

CITY OF MONTGOMERY, TEXAS



REQUEST FOR PROPOSALS For STREET CORRIDOR LANDSCAPING PLANNING

July 18, 2017

**REQUEST FOR PROPOSALS
STREET CORRIDOR LANDSCAPING PLANNING**

The City of Montgomery is accepting Proposals for Street Corridor Planning in the City limits. The street corridors initially to be involved include: Lone Star Parkway from SH 105 west to FM 149, Lone Star Parkway from FM 149 west to SH 105, FM 149 from SH 105 south to City Limits, SH 105 from Lone Star Parkway west to FM 149 and FM and that 1097 from east city limits to FM 149. The work needed includes: developing a landscaped corridor Master Plan (Plan) for the five corridors (one at a time, progressively in the order of the corridors listed above), the Plan should include aerial maps of the corridors with drawings/sketches/designs of the landscaping features to be placed, horizontal drawings/sketches/designs of the landscaping features at key locations, details of the plants/trees, landscape materials to be placed and dirt to be moved. Attendance at public meetings and presentation of the design is expected.

The City is thinking that Rural corridor design is the appropriate aesthetic design characteristic for the corridors listed, although Urban design principles may apply, the determination will be discussed with the City Planning Commission before detailed design begins.

As a guide to the type of consideration for the design desired, attached to the full RFP document that is available to each Respondent is Section 4: Landscape and Aesthetics Design Manual: Highway and Transportation Corridors of the TxDOT Design Manual.

A Letter of interest along with documentation of Qualifications (20 copies) are due in the office of the City Secretary, by Mail: P.O. Box 708, Montgomery, TX 77356 or Hand Delivery at 101 Old Plantersville Road, Montgomery, Texas 77316 on or before 3:00 p.m., August 10 , 2017.

For further information you may contact Jack Yates, City Administrator at 936-597-6463 or at jyates@ci.montgomery.tx.us.

Susan Hensley, City Secretary

Section 4: Highway and Transportation Corridors

Overview

The physical and visual relationship of the roadway to its surroundings is a key factor in the aesthetics of the roadway. A corridor is defined as a long, narrow passageway. While we tend to think of corridors in association with building, the corridor concept applies to highways as well. The concept is useful because it prompts the designer to consider the linear nature of the roadway as a movement in space and time. Figure 1-2 shows the concept of a rural corridor, and Figure 1-3 shows the concept of an urban corridor.



Figure 1-2. The visual definition of rural corridors is determined by landform changes, vegetation, and distant views.



Figure 1-3. Urban corridors tend to be linear and are visually defined by the surrounding architecture and alignment of the roadway.

As individuals move along corridors, their perceptions change as the character of roadway and the surrounding landscape change. Sections of roadway usually maintain a particular character for a distance, which can also be

described as a unit of time. Areas that are in view for a longer period tend to take on greater significance in the viewer's perception of a place.

Changes in the character of the landscape usually occur at important landmarks that people use to orient themselves (see Figure 5-8). Landmarks may be very subtle, such as a distinctive building, bridge, or an intersection. More dramatic changes are usually associated with changes in topography, panoramic vistas, river crossings or views of large water bodies.



Figure 1-4. Landmarks can be important orientation elements that may also carry cultural significance for a community.

The contextual landscape can be grouped into two categories, urban and rural. While there is variation within each category the basic aesthetic considerations are similar within each category. Sections in this chapter cover the following aesthetic considerations for roadway corridor design:

- corridor segments as a unit of design
- defining a corridor segment
- urban corridors
- urban design principles and application
- rural corridors
- rural design principles and application

Corridor Segments as a Unit of Design

TxDOT develops highways in project units. Project limits are based on concerns of budget, construction sequencing, buildability, environmental fit, and other issues of priority and need. However, user understanding and experience of traveling on highway are strongly related to travel patterns and cultural sense of the city or region.

Researchers have found that highways tend to be perceived as edges or boundaries that segregate parts of the city or landscape. Interchanges and intersections are perceived as nodes or gateways to precincts that are usually identified in terms of their land use. Structure, such as major bridges, are seen as landmarks used for orientation.

These facts argue strongly for design approach that recognizes perceived cultural boundaries and deals with the landscape and aesthetics design of highway system as corridor segments rather than on a project basis.

Defining a Corridor Segment

The limits of a corridor are essentially defined by the perception of the resident population of a city or region. The sense of corridor limits tends to grow up with the city. For example, in Houston there is no formal land use designation of "Museum District" but Houstonians will generally agree that it lies south of US 59 between South Main Street and Montrose. This is one example, but every community has some sense of corridors, and where the beginning and ending point are. Designers working on the development of landscape and aesthetics plans should work with local residents to identify meaningful corridor units.

Urban Corridors

This visual character of an urban corridor tends to change more rapidly when compared to changes in a rural setting. This is due to the visually distinct characteristics of various abutting land uses and the limited area likely to be occupied by a given land use. Some design characteristics that affect aesthetic design decisions in urban areas include the following:

- social and cultural influences
- impact of adjacent land use
- visual complexity
- views
- bicycle and pedestrian access
- environmental mitigation

Social and Cultural Influences. Social and cultural patterns have a marked impact on what will constitute an acceptable design solution. Increasing the population close to the highway increases the potential for conflicts between special interests and those with the responsibility for the design of the transportation infrastructure. More intense land use means that there is a closer contact with the highway and associated structures. Land uses in close proximity to the highway are more affected by noise and vibration, stray light and other impacts associated with highway operations.

Impact of Adjacent Land Use. Adjacent land use establishes the character of the landscape. During the design process a conscious decision must be made as to whether the highway should be blended with the surrounding landscape or allowed to contrast. The basis for this decision involves consideration of the engineering properties of the highway, cross section, structures, and operational needs in relation to the character of the landscape. It is usually desirable to keep the highway visually neutral in residential and commercial area while in larger scale landscapes such as industrial zones it may be desirable to design for visual contrast.

Visual Complexity. The urban setting is dominated by structure connected by a network of transportation links and utilities. The aggregation of building, streets, drives, signs, power distribution lines, light standards, etc., combine to create a very complex visual environment. Drivers, pedestrians, and bicyclists are required to extract from the visual scene information appropriate to the individual situation. As the visual scene becomes more complex the task of interpretation becomes more demanding. Recent research has demonstrated that older adults and inexperienced drivers often have trouble interpreting and reacting to visual information.

Views. Views to and from the highway are very important. In residential areas it is usually desirable to restrict views to and from the highway corridor. However, in commercial, institutional, and industrial zones maintaining views to and from properties becomes very important. Businesses in particular depend on being seen from the highway. Likewise, open views of business and public properties tend to reduce vandalism and other criminal activities.

The viewsheds in an urban landscape tend to be limited. Panoramic views in urban settings are most likely associated with high bridge structures or roads that ascend major topographic features. Buildings and other structures usually obscure the natural horizon. Therefore there is less sky and a more shadow. Shade will wash out contrast in color and texture and can make it difficult for viewers to distinguish colors and materials. The lack of natural references increases the reliance on landmarks and other information devices in way finding.

Bicycle and Pedestrian Access. Bicycle and pedestrian access has been mandated under *Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)* and Transportation Equity Act for the 21st century (TEA-21) legislation. TxDOT seeks to provide safe accommodation of pedestrians and cyclists on all state maintained right-of-way. The AASHTO *Guide for the Development of Bicycle Facilities* is the basis for detailed design of bicycle facilities. The authority for pedestrian facilities is the AASHTO publication *A Policy on the Geometric Design of Highways and Streets*.

Environmental Mitigation. Environmental mitigation embraces a broad scope of activities dealing with issues of air quality, water quality, noise and vibration, and environmental justice. Environmental mitigation requires a variety of structural features that can be incorporated as landscape and aesthetic assets at no additional cost.

Urban Design Principles and Application

This section provides basic design principles that can be employed to address urban landscape characteristics. Each of these principles is broad, and intended to give designers a point of beginning when making design decisions about materials, colors, forms, and levels of design complexity in an urban setting.

- Use the public participation process to understand the social and cultural influences acting in a project area and avoid conflicts with special interests.
- Consider adjacent land use as a paramount consideration in making design decisions.
 - The colors, textures, material, and scale of adjacent structures should influence selections for the highway.
 - When noise and vibration mitigation are necessary, design should be integrated into the highway as well as influenced by adjacent properties.
 - The form of land and other structures should complement the adjacent land uses to the extent possible.
 - Views to important community landmarks should be identified and maintained.
 - Views to commercial properties should be maintained or enhanced.
- Reduce visual complexity where possible. Techniques that can be employed are:
 - Use vertical screens to reveal landscape and highway elements in understandable sequences. For example vegetation can be placed to divide a complex scene into a series of understandable spaces.
 - Where possible, maintain or enhance the views to commercial properties.
 - To the extent possible reduce the number of free standing signs.
 - Compose signs in a way that reduces visual complexity.
- Utilize environmental mitigation requirements as an integral part of the aesthetic design decision process.
 - Utilize noise mitigation as visual screens and structural landscape elements.
 - Utilize water quality and flood control basins as features to complement the landscape of interchanges and other highway design elements.
 - Integrate historic, cultural, and scenic themes into structural details of the highway.
- Use design elements to manage desirable and undesirable view to and from the highway.

- Early in the design process alignment and landform can be used to good advantage to manage views to and from the highway.
 - Traffic barriers, vegetation, signs, fences and walls of all types are effective tools for managing views to and from highway.
 - Use contrast in material color, texture, and scale to draw attention to important points along the highway corridor.
 - In shaded areas use shape color contrasts to help observers distinguish between driving lanes, shoulders, vertical, and horizontal surfaces of the highway.
 - Use more intense colors on surfaces that receive some shading because the intensity will be diminished by the shade.
 - Use very bold, rough textures on surfaces to make them more visible.
 - Plants with coarse texture will be more effective than small leafed plants.
 - Trees should be planted so they break the horizon line of sight. If trees are planted on a slope so that they do not break the horizon they will appear to be little more than a different shade of green.
- To the extent possible, bicycle and pedestrian traffic must be accommodated with the right-of-way.

Rural Corridors

Rural corridors have aesthetic design characteristics quite different from urban settings. The key properties of a rural corridor are:

- The natural or agricultural landscape dominates the visual field.
- Viewers perceive more of the adjacent land.
- There is less visual change in the landscape.
- The landscape is visually simple.
- Views extend far beyond the right-of-way.
- The scale of the highway is perceived as smaller in relation to the rural landscape.

Dominance of the Natural Landscape. In the rural landscape the natural landform and vegetation dominate the visual field. Structures such as farmsteads, barns, or small subdivisions of single family homes are viewed as individual objects within the landscape as opposed to objects that compose the landscape. This makes the highway read as a ribbon of pavement through the landscape and the boundaries of the right-of-way become blurred. There is also less variation in color. Generally greens, warm grays, and muted blues dominate the color palette. This means that the introduction of bright colors, particularly reds and yellows, will quickly draw attention.

Perception of a Larger Landscape. Traffic volumes tend to be lower and traffic less concentrated in the rural setting. While this is not always true on the interstate highway system, it has the effect of widening the cone of vision. As the cone of vision increases the view extends further into the landscape and there is less focus on the immediate right-of-way. Observers tend to perceive more of the landscape than they will in a confined urban condition.

Perception of Change in the Landscape. The rural landscape is much more uniform in its visual properties and does not change character rapidly. If the landscape is forested it will usually remain forested for a considerable distance and if it is agricultural cropland it will also remain so for some time. This simplifies the driver's workload because there is much less visual information to be interpreted.

Perception of Scale. In the rural landscape the perceived scale of the highway is much smaller than in a confined urban setting. Drivers perceive that the natural landscape is larger than the highway and it's

associated structures.

Rural Design Principles and Application

This brief discussion of rural landscape characteristics suggests some aesthetic design principles that should guide development of landscape and aesthetic plans. Each principle is general and only a guide to making aesthetic design decisions about materials, colors, forms, and visual complexity in a rural setting.

Importance of the Natural Landscape. The natural landscape of a rural highway tends to be visually dominant. Therefore landscape improvements should be designed to supplement or enhance the existing conditions. This may include activities such as:

- marking community entrances
- enhancing existing vegetation
- screening or focusing views

Scale of the Rural Landscape. The scale of the rural landscape requires dramatic contrast if an introduced design feature is to be effective.

- Colors that contrast with the basic background colors will be the most effective in the rural landscape. Other colors will simply fade into the background.
- Limit ornamental planting to very large shrubs and trees that will break the horizon line or line of sight.
- Use the features of the existing landscape where possible. Add structural features and plant materials so that they complement existing landscape features.

Change in Visual Character. The landscape character changes infrequently in a rural setting and the views are less complex.

- The pattern of the landscape changes slowly in the rural landscape. This means the areas of greatest importance are the transition points. For example, moving from open pastureland into a forested area marks a distinct change.
- There is much less information to process in a rural landscape, and drivers tend to relax. This has been linked to the loss of driver concentration and possible mistakes that could lead to accidents. For this reason designers should be alert to opportunities to add interest to the rural setting.

Viewsheds. Viewsheds tend to extend well beyond the boundaries of the right-of-way.

- Views tend to be less focused on objects.
- Because the landscape area is much larger, small disturbances or unattractive occurrences tend to have much less visual impact.
- Edges and boundaries are the most sensitive to change because they form the background or end of a viewshed.

Perceived Scale. The perceived scale of the roadway is smaller in the rural landscape.

- The pavement tends to be the only visual reference to the roadway in an open landscape, which minimizes the perceived scale of the roadway.
- In forested land the mass and height of the trees tends to dominate the scale of the road.
- Because of the perceived scale it is difficult to achieve sharp contrasts with the landscape and architectural forms.

- Contrast in a rural landscape is best generated with the use of color.