South Mountain Transportation Corridor Study

Citizens Advisory Team
Technical Report Summary

Draft Biological Resources

Why study biological resources in the Environmental Impact Statement (EIS)?

It is widely accepted that a healthy ecosystem is interconnected to the well-being of humankind. In today's modern society, keeping the balance is becoming ever more challenging. With the rapid growth occurring throughout the southwestern United States, the natural environment and its habitat for wildlife is being converted to homes, businesses and our modern way of life. Yet even with the growth that is occurring, Americans today still feel strongly about the protection and enhancement of wildlife diversity and their habitat.

The construction and operation of a freeway like the proposed South Mountain Freeway could impact vegetation, wildlife, and native biological communities located within the Study Area.

- Wildlife habitat could be degraded due to fragmentation and conversion of land into pavement.
- Wildlife populations could be negatively affected by greater noise disturbance associated with traffic.
- A freeway project the size of the South Mountain Freeway project could accelerate the pace of urban expansion and result in the loss or force displacement of native biological communities.

What kinds of native biological resources are known to occur in the Study Area?

Vegetation within the Study Area is classified as Arizona Upland Sonoran Desertscrub and Lower Colorado River Sonoran Desertscrub. Because these community types stretch from east of the Study Area to California and south to the Mexican border there are vast numbers of tree, shrub, flower and grass species that can be found within these two communities. Some examples include various native species of palo verde, acacia, mesquite, walnut, elder, cottonwood, smoketree, ironwood, creosotebush, desert broom, ocotillo, and brittlebush. Cacti can also occur in the Study Area and can include saguaro, buckhorn cholla, hedgehog cactus, barrel cactus and Christmas cactus. Many species of native plants are protected by Arizona's Native Plant Law (NPL) from theft, vandalism or unnecessary destruction.

Only a fraction of these species are found within the Study Area because much of the native habitat has been altered by agricultural, commercial, and urban development. The Study Area is developing at a fast rate and some of the native plant communities are quickly decreasing in size and are being transformed into a more urban and non-native setting.

Animal abundance and diversity is directly related with the habitat types that are located within the area. Retired and active agricultural fields are found within or adjacent to all Western and Eastern Section alternatives. These fields have reduced value for native plants or wildlife, with the exception of burrowing owls which can be found nesting and hunting on the perimeter of agricultural fields and irrigation dikes. Small mammals, reptiles, rodents, and some birds may use the fields for cover and foraging. When agricultural fields are flooded, black-necked stilt, cattle egret, and killdeer can be present. Along irrigation canals, white-winged dove, mourning dove, Inca dove and roadrunner can be present.

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Some gravel pits along the W101 Alternative in the Western Section contain water and some riparian vegetation. These areas have the potential to attract various species of birds, which view the manmade habitat as suitable for nesting. Sand and gravel pits, created along the Salt River riverbed, can be used as a wildlife habitat. However, unlike natural ecosystems, the steep sides of the pits create less important zonal habits than natural aquatic systems like rivers or lakes.

In South Mountain Park/Preserve, mammalian populations, which are restricted by food supply and the large number of human visitors to the park, include the black-tailed Jack rabbit, cottontail rabbit, ground squirrels, ringtail cat, coyote, kit fox, gray fox, javelina and various species of bats. Approximately six years ago, there were credible reports of a mountain lion in the park and a lion was removed from an area north of the park in 1994. No other sightings have taken place however, because the animals are highly mobile and travel great distances, the AGFD states that they should be considered an animal that has the potential to occur in the Park but not a resident animal.

There are no major migration corridors that have been documented within the Study Area. However, some wildlife within South Mountain Park/Preserve may travel outside of the Park boundary and onto neighboring lands.

Many common desert birds can also be found including curve-billed thrasher, Gambel's quail, cactus wren, canyon wren, black-throated sparrow, phainopepla, blue-gray gnatcatcher, Abert's towhee, turkey vulture, and different species of raptors including owls, falcons and hawks.

In preparing the biological resources technical report, the potential to affect species protected under state and federal laws are examined. Such species include plants and animals proposed for listing or currently listed as threatened or endangered, or candidate species in accordance with the Endangered Species Act (as managed by the United States Fish and Wildlife Service (USFWS)). State of Arizona sensitive species, as designated by Arizona Game and Fish Department (AGFD) were also considered.

The USFWS list of threatened, endangered, and candidate species for Maricopa County documents 15 species with the potential to occur in the county. This list was reviewed and it was determined that two of these species have the potential to occur in the Study Area. In addition, the AGFD provided a list of seven Special-Status Species that have been documented to occur in the Study Area or within a 2-mile buffer. A single species is common to both lists; therefore, a total of eight sensitive species have the potential to occur in the Study Area. Due to the sensitive nature of the information, the precise locations of these species occurrences are not provided.

Data to support the information provided above was obtained through field surveys, literature reviews, and verbal and written correspondence with appropriate staff at USFWS, AGFD, and City of Phoenix.

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What kind of impacts would occur from construction?

The following are ways in which biological resources could be altered during construction of the project.

- Native vegetation would be removed within construction zones causing a decrease in shelter, foraging and nesting resources for birds, mammals and reptiles
- Wildlife could be displaced and their nesting/breeding seasons potentially disrupted due to such impacts as construction noise and construction activities (movement of heavy equipment).
- Undesirable invasive plant species could be introduced into the Study Area through the accidental import of seeds by construction equipment and through soil disturbance.
- Construction vehicle collision, while expected to be uncommon, with wildlife could result in wildlife fatalities.

How do the alternatives differ in construction-related impacts?

All action alternatives in the Western Section would cross similar land use areas (i.e., agricultural lands and urbanizing lands) and would have comparable impacts on biological resources.

The E1 Alternative in the Eastern Section would cross the least developed areas and would have the greatest impact on biological resources.

What kinds of freeway operational impacts (post-construction) would occur?

Vehicular traffic would pose a collision hazard to wildlife attempting to cross the freeway. Although, no major migration corridors have been identified, more detailed survey information is necessary in order to determine the number and types of wildlife that inhabit lands along the South Mountain Park/Preserve boundary.

Increased traffic volume would create noise disturbances beyond the limits of the freeway and may cause wildlife to shift home ranges, alter their movement pattern and escape response as well as alter physiological state.

The construction and operation of the South Mountain Freeway could contribute to limiting habitat connectivity in the metropolitan valley by the construction and operation of the South Mountain Freeway around portions of South Mountain Park/Preserve.

How do the alternatives differ in operational-related impacts?

All alternatives, when operating, would have similar kinds and levels of impacts on vegetation, wildlife, and native biological communities.

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What if the project was not constructed?

No project specific impacts would be experienced. However, urban growth is projected to continue in much of the Study Area and traffic volumes would increase on surface streets. As a result, biological resources would continue to be displaced in this area.

Are there any specific and/or unique impacts from the build alternatives?

For a project of the magnitude of the South Mountain Freeway project, there do not appear to be any unique impacts on biological resources. However, there is growing support among state and federal agencies, as well as the general public, for maintaining landscape connectivity as it pertains to wildlife movement. Many scientific studies have concluded that roads can fragment habitat, isolate wildlife populations, and ultimately diminish landscape connectivity. As reported in the ADOT Environmental and Enhancement Group Annual Report FY 2004:

> *Arizona Habitat Connectivity Planning Group - As Arizona has experienced record growth in population, the need to preserve wildlife diversity is on the forefront. In the fall of 2003, wildlife experts from various agencies and organizations throughout the state came together in an effort to address wildlife habitation fragmentation within Arizona. Representatives from the Arizona Game and Fish Department, ADOT, Federal Highway Administration, Bureau of Land Management, US Fish and Wildlife Service, USDA Forest Service, Northern Arizona University, and the Wildlands Project formed the Arizona Habitat Connectivity Planning Group. This Group will identify important habitat linkage corridors throughout the state, rank the linkages based on importance and imminent threats, and provide linkage information to resource and transportation agencies within the state. Officials can then use this information when developing project plans, and accommodate wildlife linkage in a more efficient and effective manner.*

While there are no known major migration corridors in the Study Area, the maintenance of landscape connectivity should be a consideration for the project. Opportunities for maintenance of landscape connectivity are presented under the heading, *What can be done to reduce or avoid impacts?*

Additionally, the project would cross the Salt River in the Western Section. The City of Phoenix and US Army Corps of Engineers are currently in the planning phases for the Rio Salado Oeste project. The project would be an approximately eight square mile habitat restoration project located within the 100-year floodplain along the Salt River between 19th and 83rd avenues. The intent of the project would be for native riparian habitat restoration in conjunction with flood control, water quality, and passive recreation in the form of multi-use trails. The City and Corps have anticipated a South Mountain Freeway crossing and view it as an opportunity to direct storm water runoff from the freeway to "irrigate" the river habitat. As planning for the project progresses, the City and Corps have agreed to coordinate with ADOT on enhancement opportunities for the project.