of The New Yorker magazine.

David Macaulay integrated whimsical humor with broader themes to create unique art works that engage and entertain passing motorists on I-95. He paid homage to the historic South County landscape in "Stone Wall", and the distinct architecture of the McKim, Mead and White (1904) Rhode Island State House in "State House". His work "Gnomes", on the Shippeeetown Road Bridge in East Greenwich, features astonished characters with their dogs.

Anthony Russo, "Racing Sailboats," I-195, East Providence



Before



Artwork



Completed Project

Rhode Island's Mural Projects 2011-14 (continued)

Gretchen Dow Simpson, "Windows I, II and III" I-95, Pawtucket (2012-2014)



Windows I Before



Installation



Windows II

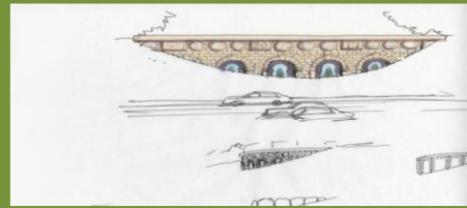


Windows III

David Macaulay, "State House" I-95, Providence (2012)



Before



Artwork



Completed project

David Macaulay, "Gnomes" I-95, Shippeetown Rd, Coventry (2013)



Before



Artwork



Completed project

David Macaulay, "Stone Wall" I-95, Woodville Rd, Hopkinton (2013)



Before



Artwork



Completed project

4. Buffer / Median Management Best Practices

Limited access highways should have clear, safe, and non-distracting lines of sight. Realistically, motorists are often subject to distracting intrusions, especially on highways in urban areas.

Intrusions are visual distractions that may include signs, structures, or façades that feature commercial messages visible to motorists on a limited access highway. Intrusions can be created by commercial, corporate, residential, or even public entities. They take many forms but can manifest as static signs, banners, billboards, luminescent signs, buildings clad in commercial messaging or urban clutter.

These intrusions are often sited due to inconsistency in statutory and regulatory codes or uncoordinated enforcement between state and local authorities, thus limiting efforts to prevent their presence or to mitigate their impact on drivers.

Luminescent signs visible from limited access highways are of particular concern, as they may encroach on drivers' views. When not on state property, RIDOT has very limited legal authority to advocate for controlling, mitigating, or limiting these structures.

"Outdoor advertising" is the legal term for billboards. Subject to the provisions of the Federal Highway Beautification Act of 1965, RI General Laws Chapter 24-10.1 and the 2007 RIDOT Outdoor Advertising Regulations, billboards along most state highways are subject to an annual permit review. The number of permits are limited to almost all billboards that have been in place for many years. Billboards come in three sizes: junior posters (5'x11'), posters (11'x22') and bulletins (14'x48').

4a. Intrusions- Commercial Signage

Intrusions: Banners



I-95, East Providence



I-95, Providence



I-95, Warwick

Temporary banners may be draped over fencing on overpasses or along abutting highways. These are regulated by RIDOT's Division of Property Management and may be permitted under certain circumstances.

Intrusions: Billboards



I-95, Providence



I-95, Cranston



Rt. 10, Cranston



I-95, East Providence



I-95, Warwick



Rt 10, Cranston

Billboards are a primary method of outdoor advertising throughout the nation's interstate system. These large structures can have an adverse effect on the scenic character of the highway, depending on location and context.

Rhode Island began regulating outdoor advertising in 1966, when the General Assembly enacted the Rhode Island Outdoor Advertising Act (RIOAA). The RIOAA ensured compliance with the landmark 1965 Federal Highway Beautification Act (FHBA), which established a regulatory framework for outdoor advertising, prohibited certain types of signs along the nation's interstate system and the existing Federal-Aid Primary System. States were required to develop laws, regulations, and procedures to limit outdoor advertising. The FHBA also encouraged scenic enhancement in roadside development.

In 1990, by a vote of 74-1 in the House and 31-16 in the Senate, the General Assembly passed a landmark comprehensive revision of the RIOAA. The erection of any new outdoor advertising in Rhode Island was outlawed, effectively capping the number of billboards in the state. Governor DiPrete signed the bill into law on July 10, 1990. This was a significant achievement considering that many states do not set a limit on the number of new billboards to be permitted.

After four "static" billboards were converted to digital in 2006, Governor Carcieri imposed a moratorium on the erection of any new digital billboards in Rhode Island. Any future permitting for billboards should be closely coordinated with officials and neighborhood associations in the communities within which the highways are located. Changes in state regulations may be necessary to address: new technologies, luminescence,; billboard size, eligible locations, and context sensitivity standards.

The Rhode Island Highway Beautification Advisory Committee

In Rhode Island, the permitting process for outdoor advertisements, including new technologies like commercial electronic variable message signs, three dimensional signs, and vinyl-wrap signs placed on buildings, is largely governed by municipal ordinances. Occasionally, signage visible from the highway is approved that may have a consequence on highway safety and the accumulative visual impact on the state's highway system.

In consideration of the above, as well as the recent initiation of a number of highway beautification projects incorporating best practices in the installation of art, architectural design elements, aesthetic lighting, coordinated way-finding signage, strategic landscapes, place-making and combating graffiti and visual blight, on October 31, 2014, Governor Lincoln Chafee established the Rhode Island Highway Beautification Advisory Committee.

The mission of the Highway Beautification Advisory Committee is to improve communication and coordination between state and local officials with regard to erecting new commercial signs visible from the state highways, as well as for planning purposes, including the design, siting and installation of quality way-finding signage to benefit visitors to the state.

The purpose of the Committee is to:

- Improve coordination of permitting relating to new commercial signs penetrating highway view sheds
- Keep informed (through the Rhode Island Department of Transportation) of impending zoning notifications and work with local planning, zoning, and building staff to advocate for limiting sign intrusion into the highway lines-of-sight
- Make recommendations on way-finding signage strategies for local and regional areas, and advise the Rhode Island Department of Transportation on best management practices for design and management standards relating to the aesthetic appearance of state highways
- Review and provide written comments relative to any proposed amendments to the Outdoor Advertising Regulations
- Conduct a visual survey of all the state's limited access highways to identify possible violations of the Rhode Island Outdoor Advertising Regulations

The Committee consists of representatives of the following:

- Director of the Department of Transportation
- Director of the Department of Environmental Management
- Associate Director, Rhode Island Division of Planning
- One of the five regional Convention and Visitors Bureaus
- Providence Planning Department
- A city planning department other than Providence
- American Society of Landscape Architects
- Scenic America
- Society of Experiential Graphic Design

The Committee meets quarterly with the Director of Transportation and Associate Director of the Division of Planning, and issues annually a report of their activities to the State Planning Council.

Intrusions: Commercial On-Premise Signs

Digital Signs



I-95, I-Way, Providence



I-95, Providence



Route 10, Providence

Pole Signs



I-95, Warwick



I-95, Providence



I-95, Pawtucket

Clearly, a local business should have the right to have its sign facing traffic on the street on which it is located. However, if it is near a freeway, is it entitled to a **pole sign**, as much as three or more stories high, and/or a bright or even animated **digital sign**, to intrude on the attention of tens of thousands of vehicle occupants? Local zoning regulates signage, and RIDOT has limited capacity to protect highway viewsheds. The accumulation of local commercial signage on state highways undermines Rhode Island's cultural and scenic character.

The Rhode Island Highway Beautification Advisory Committee has been created to monitor the permitting of such signs and advise RIDOT and municipal officials of potential impacts to state highway vistas.

Intrusions: Vinyl Wrap



Washington, DC



Vinyl wrap affixed to chain link fence

A relatively new advertising method which impacts the quality of highway viewsheds, is the mounting of large-scale vinyl signs, or "wraps," on buildings adjacent to highways.

Intrusions: Roadside Memorials



I-95, Pawtucket



I-95, Cranston

Roadside memorials are an emerging national phenomenon. Most are simple, discrete, and intended to be temporary. While others are substantial and frequently replaced when removed by RIDOT staff. Given sensitivities, this is a challenging area of state policy.

Florida's Memorial Marker Program



The FDOT's Memorial Marker Program provides a round, 15" diameter aluminum sign with a white background and black letters mounted to a 5 foot post. An inscription "Drive Safely, In Memory" followed by the deceased's name. FDOT manufactures the markers and provides them free to the public. The marker can remain on the right-of-way for one year. They may not necessarily be placed at the exact location where the fatality occurred due to restricted space, safety concerns, abutting property owner complaints, or other constraints. FDOT reserves the right to have them removed due to construction or other maintenance needs. Requests for memorial markers may be made by immediate family members or friends, with requests from friends requiring the approval of the deceased's immediate family.

(Source: <http://www.dot.state.fl.us/statemaintenanceoffice/memorial%20markers.shtml>)

Intrusions: Political Signs



I-95, Cranston



Rt 146, Smithfield

During the election season political signs proliferate along Rhode Island's roadways. Favorite sites seem to be traffic islands or buffers at highway entrances and exits, where lawn signs abound. One perennial candidate screws homemade signs deep into trees abutting a highway, and others have covered a tractor trailer with a sheer vinyl sign and parked the trailer adjacent to the Interstate.

4b. Vegetation Management

Managing vegetation within the edges and the median of highways is a major challenge. These areas have a high public profile, are subject to difficult environmental stresses, and require significant ongoing maintenance. Aesthetic qualities and resource efficiencies can be enhanced by policies that limit trimming and cutting, installing strategic plantings to obscure intrusions, and provide for ongoing upkeep.

A Case for Controlling Vegetation Management on State Property



I-95 at Elmwood Avenue, Cranston. This venerable Elm tree located on state property died as a result of aggressive trimming by private contractors to increase the visibility of a billboard.

Progressive Vegetation Management Policies

New Hampshire: “New Hampshire does not allow the cutting, trimming or pruning of vegetation to increase the visibility of signs.”

Texas: “Texas does not allow a sign owner to remove vegetation on a state right of way that impairs the visibility of a sign. We have cancelled permits of sign owners caught doing so.”

Delaware: “Delaware DOT’s current Outdoor Advertising Program rules and regulations specifically prohibit any destruction of trees or shrubs within the right of way of any highway for the purpose of increasing or enhancing the visibility of an outdoor advertising sign.” Penalties provide for criminal prosecution, revocation of sign permit(s) involved and appropriate corrective action for tree/shrub replacements.”

Montana: “Montana DOT does not allow anyone in the right of way to cut vegetation. Our maintenance crews do the vegetation control. Additionally, we do not allow sign owners or landowners within the right of way to work across the right of way fences.”

Kentucky: “Kentucky does not allow any removal of vegetation in front of billboards. The Division of Maintenance would handle this permit activity if it were allowed.”

Progressive Vegetation Management Policies (continued)

Nebraska: “Nebraska does not allow vegetation maintenance on right of way for billboards.”

Idaho: “The Idaho Outdoor Advertising Program does not allow the clearing of vegetation in the right of way for the visibility of billboard sign faces.” “Idaho’s rules governing outdoor advertising are found in the Idaho Administrative Procedure Act (IDAPA 39.03.60)...states “the destruction of trees or shrubs in the highway right of way will be cause for permit or license revocation.”

(Source: National Alliance of Highway Beautification Agencies Survey Results 2004)

Rhode Island Highway Vegetation Management Policy

“Attractive roadways without clutter and unsafe distractions are critical to our economy and should be a distinctive characteristic of Rhode Island’s landscape. Considering the state’s new investments in highway beautification, including murals, re-vegetation, and new custom-designed welcome signs, it is counter-productive to compromise such investment by allowing private commercial interests permission to access public land for the purpose of cutting vegetative buffers on highways. Therefore, it is the policy of the State of Rhode Island that on land held in the public trust, no vegetation is to be removed for the purpose of increasing the visibility of any private property. RIDOT should enforce this policy to the maximum degree possible.”

-Governor Lincoln Chafee, March 21, 2013

RIDOT Reduced Mowing Policy



Route 4, East Greenwich



Route 4, North Kingstown

In 2010 Rhode Island revised its Mowing Guidelines to help reduce costs and improve natural habitats. With two main parties responsible for 1100 linear miles of limited access roadway, efficiency is of the essence. Four distinct categories were created, ranging from “High Management Area” to “No Mow Area.” Depending on the assigned classification, the region is mowed: frequently, multiple times a year, once a year, or not at all. Regardless of the designation, attention is still given to the maintenance of dead or dying trees when they present a hazard to the health and welfare of the roadway users. Mowing designations are assigned based on an area’s character and horizontal sight distance. In addition, during summer months, RIDOT has adopted a reduced mowing policy, allowing grass to grow longer in areas outside of clear zones. Grass helps to absorb storm water and capture runoff from the roads; this policy also helps RIDOT to reduce emissions from heavy equipment and cut operational costs.

(Source: Memorandum to Director Lewis, <http://www.dot.ri.gov/about/protecting.php>)

4c. Intrusions - Graffiti

Graffiti is a type of intrusion that can distract drivers along limited access highways. Graffiti is perceived to represent disorder or chaos, and thus, authorities strive to keep graffiti to a minimum, especially on state property. A wide range of techniques and theories exist to help deter graffiti, such as planting, murals, and covering over with larger, uniform gray-painted rectangles.

More successful approaches to deter graffiti include strict enforcement and prosecution, coupled with education and the engagement of those who are tempted to “tag” public property.

In 2011, RIDOT changed its graffiti abatement strategy from a simple minimal paint-over to painting over graffiti in large, uniform rectangular areas with a standard dark gray paint. This practice is much more aesthetically pleasing, and has proved highly effective—incidents of graffiti within the interstate system have dropped dramatically. Now, painting over tagging within the gray areas is relatively easy to accomplish.

Painted Gray Rectangles Deter Graffiti



Previous abatement method, I-95, Pawtucket



I-95, I-Way, Providence

Plantings to Obscure Graffiti-Prone Areas



Route 10, Providence

In the spring of 2012, RIDOT installed plantings located on the east side of Route 10 northbound in Providence. At the time of planning and installation, RIDOT was looking at urban locations that were likely graffiti targets. To deter vandalism and reduce efforts to repaint the walls, a mixed evergreen planting was installed at a cost of approximately \$20,000. These plantings have deterred graffiti in that location.

4d. Strategic Landscape Installation

Strategic landscape installation refers to plantings that are purposefully installed at specific locations along a highway’s right-of-way to buffer intrusions.

Refreshed I-95 Gateway, Pawtucket



In recent years, the I-95 northern-most entrance to Rhode Island had seriously deteriorated to the point that entering the state was a rather jarring experience. RIDOT recently planned and installed a new and substantial landscape installation to complement the new “Discover” welcome sign and murals.

Florida and Oregon



I-95/I-595 Interchange, Florida



I-205, Oregon

Well-Landscaped Buffer Areas



Route 95, I-Way, Providence



Route 403, North Kingstown



Route 403, East Greenwich



Route 1, North Kingstown



Route 95 I-Way, Providence



Route 95, I-Way, Providence



Route 24, Tiverton



Route 138, Jamestown

Landscape Buffers in Other States

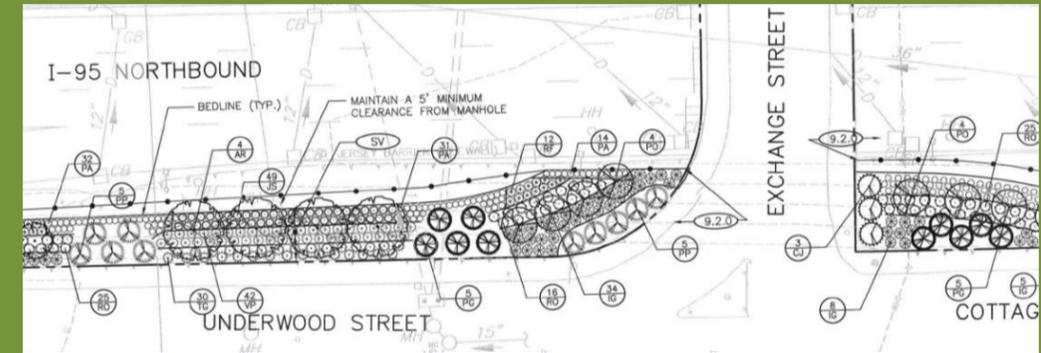


I-71, Ohio DOT



I-85, North Carolina DOT

Refreshing the I-95 Gateway



Vegetation Plan for Exchange Street overpass, Pawtucket



New plantings installed on ramps

4e. Overhead Wire Relocation Projects

Large scale power-line infrastructure—often located along highways—can be detrimental to the scenic character of a roadway. Significant efforts are underway to bury the power lines located along I-195 across the Seekonk River. These efforts represent a collaboration between federal, state, and city agencies, as well as citizens groups and privately-owned public utility companies. To date, \$17.5 million has been secured to help complete this project.

India Point Park High Capacity Transmission Lines



India Point Park, Providence



Seekonk River, Providence & East Providence

4f. Buffer Management: Rhode Island's Highway Adoption & Sponsorship Programs

States often combine Adopt-A-Spot and wildflower programs to clean, beautify, and maintain the rights-of-way. Highway beautification efforts across the United States have increasingly incorporated wildflowers. They require little maintenance, decrease CO₂ levels, and bolster native insect populations

Arkansas, Maryland, New Jersey, North Carolina, South Carolina, and Texas Wildflower Programs



Arkansas



North Carolina



Maryland



South Carolina

Arkansas has over 1,000 miles (200,000 acres) of wildflowers within their state highway system. They have promoted the program with a "Wildflower Route," including a map outlining where wildflowers are located. They also utilize a "Wildflower Sign Program," identifying wildflowers to increase public knowledge.

Texas has an extensive wildflower program—which draws tourists at peak season every year. Online reports track what flowers are blooming. The Texas DOT budget includes annual funding for seed purchases.

New Jersey has a specific branch of "Adopt-A-Highway" dedicated to wildflower projects. Volunteer groups can sponsor a highway section and plant flowers. A sign is installed on that section of highway to recognize the group or individual who has made the implementation possible.

Pennsylvania offers an "Adopt and Beautify" branch of their Adopt-A-Highway Program. This branch is specifically designed for those volunteers that would like to expand on PennDOT's efforts to cultivate wildflowers along the highway.

(Sources: <http://www.dep.wv.gov/dlr/reap/ow/Pages/default.aspx>,
<http://www.txdot.gov/inside-txdot/division/maintenance/wildflower-program.html>,
http://www.arkansashighways.com/wildflower_program/wildflower.aspx,
<http://www.state.nj.us/transportation/community/cleanupnj/wildflowers.shtm>,
<http://www.modot.org/services/community/adoptahighway.htm>,
<http://www.dot.state.pa.us/Internet/Bureaus/pdHwyBeau.nsf/HomePageHighwayBeautification?readform>)

Case Study: Iowa's Vegetation Management Programs

- Approximately 52,180 acres (as of 2013) of Iowa's roadsides have been enhanced or vegetated with native grasses and wildflowers
- As of 2013, over 2.1 million trees/shrubs have been planted in Iowa roadsides since 1990
- In 2013, the Iowa DOT planted approximately 54,068 trees and shrubs

Living Roadway Trust Fund: This fund supports Integrated Roadside Vegetation Management (IRVM) activities and equipment. Grants are awarded to eligible applicants and range from \$2,000 to \$10,000. Since 1990, more than \$17 million has been awarded for research and demonstration projects, vegetation inventories, education and training programs, gateway landscaping, snow and erosion control, and roadside enhancement and maintenance. In FY 2013, \$814,000 was awarded to 48 projects.

DOT/DNR Roadside Planting Program: This partnership, between the Iowa Department of Transportation and the Department of Natural Resources, includes an annual fund of \$300,000 (subject to funding availability), with a maximum of \$100,000 per application per year. As of 2003, the program was responsible for the planting of more than 1.3 million trees and other woody plants on Iowa's public lands.

Roadside Maintenance and Enhancement: The maintenance includes roadside mowing and spot herbicide applications. Approximately 216,300 acres of roadside right of way are maintained by the state.

New Highway Construction: Iowa requires that each area is seeded with native species, and they include these costs in the standard budget.

Adopt-A-Highway and Roadside Planting Sponsorship Program: This program allows groups to select a portion of highway right-of-way to plant trees and other shrubbery, or to remove litter. IOWADOT ensures that these individual projects are appropriate and safe.

Private Sponsors: Private Citizens and civic groups are encouraged to establish and maintain plantings on highway rights-of-way. As with Adopt-A-Highway and Roadside Planting Sponsorship Program, IOWADOT ensures that these individual projects are appropriate and safe. Certain interests groups such as Garden Clubs or Scouts, utilize the Living Roadway Trust Fund to pursue private establishment and maintenance.

(Sources: http://www.iowadot.gov/plant_guide/plant_profiler.pdf,
<http://www.iowadot.gov/about/RoadsideMaintenanceAndEnhancement.html>,
http://www.iowadot.gov/pol_leg_services/Funding-Guide.pdf)

Marc Masteller of the Iowa DOT)



Rhode Island's Highway Adoption & Sponsorship Programs

Adopt-A-Spot

This program was designed for the creation of flowerbeds in small locations such as traffic islands, median strips, and other undeveloped areas on local roads controlled by the state. Each application must provide a proposed landscaping plan or sketch, a two-year maintenance schedule, and proof of liability insurance. There is currently no wildflower program in place.

Adopt-A-Highway

Volunteers agree to adopt a two-mile section of state highway (with a speed limit of 35 mph or less) for a period of two years and conduct litter removal activities within that section. These volunteers may be individuals, families, organizations, or businesses. The minimum is four litter removals per year, verified through submission of a "Clean-up Report Card". Signs can be placed at each end of the adopted segment of highway, and they can be purchased through RIDOT, which charges small signs (18" x 24") at \$196.28 (these are free to non-profit organizations) and larger signs (30" x 36") at \$310.98.

Sponsor-A-Highway

This program is a means for businesses, private citizens, organizations, non-profit groups, and/or individuals to help their state by sponsoring a two-mile segment of highway. Designated sections of highway are available for sponsorship along I-95, I-195, Rt. 4, Rt. 10, Rt. 24, Rt. 78, Rt. 146, US 6, and the Airport Connector. The business, organization, non-profit, or individual partners with a litter removal company, and this litter removal company performs regular cleanups. The sponsor chooses the company and a monthly fee is paid. In exchange, the company cleans a two-mile stretch of high-speed roadway nineteen times per year. In recognition, a sponsor panel sign is placed along the highway, RIDOT's way of thanking participants in the program.

(Sources: <http://www.dot.ri.gov/community/adopta/sponsorahighway.php>,
http://www.dot.ri.gov/community/adopta/adoptahwy_signs.php,
http://www.dot.ri.gov/community/adopta/adoptahwy_FAQ.php)

RIDOT Adopt-a-Highway Wildflower Program

RIDOT is investigating opportunities to create a state initiated wildflower program for planting wildflowers along our highways. Some other states have developed programs under the guidance of "Operation Wildflower," the voluntary cooperative program between FHWA, the National Council of State Garden Clubs and state agencies. Some states link their programs to Adopt-a-Highway. RIDOT is evaluating the best way to implement a program that can be sustained long-term.

Rhode Island Beautiful Gateways Project 2011-2014

Lincoln D. Chafee, Governor

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The Rhode Island Division of Motor Vehicles unveiled a new license plate design that matches the "Discover Beautiful Rhode Island" signs. The new plates will go into circulation in 2015.