PD-09: Ecological Connectivity

1-4 points

Goal: Avoid, minimize, or enhance wildlife, amphibian, and aquatic species passage access, and mobility, and reduce vehicle-wildlife collisions and related accidents.

Affected Triple Bottom Line Principles

Sustainability Linkage

Improving ecological connectivity supports all of the triple bottom line sustainability principles by improving habitat for species while reducing accidents, therefore preventing the impacts associated with personal and public property damage, injury, and the loss of life.

Background and Scoring Requirements

Background

For the purpose of this criterion, the key terms are defined as follows:

- **"Traditional Alternative"** – The traditional alternative is the alternative that would most likely be approached without consideration of impacts to habitat. For new alignments, this is typically the alignment that is most geometrically fitting given the beginning and end points. For reconstruction, this is typically the alignment option that widens the cross-section in-place without shifting alignments. In no case, should the traditional alternative be exaggerated beyond alignments that would be considered appropriate for the context in order to inflate the perceived reduction in impacts to habitats for this criterion.

Credit for enhancement can be obtained for this criterion through project-specific mitigation or through the use of mitigation banking.

Scoring Requirements

In order to achieve points for this criterion, the following prerequisite must be met.

Prerequisite PD-09.1P

0 points. Conduct Ecological Assessment

Conduct a site-specific ecological assessment of the roadway project using GIS data or regional expertise. Report the resulting impacts that the roadway has on the major ecosystems, according to the best scientific knowledge available. A project or resource agency biologist should be involved with the assessment. The ecological assessment should be consistent with the State-approved wildlife action plans, if available.

Requirement PD-09.1

1-3 points. Avoid or Minimize Impacts to Ecological Connectivity or Enhance Features

Points shall be achieved per Table PD-09.1.A on the following page. Points are **not** cumulative; rather the highest point value earned should be used. Note that more points are available for enhancing features on new alignments than existing alignments because more opportunities typically exist to improve ecological connectivity on new alignments.

TABLE PD-09.1.A. POINTS AND METHODS TO MINIMIZE IMPACTS TO AND ECOLOGICAL CONNECTIVITY

Requirement	Points	Method
PD-09.1a	1	**Minimize Impacts.** Show that an effort has been made to modify the alignment and/or project cross-sections to significantly minimize impacts to ecological connectivity as compared to a traditional alternative and above and beyond what was required by regulations. To qualify, the area of impact must be reduced by 50% or more as compared to the traditional alternative.
PD-09.1b	2	**Avoid Impacts.** Show that an effort has been made to modify the alignment and/or project cross-sections to significantly avoid impacts to ecological connectivity as compared to a traditional alternative and above and beyond what was required by regulations. To qualify, the area of impact must be reduced by 75% or more as compared to the traditional alternative.
PD-09.1c	2	**Enhance features.** For existing alignments only**.** Replace in-kind, retrofit, or upgrade any and all existing culverts and wildlife fencing structures or planting deemed structurally deficient, damaged, obsolete, insufficiently sized, or otherwise inadequate. Actions must be approved by the project ecologist, resource/regulatory biologist, or other appropriate staff.
PD-09.1d	3	**Enhance features.** For new alignments only**.** Install new dedicated or multi-use wildlife crossing structures and protective fencing (if needed) or planting as recommended by the wildlife assessment. Actions must be approved by the project ecologist, resource/regulatory biologist, or other appropriate staff.
PD-09.1e	3	**Restore features.** Re-establish past habitats, infrastructure, or add connectivity to re-establish corridors and habitats. Actions must be approved by the project ecologist, resource/regulatory biologist, or other appropriate staff. Some examples of restorative features include: • Construction of fish ladders. • Acquisition of parcels within the watershed or parcels identified by resource agencies that provide special protection and enhancement of these habitats.

Dedicated wildlife crossings are structural features of the roadway that are not used by motorized vehicles. Where deemed appropriate by an ecologist, crossings may be shared by non-motorized modes of transport. No points will be awarded in the following conditions:

1. For projects that maintain or rehabilitate existing ecological connections to out-of-date or current standards (i.e., routine maintenance of drainage culverts does not qualify).
2. Pre-existing ecological connectivity features: all new features or upgrades must be due to and completed as part of the roadway project.
3. Projects that add wildlife connectivity features where such features are clearly outside of the project context.
4. Projects located in a network that is systematically inadequate. However, points could be awarded for such projects where it is demonstrated that a program is in place at the owner agency for systematic improvements on that network, and that this project fits this program.

Requirement PD-09.2

1 point. Advanced Consultation and Integration with Broader Ecological Plans

The project team went above and beyond current consultant requirements by engaging natural resource and regulatory agencies throughout the planning process and by ensuring consistency with broader (metropolitan or statewide) planning goals and objectives.

Resources

None referenced.

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one of the following documentation sources (or equal where not available):

1. Ecological study performed for the project provided in NEPA documentation. State permitting documentation that includes an ecological connectivity element.
2. Contract documents showing wildlife crossing improvements.
3. Technical report that describes minimization that occurred throughout the project development process.