CHAPTER 8 : AESTHETICS AND LIVABILITY

OVERVIEW

Community aesthetics and livability have historically been given low priority during the development of transportation projects. Yet potential impacts on aesthetics and community character are often the source of community resistance to transportation projects. This is because aesthetic impacts are easily understood, emotional and highly subjective. Civic pride is often associated with the aesthetic and visual qualities of a community — qualities that make a community unique among its neighbors and special to its residents.

Inattention to aesthetics and cultural resources during project development and design can adversely affect cherished community resources and greatly increases the likelihood of active opposition to a proposed transportation project. For these reasons, the Project Development and Environment (PD&E) Manual (Section 15-1) requires consideration of aesthetic and visual impacts during the PD&E process. Any project where a genuine concern is expressed for the aesthetic character of a community and where members of the community are included in the development of solutions will have a greater chance of success.

UNDERSTANDING POTENTIAL IMPACTS

A community aesthetic and visual resource can be broadly defined as a natural or cultural feature of the environment that elicits positive sensory reactions and evaluations by the observer.\(^1\) Examples might include street trees, scenic views, historic districts and structures, local landmarks, and cultural resources like libraries, town halls, civic centers and college campuses. An aesthetic and visual detractor can be defined as a structure or feature that elicits a pronounced negative sensory reaction and evaluation by the observer. Possible detractors might be a landfill, auto salvage yard, abandoned building, or a deteriorating industrial structure.

Aesthetic resources and detractors collectively define the aesthetic character of a community and contribute to its “sense of place.” Various user groups within the community often define these qualities differently. The lasting image a visitor has of a community or neighborhood, for example, is often based on the view of that community from a transportation facility (i.e., road, bus transfer center, airport, train, etc.). Residents of the community or neighborhood may define its character based upon local landmarks or features that may not be apparent to the casual visitor.

Clearly, the placement and design of a transportation facility can alter the aesthetic and visual character of the surrounding area. Therefore, transportation facilities should be carefully woven into the surrounding context so that the facility itself becomes an asset, and not a detractor. Both the view of the transportation facility and the view from the transportation facility should be considered in assessing potential aesthetic impacts of a transportation project.

Questions to be answered in an assessment of potential aesthetic and visual impacts from a transportation project include:

1. What are the aesthetic resources of the community?
2. What are the aesthetic detractors of the community?
3. Will the community’s aesthetic character be changed if the transportation project is implemented?
4. Will the change be for the better or worse?
5. How important is the change to various community stakeholders?
6. Is the design of the project compatible with community character and goals?
7. Has aesthetics surfaced as a community concern?
8. Can any potential impact be avoided or mitigated?

ASSESSMENT TECHNIQUES

Determining the aesthetic impacts of project alternatives is largely a qualitative process. The qualitative techniques described in this chapter emphasize simplicity and community involvement. Techniques that can be simply performed, are easily understood and incorporate the sentiments of the community at large are the most effective and valuable to the project development process. The choice of a particular technique should be tailored to the proposed transportation project and the specific community, both in terms of detail and level of effort. In general, any assessment of aesthetic impacts involves:

- Identifying existing aesthetic and cultural resources and detractors within the study area and determining their relative importance to the community; and
- Determining likely impacts, both good and bad, from project alternatives to those identified aesthetic resources.

Conceptual Approach to Visual Impact Assessment

Step 1: Consider potential visual impacts by project type.
Step 2: Identify and describe existing aesthetic and cultural resources in the study area and determine their relative importance.
Step 3: Establish resources or areas of critical concern to the community.
Step 4: Determine visual impacts of each proposed alternative.
Step 5: Assess the significance of predicted impacts.
Step 5: Identify and incorporate measures to reduce adverse visual impacts.
Consider Typical Impacts by Project Type

The type of visual impacts will vary somewhat according to the nature of the project alternatives. An exercise to get started is to simply consider what type of general visual impacts each alternative might have on the study area. Below are some general examples of potential visual impacts of transportation projects:

- Contrasts between natural landforms, landscapes, or features and engineering features of the roadways due to road alignments, cuts, fills, retaining walls, riveted embankments, clearing of vegetation etc.;
- Blocked views or reduced visual continuity due to embankments, berms, elevation of the roadway, etc.;
- Roadway is out of scale with adjacent urban development, such as might occur with an elevated or above grade roadway, or an extensive road widening project in a historic district;
- Construction materials or designs that are not consistent with the character of historic bridges or transit structures.

Identifying Aesthetic Resources and Detractors

The most important step in assessing aesthetic impacts is to determine the location of cultural or aesthetic resources and their relative importance to the community. A number of techniques are available for this purpose. Regardless of the technique selected, the important thing is to actively involve community stakeholders in the process. In addition, cultural and aesthetic resources should be identified as early as possible in project development so the results can be considered in the development of project alternatives.

Involving stakeholders and community leaders is important on a variety of levels. First, it helps assure that potential issues related to aesthetics will be identified early in the process. Second, aesthetic character is highly subjective and needs to be determined by those affected by the project. Third, involving stakeholders facilitates community acceptance of the project and provides a cooperative atmosphere for working through aesthetic issues. At the very least, a spirit of trust and cooperation will be developed between the implementing agency and the community, thereby promoting a less adversarial atmosphere for problem solving.

This step involves three key actions:

1. **Describe the general character of the study area.** This may require separating the study area into sub-areas according to their visual and aesthetic characteristics, for the purposes of assessment.

2. **Inventory cultural and aesthetic resources in the study area.** Below is a list of potential techniques for determining the location and importance of aesthetic resources. In many cases, it makes sense to combine more than one of the following techniques.
3. **Determine the relative importance of each resource or detractor and identify resources of critical aesthetic or cultural concern.** This step involves taking the master list of resources and detractors and applying a voting or ranking procedure to identify their relative importance. Identify any visual resources that are most highly valued by the community and that are highly sensitive to change. These areas would be categorized as resources of critical concern and would be considered more significant for the purposes of assessment. They would receive more careful consideration in project development to avoid or minimize potential adverse impacts. This effort may benefit from broader community participation than occurred during in the inventory. Sample ranking techniques are described below.

**Review of Agency Plans and Policies**

This technique is a component of the consistency determination described in the Land Use chapter, and should be conducted at the same time. It involves identifying those goals and objectives pertaining to aesthetic and visual resources. Examples might include goals and objectives related to:

1. Preserving of the rural or historic character of an area,
2. Preserving the character of a neighborhood or retail area; or
3. Preserving of a locally significant view shed, landmark, or resource.

The key to determining if these goals and objectives are important to the community is to give study area stakeholders ample opportunity to comment on them. Allowing stakeholders to define which goals and objectives are most important will sensitize the project development process to these issues. Try to reach as many interested stakeholders as possible in this process. Because this technique does not require gathering people in a room, it can be accomplished with a large number of interested parties.

One of the main benefits of this approach is broad community involvement. It also allows interested parties to self-select so that those who are really interested can review and respond and those who are not interested can simply choose to not participate. In addition, interested parties can contact others in the community and have them participate as well. In this manner, the widest possible variety of interests can be accounted for in determining what aesthetic resources are important to consider and which ones have the potential of being degraded or enhanced by the project alternatives.

**Stakeholder Workshop**

This technique involves gathering a group of stakeholders in a workshop format to identify important community aesthetic and visual resources and detractors. The number of stakeholders invited to participate should be manageable and appropriate given the size and diversity of the study area. The best stakeholders to invite are those with authority to represent many other stakeholders. Examples might include the president of the local chamber of commerce, the director of the local tourism association, a local elected official, the president of area home owners or neighborhood associations, president of a local environmental group, the head of a local historic preservation society, the
local planning director, and so on. Always invite any member of the community who has expressed a strong interest in participating. Below is a sample process for conducting the workshop. (*A variation of this technique is the photographic log described below.*)

1. Separate stakeholders into small groups and provide each group with an aerial photograph of a section of the study area.

2. Ask each group to collectively identify the important aesthetic and visual resources of the study area and any major detractors, and to circle or otherwise note the location of each important aesthetic community resource directly on the aerial photograph of the study area. (Note: Depending upon the size or complexity of the project, other potential options might include a full group brainstorming session and/or nominal group technique as described in Appendix A).

3. Next ask them to identify aesthetic detractors – structures or features that substantially detract from the aesthetic quality of the community.

4. Have each group prepare a brief written description of their identified resources and detractors. These descriptions could be attached to the aerial photograph on post-it notes or with tape. Then have the complete a more detailed description for each item. For resources, consider providing them with a log worksheet such as the following:

**Sample Resource Log:**

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
</tr>
</tbody>
</table>

This resource is important because:

5. Reassemble the groups and ask them to pick a spokesperson to share their results. Ask the broader group if they missed any major resources or detractors and add these to the map.

6. Establish the relative priority or significance of the resource or detractor. This could be determined through a ranking method, similar to that provided in Table 8-1 below. The written description could also be taken into account in determining importance.

7. The final step is to transfer all the resources and detractors onto a master list to accompany the aerial photos. Consider developing a conceptual map that identifies their location. The map and master list could be disseminated to a broader group if desired and will provide the basis for assessing aesthetic impacts of various project alternatives. The product of these brainstorming sessions will be a series of geographically identified aesthetic resources and detractors, complete with descriptions, that are deemed important to the community by the stakeholders group. Project
alternatives could then be developed that avoid disrupting aesthetic and cultural resources. If need be, the stakeholder group could be reassembled later to review project alternatives against their previously selected aesthetic resources and detractors.

Table 8-1: Sample Ranking Method:

Directions: Ask each participant to review the list of resources and detractors and next to each one provide the number that best answers the following question using the scale provided below:

*With regard to the character of the area, I would rate this feature as: _______

<table>
<thead>
<tr>
<th>Sample Ranking Scale</th>
<th>Detractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Detractors</td>
</tr>
<tr>
<td>+4 Critical</td>
<td>-1 Somewhat negative</td>
</tr>
<tr>
<td>+3 Very positive</td>
<td>-2 Negative</td>
</tr>
<tr>
<td>+2 Positive</td>
<td>-3 Very negative</td>
</tr>
<tr>
<td>+1 Somewhat positive</td>
<td>0 Not significant</td>
</tr>
</tbody>
</table>

Write the list on a flip chart and ask stakeholders to indicate their rating next to each resource and detractor (or review the list one by one and count hands). Call a short break and work with a volunteer to summarize the results of the ranking. Based on your general impressions of the results (or by calculating the score), categorize the list of resources by general level of importance, such as critical, important, and worthy of consideration. Review the results with participants. Ask them if they would revise the list and refine accordingly. Do the same for detractors, perhaps categorizing them as major or minor detractors.

Stakeholder Photographic Log

This technique involves providing disposable cameras to a group of stakeholders and asking them to photograph the aesthetic and cultural resources they individually find important to the character of the study area, as well as those features that significantly detract from the aesthetic appeal of the area. Stakeholders are asked to maintain a log of their photographs that describes the location of each photograph and what is important about that resource or detractor. The cameras and logs are then gathered and sorted by stakeholder and resource. A master list is then developed, describing each resource and detractor identified by the stakeholder group.

The last step is to call a meeting of the stakeholder group to give them an opportunity to review and prioritize the completed master list of resources and detractors. This could be accomplished using the workshop ranking procedure described above. Send the master list and ranking directions to the stakeholders well in advance of the meeting to provide ample opportunity for them to review it. During the meeting, stakeholders should be asked to reach consensus on a final master list and to rank each item.
Local Expert Walking Tour

This technique employs a local individual with substantial knowledge of the area’s history or architecture to assist in identifying important aesthetic and cultural resources and detractors. In this technique, a recognized expert on local cultural and aesthetic resources (such as a community historian) leads the analyst on a tour of the study area corridor. During that tour the expert identifies all the important cultural and aesthetic resources and any major detractors. The analyst takes notes during the tour, including the exact location, description, and all other relevant information. After the walking tour is complete, each feature identified by the expert should be located on a conceptual map of the study area along with a master list and description of the features. A community meeting or workshop may be called to present the map and list to area stakeholders, refine the list, and rank each item (see stakeholder workshop above). Forward this information to stakeholders well in advance of the meeting to provide ample opportunity for review.

Modified Visual Preference Survey

The Visual Preference Survey™ technique, developed by A. Nelessen Associates, can be adapted for project development purposes to gain an understanding of a community’s aesthetic preferences related to project design. In this technique, a group of local stakeholders evaluates a series of slides and scores the images according to their initial reactions as to whether the image is appealing and would be appropriate for the subject community or study area. The slide images could represent features relevant to the particular project, such as streetscapes, types of medians, bikeways, sidewalks, recreational areas, drainage structures, bridges, parking options, or transit station areas. The technique works best if the stakeholders cannot recognize the exact location of the images so as not to bias responses based on experiences not relevant to the aesthetic character of the images presented.

Stakeholders are allowed to view each image one at a time for approximately 10 seconds per image. They should rate the image on a scale between –10 and +10 based on their initial emotional response to the image. The total score for each image should be calculated and the images should be ranked from most points to least. Higher scores indicate stakeholder preference for the perceived positive aesthetic characteristics of that image.

Results are used to summarize what stakeholders have identified as the most preferred images related to planning and design in their community. The summary could then be applied to guide the development of project alternatives and conceptual designs. For example, the summary would allow project planners to gain an understanding of a community’s preferences for aesthetics and functionality of a particular roadway cross section, or bridge, as well as the types of amenities that could be provided to mitigate adverse aesthetic impacts of a project.
Determining Visual Impacts

Potential visual impacts associated with project alternatives can be determined after the important aesthetic resources and detractors have been identified. Checklists provide a straightforward approach to assessing potential aesthetic impacts related to transportation alternatives. Another supporting technique is the map overlay. These techniques are recommended as they are cost effective and can be readily incorporated into the project development process. Other techniques, such as computer simulation or bringing in special expertise, are provided for more unique circumstances where aesthetics is a significant concern or for more extensive and complex projects. Each of the techniques is described below.

Overlay Maps

Using the information on aesthetic and cultural resources and detractors from the methods above, locate each cultural and aesthetic resource and detractor in the study area on an aerial photo or conceptual map of the study area. Prepare acetate overlays of each project alternative and lay them onto this map. Summarize the aesthetic impacts of each alternative, indicating the number of features potentially affected, the nature of the feature, and potential strategies for reducing adverse impacts of each alternative. Review the results with stakeholders in the study area and refine as needed. This technique can be combined with the checklist below.

Visual Assessment Checklist

Using the information on resources and detractors, complete the following visual assessment checklist for each project alternative. The checklist is a general guide and may need to be modified to meet specific project or community needs. No scoring mechanism is provided for the checklist. Rather, it is designed to encourage critical consideration of all potential impacts of the project. Look critically at each project alternative in light of its potential aesthetic impacts from the perspective of various affected parties, such as the commuter, the neighbor, or customers and proprietors of abutting businesses. Using answers to the checklist, develop a summary outlining potential aesthetic and visual impacts of each project alternative. Next, provide the summary to stakeholders for their review and input to assure it is complete and accurate. Ask stakeholders if they concur with the identified impacts and if there are any additional impacts that should be added. The results of the checklist and the stakeholder review can be used to guide the project development process.
Aesthetic and Visual Assessment Checklist

Part 1

1. Is the project within or adjacent to a feature of critical aesthetic or cultural concern to the community?  □ Yes □ No
   If yes, explain:
   ____________________________________________________________________________

2. The area surrounding the project site has the following features (check all that apply and attach master list and maps of locally identified resources and detractors):
   □ A traditional downtown or main street area,
   □ Large trees,
   □ Historic districts and structures,
   □ Neighborhoods with adopted architectural or design guidelines,
   □ Local landmarks or cultural resources,
   □ Historic or scenic landscapes,
   □ Other _______________________________________________________________________

3. The project may now be clearly visible (where it was not previously visible) from:
   (check all that apply)
   □ Site or structure on the National or State Register of Historic Places
   □ State or County Park
   □ Existing Residences
   □ Existing Public Facility
   □ Designated Scenic Vistas
   □ Other _______________________________________________________________________

4. Will the project eliminate, block, partially screen, or detract from views or vistas known to be important to the area?  □ Yes □ No
   If yes, explain:
   ____________________________________________________________________________

5. Will the project open new access to or create new scenic views or vistas?  □ Yes □ No

6. Are the visual characteristics of the project obviously different from those of the surrounding area?  □ Yes □ No
   If yes, the visual difference is due to:
   Type of project □
   Design □
   Width □
   Construction material □
   Other _____________________________

7. Are there plans to:
   Maintain existing natural screening □ Yes □ No
   Introduce new screening to minimize project visibility □ Yes □ No
   If yes, is screening:  Vegetative □ Structural □
8. Is there local opposition to the project entirely, or in part, because of visual or aesthetic aspects?  □ Yes □ No

9. Is there public support for the project because of its visual qualities?  □ Yes □ No

**Part 2**

Apply the following series of questions to help determine the importance of each visual impact. These include:

1. What is the probability of the (visual) effect occurring? □ High □ Moderate □ Low
2. What will be the duration of the (visual) impact? □ Temporary □ Permanent
3. Is the (visual) impact irreversible? □ Yes □ No
4. Will the (visual) character of the community be permanently altered? □ Yes □ No
5. Can the (visual) impact be reduced? □ Yes □ No
   If yes, explain:

6. Is there a regional or statewide consequence to this (visual) impact? □ Yes □ No
   If yes, explain:

7. Will the potential (visual) impact be detrimental to community goals and values? □ Yes □ No
   If yes, explain:

8. Are the potential (visual) impacts inconsistent with officially adopted local plans, policies or objectives related to community character? □ Yes □ No
   If yes, explain

Computer Visual Simulation

This technique involves the use of special computer software to graphically simulate the visual landscape of a community with and without the completed transportation project. It can be used to compare and contrast the potential impacts of various design and alignment concepts in a manner that can be easily comprehended. In this technique, the same group of stakeholders used in previous assessment techniques is called together to view the computer simulation of proposed project alternatives. The computer simulation should include all identified community aesthetic resources and detractors. The simulation should then display the project alternatives and potential impacts created by each project alternative from the perspective of all possibly impacted user groups.

The feedback from the stakeholder group on potential impacts can be used to select the project alternative that will create the most acceptable set of impacts to the community. Additionally, possible mitigation measures can be simulated and reaction to the effect of the mitigation effort can be gauged with regard to community acceptance. This technique also gives the stakeholder group an opportunity to ask “what if” questions that can be answered visually through the simulation procedure. It also offers project designers an opportunity to clearly demonstrate any problems that might be associated with various stakeholder suggestions. This technique requires a high level of expertise and experience. A specialist will likely need to be employed to conduct the visual simulation exercise. For that reason, this technique is more appropriate where potential impacts to the aesthetic character of the community have been identified as a significant concern.

Bringing in Outside Expertise

If potential aesthetic impacts of a project become the focus of local controversy, or if the surrounding area is a designated scenic or historic landscape, then consider employing a landscape architect or planner experienced in performing aesthetic and visual impact assessments. The skill and objectivity an experienced professional can bring to this assessment can go far to reduce the adverse aesthetic impacts of a project, enhance the qualities of the area and increase sensitivity to community aesthetic values in the design process.

MITIGATION AND PROBLEM SOLVING

Attention to potential aesthetic impacts of a transportation project is an essential part of community impact assessment and can go far in increasing public support for a project. Strategies to address potential adverse impacts will need to be developed from both the perspective of the community looking onto the proposed transportation facility and from the perspective of a user of the transportation facility. Below are guiding principles that can be used as a guide
to help preserve the visual character of the study area. Additional principles can be added to reflect community values or characteristics.

### Preserving the Character of Paris Pike

Public concerns ran high with regard to the potential aesthetic impacts of a road project on the Paris Pike Rural Historic District – a scenic and historic rural area in the Bluegrass region of Kentucky deemed eligible for the National Register of Historic Places. After years of litigation, a Memorandum of Agreement was signed by the Kentucky Transportation Cabinet, the Kentucky Heritage Council, Land & Nature Trust of the Bluegrass and other involved parties, outlining Cabinet responsibilities for roadway design and public involvement. A landscape architect and design consultant was retained to help assure environmentally sensitive design. Important visual characteristics of the corridor were identified, such as natural features, vegetation patterns, use of fences and trees to create boundaries, clustering of buildings, and character of small communities. The project development process combined flexible design and access management methods with a vigorous citizen involvement process. Innovative mitigation strategies were also employed, such as training local artisans in stone masonry enabling them to relocate and maintain the historic stone walls that line portions of the corridor.

### Guiding Principles for the Preservation of Community Character

1. Locate new facilities where they are most compatible with the surrounding visual environment.

2. Avoid exposing visual detractors (such as salvage yards, deteriorating structures, waste disposal areas), especially near gateways to a community or adjacent to scenic vistas.

3. Preserve the visual privacy of residential sites wherever possible.

4. Provide or preserve access to public viewing points.

5. Promote coordination of utilities and transportation projects through shared corridors.

6. Strive to enhance the gateways to communities.

7. Remove or replace abandoned facilities.

8. Remove or retain vegetation along transportation corridors to highlight the natural character of the area, create or enhance scenic views, and screen visual detractors.

9. Enhance views to water bodies.

10. Avoid use of materials or colors that are incompatible with the surrounding landscape.

11. Design the facility at a scale that is compatible with the surrounding area.
Sample Strategies for Addressing Adverse Aesthetic Impacts

Many strategies for addressing potential impacts are outside the jurisdiction of the transportation agency, and would need to be carried out by another agency, such as a local government, water management district, or federal agency. This should not be viewed as an obstacle, but as an opportunity to partner with other agencies to create solutions that could not be accomplished by one agency alone. For example, a local government could contribute funds toward enhancements that match the design guidelines for a community redevelopment area (e.g. brick pavers, distinctive lamp posts), while the transportation agency incorporates the enhancements into their design plans and constructs them as part of the transportation project. Such strategies are supported by the Department’s policy on Transportation Design for Livable Communities, described below.

Additional sample strategies that could be used to address adverse aesthetic impacts of transportation projects are provided below (see also Chapter 2, Table 2-3).

1. Avoidance – Alter the project to avoid a potential impact. Examples include:
   a. Shifting a project to avoid the destruction of a stand of grandfather oaks,
   b. Shifting the project eliminate an abandoned structure, or
   c. Shifting a project to avoid a view from the transportation project onto an unattractive landscape or to open a view onto a water body.

2. Minimization – Modify the project to reduce the severity of the impact. Examples include:
   a. Burying utilities associated with the transportation project so they are not visible to or from the project, or
b. Designing the signage on the facility to match the style and color or existing signage.

3. Mitigation – Undertake an action to alleviate or offset an impact or to replace an appropriated resource. Examples include:
   a. Incorporating existing aesthetic resources, such as old street lamps, into the design of the transportation facility, or
   b. Constructing earthen berms to block views onto the transportation facility from the surrounding community.
   c. Providing technical assistance to the local agencies on access management strategies for the improved roadway to reduce adverse impacts of curb cuts on community character.

4. Enhancement – Add a desirable or attractive feature to the project to make it fit more harmoniously into the community (not designed to replace lost resources or alleviate impacts caused by the project). Examples include:
   a. Providing landscaped medians
   b. Incorporating public art into the design of the transportation facility or
   c. Constructing a linear park within the right-of-way of a new transportation facility.

CONCLUSION

Upon completing the analysis detailed in this chapter, the following actions should be completed:

1. Document all relevant actions taken, findings reached and commitments made as part of the aesthetic and visual impact analysis conducted per the direction of this chapter;

2. File all relevant documentation related to the aesthetic and visual impact analysis per the direction of this chapter in the official project file;

3. Incorporate the relevant findings of this analysis into the project development process in order to minimize the aesthetic and visual impacts of the final project on the community; and

4. Incorporate the documentation developed as part of the process described in this chapter into the relevant section of the environmental document under development for this project per Section 15-1 of the PD&E Manual.