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U.S. Department of Interior

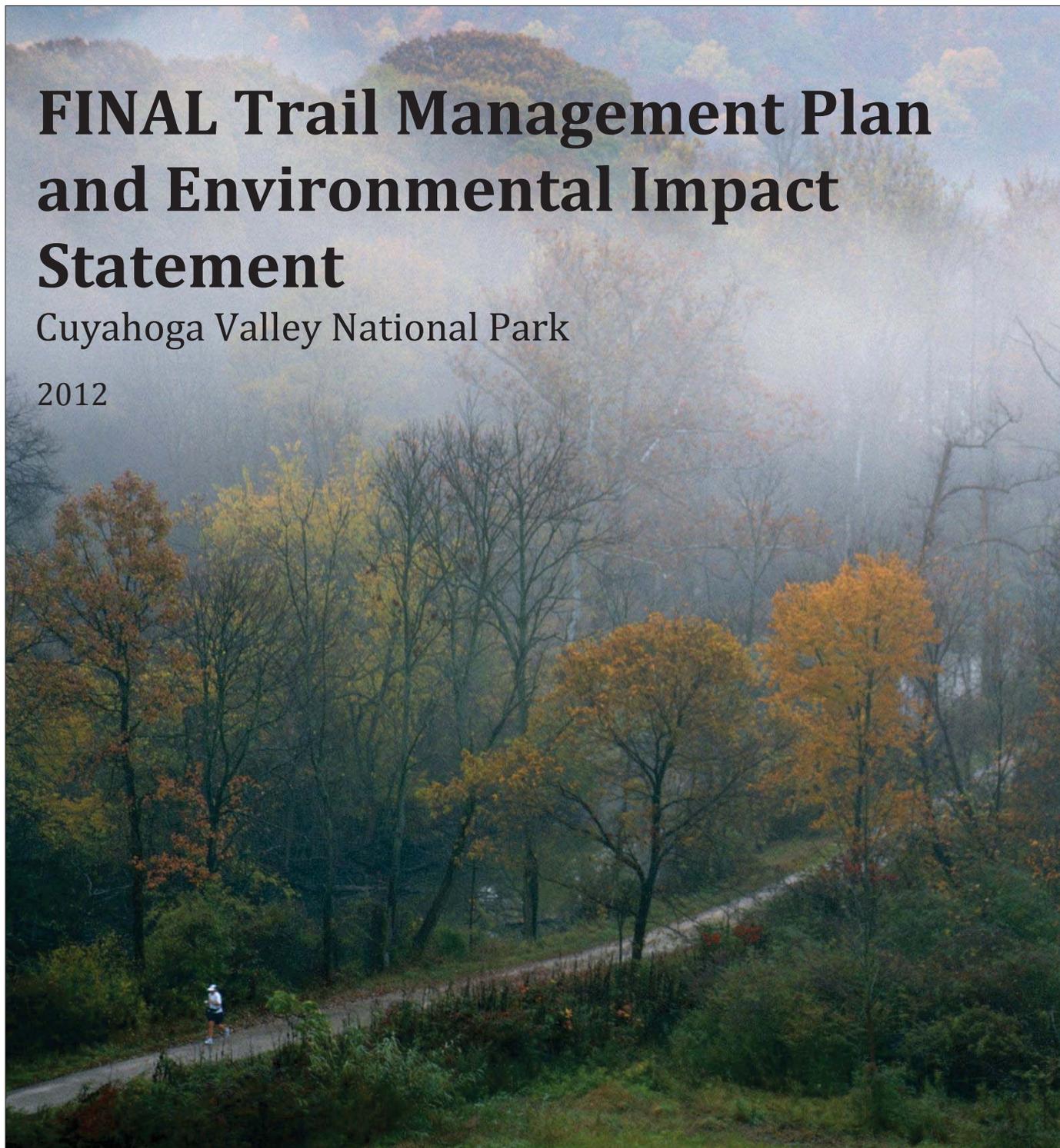


Cuyahoga Valley National Park
Brecksville, Ohio

FINAL Trail Management Plan and Environmental Impact Statement

Cuyahoga Valley National Park

2012



Front Cover Photo: Tom Jones

About this Document

In 1969, the United States Congress passed the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.). As a result, when any agency of the Federal Government proposes a “major Federal action significantly affecting the quality of the human environment,” a detailed statement on the environmental impact of the proposed action must be prepared. NEPA requires that the process include; 1) consideration of a range of alternatives, 2) an evaluation of potential environmental consequences of an action before deciding to proceed and 3) provide opportunities for public involvement. NEPA requires the preparation of an Environmental Impact Statement (EIS) when a federal agency proposes an action that may have significant impacts on the human environment. The EIS process serves as a primary tool to help NPS decision-makers assess the types and levels of impacts expected from a proposed action to avoid impairment. An EIS is the highest level of compliance provided under NEPA. Because of the scope and park-wide nature of the Cuyahoga Valley National Park *Trail Management Plan*, the Park is required to conduct an EIS for the Plan.

The Final Environmental Impact Statement is organized in accordance with the National Environmental Policy Act and NPS Director’s Order #12. Below is an outline of the document.

Purpose and Need for Action and Goals and Objectives. This section sets forth the purpose, needs and goals and objectives of the Trail Plan. The section provides general information on Cuyahoga Valley National Park, background on the park’s trail system, an overview of the public scoping process and the issues identified for consideration of impacts from proposed actions.

Alternatives. This section describes the proposed actions common to all alternatives and those specific to each of the alternatives. It compares the alternatives by their general framework, impacts and goals of the Plan and criteria set forth by the National Environmental Policy Act.

Affected Environment. This section describes existing conditions of resources that may be affected by the proposed actions of the alternatives.

Environmental Consequences. This section describes the impacts on resources by the proposed actions of the alternatives.

Consultation and Coordination. This section provides an overview of the public participation process and project team.

Executive Summary

Cuyahoga Valley National Park

Final Comprehensive Trail Management Plan & Environmental Impact Statement

Introduction and Background

Cuyahoga Valley National Park encompasses 33,000 acres between the metropolitan areas of Cleveland and Akron, Ohio. Cuyahoga Valley National Park provides visitors the opportunity to experience the cultural, scenic, natural and recreational resources of the Cuyahoga River Valley and a portion of the Ohio & Erie Canal Corridor.

Recreational use is central to Cuyahoga Valley National Park's legislative mandate as stated, "To preserve and protect for public use and enjoyment, the historic, scenic, natural and recreational values of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment" (Public Law 93-555, 1974).

The Cuyahoga River Valley has a strong history as a centerpiece for outdoor recreation opportunities. At the same time, the Valley continues to be restored with thriving ecosystems while retaining the cultural heritage and landscapes of the Ohio & Erie Canal Corridor. These successes are particularly significant, given the Park's location within a large metropolitan area boasting a human population of over 3 million people within 25 miles. New challenges arise for the Park in meeting all of the goals of its legislative mission as visitation continues at a high level, recreation trends and the way people spend their leisure time change, and its landscape continues to be restored.

In 2009, the NPS embarked on a planning process to develop a *Trail Management Plan and Environmental Impact Statement* for Cuyahoga Valley National Park in accordance with the requirements of the National Environmental Policy Act to meet these emerging challenges for the Park.

Purpose of and Need for the Plan

The purpose of the updated *Trail Management Plan and Environmental Impact Statement* is to develop a blueprint that will guide the expansion, restoration, management, operations and use of the trail system and its associated amenities, over the next 15 years, in keeping with the purpose, mission and significance of Cuyahoga Valley National Park. Since 1985, when the Park's first Trail Plan was established, many changes have occurred that require an update to the Plan. These include the Park's growth in visitation and programs, some park trails requiring increased operational investment due to their location and use patterns, expansion of regional trail networks, and change in outdoor recreation trends.

The Park set forth goals and objectives to guide the development of the Trail Plan and consideration of proposed actions. The goals of the Trail Plan include that the trail network provides for a variety of trail users, shares the features significant to the Park, minimizes impacts to park resources, can be sustained for future generations, and engages cooperative partnerships.

Public Participation

The Trail Plan has been following the required NEPA and NPS planning process for the past three years. The Trail Plan process began with the Notice of Intent published in Fall, 2009. Public involvement was a large component of the development of the trail elements established under the alternatives. Through public scoping, ideas were generated for the trail system and issues were identified to be considered in the planning process. Public scoping, largely conducted in 2010, included a survey of trail stakeholder groups, workshops to collect ideas for the Trail Plan and public meetings to present and receive input on conceptual alternatives. The Park received approximately 500 comments at the scoping workshops from approximately 150 persons. Additional comments were received from approximately 100 persons during an open comment period on a set of preliminary alternatives.

The Park received 159 comments during the Final Trail Plan public review and comment process that occurred between June 22 and August 20, 2012.

Issues and Impact Topics

Through the public scoping process and initial data collection on existing conditions, five primary issues were identified for the Plan: park resources, visitor use, facility uses, maintenance and administrative operations. Impact topics were identified that may be impacted or have an impact on the proposed actions. Other resource topics were dismissed from further analysis because the alternatives would have negligible or no impacts to these resources. Impact topics retained and analyzed include:

- Water Resources (Water Quality, Wetlands, Floodplains, and Riparian areas)
- Vegetation and Invasive Plant Species (Trampling, Fragmentation, Proliferation of Exotic Species)
- Wildlife (Disturbance, Fragmentation)
- Soils (Soil Suitability, Slope Gradient)
- Cultural Resources (Archeological, Historical Districts, Cultural Landscapes and Scenic Values)
- Visitor Use and Experience (Visitor accessibility, visitor experience, visitor conflict, public health and safety, orientation and interpretation)
- Socioeconomic (Local Jurisdictions, Land Ownership, Transportation Network, Soundscapes/Noise, Business)
- Park Operations (Staffing, Partnerships, Local Jurisdictions)

Summary of Alternatives Considered

The alternatives reflect information and input from a variety of sources during the planning process. This Environmental Impact Statement evaluates eight alternatives that provide a park-wide vision of the trail network for the next fifteen years. A brief summary of each alternative is presented below with more information provided for Alternative 5, the preferred alternative. Elements that are common to all alternatives or all action alternatives are presented first.

Elements Common to All Alternatives

There are actions and policies that will apply or occur under any alternative selected. The actions common to all the alternatives include:

- *Policies, Protocols, Monitoring and Special Designations.* All alternatives will adhere to the policies, protocols and monitoring set forth by the National Park Service, including special designations that are applicable to Cuyahoga Valley National Park.
- *Trail Projects Underway.* The Park is currently managing trail-related projects that are in various stages of planning and development. These projects have completed or will undergo environmental review and will not be evaluated in this Environmental Impact Statement. They will be considered as common elements of all alternatives of the Trail Management Plan.
- *Park Sustainability Practices.* Cuyahoga Valley National Park's current sustainability practices for providing recycling, energy efficient lighting, energy efficient and pollution reduction operations practices will be continued and expanded where feasible under all alternatives. Identifying emerging practices and technologies to reduce energy demands of the park and enhance alternative energy generation are practices to explore for all alternatives.
- *Visitor Use Carrying Capacity.* User capacity guidance for the social and ecological changes on trails will be established to ensure the integrity of park resources is maintained. Development of user capacity standards will be part of the implementation phase of the Trail Plan.
- *Accessibility and Mobility.* Recommendations are outlined in the Plan, to address accessibility and power driven mobility devices and compliance with applicable laws, rules and guidelines.
- *Trail Signage.* The Park will continue to update its Sign Plan and utilize the UniGuide Sign Standard for the Trail Plan's selected alternative. The Park will evaluate the use of emerging technologies for trail orientation and information for visitor use.
- *Partnerships.* Partnerships between the public park agencies, local communities and the three primary Park Partners will continue as part of all Alternatives.
- *Implementation.* An implementation strategy will be important to accomplish the vision set forth in the Plan. NPS will conduct activities to implement the Trail Plan effectively. These include subsequent planning, prioritizing Trail Plan elements in the selected alternative for implementation, an Implementation Strategy Plan, and establishment of a progress report for Trail Plan completion.

Elements Common to All Action Alternatives

There are actions and policies that are being considered as part of each of the seven action alternatives (Alternatives 2A - 5). The actions common to all action alternatives include:

Sustainable Trail Guidelines. The NPS will establish Sustainable Trail Guidelines to guide the Park's planning and management of the trails related to the restoration of existing trails, planning and design for new trails and trail facilities, and maintenance and best management practices. The Action Alternatives and their trail elements are predicated on applying these Guidelines. The Guidelines will serve as the Standard Operating Procedure for trail management in the Park during implementation of the selected alternative of the Trail Plan. The Guidelines focus on the following topics:

- *Site Planning and Design of Trail.* The Guidelines outline the basic principles and practices to administer during the site assessment and design phases of trail development in the Park. Guidance includes the trail development process for trails in CVNP, identification of trail classes and types and their design and management criteria, site assessment and site design best practices, and program guidance for the development of trail facilities, signage and accessibility and mobility that is suitable to each trail's individual site conditions.
- *Trail Construction.* The Guidelines establish basic principles and best practices to administer during the physical construction and maintenance of a trail.
- *Management, Maintenance and Monitoring.* The Guidelines provide management policies that will sustain CVNP trails for future generations. Guidance is provided on annual and long term maintenance, trail closures, management of trails for Special Use Permit events, and trail monitoring.

Restoration of Existing Trail Network. A primary objective, common to all action alternatives, is the restoration of the existing trail network. Restoration may include rehabilitating trails in their present location, relocating or realigning trails, or removal and closure of trails. This will be accomplished through condition assessments, prioritization of restoration based upon trail use and resource quality, and monitoring.

Trail Facilities. The Trail Management Plan scoping process identified various uses and facilities that will complement and support the trail network and trail visitors. The facilities include water trails where paddle launch sites for non-motorized boat access to the Cuyahoga River and associated facilities would occur, trailside and riverside campsites, parking at trailheads, and trail amenities such as benches and drinking water. The facilities are considered and evaluated as part of all the action alternatives.

- *Water Trail Facilities.* The Plan sets forth criteria for paddle launch sites along the Cuyahoga River within the Park boundary. Nine sites are evaluated in the planning process.
- *Campsites.* The Plan sets forth criteria for trailside campsites and expansion of this use in the Park. Campsites under consideration within the Trail Plan are associated with non-motorized access through the Park's trail system. Dispersed and designated campsites were evaluated along primary trail corridors and primitive trails that travel across the entire length of the Park. Twelve campsites are evaluated in the planning process.

- **Parking.** Parking areas associated with trail access are considered and evaluated under four areas of implementation; expansion of an existing parking area, improvement or relocation of an existing parking area, expansion of an existing parking area for a new vehicle type, specifically horse-trailers, and the introduction of new parking areas associated with proposed trail elements. Parking considerations in the Plan, common to all action alternatives include expansion of six existing parking areas, relocation of two existing parking areas, expanded use for horse trailers at two existing parking areas, and two new parking areas including one for horse-trailers. Additional parking areas are considered as they are applicable to specific trail elements within each alternative.

The Alternatives

The National Park Service has developed eight alternatives for use, stewardship and management of the Trail system within Cuyahoga Valley National Park. The No-Action Alternative would continue current conditions. Alternatives 2, 3 and 4 focus on a specific aspect of the park's significance to develop the future Trail system. Alternatives 2A and 2B would focus on the protection of park resources and improvements to Towpath Trail circulation. Alternatives 3A and 3B would focus on expanding recreational opportunities and significant trail entry points and Alternatives 4A and 4B would focus on providing destination routes to park features and the primitive trail experience. Off-road bicycle use utilizing single-track design is the only new use identified that is not currently permitted in the park. As such, each alternative is evaluated with and without this new use. Trails identified as off-road bicycling will be shared with hikers and in some limited areas, cross-country skiers. The alternatives are paired into a version "A" that has no off-road bicycling and "B" that includes off-road bicycling. For all other elements other than off-road bicycle use and (in some cases) new off-road bicycle trails, paired "A" and "B" alternatives (e.g., 2A and 2B) are exactly the same. Alternative 5 combines the ideas from all of the other alternatives considered. Alternative 5 is the Preferred Alternative of the National Park Service to meet the Plan's purpose and need, and also the goals set forth in NEPA.

Alternative 1: No Action Alternative. Under Alternative 1, the trails, authorized uses and facilities addressed in this plan would remain as they currently exist. The Park would continue to implement the 1985 Trail Plan. The Park would continue trail management under current park policies, protocols and monitoring. A continuation of trail projects would occur on an individual basis and as opportunities arise with separate planning and compliance.

Alternative 2A: ReUse. In Alternative 2A, the Cuyahoga Valley Trail system would be developed and redeveloped with the concept of ReUse being its foundation. Alternative 2A emphasizes the importance of enhancing the existing trail system's sustainability for future generations with limited expansion. Alternative 2A adds a total of 17 miles of new trails to the park's trail system and removes 11 miles of existing trails. It includes one additional expansion of an existing parking area from the trail facilities common to all action alternatives.

Alternative 2B: ReUse with Off-Road Single Track Bicycle Use. Alternative 2B is the same as Alternative 2A with the addition of authorization of a linear bicycle trail on existing single track trails within the Park and Park Partner lands. The addition and removal of trail miles and facilities are the same as described in Alternative 2A with the addition of a change in use designation on 10 miles of existing trail for off-road bicycle use.

Alternative 3A: Recreation Focus. Alternative 3A is focused on the concept of utilizing areas as interchangeable recreational “trail hubs” that provide the full variety of trail experiences the Park has to offer. Trail hubs would be placed in a variety of locations throughout the park to establish activity centers for trail use and other activities. Alternative 3A would add a total of 30 miles of new trails and would remove 11 miles of existing trails. This alternative also includes almost 40 miles of roadways in the Park recommended for improvements for on-road bike use. Alternative 3A also includes two additional campsites, one additional new parking area and trailhead, and one additional expansion of an existing parking area.

Alternative 3B: Recreation Focus with Off-Road Single Track Bicycle Use. Alternative 3B is the same as Alternative 3A with the addition of new off-road single track bicycle trails consisting of two zones of loop routes. The proposed off-road bicycle trails would include two new trails on both sides of the Valley in the central region of the park totaling 17.7 miles. The proposed trails would include a linear longer distance segment and shorter loops on each end of the segments. One additional new parking area is proposed to accommodate the new off-road bicycle trail proposed in the west rim of the Park.

Alternative 4A: Destination Focus. Alternative 4A is focused on the destination rather than the journey of the Park’s trail network. Park features and attractions are the focus of this alternative with the trail system serving as the main visitor access to these features. Expansion of the primitive hiking experience occurs to the greatest extent in Alternative 4A. Alternative 4A would add a total of 53 miles of new trails and removes 11 miles of existing trails. Alternative 4 adds one additional campsite and expansion of an existing parking area.

Alternative 4B: Destination Focus with Off-Road Single Track Bicycle Trails. Alternative 4B is the same as Alternative 4B with the addition of new off-road single track bicycle trails. The bike trail system consists of a long point-to-point trail with shorter loop trails to provide a variety of lengths and experiences to the off-road bike user. The East Rim Bike Trail would add nearly 21 miles of trail for off-road bicycle use on new proposed trails.

Alternative 5: ReUse, Recreation & Destination (Preferred Alternative). Alternative 5 combines trail elements from all of the Alternatives and proposed trail facilities that will best fit the park. The “hybrid” approach for Alternative 5, will include all elements common to all action alternatives, an increase of 37 miles of trails from existing conditions if fully implemented, including a new 10-mile off- road single track bicycle trail, trail facilities including expanded and new parking areas, introduction of launch sites for water trail access, and expansion of hike-in and paddle-in campsites.

Environmentally Preferable Alternative. The environmentally preferable alternative is the alternative required by 40 CFR 1505.2(b) to be identified that causes the least damage to the biological and physical environment and best protects, preserves and enhances historical, cultural and natural resources. Alternative 2A has been selected as the environmentally preferable alternative because it is the alternative that best protects the biological and physical environment within the park while meeting the purpose and need of the Plan. This is accomplished through the adoption of the Sustainable Trail Guidelines, restoration and removal of trails in sensitive areas, the limited expansion of trails, use of existing disturbed areas for trails, and connections to regional trail networks to serve a variety of users throughout all regions of the Park.

NPS Preferred Alternative. As a result of the impact analysis results summarized in Table 1, the Park assembled a ‘hybrid’ of trail elements that best meets the goals of the Plan and CEQ’s criteria. The preferred ‘hybrid’ approach used Alternative 3B as its baseline concept. Alternative 5 was created by removing elements that were found to cause higher levels of impacts and combining of trail elements from all of the alternatives. Alternative 5 will best meet the mission of the Park, its resource conditions and visitor use, the Trail Plan purpose and goals, while fulfilling the criteria of NEPA.

Environmental Consequences

For the purpose of the Environmental Impact Statement (EIS), an issue or impact topic describes an environmental problem or relationship between a resource and an action or actions. Impact analysis predicts the degree to which the resource will be affected. The effects to be considered include direct, indirect and cumulative. Direct effects are caused by actions at the same time and place of the action. Indirect effects are actions and impacts caused by the alternatives that occur later in time or farther in distance than the action. The intensity of effects is identified as negligible, minor, moderate or major. The intensity of effects is determined for each issue and potential impacts by the proposed actions. Cumulative impacts are impacts to a particular resource and include impacts of actions in the past, present and the reasonable foreseeable future. These effects are both beneficial and adverse and will vary depending on the affected resource and the proposed action. Beneficial impacts are those that involve a positive change that moves the resource toward a desired condition. Adverse impacts involve a change that moves the resource away from a desired condition or detracts from its appearance and condition. A summary is provided in Table 1 that shows the type of impacts expected with each alternative.

Cumulative impacts are common to all alternatives, typically, long-term, minor and adverse or negligible and do not significantly change among alternatives the intensity of the adverse impact of the issue topics.

Impacts from trail facilities are also presented as common to all to action alternatives. While some individual facilities within these common facilities and additional facilities described within individual alternatives have specific site impacts, the intensity of the impacts do not change significantly among alternatives. The highest level of impact to park resources from trail facilities, are typically long-term, minor and adverse.

Table 1: Comparative Summary of Impacts

Impact Topic	General Analysis Results
<p>Water Resources Imperviousness Riparian Buffers Stream Crossings Wetlands Floodplains Water Quality</p>	<p>Watershed imperviousness would not be impacted at greater than negligible levels by any alternatives parkwide or at subwatershed scales. Given that riparian areas, wetland buffer areas and streams are present throughout the park, these resources are largely impacted as trail miles increase. Some isolated trail elements that would require boardwalk systems may impact wetlands. Impacts to floodplains are largely limited to site specific trail elements, primarily interpretive trails systems adjacent to or providing access to the river that may require boardwalk systems. Impacts to water quality are related to the increase of trail miles in select (3) cold water or high quality watersheds and additional human activity associated with the river and campsites.</p> <p><i>Impacts to Water Resources among alternatives range from negligible adverse to minor to moderate adverse.</i></p> <p><u>Alternative 1</u>: Long-term minor to moderate, adverse from current trails in close proximity to sensitive water resources and current alignment of trails in some locations where erosion occurs resulting in temporary increased sedimentation.</p> <p><u>Alternative 2A</u>: Long-term, negligible to minor, adverse from limited new trail development.</p> <p><u>Alternative 2B</u>: Long-term, negligible to moderate, adverse, from limited new trail development but increase of new use on existing natural surface trail in sensitive water resource area of the Park.</p> <p><u>Alternative 3A</u>: Long-term, minor to moderate, adverse from moderate levels of trail development, stream crossings in sensitive watersheds and limited new trails within buffer areas of wetlands and floodplains.</p> <p><u>Alternative 3B</u>: Long-term, minor to moderate, adverse from moderate levels of trail development, stream crossings in sensitive watersheds and limited new trails within buffer areas of wetlands and floodplains.</p> <p><u>Alternative 4A</u>: Long-term, minor to moderate, adverse from moderate levels of trail development, stream crossings in sensitive watersheds and limited new trails within buffer areas of wetlands and floodplains.</p> <p><u>Alternative 4B</u>: Long-term, minor to moderate, adverse from moderate levels of trail development, stream crossings in sensitive watersheds and limited new trails within buffer areas of wetlands and floodplains.</p> <p><u>Alternative 5 (Preferred Alternative)</u>: Long-term, minor to moderate, adverse from moderate levels of trail development, stream crossings in sensitive watersheds and limited new trails within buffer areas of wetlands and floodplains.</p> <p><u>Cumulative Impacts</u>: Long-term negligible to moderate and adverse from suburban development activities outside of the Park where water resources may be modified or lost. Long-term beneficial impacts if restorative actions related to the Brecksville Dam and combined sewer overflows occur.</p> <p><u>Trail Facilities</u>: Long-term, negligible adverse from minimal change in footprint within riparian zone and no required stream crossings. Long-term, negligible to minor adverse impacts from the proximity of three launch sites, three campsites and four parking areas.</p>

Impact Topic	General Analysis Results
	<p>Long-term negligible to minor adverse from presence of some facilities within floodplains. Long-term minor to moderate adverse impacts from increased human activity on the river, campsites, and runoff from additional parking surface areas.</p>
<p>Vegetation Habitat Fragmentation Invasive Plants</p>	<p>Impacts to vegetation involve the increased disturbance to vegetation from trail corridors ranging from 0.18 to 2.5 acres for bottomland forests, 2.6 to 6.5 acres in open areas, and 4 to 35 acres of upland forests. New trails and increased use in primitive areas will provide new entryways for invasive plant introduction.</p> <p><i>Impacts to Vegetation range from negligible to minor adverse to minor to moderate adverse.</i></p> <p><u>Alternative 1:</u> Long-term, moderate and adverse from disturbance of existing trails within primary vegetation communities, presence of exotic plants along main trail corridors and trails in areas of rare and special plant species.</p> <p><u>Alternative 2A:</u> Long-term, negligible to minor and adverse from an overall reduction of trails in primary vegetation communities and minimal development to limit spread of invasive plants.</p> <p><u>Alternative 2B:</u> Long-term, minor and adverse from an overall reduction of trails in primary vegetation communities, increase of trail use by bicycles in one isolated upland forest areas, and minimal development to limit spread of invasive plants.</p> <p><u>Alternative 3A:</u> Long-term, minor to moderate and adverse from an increase of trail miles within primary vegetation communities and new trail areas where spread of invasive plants may occur.</p> <p><u>Alternative 3B:</u> Long-term, moderate and adverse from a greater increase of trail miles within primary vegetation communities, including new off-road bicycle trails in undisturbed areas of the park and new trail areas where spread of invasive plants may occur.</p> <p><u>Alternative 4A:</u> Long-term, moderate and adverse. Long term, moderate and adverse from a greater increase of trail miles within primary vegetation communities and new trail areas where spread of invasive plants may occur.</p> <p><u>Alternative 4B:</u> Long term, moderate and adverse from a greater increase of trail miles within primary vegetation communities, including new off-road bicycle trails in undisturbed areas and new trail areas where spread of invasive plants may occur.</p> <p><u>Alternative 5: (Preferred Alternative):</u> Long-term minor to moderate and adverse from an increase of trail miles within primary vegetation communities and new trail areas where spread of invasive plants may occur.</p> <p><u>Cumulative Impacts:</u> Long-term, negligible and adverse effects from continuing development projects within and near the Park boundary that may cause vegetation disturbance but the increase of future exotic management activities and habitat restoration on disturbed sites within the Park.</p> <p><u>Trail Facilities:</u> Long-term, negligible to minor adverse impacts on the primary vegetation communities from minor ground disturbance in isolated regions of the park.</p>

Impact Topic	General Analysis Results
<p>Wildlife</p> <p>Habitat disturbance by human noise</p> <p>Habitat fragmentation</p>	<p>Fragmentation of wildlife movement, increased disturbance from human activity and increased corridors for potential movement of species, including predators may occur as trail miles and “footprint” increase within the various wildlife habitats, most notably in forests, the predominant habitat in the Park. Three trails are within close proximity to known nesting areas.</p> <hr/> <p><i>Impacts to Wildlife among alternatives range from negligible and minor adverse to moderate, adverse.</i></p> <p><u>Alternative 1:</u> Long-term, minor and adverse due primarily to the overall continued fragmentation of forest habitats in the Park.</p> <p><u>Alternative 2A:</u> Long-term, minor, adverse from limited habitat fragmentation of minimal trail expansion.</p> <p><u>Alternative 2B:</u> Long-term, minor, adverse from limited habitat fragmentation of minimal trail expansion.</p> <p><u>Alternative 3A:</u> Long-term, minor to moderate, adverse from increased habitat fragmentation of trail expansion.</p> <p><u>Alternative 3B:</u> Long-term, minor to moderate, adverse from increased habitat fragmentation of trail expansion including mountain trails in undisturbed areas.</p> <p><u>Alternative 4A:</u> Long-term, moderate, adverse from significant habitat fragmentation of trail expansion.</p> <p><u>Alternative 4B:</u> Long-term, moderate, adverse from significant habitat fragmentation of trail expansion, including new off-road bicycle trails.</p> <p><u>Alternative 5 (Preferred Alternative):</u> Long-term, minor to moderate, adverse from increased habitat fragmentation, including new off-road bicycle trails in a limited area.</p> <p><u>Cumulative Impacts:</u> Short-term and long-term minor and adverse from emerging development, increased loss of habitat, temporary disturbance from construction projects and potential changes associated with climate change. Future wildlife management plans currently in development will affect local wildlife populations beneficially.</p> <p><u>Trail Facilities:</u> Long-term negligible to minor and adverse from the position of trail facilities on the edge of forest blocks, minimal footprint and minimal localized disturbance from new or expanded uses.</p>

Impact Topic	General Analysis Results
Soils Recreation Use Compatibility Slope of Trail	<p>Impacts are associated with the increase of trail miles within areas that have limitations for recreational trails that would require stabilization infrastructure to be sustainable. Additional impacts are associated with the number of trail miles where steep terrain is present that will create conditions that may lead to increased erosion.</p> <hr/> <p><i>Impacts to soils range from negligible to moderate and major adverse largely from increase in trail miles within the system.</i></p> <p><u>Alternative 1:</u> Long-term, minor to moderate, adverse from trails located in limited soil conditions and in areas with trail grades that exceed 15%.</p> <p><u>Alternative 2A:</u> Long-term, negligible, adverse, from a limited increase of trails and no additional trails on steep grades.</p> <p><u>Alternative 2B:</u> Long-term, negligible to minor, adverse from a limited increase of trails, new use increasing trail use on a natural surface trail, and no additional trails on steep grades.</p> <p><u>Alternative 3A:</u> Long-term, minor, adverse from a moderate increase of trail miles and minor increase of trails on steep grades.</p> <p><u>Alternative 3B:</u> Long-term, minor to moderate, adverse from a moderate increase of trail miles, increase of trail use types and minor increase of trails on steep grades.</p> <p><u>Alternative 4A:</u> Long-term, moderate, adverse, from a moderate increase of trail miles and moderate increase of trails on steep grades.</p> <p><u>Alternative 4B:</u> Long-term, moderate, adverse from a moderate increase of trail miles, increase of trail use types and moderate increase of trails on steep grades</p> <p><u>Alternative 5:</u> (Preferred Alternative) Long-term minor to moderate, adverse from a moderate increase of trails miles, new trail use types and minor increase of trails on steep grades.</p> <p><u>Cumulative Impacts:</u> Short-term and long-term minor to moderate adverse impacts to soil conditions during construction projects inside and outside of the Park and continued soil compaction and soil loss from ongoing urbanization.</p> <p><u>Trail Facilities:</u> Short-term and long-term negligible to minor adverse effects on soil resources are expected from temporary disturbance during construction and minimal areas of disturbance from access and use of launch sites, campsites, and new and expanded parking areas.</p>
Cultural Resources Archeological National Register of Historic Places Rural Landscapes & Scenic Values	<p>Overall Cultural Resources are not affected by the proposed trail elements or have negligible to minor effects. Two areas where adverse impacts are identified are the removal of a portion of Lake Trail and the proposed off-road bicycle trail segment adjacent to the Duffy Farm. The general scale of the plan will require site evaluation on selected alternative elements for archeological resources.</p> <hr/> <p><i>Impacts to Cultural Resources range from negligible to minor adverse and minor to moderate adverse from resource impacts within limited areas of the park.</i></p>

Impact Topic	General Analysis Results
	<p><u>Alternative 1:</u> Long-term, negligible to minor, adverse from increased ground disturbance in high use areas and use on unmanaged social trails.</p> <p><u>Alternative 2A:</u> Long-term, negligible to minor, adverse from limited expansion of trails near Cultural Resources.</p> <p><u>Alternative 2B:</u> Long-term, negligible to minor, adverse from limited expansion of trails near Cultural Resources.</p> <p><u>Alternative 3A:</u> Long-term, negligible to moderate, adverse from a moderate expansion of trails near Cultural Resources.</p> <p><u>Alternative 3B:</u> Long-term, negligible to moderate, adverse from a moderate expansion of trails near Cultural Resources.</p> <p><u>Alternative 4A:</u> Long-term, negligible to minor, adverse from a minor expansion of trails near Cultural resources.</p> <p><u>Alternative 4B:</u> Long-term, negligible to moderate, adverse from a moderate expansion of trails near Cultural Resources.</p> <p><u>Alternative 5:</u> (Preferred Alternative) Long-term negligible to moderate, adverse from a moderate expansion of trails near Cultural Resources.</p> <p><u>Cumulative Impacts:</u> Continued use of neighborhood social trails will continue under this alternative, resulting in long-term, negligible to minor and adverse impacts on cultural resources. Impacts resulting from the Boston Mills Area Development Plan/Environmental Assessment may occur.</p> <p><u>Trail Facilities:</u> Long-term, negligible to minor adverse impacts on NRHP properties, Countryside Initiative program elements and archeological resources. Impacts to archeological resources will need to be evaluated through site-specific surveys to ensure mitigation of impacts.</p>
<p>Visitor Experience Visitation Trail User Experience Trail User Conflict Education/ Interpretation Public Health/ Safety</p>	<p>Impacts on visitor experience are largely beneficial to the visitor providing new and a wider variety of trail experiences in the park. Increased trail user conflicts may occur from an increase in shared trail use, new trail uses and the proximity of select new trails to existing high use areas. New trail facilities with limited access or associated resource issues, may affect the public health and safety of trail users.</p> <p><i>Impacts to visitor experience include beneficial impacts for new and expanded trail use experiences and opportunities for interpretation and education, and negligible to minor adverse impacts in some instances on trail use and experience, trail user conflict, and public health and safety.</i></p> <p><u>Alternative 1:</u> Long-term, minor to moderate, adverse from trail user conflicts in high use areas and limited connections to regional trail networks.</p> <p><u>Alternative 2A:</u> Long-term, beneficial from limited new trails and regional trail connections and long-term, minor to moderate adverse from minimum changes in visitor experiences.</p> <p><u>Alternative 2B:</u> Long-term, beneficial from limited new trails and regional trail connections and long-term, minor to moderate adverse from minimum changes in visitor experiences.</p> <p><u>Alternative 3A:</u> Long-term, beneficial from moderate increase of new trails and regional trail connections and long term, minor to moderate adverse from potential increase in trail visitation.</p>

Impact Topic	General Analysis Results
	<p><u>Alternative 3B</u>: Long-term, beneficial from moderate increase of new trails, regional trail connections and new uses and long term, minor to moderate adverse from a potential increase in trail visitation and trail user conflicts with new trail uses.</p> <p><u>Alternative 4A</u>: Long-term, beneficial from moderate increase of new trails and regional trail connections and long term, minor to moderate adverse from a potential increase in trail visitation.</p> <p><u>Alternative 4B</u>: Long-term, beneficial from moderate increase of new trails and regional trail connections and long term, minor to moderate adverse from a potential increase in trail visitation.</p> <p><u>Alternative 5</u>: (Preferred Alternative) Long-term, beneficial from a moderate increase of new trails and regional trail connections and long-term, minor to moderate adverse from potential increase in trail visitation.</p> <p><u>Cumulative Impacts</u>: Long-term beneficial impacts from regional trail and trail facility expansion and improvements on the Cuyahoga River that improve water resource conditions for recreational use.</p> <p><u>Trail Facilities</u>: Trail facilities and amenities will provide long-term beneficial impacts to visitor use experience by improving facilities for visitation, new and expanded trail user experiences and new opportunities for education and interpretation. Long-term minor to moderate impacts to visitor use and experience from potential trail user conflict in high use areas from new uses, and public safety and health issues associated with river conditions and human waste management at campsites.</p>
<p>Socioeconomic Land Ownership and Proximity to Other Adjacent Lands Public Roads Increased Visitation Commercial Business Construction Activities</p>	<p>The expansion of trails will result in some areas of adjacent lands within close proximity to projected low use primitive trails and medium to high seasonal use of new multi-use connector trails and some alternatives (3B, limited 4B) of off-road bicycle trails. Increased trail crossings on public roads and utilization of selected roads for bike lanes will likely require additional information regarding multiple uses in proximity to public roads. New uses offer potential beneficial impacts to business opportunities.</p> <p><i>Impacts to Socioeconomic conditions range from beneficial for increased and new business opportunities, new and expanded facilities to accommodate visitation, and new construction activities, to minor to moderate adverse from varying increases of select trails on other jurisdictional lands, select trails near adjacent lands and varying increases of non-motorized use on public roads.</i></p> <p><u>Alternative 1</u>: No effect and long-term, minor to moderate, adverse from no changes to socioeconomic conditions.</p> <p><u>Alternative 2A</u>: Long-term, beneficial impacts from limited opportunities to expand trail-based business opportunities and long term, minor and adverse from limited expanded trail system and its proximity to adjacent landowners, crossing of public roads.</p> <p><u>Alternative 2B</u>: Long-term, beneficial for business opportunities and long-term, minor to moderate, adverse from limited expanded trail systems, use of other jurisdictional lands, proximity of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Alternative 3A</u>: Long-term, beneficial for business opportunities and long-term, minor to moderate, adverse from expanded trail systems, use of other jurisdictional lands, proximity</p>

Impact Topic	General Analysis Results
	<p>of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Alternative 3B</u>: Long-term, beneficial for business opportunities and long-term, minor to moderate, adverse from expanded trail systems, use of other jurisdictional lands, proximity of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Alternative 4A</u>: Long-term, beneficial for business opportunities and long-term, moderate, adverse from expanded trail systems, use of other jurisdictional lands, proximity of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Alternative 4B</u>: Long-term, beneficial for business opportunities and long-term, moderate, adverse from expanded trail systems, use of other jurisdictional lands, proximity of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Alternative 5</u>: (Preferred Alternative) Long-term, beneficial for business opportunities and long-term, minor to moderate, adverse from expanded trail systems, use of other jurisdictional lands, proximity of new trails to adjacent landowners, and crossing of public roads.</p> <p><u>Cumulative Impacts</u>: Long-term beneficial impacts from potential increased business opportunities spurred by regional trail development. Long-term, minor and adverse impacts on local governments for additional services potential required on future regional and local greenways and trails.</p> <p><u>Trail Facilities</u>: Trail facilities will have long-term negligible and adverse impacts on costs to visitors for marginal costs for water trail use permits, long-term minor and adverse impacts from noise associated with some facilities and their proximity to non-NPS lands, long-term negligible and adverse impacts from increase uses and additional entry points from public roads for expanded trail facility uses from public roads, and short-term and long-term beneficial impacts on business for new opportunities for business and construction activities associated with expanded trail facilities and uses.</p>
<p>Park Operations Staffing Facilities Partner Operations Other Jurisdiction Operations</p>	<p>Park Operations increase as number of trail miles increase. Designated river access and associated increase in river use and expansion of campsites will require additional operations. Capacity to support the development and stewardship of trails will increase as trail miles increase.</p> <p><i>Impacts to park operations range from no change, less than a 5 percent increase, a 5-8 percent increase and greater than a 10 percent increase in staffing from current operations and identified as negligible up to major on the need for increased park operation, partner operations and other jurisdiction operations required to build, sustain and operate, proposed actions.</i></p> <p><u>Alternative 1</u>: No effect and long-term, negligible to minor, adverse impacts from limited staff to meet current operations of trail management, no new facilities and ongoing support from park partners and local jurisdictions.</p> <p><u>Alternative 2A</u>: Long-term, negligible to minor, adverse impacts from a minor increase of additional staff and partnership support from current operating levels.</p> <p><u>Alternative 2B</u>: Long-term, negligible to moderate, adverse from minor additional staff and partnership support from current operating levels.</p> <p><u>Alternative 3A</u>: Long-term, minor to moderate, adverse impacts from a moderate increase of additional staff and partnership support from current operating levels.</p>

Impact Topic	General Analysis Results
	<p><u>Alternative 3B:</u> Long-term, minor to moderate, adverse impacts from a moderate increase of additional staff and partnership support from current operating levels.</p> <p><u>Alternative 4A:</u> Long-term, moderate to major, adverse impacts from a major increase of additional staff and partnership support from current operating levels.</p> <p><u>Alternative 4B:</u> Long-term, moderate to major, adverse impacts from a major increase of additional staff and partnership support from current operating levels.</p> <p><u>Alternative 5:</u> (Preferred Alternative) Long-term minor to moderate, adverse impacts from a moderate increase of additional staff and partnership support from current operating levels.</p> <p><u>Cumulative Impacts:</u> Expanding residential and commercial development or redevelopment surrounding the Park may increase visitation and undesignated entry points into the Park, resulting in minor adverse, long-term impacts to park operations and management. Long-term minor adverse impacts from increased river use from expansion of river use access facilities outside of park, and potential water quality improvements from Route 82 dam and reduction of combined sewer overflows.</p> <p><u>Trail Facilities:</u> Short-term and long-term, minor to moderate adverse, from its increase for staffing and operations required for new facilities and long-term negligible to minor adverse from, increased design and contract service coordination, increased construction and ongoing maintenance for trail facilities, increased coordination with local jurisdictions on new facilities, particularly river use.</p>

Next Steps

The Final Trail Management Plan and Environmental Impact Statement was on public review from June 22, 2012 to August 20, 2012. The NPS project team evaluated comments received during the public review period, and appropriate changes were included in the Final Trail Management Plan and Environmental Impact Statement. Appendix D of this document includes letters from government agencies, comments from individuals and organizations with responses to substantive comments. Following the distribution of the final plan and a 30-day no-action period, a record of decision approving the final plan will be signed by the NPS Midwest regional director. The record of decision will document the NPS selection of an alternative for implementation. Once the record of decision is signed, the plan can then be implemented.

The approved plan sets a vision and framework for the future of trails and associated facilities in Cuyahoga Valley National Park. However, the completion of the plan does not ensure that all actions will occur or that funding will be available. As the plan is implemented, public involvement opportunities will occur for associated actions. Some actions may require additional compliance or agency review prior to implementation, subject to federal and park regulations.

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Chapter 1: Purpose and Need for Action

1.1 Introduction

Cuyahoga Valley National Park (CVNP, Park) was designated as a unit of the National Park Service (NPS) in 1974 as a National Recreation Area, and subsequently redesignated as a National Park in 2000. Since the Park's establishment, the NPS and partners have transformed the Cuyahoga River Valley region with restored, thriving landscapes and retained and celebrated the cultural heritage and landscapes of the Ohio & Erie Canal Corridor, while creating a centerpiece for the region and beyond for outdoor recreation. These accomplishments are particularly significant, given the Park's location within a large metropolitan area boasting a human population of over 3 million people within 25 miles. The consequences of this transformation and urban proximity present new challenges of increased visitation in expanded high quality ecosystems, new trends in recreation and changes in how people use their leisure time for recreation and tourism activities.

The Park's *General Management Plan* (GMP; NPS 1977) noted that one of the significant purposes of the park is that "it preserves a landscape reminiscent of simpler times, a place where recreation can be a gradual process of perceiving and appreciating the roots of our contemporary existence (NPS 1977)." The GMP established the overall concept for management and development of the CVNP; resource preservation for compatible recreational use. In 1985, the Park's first Trail Management Plan (NPS 1985) was developed and served as the primary document to initiate many trails in the Park including the Towpath Trail and its completion in 1993. Today, 174 miles of trail within the Park boundary provide for biking, hiking, equestrian and cross-country skiing recreation opportunities.

Twenty-five years after the first Trail Plan, the NPS, in cooperation with local metropolitan park districts Cleveland Metroparks and Metro Parks, Serving Summit County, has developed an updated Trail Management Plan and Environmental Impact Statement for the Park. This ongoing planning process is in accordance with the requirements of the Council of Environmental Quality's "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" and NPS Director's Order #12: Conservation Planning, Environmental Impact Analysis and Decision-making. Because of the Park's unique qualities of property ownership, proximity to human populations and opportunities for emerging ecological restoration of the Cuyahoga Valley, the Plan proposes a trail management strategy that meets these opportunities and challenges while maintaining the mission and resource values of CVNP.

Public involvement was and continues to be a critical component in every step of the *Trail Management Plan* process. The Park was established in part by the citizenry of its community. The spirit of public involvement tradition carries on in the Trail Management Plan and its ultimate implementation.

1.1.1 Purpose of the Plan/EIS

The purpose of the updated *Trail Management Plan and Environmental Impact Statement* is to develop a blueprint that will guide the expansion, restoration, management, operations and use of the trail system and its associated amenities, while keeping with the purpose, mission and significance of the Park, over the next 15 years.

1.1.2 Need for Action

The updated *Trail Management Plan* is needed as a strategic tool to guide the future management and development of the trail system in the Park, for the following reasons:

- The Park's 1985 Trail Plan is outdated;
- Regional trail networks have blossomed across Northeast Ohio near or adjacent to the Park over the past 15 years;
- Recreation trends have emerged that the park currently does not provide for nor permit;
- The Park's trail system is a significant recreation feature in the Park and is the predominant purpose of park visits;
- The Park's destinations, features, and programming have evolved since the development of the 1985 Trail Plan;
- Trails within the Park cause increased operational investment as a result of factors such as their historical placement and current use patterns; and
- The Park has been ranked as one of the top ten most visited National Parks in the country the past five years. Annual park visitation has increased by 1.5 million since the introduction of the 1985 Trail Plan.

1.1.3 Goals and Objectives

Goals and objectives assist in determining if the proposed actions being considered are successful in meeting the purpose of the plan. The goals and objectives for the Trail Management Plan have been developed with consideration of the park's purpose and significance, NPS policies and mission, and input from park staff, park partners, park stakeholders and the general public. The alternatives identified for analysis will need to meet the goals and objectives set forth for the Plan. The goals of the Trail Management Plan are to develop a trail network that:

- provides experiences for a variety of trail users;
- shares the historic, scenic, natural and recreational significance of the Park;
- minimizes its impact to the park's historic, scenic, natural and recreational resources;
- can be sustained; and
- engages cooperative partnerships that contribute to the success of the Park's trail network.

Objectives have been developed and outlined for each goal and outlined in the following section.

Goal 1: A trail network that provides experiences for a variety of trail users.

- Create a trail network with a variety of distances and difficulties.
- Provide a variety of trail uses based on current and expected future demand.
- Facilitate accessible trails where feasible.
- Maintain and enhance the primitive trail experiences distinctive to the regional trail system.
- Create connections for trail users where feasible.
- Utilize the trail network to provide new park experiences.
- Support current and future trail use with compatible park facilities including the expansion of campsites and river access.
- Provide information on trail use and orientation of the trail system in a consistent format.

Goal 2: A trail network that shares the historic, scenic, natural and recreational significance of the Park.

- Integrate the trail network with features of park significance, where appropriate, and associated interpretive information.
- Provide trail experiences through the variety of natural and cultural landscapes of the Park.
- Integrate the trail network with park programs.
- Create trails that provide access to views of natural and cultural features.

Goal 3: A trail network that minimizes its footprint on the Park's historical, scenic, natural and recreational resource.

- Design the trail network utilizing sustainable design practices.
- Minimize and/or mitigate impacts to sensitive resources.
- Contribute to park and NPS overall environmental sustainability goals.
- Minimize unofficial "social" trails.
- Maintain and/or enhance "trail-less" areas in larger, sensitive landscapes of the park.

Goal 4: A trail network that can be sustained.

- Establish park management operations to provide monitoring, trail condition assessment and maintenance of the trail network efficiently.
- Identify funding opportunities for the management and maintenance of the trail network.
- Establish, monitor and manage the carrying capacity of the trail system.
- Provide a safe environment for the trail user and minimize user conflicts.

Goal 5: Cooperative partnerships that contribute to the success of the Cuyahoga Valley National Park trail network.

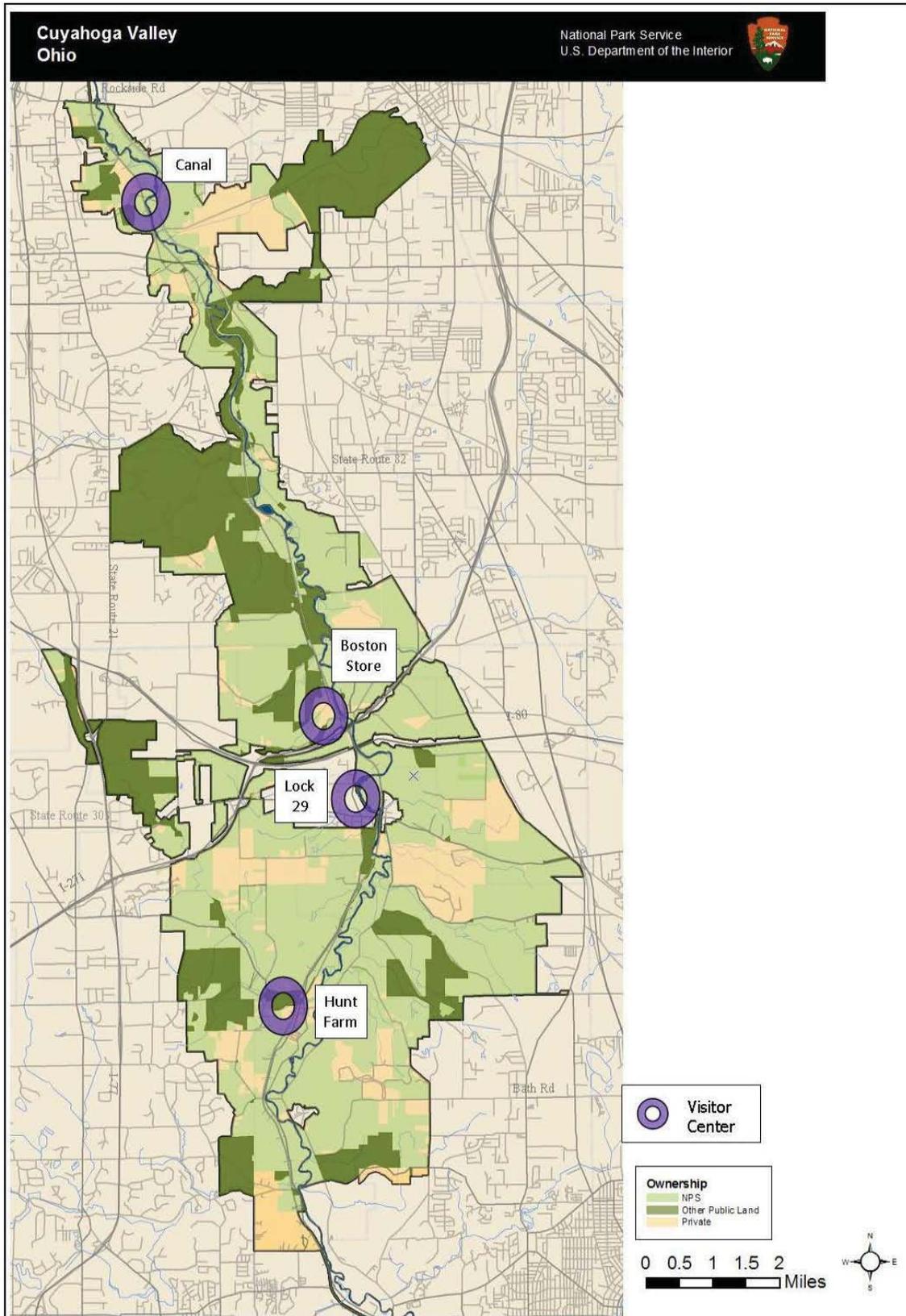
- Create viable connections to neighborhoods and community destinations where appropriate.
- Enhance and expand the Park's alternative transportation opportunities where feasible.
- Utilize current and new Trail Volunteer programs effectively.
- Utilize existing and new partnerships to implement the *Trail Management Plan*.

1.2 Background

1.2.1 Project Location and Brief Description of the Park

The Park is one of 397 park units in the NPS, one of 58 National Parks, and one of only 12 National Parks east of the Mississippi River. The Park encompasses approximately 33,000 acres in the Cuyahoga River Valley between the metropolitan areas of Cleveland and Akron, Ohio. The Park lies within Cuyahoga and Summit counties and part of 15 local municipalities. Within the legislative boundary, the NPS owns approximately 19,000 acres. The remainder of land is owned and under management by other public entities, quasi-public entities or under private ownership. Two primary owners include land managed by regional park districts of the Cleveland Metroparks and the Metro Parks, Serving Summit County.

Figure 1: Cuyahoga Valley National Park



Due to the distribution of trails throughout the entire Park and its adjacent land owners, the Trail Management Plan outlines a comprehensive park-wide vision for its trails. Therefore, project location for the purpose of this plan, is the entire Park with areas of focus identified for trail specific locations in the alternatives.

1.2.2 Purpose and Significance of Cuyahoga Valley National Park

In December 1974, President Gerald Ford signed legislation (Public Law 93-555) creating Cuyahoga Valley National Recreation Area. In 2000, the park was designated as a National Park. Its purpose as stated in the founding legislation:

“To preserve and protect for public use and enjoyment, the historic, scenic, natural and recreational values of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment.”

The enabling legislation described the Park’s objective as “utilizing park resources in a manner which will preserve its scenic, natural and historic setting while providing for the recreational and educational needs of the visiting public.”

The Park was established during the era of the emerging importance of urban recreation. The NPS and the federal government had launched the “Legacy of Parks Program” designating urban “gateway” parks in New York (Gateway, NRA) and San Francisco, (Golden Gate NRA). During the process for the Park of becoming part of the NPS, Cuyahoga Valley was often referred to as the opportunity for a “Midwest Gateway Park” (Cockrell, 1992).

The Park contains three significant features; the Cuyahoga River Valley and its associated ecological functions, its cultural resources and landscapes, and its recreational history and outdoor use opportunities.

The Cuyahoga River is the ecological centerpiece of the Park with 22 miles of river traveling in Park boundaries. The Cuyahoga River is known globally for the widely publicized burning of the Cuyahoga River in 1969 which moved the country toward the birth and establishment of the Clean Water Act. The river valley, within the Park boundary, is biologically unique, a “botanical crossroads” situated in the transition zone between the Central Lowlands to the west and Appalachian Plateau to the east. The Park contains a diverse landscape including forests and wetlands which include over 1,300 plant species and 500 animal species (NPS, 2008b).

Primary cultural resource features of the Cuyahoga Valley include the Ohio & Erie Canal, Native American settlements and the works of the Conservation Civilian Corps. The Ohio & Erie Canal and its features symbolize early 19th century settlement and the westward expansion remains include the locks, towpath, and other structures associated with the canal; the Cuyahoga Valley railroad, the pastoral landscapes throughout the valley, three small villages along the canal and dozens of individual farmsteads and miscellaneous commercial and industrial sites (NPS, 2008b). Today, the Park continues to celebrate these cultural features through park programs, successful park partnerships, access to significant areas, and use of interpretive media and signage.

The recreational significance of the Cuyahoga Valley was recognized by many of the early park planners and landscape architects establishing parks in the region and throughout the nation in the early 20th century. Frederick Law Olmsted, a renowned landscape architect described the Cuyahoga Valley as “an impressive landscape with the many and varied wooded ravines running up from this main valley to the plateau land on either side, and large stretches of gently rolling pastoral landscape, streams and lakes, occasional gorges and picturesque ravines and some hills commanding broad outlooks over the countryside.” Olmsted, in 1925 as part of his study presented to the Akron Metropolitan Park Board, had identified the value and opportunities for recreation in the Valley. This vision of the Cuyahoga Valley as a passive recreational refuge has been an underlying thread over the past century. Today, the Park provides nearly 175 miles of trails for a variety of recreational experiences that draws visitors locally and nationally to a landscape distinctive from its nearby metropolitan cities (Cockrell, 1992).

1.2.3 History of Trails in Cuyahoga Valley National Park

The value of trails and recreational use in the park dates back to before 1900. Indeed, “by the dawning of the twentieth century recreation in the Cuyahoga Valley was an established tradition. Beginning in the 1870’s, city dwellers were venturing out to the countryside picnicking, boating, hiking and for nature study” (Cockeell, 1992).

By the 1930’s the Cuyahoga Valley was already an active respite for urban dwellers from Cleveland and Akron visiting places like Virginia Kendall State Park for hiking and sunbathing. During this time period, private estates in the Cuyahoga Valley had established trails and carriage roads for their private recreational enjoyment, that include places like Old Carriage trail area and the Wetmore trails. Over the years, these lands and other park units were incorporated in the Cleveland Metroparks and Metro Parks, Serving Summit County, and eventually part of the designated CVNP. Two significant trail corridors established that accelerated the recreational connections to the Valley included the conversion of an abandoned railroad bed to the Bike and Hike Trail in 1970 and the work of the Towpath Trail in the late 1980’s and early 1990’s.

Many of the trails from the earliest days of Cuyahoga Valley as a recreation destination remain today for today’s visitors to enjoy and share the experience that has remained for over a century.

1.2.4 General Management Plan & Other Relevant Plans

General Management Plan (1977). The General Management Plan (GMP) for Cuyahoga Valley National Park provides guidance for park management during the Park’s initial implementation stage. The overall concept for management and development of the Park is that of resource preservation for compatible recreational use. This was met by establishing three strategies for natural resource management; preservation, protection and maintenance and enhancement. The plan recognized the Park’s significant role of providing passive recreation within a large metropolitan region. The Park “preserves a landscape reminiscent of simpler times, a place where recreation can be a gradual process of perceiving and appreciating the roots of our contemporary existence” (NPS, 1977).

The GMP outlines general planning concepts for the Park and its recreational use. While created in the early stages of the Park’s existence, the following management guidance identified elements that are part of the Trail Management Plan being evaluated in this document (NPS, 1977).

- In a gradually deteriorating environment where fewer and fewer places allow us time and space to rediscover the beauty of nature, the peace of the countryside, or the substance of our past, the need to protect the landscapes that refresh the spirit and restore our perceptions has become one of the basic requirements of recreational planning. (p. 3)
- The visitor-use concept for the nation (park) stressed the expanded use of existing facilities, ranging from primitive hiking to golf courses – as well as opening of additional use areas to encourage people to disperse throughout the park and seek new recreational settings. Proposals are intended to promote uses that harmonize with the valley landscape and to provide opportunities that generally cannot be duplicated in the more urbanized surrounding region. Numerous recreational activities will be accommodated – hiking, biking, horseback riding, picnicking, camping – and many sites will be designed to encourage spontaneous recreation such as kite flying and impromptu concerts.(p.4)
- Primitive walk-in campgrounds and hostels designed to provide experiences rather than conveniences will be developed.(p.7)
- Inherent in the (visitor use/interpretation) concept, is the idea of providing unstructured open space and recreational settings that encourage people to disperse and explore further rather than concentrating in a few developed areas. (p.41)
- The concept of use is based on the natural separation of activities in the valley as determined by the landscape. To determine compatible uses, the GMP identified “visitor-use zones” to reflect the landscape capabilities and resource characteristics. (p.43)
- An important element in the successful implementation of the visitor-use/interpretive concept will be an internal transportation system adequate to permit circulation throughout the park’s core area without the need for an automobile. (p.55)

Primary Interpretive Themes. The Primary Interpretive Themes outlined in the Long Range Interpretive Plan, 2003 for the Park include the following (NPS, 2003a):

- *Parks to People.* Cuyahoga Valley National Park is a product of a national movement for the establishment of parks for use by people in an urban environment.
- *Cultural and Natural Interplay.* Understanding human interaction with the valley environment from prehistoric to present times can serve to generate inspiration and encourage discussion of a modern land ethic.
- *Watershed Connections.* The Cuyahoga River connects Cuyahoga Valley National Park to the largest system of freshwater in the world.
- *Natural Diversity.* The Park’s location in a transition zone between major regions of the country, combined with its glacial history and varied topography makes it home to a unique species composition.
- *Evolution of Transportation.* People have used the Cuyahoga Valley as a transportation corridor from prehistoric to modern times.
- *Impact of the Canal.* As part of the 19th century transportation infrastructure, the Ohio & Erie Canal was among the most successful of America’s canals. During the period, canals contributed to the growth of the nation.

Transportation Plan (1983). Because of the complex ownership and road network within the Park, one of the subsequent plans of the General Management Plan was a Transportation Plan (NPS, 1983). The Plan's focus was on three transportation issues, establishing concepts for 1) a hierarchy of road development and use within the park, 2) alternative mass transportation, such as the rail, and 3) the establishment of a bicycle trail network. The 1983 Transportation Plan developed the ideas derived in the GMP further and identified categories for management. The Transportation Plan identified initial bike routes.

Trail Plan (1985). The *Trail Plan and Environmental Assessment* (NPS 1985) was led by a Citizens Advisory Commission and outlined a plan to flesh out the general recommendations in the GMP and other previous general studies. The Commission included individuals representing a wide variety of outdoor recreational trail uses. The recommendations developed by the Commission were submitted to the Park staff and formed the foundation of the Plan.

The Trail Plan identified 105 miles of existing trails and 27 existing trailheads in 1985 and proposed an additional 115 miles of trail and 19 new trailheads for parking and trail facilities. An additional 46 miles of trails were identified in the Plan for future consideration but were not evaluated in the 1985 Trail Plan. The trails proposed focusing on four primary uses: hiking, horse-riding, cross-country skiing and bicycling on roads and primary long distance trails (NPS, 1985).

As part of the 2012 trail planning process, an evaluation of the implementation of the 1985 Trail Plan was performed. In 2012, 54 miles of 1985 proposed trails and 10 miles of the future trails proposed had been implemented. Thirteen of the nineteen proposed trailheads exist today as part of the Park's trail infrastructure. This includes the completion of the 22 miles of the Towpath Trail within the Park, completed in 1993 (NPS, 1985).

Some trails proposed in the 1985 Trail Plan but not yet implemented are part of the evaluation in this *Trail Management Plan*.

Survey of Potential Linkages to the Ohio & Erie Canal Towpath Trail and Cuyahoga Valley Scenic Railroad in the Cuyahoga Valley National Park (2002). A bike trail linkage report was developed by the Park in 2002 to survey potential bike trail linkages to the Towpath Trail and Cuyahoga Valley Scenic Railroad. The Plan identified 11 bike trail linkages, their classification of development, feasibility, priority and estimates of costs. The Hemlock Road linkage in Independence is the only bike trail linkage identified in the plan that has proceeded with more detailed planning and environmental review (*in process*).

River Use/Water Trails Studies. Over the past 15 years, interest in expanding the recreational use of the Cuyahoga River has continued to grow. This is due in part to improved water quality in the river the past two decades and expanding recreational use of the river north and south of the park.

In 1991, the Park developed a draft River Use Plan outlining a basic framework for recreational boating along the Cuyahoga River. The plan outlined conditions in 1991 of the river and "actions that must precede the encouragement of recreational boating in Cuyahoga Valley National Recreation Area" (NPS, 1991). The actions included issues related to water quality, river use limits, permitted vessels, physical facilities and other complementary operational items, such as camping, canoe livery and river use operational responsibilities.

In 1992, a survey of kayak and canoe owners was conducted within a ten county region of CVNP. Two findings of this study included that canoeing activity occurs relatively close to a user's residence and a typical outing consists of a single day visit. Of 24 Ohio rivers evaluated in the survey, the Lower Cuyahoga, including the portion within CVNP, was ranked 5th in the number of days survey respondents paddled in the selected rivers. Additionally, the survey asked respondents about barriers to the use of the Cuyahoga River between Akron and Cleveland. Barriers identified include not having enough information on paddling the river, poor water quality and lack of public access (Anderson, et al, 1992).

America's Great Outdoors Initiative. In 2011, President Obama released a vision to develop a conservation and recreation agenda for the 21st century. The vision for the nation included 1) Connecting Americans to the Great Outdoors, 2) Conserving and Restoring America's Great Outdoors and 3) Working together for America's Great Outdoors (NPS, 2011f). This Trail Management Plan embraces this vision.

Healthy Parks, Healthy People. In 2011, the NPS initiated the Healthy Parks, Healthy People Strategic Plan to serve as a blueprint for the role of the National Park System to promote health and well-being (NPS, 2011g). This plan assists in bringing the guiding principles and vision of this national initiative to the park level for implementation.

Call to Action. In 2011, the NPS embarked on initiating a strategy to prepare for a second century of stewardship and engagement. Call to Action identifies 36 actions to advance the mission of the National Park Service in its second century. The Trail Plan embodies many of these actions and will demonstrate their applicability through its implementation (NPS, 2011h).

1.2.5 Current Status of Trails and Associated Facilities

Today, the Park contains 175 miles of trails, of which approximately 97 miles are managed by NPS. The trails provide for various uses including 64 miles for hiking and trail running only, 42 miles for multipurpose biking and hiking, 16 miles for cross-country skiing and 52 miles for equestrian riding. The NPS trail system is comprised of three long distance trails, the Towpath Trail, Buckeye Trail and Valley Bridle Trail, and eleven smaller localized trail systems with separate access points. The park currently has one limited community connector through the Old Carriage Trail connector trail in the northern portion of the park and has some portions of the primary roadways improved for bike use. NPS' Metropark partners provide five additional trail systems within their park units of CVNP. The Buckeye Trail, within CVNP, is managed by the non-profit partner, the Buckeye Trail Association. Currently, the Park provides access to all its trails through 25 trailheads and from the four primary Visitor Contact Centers.

1.2.6 Current or Recent Trail Planning by Other Organizations

Cleveland Metroparks Master Plan. In 2010, Cleveland Metroparks kicked off a two year planning effort to update its Master Plan for the Park District. The Plan will inventory existing conditions, evaluate issues and trends, identify strategic commitments, update Park reservation "Concept Value Plans" and develop strategies to monitor plan implementation. The Master Plan, referred as The Emerald Necklace Centennial Plan, is aimed to "set forth a vision to guide future decision-making and priorities for the Park District to 2020" (Cleveland Metroparks, 2011).

Summit Metroparks Trail and Greenways Plan. In 2000, Summit County developed the Trail and Greenway Plan, which provided a vision for proposed trails and greenways in the county. The vision included networks of trails providing linkages among communities, to the Towpath Trail and to other local and regional trails. The plan identified trails representing over 500 miles of proposed trails and greenways in the county (Ohio & Erie Canal Association, 2010). In 2011, an update to the plan was initiated.

Village of Richfield Land Use Study. In 2011, the Village of Richfield embarked on the Crossroads of Commerce & Community Study. The Study will include the development of bike and pedestrian plans that promote access to public transportation along Brecksville Road and safe connections across the interstates to reconnect areas of the community. There are also proposals for trail and street improvements to connect Richfield's Historic District, its school campus and the Park (AMATS, 2010).

Bath Greenway Plan. The Township of Bath has worked on identifying trail and greenway connections as part of its Comprehensive Planning efforts over the years.

Hudson Master Plan. In 2000, the City of Hudson completed its Comprehensive Master Plan that included goals for a trail network in the community and connections beyond (City of Hudson, 2000).

AMATS/NOACA Bike Plans. In 2008, the Akron Metropolitan Transportation Study (AMATS) developed the Bicycle and Pedestrian Needs Report in 2008 to identify and evaluate the bikeway and pedestrian needs for its planning region that includes Summit County. In 2011 and 2012, AMATS embarked on the development of a bike users map to establish "bikeability" scores for the region's roadways and established a regional Bike Plan. In 2008, the Northeast Ohio Regional Coordinating Agency (NOACA) developed a Regional Bicycle Plan for its region, including Cuyahoga County, identifying bikeway projects.

Cuyahoga Water Trail Plan. In 2010, a Cuyahoga River Water Trail Group was formed to collaborate among the various Cuyahoga River users and stakeholders to establish a state-designated water trail. In early 2011, the group held its first Water Trail workshop to discuss the opportunities and challenges for the water trail designation.

1.2.7 Special Designations

The Park has a number of designations established outside of its enabling legislation as a National Park. These designations identify unique resources within the Park and its affiliation with park and other associated federal programs.

National Recreational Trail. The National Trail System Act of 1968 (Public Law 90-543) authorized creation of a national trail system. National Recreation Trails, designated by the Secretary of Interior or the Secretary of Agriculture, recognize exemplary trails of local and regional significance. Through designation, these trails are recognized as part of America's national system of trails (NPS, 2009e). The Park contains two segments recognized as National Recreation Trails.

- 2.8 miles along the Towpath Trail (Station Road north to Canal Road)
- 0.50 miles Harriet Keeler Woodland Trail located in Brecksville Reservation.

Ohio & Erie Canal National Heritage Canalway. The Park is located within the Ohio & Erie Canal National Heritage Canalway. As part of the NPS National Heritage Areas Program, Canalway was designated through Public Law 104-333. The legislation states that the Canalway will “preserve and interpret for the education and inspirational benefit of present and future generations the unique and significant contribution to our national heritage of certain historic and cultural lands, waterways, and structures within the 87-mile Ohio & Erie Canal Corridor between Cleveland and Zoar” (OECA, 2000).

American Heritage River. The Park contains a section of the Cuyahoga River that is designated as an American Heritage River. Established under Executive Order, 13061, 1997, the American Heritage River Program recognizes rivers with distinctive characteristics and strong community involvement.

Nationwide Rivers Inventory. In partial fulfillment of Section 5(d) requirements of the National Wild and Scenic Rivers Act (16 U.S.C 1271_1287), the NPS has compiled and maintains a Nationwide Rivers Inventory (NRI) to register river segments that potentially qualify as national wild, scenic or recreational river areas. A portion of the Cuyahoga River in the Park is identified in the National Rivers Inventory.

National Scenic Byways. Established under the Intermodal Surface Transportation Efficiency Act of 1991, the U.S. Transportation Secretary recognizes certain roads as National Scenic byways due to their distinctive qualities. The Park contains approximately 18 miles of the Ohio & Erie Canal National Scenic Byway, including sections on Canal Road between Rockside Road and Pleasant Valley Road, and Riverview Road between Pleasant Valley Road and the southern boundary of the Park.

Area of Concern. The Park contains a segment of the Cuyahoga River that is included in the Area of Concern, under Annex 2, of the Great Lakes Water Quality Agreement, administered by the International Joint Commission. Annex 2 “directs Canada and the United States, working with state and provincial governments to develop plans that embody a systemic and comprehensive ecosystem approach to restore and protect beneficial uses in areas of persistent pollution as defined in Annex 3 of the Agreement, as Areas of Concern” (International Joint Commission, 2011).

National Historic Landmarks and Historic Districts. Inside the boundary of the Park, 34 sites are designated as National Historic Districts or landmarks as authorized by the National Historic Preservation Act of 1966. These sites are described further in the Cultural Resources section of Chapter 3.

Natural Study Area. In 2005, the Park designated 164 acres known as Terra Vista as a Natural Study Area. The Terra Vista Study area was established to recognize Terra Vista’s monitoring and visitor use management needs (NPS, 2005b).

1.2.8 National Park Service Laws, Management Policies and Regulations

Public Law 93-555. Cuyahoga Valley National Park Enabling Legislation and Amendments. Congress created the park in December, 1974. The Park’s legislation was amended from a national recreation area to a national park in 2000. The project and this Environmental Impact Statement are consistent with all acts of Congress that govern the management of the Park.

NPS Organic Act of 1916. The NPS Organic Act directs the NPS to manage the parks “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Redwood National Park Expansion Act of 1978 reiterated this by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16-USC 1 a-1).

The resources of CVNP are protected under the authorities of the NPS Organic Act of 1916 (16 U.S.C. 1), the National Park System General Authorities Act (16 U.S.C. 1a-1 et seq.), Part 36 of the Code of Federal Regulations (CFR), and the Park’s enabling legislation. (Public Law 93-555).

National Environmental Policy Act of 1969, as Amended. NEPA is implemented through the regulations of the Council of Environmental Quality (CEQ) [40 CFR 1500-1508] that requires detailed and documented environmental analysis of proposed federal actions that may affect the human environment.

NPS Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making. Director’s Order 12 provides a planning process for NPS compliance with the National Environmental Policy Act (NEPA).

NPS Director’s Order 42. Accessibility for Park Visitors. Director’s Order 42 goal is to ensure the implementation of the highest level of accessibility that is reasonable to NPS programs, facilities and services through planning, construction and renovation of buildings and facilities and in provision of programs and services to the public and to NPS employees.

NPS Director’s Order 52C. Park Signs. Director’s Order 52C provides guiding principles for a consistent and effective sign program throughout all NPS units. The Order and its companion Sign Standards Reference Manual, sets forth standards for planning, design, fabrication, installation, inventory and maintenance of outdoor signs for national parks.

NPS Director’s Order 83 Public Health. Director’s Order 83 outlines what NPS will do to ensure compliance with prescribed public health policies, practices and procedures. Its companion guidance manuals, Reference Manual 83B1, Wastewater Systems and Reference Manual 83F, Backcountry Operations are pertinent to this Plan.

NPS Director’s Order 77. Natural Resource Protection, Reference Manual. Director’s Order 77 sets forth guidance to NPS employees responsible for managing, conserving and protecting natural resources found in NPS units.

Part 36 of the Code of Federal Regulations (CFR) provides for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the NPS.

The following sections of Part 36 of the CFR apply specifically to Trail Plan elements in the alternatives being considered.

36 CFR 2 Resource Protection, Public Use and Recreation

- 2.1 Preservation of natural, cultural and archeological resources.
- 2.2 Wildlife Protection
- 2.10 Camping and food storage.
- 2.14 Sanitation and refuse.
- 2.16 Horses and pack animals.

36 CFR 3. Boating and Water Use Activities. This section provides applicability, regulations and requirements of boating and water use in park waters.

36 CFR 4. Vehicles and Traffic Safety, 4.30 Bicycles (b) Except for routes designated in developed areas and special use zones, routes designated for bicycle use shall be promulgated as special regulations.

36 CFR 7. Special Regulations, Areas of the National Park System. The NPS requires an issuance of a special regulation to designate routes for bicycle use when it will be off park roads and outside developed areas. If the selected alternative includes new off-road or reauthorized trails for bicycling, and then chooses to proceed on the action, the Park will need to proceed with the established rulemaking process set forth by the NPS.

Part 40. of the Code of Federal Regulations (CFR). 1500-1508 (Council of Environmental Quality, NEPA regulations of 1978). This section provides regulations for implementing the Procedural Provisions of NEPA.

Part 43 Code of Federal Regulations (CFR) 3 (Antiquities Act) This section establishes procedures to be followed for permitting the excavation or collection of prehistoric objects of federal lands.

Part 43 CFR 46 Implementation of the National Environmental Policy Act of 1969. A bureau proposed action is subject to the procedural requirements of NEPS if it would cause effects on the human environment and is subject to bureau control and responsibility.

National Historic Preservation Act of 1966, as Amended Through 2000. (16 USC 470), The Act declared historic preservation as a national policy and authorized the Secretary of the Interior to expand and maintain a National Register of Historic Places that would include properties of national, state and local historic significance. The Act recommends that federal agencies proposing action consult with the State Historic Preservation Office regarding the existence and significance of cultural and historical resource sites.

Clean Water Act of 1972. The Act requires water quality standards and prohibits any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions.

Endangered Species Act of 1978. As amended, the Act prohibits federal actions from jeopardizing the existence of federally-listed threatened or endangered species or adversely affecting designated critical habitat. Federal agencies must consult with the U.S. Fish and Wildlife Service to determine the potential for adverse effects.

Archeological Resources Protection Act (ARPA) of 1979. (P.L. 96-95; 93 Stat.712). The Act defines archeological resources, their excavation or removal regulations, preservation policies, cooperation with other parties and the development of plans for surveying public lands for archeological resources.

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The Order directs actions of federal departments and agencies to implement the Migratory Bird Treaty Act.

Architectural Barriers Act of 1968 (ABA), the 1984 Uniform Federal Accessibility Standards (UFAS) and the American with Disabilities Act (ADA) of 1990. The Acts establish the requirements that buildings, facilities and programs be made accessible to people with disabilities. The set standards for NPS design and architectural access is the ADA-ABA Accessibility Guideline for Building and Facilities.

Native American Graves Protection and Repatriation Act (NAGPRA) of 1990. The Act requires federal agencies and institutions that receive federal funds to provide information about Native American human remains, funerary objects, sacred objects and objects of cultural patrimony to lineal descendants, Indian tribes and native Hawaiian organizations and, upon presentation of a valid request, dispose of or repatriate these objects to them.

NPS Management Policies, 2006. The basic Service-wide policy document of the NPS provides guidance and interpretation of laws, regulations, executive orders and directives.

1.2.9 Appropriate Use

According to NPS Management Policies (2006, Section 1.5) the NPS must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on park resources and values. Section 8.1.1 of the NPS Management Policies outlines appropriate uses in the National Parks: “appropriate forms of visitor enjoyment emphasize appropriate recreation consistent with the protection of the park. In exercising its discretionary authority, the Service will allow only uses that are 1) appropriate to the purpose for which the park was established, and 2) can be sustained without causing unacceptable impacts.”

1.3 Scoping Process and Public Participation

As defined in NPS Director’s Order 12, “scoping is an early and open process to determine the scope of environmental issues and alternatives to be addressed in an EIS.” This section outlines the general activities and outcomes of the public involvement that were part of the planning process for the Plan. Detailed information on the scoping process and public participation is provided in Appendix B of this document.

1.3.1 Internal Scoping

Internal scoping involves the interdisciplinary participation and input from NPS staff to define issues, alternatives and data needs.

Interdisciplinary Team (IDT). An IDT was formed in 2009 including the Park, NPS Rivers, Trails, and Conservation Assistance (RTCA) staff and representatives from Cleveland Metroparks and Metro Parks, Serving Summit County. The IDT members, who served as the primary advisors to the development of the Plan, met throughout the planning process. Additionally, a subset of the IDT, the CORE team met regularly to advise and prepare materials for the IDT. A list of members for both of these teams is provided in Chapter 5 of this document.

Cooperating Agencies. Under NEPA, a cooperating agency is “any Federal agency other than the lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal.” In addition, a state or local agency of similar qualifications may also become a cooperating agency.

In 2009, the Park signed a Memorandum of Understanding with Cleveland Metroparks and Metro Parks, Serving Summit County to outline collaboration on the Trail Management Plan. Both of these regional park entities were part of the IDT and coordinated with the Park on all aspects of the Plan.

1.3.2 External Scoping – Public Involvement

External Scoping for the Trail Management Plan involved a variety of activities for the public to participate in the planning process. Activities included a stakeholder survey, public meetings, public outreach, and newsletters. Information on the specific public involvement activities is provided in Chapter 5 of this document.

1.3.3 Public Scoping

Through the public scoping process, five primary issues were identified for the Plan: park resources, visitor uses, facility uses, maintenance and administrative operations. Appendix B outlines general items for these issues that were identified during the scoping period.

1.4 Scope of Environmental Impact Statement

As required under NEPA, the Environmental Impact Statement must identify issues that may be affected by the proposed actions.

Impact topics were identified that may be 1) impacted by the proposed action 2) have an impact on the proposed actions in this Plan or 3) not relevant or impacted by the proposed action. Determination of topics for impact evaluations were identified based upon the following:

- Federal laws, regulations and executive orders, including NEPA guidance documents
- NPS Management Policies (NPS, 2006a)
- Public Scoping input
- Relevance of proposed actions to park resources.

1.4.1 Impact Topics Retained for Impact Analysis

The impact topics identified that may be impacted or have an impact on the proposed actions are listed below. Each impact topic is described further in Chapter 3 and impacts on each topic associated with the Trail Plan alternatives are described and analyzed in Chapter 4.

Water Resources. The presence of the Cuyahoga River system and its associated water resources may be affected by the location, use, construction and management of trails. Specifically trails and their associated facilities may affect watershed imperviousness, water quality, riparian buffers, floodplains and wetlands.

Vegetation and Invasive Plants. The Cuyahoga River Valley continues to transform itself with restored landscapes, but is continually challenged by its proximity to the urban environment. Trail impacts to vegetation communities can vary based upon trail location, resource sensitivity and level of trail development and its designated uses. These impacts may occur by changes in vegetative habitats through disturbance and fragmentation, and the introduction or spread of exotic invasive plants that limits native ecological diversity.

Wildlife. The diversity of wildlife and their use of the Cuyahoga Valley continue to evolve as the landscape continues to be restored. Disturbance of wildlife habitat can occur due to trail proximity to sensitive features and the level of noise and motion from trail users, causing changes in movement, distribution and composition of wildlife. Based upon their location and use levels, trails may change the size of habitats, create edge effects to sensitive species and create new movement corridors for new species interactions.

Soils. The steep valley walls and valley floor pose challenges to any suitable uses within the Park. Trails may affect soils and the terrain by their placement and design, causing soil erosion and compaction which can increase sedimentation and unstable conditions. The suitability of the soils and its terrain for trails placement will affect the investment and management of the trails and protection of soil resources.

Cultural Resources. The type and level of visitation to cultural resources can affect the quality of that resource. Cultural resources in CVNP include National Register Historic sites, cultural and scenic landscapes, and archeological resources. Trails can affect these specific cultural resources if the circulation of visitors is not designed properly, the level of visitor use creates impact to the resource, or the integrity of the cultural resource is minimized by a trail or trail facility.

Visitor Use and Experience. The Park's proximity within a large metropolitan area, poses it for recreational use by a wide variety of visitors. Trails can serve as one vehicle to experience the wide variety of park resources upon which the Park was created. Trails can also affect those experiences at varying levels for the visitor by the following issues; orientation, education and interpretation, visitor accessibility, visitor use conflict, human health and safety and noise caused by human use.

Socioeconomic. The Park boundary reflects a dynamic integration into the community and region. The mosaic of ownership and local governmental roles may be affected by trails and their proximity to other lands, their transportation connections to communities and their opportunities or impacts to the local and regional economies.

Park Operations. Without the proper Park operations in place, conditions may occur where trails become degraded, trail user conflicts increase, Park resources are impacted from their desired conditions and visitor safety is compromised. Park operations that may affect trails include the staffing for all divisions of the park, operation of park facilities, and staffing and coordination with Park partners and local jurisdictions.

1.4.2 Impact Topics Dismissed from Further Consideration

Director's Orders 12 requires an initial screening of a wide variety of resources and potential effects on park resources proposed actions may have. Through this initial screening, some impact topics were dismissed from further analysis as a result of a) the proposed alternatives would have negligible or no effects on the particular resource or b) the resource does not occur in the national park. The following resource topics were dismissed for further analysis for the reasons stated below.

Geohazards. NPS Management Policies (2006a) states the NPS will strive to avoid placing new visitor and other facilities in geologically hazardous areas that pose hazardous to humans and park infrastructure such as earthquakes, volcanic eruptions, mudflows, landslides, floods, shoreline processes, tsunamis and avalanches. While the park has experienced park facility closing and infrastructure damage from flooding occurrences, the proposed actions will not exasperate the flooding occurring or its frequency. During any new facility site planning, the park will adhere to NPS Management Policies (Section 9.1.1.5) and "strive to site facilities where they will not be damaged or destroyed by natural physical processes and where dynamic natural processes cannot be avoided, developed facilities should be sustainably designed."

Groundwater Resources. The Park is not located within the limits of a designated U.S. Environmental Protection Agency Sole Source Aquifer.

National Natural Landmarks. The National Natural Landmarks Program was established by the Secretary of the Interior in 1962 under the authority of the Historic Sites Act of 1935 (16 U.S.C 461 et seq.) to identify and encourage the preservation of a full range of geological and biological features that are determined to represent nationally significant examples of the Nation's natural heritage. Once a landmark is determined nationally significant, designation is recommended and if designated included on the National Registry of Natural Landmarks. The Park contains one National Natural Landmark, Tinkers Creek Gorge within the Cleveland Metroparks Bedford Reservation. None of the alternatives involve any action at this location and will not effect this designation as a result (NPS, 2009c).

Streamflow Characteristics. The NPS has established a Streambank Stabilization Program Management Plan for the Cuyahoga River. In addition, the Ohio EPA has established goals for the water quality of the river and its associated tributaries. Trails and trail facilities, specifically water trails will have interactions with the River and its tributaries but will not alter or change the stream flow characteristics of these natural water systems.

Lakes and Ponds. The Park contains approximately 70 lakes and ponds ranging in size from less than one-tenth of an acre to 10 acres. The Park's largest lake is Virginia Kendall Lake of 10 acres. Fifteen of the ponds are managed for visitor use within the Park's Pond Management Plan (NPS, 1993). While the proposed alternatives will have trails near or adjacent to four lakes and ponds, including Horseshoe Pond, Indigo Lake, Virginia Kendall Lake and Armington Pond, the lakes and ponds will not be altered or modified that would cause an effect to these resources.

Nationwide Rivers Inventory (NRI). In partial fulfillment of Section 5(d) requirements of the National Wild and Scenic Rivers Act (16 U.S.C 1271_1287), the NPS has compiled and maintains a Nationwide Rivers Inventory (NRI) to register river segments that potentially qualify as national wild, scenic or recreational river areas. In 1982, an eight mile reach of the Cuyahoga River from the vicinity of the confluence of Chippewa Creek upstream to Peninsula was listed on the Nationwide Rivers Inventory (NRI) with "Outstanding Remarkable Values (ORVs)" for Scenery, Recreation and Fish (NPS, 2009b). The proposed trails in all alternatives will not affect the scenic values or resources conditions recognized in the NRI designation for the Cuyahoga River. Existing and proposed trails in the NRI designated section will not be along the River, with the exception of the current Towpath Trail. Two paddle launch sites are proposed within the NRI, which will enhance access for river use. No effect will occur on the Nationwide Rivers Inventory designation.

Air Quality. The Clean Air Act of 1963 (42 U.S.C. 7401 et seq.) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with NPS units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. The proposed actions in the Trail Plan promote non-motorized outdoor recreation activities and will not contribute to air quality conditions and potentially will be beneficial in the Park.

Marine and Estuarine resources. Due to its location, no marine or estuarine resources are present within the Park.

Unique ecosystems. The Park does not contain any biosphere reserves or World Heritage sites.

Ethnographic resources. NPS Director's Order 28, Cultural Resource Management Guidelines, defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the NPS should try to preserve and protect ethnographic resources.

Ethnographic resources are not known to exist in the Park. In addition, Native American tribes traditionally associated with the Park were apprised of the proposed project during scoping and response was received from an affiliated tribe. This response confirmed their cultural affiliations with the area, but indicated that no impacts to significant ethnographic resources are expected.

Museum collections. No museum collections are involved in the proposed alternatives.

Prime and Unique Farmlands. As a result of a substantial decrease in the amount of open farmland, Congress enacted the Farmland Protection Policy Act (FPPA) (Public Law 97-98). In August 1980, the Council on Environmental Quality directed that federal agencies must assess the effects of their actions on prime or unique farmland soils classified by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Prime farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, timber, and oil seed. Unique farmland soils are those that produce specialty crops such as fruits, vegetables, and nuts. Prime and unique farmland soils are those that are actively being developed and could be converted from existing agricultural uses to nonagricultural purposes, as described above. Urban or built-up land, public land and water areas cannot be considered prime farmland. Soils inside the Park cannot be considered prime and unique farmland soils because they are public lands unavailable for food or fiber production. Because there are no prime or unique farmlands in the Park, this topic was dismissed from further analysis.

Lightscape Management. NPS Management Policies (2006a) require the NPS to preserve the natural lightscapes within a park which include natural resources and the values that exist in the absence of human-cause light. The Park maintains minimum lighting within its park facilities to maintain the safety of park visitors and security of park facilities. The Park utilizes LED lighting, has designated areas of night closure and maintains lighting facilities that are sensor on time restrictions to minimize the amount of artificial lighting within the park. The proposed actions may result in new or improved areas that may require lighting, but are minimal and will adhere to park lighting design practices identified in this section with the goal of continuing to maintain limited artificial lightscaping within the park. Due to the minimal or negligible impact to park resources and the park management practices in place, the lightscape and night sky impact is dismissed for detailed analysis.

Indian Trust Resources. Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources at the Park. The lands comprising the Park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Because there are no Indian trust resources, this topic is dismissed from further analysis in this document.

Energy Resources. NPS Management Policies requires that Park resources and values will not be degraded to provide energy for NPS purposes and that all facilities, vehicles, and equipment will be operated and managed to minimize the consumption of energy, water, and non-renewable fuels. Alternative transportation programs will be encouraged where appropriate. The Trail Plan alternatives will have a negligible or minor impact on energy use within the park and may reduce energy demands within the park through energy efficiency updates to new and existing facilities and opportunities for alternative transportation for park operations and park visitors. Where energy resources are required for trail maintenance vehicles or trail facilities, the park will adhere to NPS sustainable energy design and energy management requirements and its Climate Friendly Parks program in compliance with Park's EMS program under Director's Order 13A.

Climate Change. The Council of Environmental Quality Draft Guidance on Consideration of Effects of Climate Change and Greenhouse Gas Emissions sets forth general guidance for proposed actions. Because the proposed actions will not contribute to the carbon footprint or increase greenhouse gas emissions, due to its non-motorized use and expansion to reduce greenhouse gas emissions through alternative transportation use, this issue is dismissed for further consideration.

Environmental Justice/Minority and low income populations. Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The Park is not located within or adjacent to neighborhoods with high minority and/or low income populations. The proposed alternatives will not displace or travel through or near any low income populations due to their absence within or adjacent to the park boundaries. The proposed action would not have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Environmental Justice Guidance (1997). Therefore, environmental justice was dismissed from further analysis.

Chapter 2: Alternatives

This chapter describes various alternatives or actions that could be implemented as part of the trail system in the Park. The National Environmental Policy Act (NEPA) governs the process of decision-making when a federal agency proposes any action that has the potential to affect the human environment. In the Environmental Impact Statement (EIS) process, alternatives will form the basis for the analysis of environmental impacts. NEPA requires that the process include the consideration of a range of alternatives. In addition, NPS must consider a No Action Alternative, along with any Action Alternatives. This chapter describes the development of the Alternatives and description of the alternatives that were evaluated for the EIS.

2. 1 Development of Alternatives (Methodology)

The alternatives reflect information and input from a variety of sources during the planning process. The following factors were considered in the development of all the alternatives.

Goals and Objectives. Alternatives were designed to meet the goals and objectives of the Plan. The goals and objectives are outlined in Chapter 1.

GMP Management Zones. The Park's General Management Plan (NPS 1977) designated Natural Resource Management Zones to guide overall management of natural environment and identified general suitability and prescriptions for park management. The Zones were identified as Preservation Management, Protection/Maintenance Management and Enhancement Management. These Zones fit closely to the Park's major physiographic regions of floodplain, steep terrain and plateau. These general management zones and physiographic regions were a component in the development of the alternatives.

Park Resources. The proximity of potential trails to sensitive resources was considered during development of the alternatives. Sensitive resources included the presence of water resources, terrain conditions, cultural resources, and plant and animal habitats.

Program Elements Identified during Public Scoping. Alternatives address five primary categories of trail design development that were identified during public scoping. They include improvements to existing trails, new trails of varying distances and challenges, new trail uses, a variety of trail user experiences, including connections, and facility improvements that serve the trail network.

Cuyahoga Valley National Park's role in Outdoor Recreation and Resource Stewardship. The alternatives include the consideration of the Park's role in outdoor recreation experiences and resource stewardship within a metropolitan region. The Park's distinctive and leading role to both of these activities are considered in the development of the alternatives.

General Planning Considerations. Physical and social factors were examined as part of the development of the trail alternatives including but not limited to: conditions of existing trails, property ownership, trail user patterns, and visitor safety trends. These planning considerations are outlined further in the Affected Environment and Environmental Consequences Chapters of this document.

2.2 Actions Common to All Alternatives

The following actions and policies will apply to all alternatives.

2.2.1 NPS Policies, Protocols and Monitoring

All alternatives will adhere to the policies, protocols and monitoring described in Chapter 1 of this document and any others set forth by the NPS and Department of Interior that are applicable to the Park.

2.2.2. Special Designations

All alternatives will adhere to the requirements and policies set forth for the Special Designations within the Park as described in Chapter 1 of this document.

2.2.3 Trail Projects Completed, Currently Planned or Underway

The Park is currently managing trail-related projects that are in various stages of planning and development. These projects have completed or will soon undergo environmental review and will therefore not be evaluated in this Environmental Impact Statement. They are considered as common elements of all alternatives of the Trail Management Plan.

2.2.3.1 Planning and Environmental Compliance Completed

Planning and compliance have been completed on four trail projects. One project was completed in 2012.

Rockside Station to Towpath Pedestrian Connector Bridge. A pedestrian and bike bridge is proposed to connect Rockside Boarding station to Lock 39 trailhead, which then connects to the Towpath Trail. Environmental compliance and design are completed and the Park received funding in 2012 for implementation.

Bike & Hike Trail and Brandywine Parking Lot Improvements. In 2011, Metro Parks, Serving Summit County initiated the construction phase of providing an off-road bike route for the Bike and Hike trail near Brandywine Falls, expanding the Brandywine Falls parking lot and making improvements to the Brandywine trailhead. The project will include 1.4 miles of new off-road multi-use trail of the Bike and Hike trail, connection to the Stanford Trail, and expanded parking with a total of 90 car spaces and one bus parking space. This project was completed in 2012.

Happy Days Lodge Parking Expansion. Due to events and programs offered at the Happy Days Lodge, the Park has proposed the expansion of the existing parking area adjacent to the Boston Run trailhead. The addition of 70 parking spaces is being proposed in preliminary drawings.

2.2.3.2 Planning and Environmental Compliance Underway

Hemlock Connector Trail. A separate Environmental Assessment is underway by the City of Independence evaluating alternatives for the development of a 1.5 mile multi-use connector trail from Brecksville Road, following primarily along Stone Road, to the Towpath Trail. The project includes construction of a pedestrian/bike bridge across the Cuyahoga River and connection to the Towpath near Stone Road, approximately one mile south of Rockside Station and one mile north of Canal Visitor Center.

Old Carriage Trail Repair/Rehabilitation. In 2009, the bridges on the Old Carriage Trail were closed due to unsafe conditions. In 2012, the Park will be working towards a design if funding becomes available for the bridges. Design options may include repair of existing bridges, replacement with new bridges, re-routing of trail, and other options that may be developed. Options will be evaluated based upon many factors, including feasibility, sustainability, support of the park's mission and environmental impacts. Estimated costs of different options will also be determined.

Old Carriage Trail Connector Repair. Slumping of the hillside has caused the connector trail to fall in disrepair and adverse conditions for visitor use. In 2010, park staff improved the surface of the trail sections that were in poor condition. Additional stabilization work will be evaluated and developed in 2012 as funding becomes available.

Boston Mills Area Conceptual Development Plan. The Park is currently working on a plan and Environmental Assessment for the Boston Mills area to improve parking, circulation and visitor services. Nothing in that Plan is expected to conflict with the proposals within this Trail Plan for the Boston Mills Area (i.e., river access and new trail connections).

Stanford Road New Parking Area. In 2011, the Stanford House was reopened as a new facility for overnight accommodations in the Park. With its new use and the adjacent campsites, current parking is inadequate to address the new use while minimizing conflicts. As part of the Boston Mills Area Conceptual Development Plan, a new parking area near Stanford House is being considered and evaluated to partly address this issue.

Peninsula Pedestrian Planning. The Park continues to work to improve pedestrian safety and circulation of park visitors between park facilities and non-park facilities of the Lock 29 area in Peninsula.

2.2.4 Park Sustainability Practices

The Park's current sustainability practices for providing recycling, energy efficient lighting, and energy efficient and pollution reduction operations practices will be continued and expanded where feasible under all alternatives. Identifying emerging practices and technologies to reduce energy demands of the park and enhance alternative energy generation are practices to explore for all alternatives.

2.2.5 User Carrying Capacity Standards for Trails

The NPS defines user capacity as the type and level of visitor use that can be accommodated while sustaining the quality of park resources and visitor opportunities consistent with the purposes of the park (NPS, 2006a). The Park's GMP outlined general user capacity levels for park areas (NPS 1977).

These, however, are largely outdated and predate the current trail system. User capacity guidance for the social and ecological changes on trails will be established to ensure the integrity of park resources is maintained. Preliminary development of user capacity standards is outlined in the Sustainable Trail Guidelines (Appendix C). The implementation phase of the Trail Plan will include the review and possible update of these preliminary standards, to protect park resources and improve applicability of the guidelines for park management.

2.2.6 Accessibility and Use of Personal Mobility Devices

The Park will provide accessibility and use of personal mobility devices to its trails and trail facilities to the highest level of compliance under the applicable laws, rules and guidelines. Appendix C outlines recommendations to address accessibility and power driven mobility devices and compliance with applicable laws, rules and guidelines.

2.2.7 Trail Signage

The Park will continue to update its Sign Plan and upgrade park and trail signs utilizing the UniGuide Sign Standards that includes identity signs, motorist guidance signs and the visitor information system. As trail signs are updated, trail accessibility information for each trail will occur. The update will also include evaluating the use of alternative technology applications to enhance visitor experience and orientation such as mobile applications. General guidance for Trail Signage is provided in Appendix C, Sustainable Trail Guidelines. Updating trail maps and other trail orientation tools for visitors and content management will be required as implementation of the Selected Alternative occurs.

2.2.8 Partnerships

Partnerships between the public park agencies, local communities and the three primary Park Partners will continue as part of all alternatives. Proposed actions involving partners, especially public park agencies are described in the Operations Sections of Chapters 3 and 4 of this document.

Public Park Partnership Land Ownership and Management. The Cleveland Metroparks and Metro Parks, Serving Summit County have served as cooperative partners and advisors throughout the Trail Planning process. In accordance with the park's legislation regarding activities on land not owned in fee title by the NPS, any trail recommendations included in the Preferred Alternative that are located on non-NPS owned lands may be implemented at the discretion of the public property owner.

Local Jurisdiction for Trail Elements. Trail elements including connector trails and bike lane improvements identified in some alternatives are recommendations to create a system-wide experience for trail users and visitors to the Park and region. As with the Metroparks organizations, the proposed trail elements on land owned by local jurisdictions within the boundaries of the Park may be implemented at the discretion of the public property owner with the opportunity to enhance cooperative partnerships with the Park.

Trails Forever. One of the significant aspects of Partnerships that will be common among all of the alternatives will be the Trails Forever Program administered by the Park in partnership with the Conservancy for Cuyahoga Valley National Park. The program is focused on five primary activities; providing trail experiences, volunteer stewardship, planning, trail system enhancement and establishing

an endowment as part of the TRAILS FOREVER Legacy Fund. The Trails Forever program is further described in Section 3.8.3.1 of the Plan. The Trails Forever Program will be a critical component in the development, implementation and sustainability of the trails in the Park. While the levels of funding may differ among the alternatives, the role of the Trails Forever Program will not differ. The Trails Forever Program will advance its role in the coming years as a primary component for Trail Plan funding. The Trails Forever program will prioritize trail projects annually and identify applicable funding sources, both private and public. As part of the initial implementation phase of the Trail Plan, the Park will evaluate the Trails Forever program for staffing, program coordination, and program direction to ensure its future success and its alignment with the goals of the Trail Plan.

Use of Volunteers. Volunteers for trail work at the Park will continue to be a vital component of trail stewardship in the Park and will remain under all alternatives. Management and coordination of volunteers will continue through the joint Volunteer program office of the Park and the Conservancy for Cuyahoga Valley National Park. This will include direct coordination with the Division of Maintenance through a Trails Volunteer Coordinator position. Each alternative may identify different priorities, new opportunities for additional volunteer groups, and new trail stewardship tasks, practices, and training. The use of the existing volunteer trail groups will continue.

2.2.9 Implementation

Under all alternatives, the NPS will conduct the following activities to implement the Trail Plan effectively. Upon the approval of the Plan, the Superintendent shall assemble a Trail Plan Implementation Team to lead and coordinate these activities.

- *Additional Planning.* The Park will develop additional plans and standards within initial years of the Trail Plan implementation including but not limited to an updated signage strategy for visitor accessibility information and the establishment of a comprehensive monitoring program. The utilization of expertise from user groups during site planning and design will be identified and invited as necessary for individual projects.
- *Prioritization and Review of Trail Projects and Park Facility Management System Rankings.* The Park will establish a committee of Park staff and Park partners to identify and rank Trail Plan elements for implementation. Ranking criteria will be developed to assist with the decision-making process.
- *Implementation Strategy Plan.* An Implementation Strategy Plan will be developed to prioritize trail projects and assemble the additional planning, funding, staffing, project management and monitoring that will be needed to accomplish them successfully.
- *Progress Report.* The Park will develop a progress report in cooperation with the Trails Forever Program every five years on the status of the Trail Plan implementation. Interim updates may be provided to the at-large community if necessary as implementation proceeds.

2.3 Alternative 1: No Action

Under the No Action Alternative, the trails, authorized uses and facilities addressed in this plan would remain as they currently exist. The Park would continue evaluating the implementation of the 1985 Trail Plan (NPS, 1985). The Park would continue trail management under current park policies, protocols and monitoring as described in Chapter 1. A continuation of trail projects would occur on an individual basis and as opportunities arise with separate planning and compliance. The future of trails and trail facilities would continue to be developed but without the benefit of a comprehensive plan for the Park's entire trail system.

Alternative 1 is depicted in Figure 4. Four trail categories designated in the 2001 Park's Trail Standards are identified in this alternative (NPS, 2001). These include Multi-Use, Hiking only, Equestrian-Hiking and Cross-Country Ski-Hiking. The Park and its Park Partners would maintain, repair and manage the 175 miles of trail within the Park as they currently exist as generally described in Chapter 1 and further detailed in Chapter 3, Section 3.6 of this document. In addition, the trails common to all including the Hemlock Connector and Hike and Bike Connector are included in total existing trail miles.

2.4 Actions Common to All Action Alternatives

The following actions and policies will be part of all the Action Alternatives.

2.4.1 Sustainable Trail Guidelines

The Trail Management Plan provides an opportunity to step back and review the current trail system and evaluate its sustainability for user enjoyment, resource protection and park management operations. One of the primary objectives identified during public scoping of the Trail Plan was to establish a Trail Program that will be systemic in providing stewardship of the CVNP trails for years to come. To ensure that the implementation of the Trail Plan is accomplished successfully, the Park would establish Sustainable Trail Guidelines. The Sustainable Trail Guidelines will serve as the primary **Standard Operating Procedure** document for trails management in CVNP and their long-term sustainability. The Guidelines focus on the following topics to incorporate best planning, design and management practices for trail sustainability among all trails in the Park:

- *Site Planning and Design of Trail.* The guidelines outline the basic principles and practices to administer during the site assessment and design phases of trail development in the Park. Guidance includes the trail development process for trails in CVNP, identifying trail classes and types and their design and management criteria, site assessment and site design best practices, and program guidance for the development of trail facilities, signage and accessibility and mobility that is suitable to each trail's individual site conditions.
- *Trail Construction.* The Guidelines establish basic principles and best practices to administer during the physical construction and maintenance of a trail.
- *Management, Maintenance and Monitoring.* The Guidelines recommend management policies that will sustain CVNP trails for future generations. Guidance is provided on annual and long

term maintenance, trail closures, management of trails for Special Use Permit events, and trail monitoring.

The Sustainable Trail Guidelines are included in Appendix C of the Trail Management Plan and will be available as a separate document for field use. The Action Alternatives and their trail elements are predicated on applying these Guidelines during implementation.

2.4.2 Restoration of Existing Trail Network

The historical practice of converting old carriage trails, farm roads and informal paths to trails, their subsequent overuse, and insufficient trail maintenance staffing have diminished trail quality and sustainability in some areas of the park. These challenges result in a less-than optimal visitor experience, increased resource damage, and increasing demands on park staffing and funding. Therefore, a primary objective common to all action alternatives is the restoration of the existing trail network. Restoration may include rehabilitating trails in their present location, relocating or realigning trails, or removal and closure of trails. This will be accomplished through condition assessments, prioritization of restoration based upon trail use and resource quality, and monitoring.

Two primary resource issues were identified during scoping that correlate with highly damaged trail areas; 1) the proximity of trails to water resources such as floodplains, streams or wetlands, and 2) trails located on steep terrain or their placement on fall lines which are typically the paths of least resistance for water flow (IMBA, 2004). Other resource damage issues relate to specific trail uses, seasonal trail conditions, and the proximity of trails to sensitive species and habitats.

In addition, social trails (trails not designated or created by the Park) are causing resource damage. These are prevalent in all parts of the Park but not documented or comprehensively mapped. The proposed Sustainable Trail Guidelines (Appendix C) will establish recommendations to evaluate actions to restore or eliminate existing trails and manage non-designated trails in the Park where conditions are adverse to park resources and the long-term sustainability of the trail system.

The NPS has identified some site specific actions where conditions are known to be problematic or exist within a sensitive resource and proposes alternative routes or alternative trail management actions. Additionally, some trails are redundant or run parallel to one another while also having little use and the NPS proposes to change or close such segments to reduce the overall footprint of trails where possible. These proposed actions are identified on Figure 2 and listed below. These actions may differ slightly among alternatives, but they do not change significantly. Where these conditions exist, priority target areas for trail removal or re-routing have been identified. If upon closer field evaluation, the specific trail can be maintained without adverse impacts to park resources, the Park will evaluate the option of maintaining the trail.

Existing Trails that would be removed or rerouted due to sensitive resource and siting concerns include the following:

- *Ledges Trails*. Removal of 0.10 miles where trails currently exist near rare plant species and where alternative parallel routes are present.
- *Lake Trail portion*: Removal of 0.17 miles of trail where rare plant species have been identified.

- *Dickerson Trail*: Removal 1.17 miles of trail due to its current location along an existing stream with multiple stream crossings.
- *Tabletop Trail*: Reroute of 0.70 miles of trail due to its current location along steep slopes.
- *Perkins Trail portion*: Removal of 1.0 miles of trail due to its current location along a streambed and its traversing of trail grades greater than 15 percent. This section is proposed for rerouting.
- *Riding Run Trail portion*: Removal of 0.5 miles of trail due to its location on steep grades and proposed for rerouting on sustainable conditions where feasible.
- *Buckeye/Trail Valley Trail portion near Brecksville Reservation*: Both the Buckeye Trail and Valley Trail cross through an identified wetland and the Buckeye Trail is routed on multiple fall line and steep slope runs. This section is proposed for removal and rerouting.
- *Buckeye reroute north of Snowville Road*: Reroute 1.0 miles of the Buckeye Trail due to its current location in identified wetlands.
- *Reroute of Valley Bridle Trail near Ohio Turnpike*. Reroute approximately 0.5 miles of the Valley Bridle Trail in conjunction with the consolidation of the Valley and Buckeye Trails above the Stumpy Basin region. This section is proposed for rerouting due to its current location on steep terrain and proximity to the interstate that can distract horses.

Existing trails that would be removed due to redundancy or parallel placement with low trail use include the following. The remaining trail will become a shared-use trail between hikers and equestrian users.

- *Buckeye Trail duplicate of Valley Bridle in lower Bedford Reservation*. Removal of 2.0 miles of the Buckeye Trail or Valley Bridle Trail. The specific trail use removed from this segment would be reassigned as a permitted trail use type on the segment that remains.
- *Buckeye Trail duplicate of Valley Bridle Trail in Brecksville Reservation*. Removal of 3.3 miles of the Buckeye Trail where it parallels the Valley Bridle Trail and reassigned as a permitted trail use type on remaining trail segment.
- *Buckeye duplicate of Valley Bridle Trail north of Old Akron Peninsula Road and Ohio Turnpike Bridge*: Removal of 0.30 miles of the Buckeye Trail where it parallels the Valley Bridle Trail. The Buckeye Trail would be reassigned as a permitted trail use type on the Valley Bridle Trail segment.

2.4.3 New Trails

Several proposed trails are common to all Action Alternatives because they provide improvements to the existing trail network under all circumstances. These include:

New Interpretive Hike Trails

- *Horseshoe Pond Perimeter Loop Trail at Tree Farm Unit*. 0.20 miles of accessible trail around Horseshoe Pond connecting to the Tree Farm loop.
- *Ira River Trail*: Utilize existing undesignated trail from Towpath Trail at Ira Trailhead access to the Cuyahoga River. The trail would be approximately 0.15 miles. Boardwalks and river overlook may potentially be part of trail features.

New Hiking Trails

- *Connector trail from Towpath Trail to Valley Picnic area and Plateau-Oak Hill Trail system.* 0.10 miles of connector trail utilizing existing road bed from Towpath Trail crossing Riverview and add new trail from the road bed to Valley Picnic Trailhead.
- *Connect Valley Bridle Trail with Salt Run Trail.* A 0.20 mile connection of Salt Run Trail to Valley Bridle trail to provide link for long-distance hiking trail experience from Happy Days to Hunt Farm.

New Multi-Use Connectors

- *Sagamore Connector Trail from Canal Road to Bike and Hike Trail.* Examine closing and vacating 1.2 miles of existing Sagamore Road that includes a portion for conversion to a multi-use path and a portion for off road multi-use path to the Bike and Hike on Cleveland Metroparks land.
- *Stanford Connector Trail from Brandywine Falls to Stanford-Towpath Connector.* Utilize the newly vacated portion of Stanford Road from Brandywine Falls to the existing lower gate, east of Latta Lane and examine the closing of Stanford Road from the current vacated section to the Stanford-Towpath Connector Trail for a 1.0 mile multi-use connector trail, when residential uses on this portion of Stanford Road no longer exist. If road closure is not feasible, consideration of a trail along the road right of way is considered.

New Cross-Country Ski Trails

- *Armington Trail:* New loop from Cross-Country Trail to Little Meadow Trailhead of 1.2 miles of trail utilizing, where feasible, existing service roads for an outer loop connection between the existing Cross-Country trail and Little Meadow parking with access to Quick Road.

2.4.4 New Trail Facilities

The scoping process identified various uses and associated facilities that will complement and support the trail network and trail visitors. The facilities include water trails, including paddle launch sites for non-motorized boat access to the Cuyahoga River and associated facilities, trailside and riverside campsites, parking at trailheads, and trail amenities such as benches and drinking water. This section outlines the general guidance and policy for each type of facility. Potential locations are provided in Figure 3. The trail facilities are presented as a suite of sites that were considered under all action alternatives with minor additions or changes among the alternatives. The changes among the action alternatives are described under each alternative.

Applicable NPS Management Policies (2006) include:

9.2.2.5 Water trails. Water access and use may be provided when consistent with resource protection needs. Appropriate locations and levels of use will be determined in the Park's general management plan.

9.2.4 Parking Areas. Parking areas and overlooks will be located to not unacceptably intrude, by sight, sound, or other impact on park resources and values. Permanent parking areas will be sized for the use anticipated on the average weekend day during peak season of use.

9.3.2.1 Campgrounds. Boating campgrounds may be provided in parks with waters used for recreational boating. The need for campgrounds and their sizes, locations and numbers, will be determined by 1) the type of water body, 2) availability and resiliency of potential campsites, 3) feasibility of providing and maintaining docking, camping and sanitary facilities, and 4) the potential for unacceptable impacts on park resources and values.

9.3.2.2 Backcountry and wilderness campsites. Backcountry and wilderness campsites may be permitted but only within the acceptable limits of use determined by the park's wilderness management plan, resource management plan or other pertinent planning document.

2.4.4.1 Water Trail

General Description

A water trail would be established and designated as part of the Cuyahoga River Water Trail system. The segment in the Park would be defined from the Bath Road bridge to the Rockside Road bridge, consisting of 22 river miles on the main stem of the Cuyahoga River.

Guidelines for Water Trails

The following guidance is recommended for the water trail and associated facilities and recreational use of the Cuyahoga River. These guidelines were developed in consideration of local conditions, need for facilities, safety, resource protection and visitor experiences.

- River Use Management Plan. Additional planning and development of the water trail may be directed through the development of a River Use Management Plan by the Park.
- Regulations. The NPS would establish regulations for river use activities. Regulations may include items related to safety, permitting, use restrictions, water level conditions, waste management and carrying capacity.
- Use. Water Trail designation for the purpose of this Plan is associated with use of non-motorized boats including kayaks and canoes. Additional non-motorized boats will be reviewed by the Superintendent for consideration.
- State of Ohio Regulations. Adherence to all Ohio Boating regulations would be required.
- Water Quality Monitoring and Reporting: Water Quality monitoring will most likely continue at several sites on the mainstem of the Cuyahoga River during the recreation season. (May-October). Additional water quality monitoring sites on the river will be evaluated. Improvements to public education and information regarding water quality conditions will continue.
- Exotic aquatic species monitoring: Best Management Practices and monitoring for exotic aquatic species from boats will be evaluated and established as necessary.
- Evaluation of Dams. The Park will identify steps for evaluation of existing dams pertaining to safety, portages and removal or modification.
- Skill Classification. The water trail segment within the Park is considered Class I and II skill levels of river difficulty as defined by the American version of the International Scale of River Difficulty. However, a final skill classification would be determined prior to establishment of the water trail. Class II level is defined as "straightforward rapids with wide, clear channels which are evident without scouting. Occasional maneuvering may be required, but rocks and medium-size

waves are easily missed by trained paddlers. Swimmers are seldom injured and group assistance, while helpful is seldom needed. Rapids that are at the upper end of this difficulty range are designated “Class II+” (American Whitewater, 2005).

- Hazard Evaluation Plan. The Park will review the need for an updated River Hazard Survey Plan.
- Site Planning. Site-specific resource evaluations, planning and design of any paddle launch site included in the selected alternative will be conducted prior to construction.
- Livery or Other Commercial Operations. The NPS would establish an initial set of paddle launch sites to evaluate use patterns and demand. Should use and demand be significant, a feasibility study and Environmental Assessment for a commercial canoe livery or other commercial operation on the Cuyahoga River within the National Park boundary may be considered.
- Visitor Map. The NPS will develop a Water Trail Map in cooperation with regional and state water trail partners.

Paddle Access Sites. Designated paddle access sites would provide access for non-motorized boat use on the main stem of the Cuyahoga River. Potential river access sites were selected based upon general review of locations, conditions, river access, visitor facilities, river conditions, and park resources, as well as input received during public scoping.

Ten sites within the Park are being evaluated for paddling access sites. The site locations are approximate with the potential area of construction 200’ feet upstream or downstream of the proposed locations. The launch facility will consist of an access path from a designated parking area, signage on water resource conditions and safety information, and an improved area, including structures (e.g., steps) where required, at the river’s edge to accommodate launching or taking out a canoe or kayak. Extensive paddle access site structures are not preferred, due to the high fluctuation of river levels annually. The site would typically be no greater than 2,500 square feet but may vary by length of access path and local terrain. Because of the high fluctuations of river levels, no landing structures will be utilized as part of the design. Railings to launch vessel into river may be included in the design. The launch sites will utilize existing parking areas including some areas recommended for expansion or relocation. One new parking facility for the Ira launch site is recommended. The ten sites are described generally below and identified in Figure 4 of this document. The location descriptions also include the approximate river mile.

While any of these launch sites could be developed in the future under the correct conditions, the impact analysis in Chapter 4 has allowed us to characterize these sites based on their potential for development. River Paddling Access sites were characterized as Primary, Secondary and Future Potential based on their ease of implementation, level of impacts, distance between access points, and potential obstacles for development. Primary sites would be developed first, Secondary sites developed next, and the Future Potential sites may or may not ever be developed, depending on future needs and conditions. Recommended phasing of implementation may change depending on conditions and further site evaluation of each site and the implementation of a water trail system within the Park and beyond Park boundaries. These levels of development implementation are included in the description below which is organized geographically along the River within the Park boundary from south to north.

South Region of the Park (Boston Store to South Park Boundary near Bath Road)

- Lock 29, RM (River Mile) 29 Future Potential Access Site: Provide a facility on the east side of the River, downstream of the existing lowhead dam, adjacent to the Lock 29 Parking Area and

trailhead, to serve as a put-in for paddlers. The Lock 29 trailhead would serve as the parking area. A portage would be required at this site due to the existing lowhead dam.

- Hunt Farm, RM 33.0, Future Potential Access Site: Provide a facility on west side of the river along the public road right of way of Bolanz Road, to serve as a put-in or takeout for paddlers. The Hunt Farm trailhead would serve as the parking area.
- Ira I, RM 35.0, Secondary Access Site Provide a facility on the west side of the River, with access from the existing Ira trail head.
- Ira II, RM 35.5, Primary Access Site. Provide a facility on the east side of the River adjacent to Ira Road with a new proposed parking area, exclusively for paddle users.

Central Region of the Park (Frazee to Boston Store)

- Station Road, RM 21.0, Primary Access Site: Provide a facility upstream of the existing lowhead Brecksville dam, south of the Station Road Bridge, adjacent to the Station Road Bridge and adjacent to the Station Road Parking lot, as a paddle access site. A portage will need to be identified, if the Brecksville Dam remains or is modified in a way that limits river passage for recreational use.
- Red Lock, RM 24.0, Future Potential Access Site: Provide a facility on the west side of the River, opposite side of the river from the Towpath Trail and Red Lock trailhead to serve as a put-in and take-out for paddlers.
- Boston Mills, RM 26.5, Secondary Access Site: Provide a facility on the east side of the River, southwest of the Boston Store Visitor Center parking area, to serve as an access site for paddlers.

North Region of the Park, (North Park Boundary at Rockside Road to Frazee)

- Rockside Station, RM 13.0, Primary Access Site: Provide a facility adjacent to the Rockside Station boarding parking area on the west side of the river. The Lock 39 trailhead may also serve as a parking area for access. This facility can serve as a put-in and take-out for paddlers.
- Canal Visitor Center, RM 15.5, Secondary Access Site: Provide a facility adjacent to the Canal Visitor Center on the east side of the river. This facility can serve as a put-in and take-out for paddlers.
- Fitzwater, RM 17.0, Future Potential Access Site: Provide a facility adjacent to the Fitzwater Bridge on Fitzwater Road, located on the west side of the river. This facility can serve as a put-in and take-out for paddlers.

2.4.4.2 Campsites

General Description

Trailside and riverside campsites would provide an opportunity for a new and expanded experience in the Park. For the purpose of this plan, campsites are defined as facilities connected to the Park's trail network and that are accessible for designated use by paddlers, hikers and bicycle users. Campsites would not have any associated parking and are intended for single-day or multi-day trail use along the longer trail systems within Ohio & Erie Canal Corridor and the Buckeye Trail.

The Park is evaluating two types of campsite types:

- Dispersed camping. Dispersed camping areas are being considered for less developed trails along the Buckeye Trail. Dispersed camping would create campsite zones, but no designated tent-pads in primitive areas of the Park. Campsite zone areas of no greater than 10 acres would be delineated along the Buckeye Trail. No facilities would be provided at these sites. Campsite areas within each zone would be rotated and monitored for change in conditions. Two to three campsites would be permitted within each zone during the designated seasonal use period of May through October.
- Designated campsites. Designated campsites would have defined tent-pads and are located within more developed portions of the Park near or adjacent to the Cuyahoga River and the Towpath Trail. These sites would comprise facilities with 2-3 tent-pads for each campsite (1,500 square feet per campsite). Each site would have connector paths from the river or adjacent trail corridor with a tread width of 3 feet and basic signage for direction to the campsite. All riverside and trail side campsites would be set back a minimum of 100 feet from the river's edge or Towpath Trail and the riverside campsites would include overnight boat tie-ups.

Proposed campsite locations were selected based on appropriate terrain, avoidance of sensitive resources, proximity to existing or proposed trails, prior history of disturbance, and distance from existing roads, park facilities and private lands.

Three types of campsites are considered under the action alternatives based upon their use and access; riverside developed, trail-side developed and trail-side dispersed.

Guidelines for Campsites

The NPS would follow the following guidelines for any campsites. This guidance was prepared to address local conditions, facilities, safety, resource protection and visitor experiences.

- Site-specific Planning: Site-specific evaluation, planning and design for any campsite will be conducted prior to construction.
- Firewood: Firewood would not be provided nor collection of firewood allowed, except for at the current Stanford camping area.
- Campfires: Fires would be permitted only in designated camping areas where grills or fire rings and firewood are provided. Personal, self-contained portable grills/stoves may be used off the ground and away from overhanging vegetation.

- Water: No water will be provided for the sites. Only water available for park visitors obtained from park water systems can be assumed safe to drink. All water from streams, lakes or other natural sources must adhere to guidance set forth in NPS Visitor & Resource Protection Directorate, Reference Manual 83F (NPS, 2008c).
- Permit: Use of the campsites will require a permit with defined length of stay per site, group size limits, season of use, and other applicable policies from the Park and/or its Park Partner, Conservancy for CVNP.
- Leave No Trace: All campsite users would be required to follow, where applicable, Leave No Trace program principles that provide guidance on minimizing impacts from outdoor recreational use (Leave No Trace, 2008a).
- Human waste: Human waste management would be determined for each site prior to any campsite installation. Developed campsites would identify existing restroom facility access or new vault toilets. Campers at dispersed campsites would have to utilize a portable toilet or adhere to the “Leave No Trace” Front Country Program guidance where applicable (Leave No Trace, 2008b).
- General Campsite Regulations: The NPS would review and revise its existing park policies for campsite use as applicable. The NPS would complete any revisions prior to the implementation of any campsites in the Selected Alternative including but not limited to Leave No Trace practices, maximum number of campers per site, length of stay, human waste management, pets, noise and safety precautions.
- General Park Maintenance: The NPS would establish a maintenance and management program for the campsites including staffing levels, budgetary requests, and maintenance activities on an annual basis.
- Public Education: Park maps would identify campsite locations, directions to each campsite from significant trail corridors, and rules and guidelines for camping in the Park. Additional signage would be developed to provide direction to the campsites and would be designed to provide a positive camping experience in the Park.

Campsite Locations

The following campsite locations are proposed under all action alternatives. Some alternatives may establish conditions for their development (e.g., type of campsite, user demand). Additional sites are added under some of the alternatives. All proposed campsites Common to All Action Alternatives, are identified on Figure 3.

Riverside Campsites Developed. Two sites are proposed as developed riverside campsites. These sites would be accessible for paddlers, hikers and bicyclists.

North Park Region

- Frazee- East side of River. Trail access would be provided from the Towpath Trail near Frazee House and the Cuyahoga River near River Mile 17.75.

South Park Region

- North of Hunt Farm - West Side of River. Trail access would be provided from the Towpath Trail near River Mile 32.

Trailside Campsites Developed. Two sites are considered for developed trailside campsites. These sites would be accessible to hikers and bicyclists.

Central Park Region

- Old Carriage North. A campsite located between Old Carriage Trail and the Station Road Trailhead on the east side of the Towpath Trail.

South Park Region

- Robinson Field. Robinson Field will remain as a Special Use Permit staging area for equestrian use and other events as directed by the Superintendent.

Trailside Campsites Dispersed. Three areas are proposed for dispersed trailside camping areas. These sites would be accessible by hikers only on the Buckeye Trail.

- Buckeye Trail - West: between Boston Mills Road and Columbia Road.
- Buckeye Trail - Dugway: between Old AP Road and I-271/I-80 highway bridges.
- Buckeye Trail - O'Neill Woods: between Bath Road and Ira Road.

2.4.4.3 Parking

General Description

The NPS proposes new parking areas, relocation of existing parking areas, new uses at existing parking areas, or expansion of existing parking areas to serve trail users in this Trail Plan. Parking was considered for all types of motor vehicles, including cars, buses, recreational vehicles, and vehicles that pull horse trailers. Potential new parking areas were proposed after considering the following conditions:

- New parking areas would be sized and located to serve new trail users or trail areas.
- New parking would be similar to existing trailhead parking areas within the Park.
- The current level of use during peak season and program events. Goals and objectives of the Trail Plan and the location of proposed trails in the action alternatives.
- Improving visitor experience for trail users through facility design.
- Connection to or augmentation of existing parking areas.
- The presence of past disturbed land in proximity to potential new parking areas or existing parking areas.
- The proposed expansion of existing parking areas is based upon existing parking area use, areas where roadside parking occurs during peak use periods, where parking lots are now typically full during average weekend summer days, or where significant proposed changes in use may occur.

Guidelines for Parking Areas

The following guidance is recommended for any of the parking areas that become part of the Selected Alternative.

- Site-specific resource evaluations, planning and design would be performed for all parking areas prior to construction.
- General design guidelines for parking areas are outlined in the Sustainable Trail Guidelines in Appendix C.
- Parking area use and design parameters would be monitored and determined by trail user carrying capacity measures and use monitoring during average peak seasonal use.

New Parking

Eleven new, expanded or relocated parking areas are proposed for all action alternatives (Table 2). This includes expansion of six existing parking areas, relocation/redesign of two parking areas, one new parking area, and two areas for expansion or new equestrian parking. These areas are depicted on Figure 4.

Expansion of existing parking areas.

- *Canal Visitor Center*. Expansion and redesign for an additional 10 spaces along the south side of the existing parking area would be evaluated.
- *Coliseum*. Expansion and improvement of the existing parking area for 10 spaces is proposed.
- *Lock 39 Overflow*. Expansion along the northern section of the existing parking area for an additional maximum 40 spaces is proposed.
- *Jaite Wayside*. Expansion along the eastern section of the existing parking area.
- *Horseshoe Pond*. Expansion along the eastern section of the existing parking near the current trailhead entrance.
- *Hunt Farm*. Expansion along the eastern section of the existing parking area.

Relocation/Re-Design.

- *Blue Hen*. The Blue Hen parking area will be relocated and redesigned for a single and expanded parking area on the north side of Boston Mills Road. The current parking areas would be removed and restored.
- *Indigo Lake*. The Indigo Lake Parking area would be redesigned north of the existing parking area.

New Equestrian Parking

- *Pine Lane*. Designate equestrian trailer parking area, south of the existing trailhead entrance drive.
- *Old Orchard*. Designate a new equestrian trailer parking area in the Riding Run park unit north of Everett Road, in an existing open field area. The use of parking for equestrian use at the Everett trailhead would be redesignated to the Old Orchard parking area.

Table 2. Proposed Parking Common to All Action Alternatives

Parking	Expand or New	Additional Car Parking Spaces	Equestrian Spaces	Approximate Number of Acres of Disturbance
Canal Visitor Center	Expand	10	-	0.25
Blue Hen	New/Relocate	15	-	0.35
Coliseum	Expand	10	-	0.35
Lock 39 Overflow	Expand	40	-	1.0
Pine Lane	Expand for Equestrian Use	-	10	0.50
Jaite Wayside	Expand for Vehicle	20	-	0.5
Old Orchard Equestrian Trailer Parking	New		10	1.0
Horseshoe Pond	Expand	20	-	0.50
Hunt Farm	Expand	40	-	0.50
Indigo Lake	Expand/Relocate	12	-	0.50
Ira Paddle	New	10	-	0.25

2.4.4.4 New Trail Amenities

General Description

New or improved trail amenities to serve trail users are proposed in the plan, including restrooms, lighting, parking gates for night closure, water for drinking (where feasible), bicycle racks (where bicycles are permitted) and horse hitching posts (where equestrians are permitted). Specific trail amenities for each trailhead location will be identified during detailed site planning and design for all areas. Specific locations for such amenities are not outlined in this Plan, with the following exception:

Environmental Education Center Trail Shelters. To support the growing environmental education experiences on the Park’s Environmental Education Center (EEC) trails and the adjacent Oak Hill and Plateau trails, all Action Alternatives will consider the inclusion of overhead trail structures at 2-4 locations along the existing EEC trails where feasible and one small shelter adjacent to the existing Oak Hill-Plateau Trailhead. The EEC shelters shall be designed to accommodate groups of 15 and provide an overhead feature to protect groups from adverse weather conditions on the non-public trails within the EEC facility. The Oak Hill shelter would accommodate groups of 30 and provide seating for programming activities. Site-specific resource evaluation, siting and design would be conducted according to the Sustainable Trail Guidelines prior to implementation.

Any additional shelters in the Park will need to be identified and considered in a separate compliance process as trail demand and park programming require additional areas for facilities.

Guidelines for Trail Amenities

The following guidance is recommended for any of the trail amenities that become part of the Selected Alternative.

- Site-specific resource evaluation, planning and detailed design will be conducted on all trail amenities prior to construction.
- Design guidelines for trail amenities are outlined in the Sustainable Trail Guidelines in Appendix C.

2.5 Action Alternatives

2.5.1 General Description

The NPS has developed seven action alternatives for the use, stewardship and management of the Trail system within the Park.

In addition to the No Action Alternative (Alternative 1) which represents maintaining the status quo, action alternatives provide different approaches to meet the goals and objectives of this Plan. Initially, three action alternatives were proposed and organized by three trail experience themes: ReUse, Recreation, and Destination. Many elements of each alternative would meet all or more than one of these themes. The alternatives were designed to include all trail elements suitable for the Park as identified during public scoping.

Off-Road Single Track Bicycling. Off-road bicycling is the only proposed new use being evaluated that is not currently permitted in the Park. For the purposes of this Plan, off-road bicycling is defined as cross-country off-road bicycle use on a single-track natural surface trail located in undeveloped areas of the Park. Single-track is referred as a narrow width path on natural surfaces. This type of use is often referred to as mountain biking. Downhill and freeride bicycling is not included in this use. In accordance with the Code of Federal Regulations (36 CFR 4), new trails for bicycle use outside developed areas require a special regulation to authorize its implementation.

Multi-Use Trails. For the purpose of the Plan, multi-use trails described in the Plan are off-road trails located in developed park areas or vacated road corridors, utilized by multiple trail uses, and are typically designed with a wider tread width and improved surface material.

Each action alternative was evaluated both with and without this new use. The alternatives are paired into a version “A” that has no off-road bicycling and “B” that includes off-road bicycling (e.g., 2A and 2B). All other elements are generally the same for paired “A” and “B” alternatives (any exceptions are noted in the descriptions).

After completing an impact analysis for the No Action Alternative (Alternative 1) and the initial set of six action alternatives (Alternatives 2A & B, 3A & B, and 4A & B), a hybrid Preferred Alternative (Alternative 5) was developed and evaluated which combines trail elements from the other alternatives that best fit the Park while reducing impacts on park resources.

Trail types proposed in the action alternatives are an expansion of the Park’s existing types with the addition of off-road single track bicycle trails. These trail types are defined and described in the proposed Sustainable Trail Guidelines for all action alternatives.

The trail names utilized for this Plan reflect geographic or historical features. Final names of trails will be chosen as part of the site planning and design process for each proposed trail within the Preferred Alternative.

Estimated mileages and layout of proposed trails were calculated and developed from an NPS geographic information system (GIS) database. All proposed trails are conceptual and only provide a general alignment. Given the general layout of proposed trails, impact analysis for proposed trails reflects a corridor width of 50 feet around proposed trails. Site-specific resource evaluation, planning and design for each trail identified in the Preferred Alternative will occur prior to construction.

A brief summary of the alternatives is presented below. Details of each alternative follow the brief summary.

Alternative 2A - ReUse (*Environmentally Preferable Alternative*): In Alternative 2A, the trail system would be developed and redeveloped with the concept of ReUse, using existing trail system elements, being its foundation. Alternative 2 emphasizes the importance of enhancing the existing trail system's sustainability for future generations.

Alternative 2B - ReUse with Off-Road Single Track Bicycle Use: Alternative 2B is the same as Alternative 2A with the addition of authorization of a linear off-road bicycle trail on existing trails within the Park and Park Partner lands.

Alternative 3A - Recreation Focus: Alternative 3A is focused on the concept of utilizing areas as interchangeable recreational "trail hubs" that provide the full variety of trail experiences the Park has to offer. Trail hubs would be placed in a variety of locations throughout the Park to establish activity centers for trail use and other activities.

Alternative 3B - Recreation Focus with Off-Road Single Track Bicycle Use: Alternative 3B is the same as Alternative 3A with the addition of new off-road bicycle trails consisting of two zones of short loop routes.

Alternative 4A- Destination Focus: Alternative 4A is focused on the destination rather than the journey of the Park's trail network. Park features and attractions are the focus of this alternative with the trail system serving as the main visitor access to these features.

Alternative 4B - Destination Focus with Off-Road Single Track Bicycle Trails: Alternative 4B is the same as Alternative 4A with the addition of new off-road bicycle trails. The off-road bike trail system consists of a long point-to-point trail with shorter loop trails to provide a variety of lengths and experiences to the off-road bike user.

Alternative 5 - ReUse, Recreation & Destination (*Preferred Alternative*): Alternative 5 (Preferred Alternative) combines the best elements of all of the alternatives and proposed trail facilities that will best fit the park, provide a world class trail system, and can be sustained for generations.

2.5.2 Alternative 2A - ReUse

In Alternative 2A, the Park trail system would be developed and redeveloped with the concept of ReUse, use of existing trail elements as its foundation. Alternative 2 emphasizes the importance of enhancing the existing trail system and its ability to be sustained for future generations to enjoy. Trails in this alternative are focused on four items; 1) Eliminating existing trails that are in sensitive natural resource areas that include wetlands, streams and habitat for rare plant species, 2) Eliminating redundant parallel trails, where trail use is low and resource damage has occurred. 3) Utilizing existing trail routes that are not officially designated by the Park, and 4) Improving connections between the Bike and Hike trail and the Towpath Trail for hikers and bicyclists. Alternative 2A is depicted in Figure 5.

Trails. Alternative 2A would add a total of 17 miles of new trails to the park's trail system and removes 11 miles of existing trails. This alternative would add 183 parking spaces requiring approximately 6.0 acres of land for construction. Alternative 2A would include a net increase of the amount of developed land for trails and trail facilities by approximately 12 acres.

Alternative 2A (including the Common to All actions described earlier) would include the general actions summarized below.

- 11 miles of existing trail removed from sensitive resources or removed due to the presence of duplicate/parallel trails that are have low visitor use.
- 2.3 miles of new Interpretive hiking trails
- 1.1 miles of new hiking trails
- 2.9 miles of new equestrian trails
- 4.5 miles of new cross-country ski trails
- 5.9 miles of new multi-use trails
- 183 expanded and new parking spaces including 10 new equestrian trailer parking spaces
- new paddle launch sites
- new riverside campsites
- new trailside campsites.

New Interpretive Hike Trails

- *Terra Vista Loop Trail with connection to the Towpath Trail at Tinkers Creek Road.* A 1.75 mile hike trail that would utilize the existing trail routes that are used currently for access for scientific study, where feasible. Additionally, a hike connector trail from Terra Vista to the Towpath Trail along Tinkers Creek road would connect the two trail systems.
- *Coliseum Birding Boardwalk Trail: 0.25 miles of new boardwalk trail for bird viewing along southern edge of Coliseum site.*

New Multi-Use Connectors

- *Fitzwater Road Connector Trail from Towpath to Riverview Road.* Designate multi-use on existing Fitzwater Road from Towpath to its end near the maintenance yard and construct 0.25 mile of additional multi-use path to Riverview Road.
- *Old Carriage Road Connector Extension to Bike and Hike Trail.* Extend existing Old Carriage Road connector 0.35 miles to existing Bike and Hike Trail.
- *Old AP Road Connector Trail from Peninsula-Lock 29 to Bike and Hike at Boston Mills Road.* Utilize abandoned road section where feasible and new off-road or shared-path trail.

New Cross-Country Ski Trails

- *South Carriage Trail, south of existing Old Carriage Trail.* Utilize existing undesignated trails for 3.0 mile loop connecting off of proposed Old Carriage Trail Connector extension where feasible.
- *Boston Run Trail reroute and connection to Hike and Bike Trail.* Reroute 0.3 miles of trail away from Route 303 and construct 350 feet of a connector trail between existing Bike and Hike and Boston Run Trail.

Campsites. Three additional campsites aside from the sites common to all Action Alternatives, are proposed under Alternative 2A:

- *North of Stone Road.* East side of River. Trail access would be provided from the proposed Hemlock Connector Trail via the abandoned section of Stone Road.
- *Ira Road.* West Side of River, 0.10 miles from the Towpath Trail and the Ira Trailhead. Trail access would be provided by a trail from the Towpath Trail across from the existing Ira Parking Trailhead access. This site would be accessible for paddlers, hikers and bicyclists.
- *Lock 29 North.* A campsite located north of the Lock 29 trailhead and accessed from the Towpath Trail in the area on a plateau south of the railroad bridge tunnel. This site would be accessible to hikers and bicyclists.

Parking. Table 3 outlines proposed new and expanded parking areas specific to Alternative 2A. Parking areas specific to Alternative 2A include:

- Terra Vista. Improve and expand where existing parking area exists.
- Red Lock. Expand and redesign along the western section of the existing parking area.
- Jaite Wayside. Expand and redesign the existing parking area to accommodate equestrian trailers.

Table 3: Additional Proposed Parking Alternative 2A

Parking	Expand or New	Additional Car Parking Spaces	Equestrian Spaces	Approximate Number of Acres of Disturbance
Terra Vista	Improve/Expand	10	-	0.25
Red Lock	Expand	16	-	0.50
Jaite Wayside	Expand for Equestrian Use	-	5	0.5

2.5.3 Alternative 2B - ReUse with Off- Road Single Track Bicycle Trails

Alternative 2B would include all proposed elements described in Alternative 2A with the addition of authorizing off-road bicycle use in designated areas. Alternative 2B is depicted in Figure 6.

Off-Road Single Track Bicycle Trails. Alternative 2B proposes to ReUse existing trails and authorize use of off-road bicycling on a segment of the Buckeye Trail between Boston Mills Road and Station Road that consists of approximately 10 miles. This designation would prescribe for improvements and reroutes within 200 feet of the existing Buckeye Trail where opportunities exist to improve the sustainability of the trail for hike and mountain bike use. The proposed bike route is a point to point linear route between existing trailheads with no loop options included in the route. The authorized trail uses proposed under Alternative 2B includes 4.5 miles on Cleveland Metroparks property, 0.40 miles on Metro Parks, Serving Summit County property and 5.20 miles on NPS property. The amount of net increase of developed land for trails would be the same as Alternative 2A, twelve acres.

2.5.4 Alternative 3A - Recreation Focus

Alternative 3A expands the trail network to reach new locations within the Park. The emphasis of Alternative 3A is to provide trail hubs to serve as centers for multiple recreational trail options, including small loop trails off of the Towpath Trail, longer distance primitive trails between trailheads, and new loop trails adjoining existing trails for expanded recreational experiences. Existing trailheads or visitor centers will serve as the trail hubs. Facilities at trail hubs will not change significantly but will be considered for facility improvements to enhance visitor experience. Alternative 3A includes many of the restorative recommendations in Alternative 2A and 2B, and connector trails, but expands on interpretive trails, distance trails and new loop trails off of existing trails. Alternative 3A is depicted in Figure 7.

Trails. Alternative 3A would add a total of 30 miles of new trails and would remove 11 miles of existing trails. This alternative also includes almost 40 miles of recommended improvements of roadways in the Park for on-road bike use. It would add 208 parking spaces requiring six acres of land for construction. Alternative 3A would include a net increase of the amount of developed land for trails and trail facilities of approximately 25.0 acres.

Alternative 3A (including the Common to All actions described earlier) would include the general actions summarized below.

- 11 miles of existing trail would be removed from sensitive resources due to the presence of duplicate/parallel trails that have low visitor use.
- Addition of 4.75 miles of Interpretive hiking trails
- Addition of 11.75 miles of hiking trails
- Addition of 8.0 miles of equestrian trails
- Addition of 10.5 miles of cross-country ski trails
- Addition of 8.0 miles of multi-use trails
- Addition of 35 miles of bike lanes on existing roadways within Park boundary
- 208 additional parking spaces within the expanded and/or new parking areas and trailheads.
- New paddle launch sites
- New riverside campsites

- New trailside campsites

New Interpretive Hike Trails

- *Rockside Boarding Station Walking Loop Trail:* 0.40 mile trail connecting at proposed Rockside Connector to Towpath Path and around perimeter of Rockside Boarding Station site. The trail would be accessible and may require a boardwalk adjacent to wetlands.
- *Canal Visitor Center Upper Loop Trail:* 0.50 miles of a wilderness loop hiking trail starting at Canal Visitor Center, crossing the Scenic Railroad along Hillside Road and establishing a new trail south of Hillside.
- *Reroute Jaite Loop Trail:* Provide a connection from the Towpath Trail utilizing the existing Jaite Bridge or new bridge across Cuyahoga River and realign the existing trail as a loop trail to the Jaite Historic District. The trail loop and connection would total approximately 1.0 miles.
- *Hines Hill Trail:* Establishes 0.50 miles of hiking trail from existing Stanford Trail along Hines Hill Road and returning to the Stanford House to establish a new loop that connects into the Hines Hill Conference Center facilities and the Stanford House.
- *Re-design of Blue Hen Falls Trail.* Provide a 0.5 mile hiking trail loop at Blue Hen Falls through a re-design of the current trail. The re-design will respond to the current trail's increasing popularity of viewing Blue Hen Falls. Boardwalks may be utilized.
- *Lock 29 Hike Loop Trail:* Provides a .75 mile hiking trail loop north of Lock 29 and south of Stumpy Basin between the Towpath Trail and the Scenic Railroad.
- *Hunt Farm River Loop Trail:* Provides a 0.30 mile hiking trail from Hunt Farm to the Cuyahoga River south of the Furnace Run stream. This would provide a small loop near the River and single route for the remainder of the trail.

New Hiking Trails.

- *Rockside to Hemlock Loop Trail:* Provides 2.70 miles of hiking trail connecting Rockside Station-Towpath to proposed Hemlock trail and new small hiking loop adjacent to Hemlock trail. Portions of the proposed trail are located on Independence School Board and City of Independence owned property.
- *West Rim Trail:* This trail was identified in the 1985 Trail Plan. The proposed five mile trail would begin at Canal Visitor Center and travel between the Scenic Railroad tracks and Riverview Road on NPS and Cleveland Metroparks property to Station Road Trailhead.
- *Five Falls Trail:* This 1.5 mile hiking trail was recommended in the 1985 Trail Plan and would provide a multiple loop option connection to Brandywine Falls and the proposed Highland Connector Trail to the Bike and Hike and the Towpath Trail.
- *Coordinate improvements with Village of Peninsula to connect trail users from Lock 29:* Towpath Trail to Upper Dugway Trail through, improved sidewalks, off-street trails, vacating Old AP Road near the Village maintenance building and improving for trail use.
- *Lower Furnace Run Trail:* Provides a trail from Everett Trailhead to existing Furnace Run trail west of Oak Hill Road.
- *Reroute Buckeye Trail:* With an addition of 0.7 miles to Buckeye Trail north of Bath Road, remove current on-road route to off-road to connect to existing trail north of Ira Road.

New Equestrian Trails

- Utilize proposed route for Jaite Loop trail and extend for equestrian use to cross Highland Road and connect to existing Valley Bridle near the Jaite Wayside Parking area. (0.5 mile)

- Establish 4.5 miles of new equestrian trail north of the Old Akron Peninsula and south of Boston Mills Road. This would be connected to the existing Valley Bridle Trail.
- *Everett to Hale-Howe Trail*: A new trail between Everett Covered Bridge and the Hale Connector Trail and improvements to existing natural surface trails to Howe Meadow. (0.5 mile)

New Multi-Use Connectors

- *Highland Road Connector Trail*: New multi-use connector from Bike and Hike to Towpath on south side of Highland Road. Extend on north side of Highland Road from Towpath to Vaughn overflow parking area.
- *Gateway Trail*: A multi-use trail adjacent to Route 303 on the north side of the road, between the Bike and Hike Trail and the Towpath Trail through connection at the Pine Lane Trailhead. This would provide 2.50 miles of new multi-use trail to the Park. The connector would be a separate path from the roadway.
- Change use designation of Old Carriage Connector Trail to Ski-Hike Only.

New Cross-Country Ski Trails

- *High Meadow Trail*: As recommended in the 1985 Trail Plan, a new trail to provide 5-kilometers (3.1 miles) for cross-country training and competitive purposes would be located west of Blue Hen Falls, near the existing Kurowski fields. The trail would link to the Buckeye Trail for hike connections.
- *Tree Farm Trail expansion*: Provide an additional 2.75 miles of trail west of the existing Tree Farm trail.
- *South Carriage Trail*: As described for Alternative 2A.

Bike Lanes

A network of bike lanes and routes would be recommended on roadways within the Park for bicyclists riding at higher speed. This network would include bike lanes as shared lanes, paved shoulders or established bicycle lanes as defined by AASHTO and meeting the specifications required for individual roadways as directed by the county, state and federal transportation agencies (AASHTO, 2010).

The following existing roads are considered for improvements for bike lane routes amounting to approximately 38 miles of improved roadway within CVNP for bicycle use. Bike lane options may include designated bike lane in existing roadway or adjacent separated bike multi-use path within road right of way. Options will be evaluated through technical guidance set forth in the *AASHTO Guide for the Development of Bicycle Facilities, 4th Edition, 2012*. Because these roads are largely not owned by NPS, coordination with local, county and state agencies for these improvements will be necessary. Additionally any current law or legislation pertaining to transportation enhancement policy and funding will be adhered to. Consideration of these options will be determined on designated routes included in the Preferred Alternative.

- Riverview Road – North of Route 303
- Riverview Road – South of Route 303
- Akron Peninsula Road – South of Peninsula to Bath Road
- Snowville Road - Western Park boundary to Riverview Road.
- Highland-Vaughn Road - Riverview Road to eastern Park Boundary, near Boyden Road intersection and, Bike and Hike crossing.
- Pleasant Valley Road – Western Park Boundary to Eastern Park Boundary.

- Truxell Road – Eastern Park boundary to Akron Peninsula Road
- Brush Road from Furnace Run Metropark to Black Road to Route 303 to Major Road to Riverview Road.
- Wheatley Road- West Park Boundary to Riverview Road
- Everett Road - Western Park boundary to Wheatley Road
- Bath Road – Yellow Creek Road to Akron Peninsula Road.
- Steele’s Corners Road from Akron Peninsula Road to Chart Road.

Campsites. The campsites for Alternative 3A are the same as described in Alternative 2A with the addition of two sites with access from the West Rim Trail.

- *West Rim - Upper CVC:* A campsite approximately 0.75 miles from CVC Visitor Center. The campsite would be located near the proposed West Rim Trail. This would be accessible to hikers only.
- *West Rim:* A campsite near the historic Hrabak House adjacent to the proposed West Rim Trail between Route 82 and Pleasant Valley Road.

Parking. New, expanded or relocated parking areas for Alternative 3A are generally the same as what is described for Alternative 2A, except for the omission of the Terra Vista proposed parking area, and the addition of one new parking area and the expansion of an existing area.

Table 4 outlines proposed new and expanded parking areas specific to Alternative 3A. Parking areas specific to Alternative 3A include: a new parking area for the proposed High Meadow Trail and a new equestrian parking area, Old Orchard, near Riding Run trail.

New Parking. High Meadow. A new parking area for the new trails proposed in this area. Access would be proposed near existing unpaved park access roads.

Expanded Parking. Bike and Hike Trail. Expand the existing parking area on Boston Mills Road, adjacent to the Bike and Hike Trail. This lot is managed by Metroparks, Serving Summit County.

Table 4. Additional Proposed Parking Areas 3A

Parking	Expand or New	Additional Car Parking Spaces	Equestrian Spaces	Approximate Number of Acres of Disturbance
High Meadow	New	20	-	0.50
Boston Mills – Bike & Hike	Expand	20	-	0.50

2.5.5 Alternative 3B - Recreation Focus with Off-Road Single Track Bicycling Trails

Alternative 3B includes all of the trail elements identified in Alternative 3A with the exception of the following additional off-road single-track bicycle trails and changes in their uses. Alternative 3B is depicted in Figure 8.

Trails. The proposed off-road, single-track bicycle trails would include two new trails on both sides of the Valley in the central region of the park totaling 17.7 miles. The proposed trails would include a linear longer distance segment and shorter loops on each end of the segments.

- *West Rim Loop Trail:* 7.5 miles of off-road single-track bike trail use would be established utilizing portions of proposed trail elements in Alternative 3A and the addition of new trails for off-road bicycle use. The West Rim Loop trail would utilize the proposed High Meadow Trail (3.1 miles) as its southern point, then run north on a newly established 4.4 mile trail loop between Columbia Road and Snowville Road. New trailheads on each end of the system would be recommended to accommodate off-road bike trails users. This Loop would provide approximately 5.25 miles of new trail for off-road biking and hiking, and 2.25 miles for cross-country skiing on the High Meadow portion.
- *East Rim Loop Trail:* The East Rim loop would be established utilizing portions of proposed trails in Alternative 3A and additional proposed trails off-road bicycle use. The East Rim would utilize the proposed Five Falls Trail and South Carriage Trail and extend south parallel to the Bike and Hike Trail near Hines Hill Road. A newly established loop trail of approximately four miles, around the perimeter of the east portion of the former Krejci Dump site would be proposed for this trail system. Approximately 10 miles of new off-road single-track bicycle trail would be provided that would also include hiking on all sections and-country skiing use on the South Carriage Trail section.

Campsites. The campsites for Alternative 3B are the same as described in Alternative 3A.

Parking. Parking areas are the same as described for Alternative 3A with the addition of a parking area on Snowville Road on an existing disturbed site. The parking would serve as a north trailhead for the West Rim trail. The Snowville parking area proposes 20 new spaces and 0.50 acres in an existing disturbed area on the south side of Snowville Road, on NPS lands.

2.5.6 Alternative 4A - Destination Focus

Alternative 4A would provide the most comprehensive trail expansion of all of the alternatives. The focus would be on utilizing trails to provide visitors access to the Park's unique scenic, historic and/or experiential features. These destinations are focused on two components: 1) emphasis of the unique trail experience the Park provides for primitive long-distance trails, and 2) shorter trails that provide a "single-stop" destination. Alternative 4A is depicted in Figure 9.

Trails. Alternative 4A would add a total of 53 miles of new trails and remove 11 miles of existing trails covering 36 trail acres and also proposes improvements to 39 miles of roadways for bicycle use within the Park boundary. It adds 213 parking spaces requiring 6.5 acres of land for new construction.

Alternative 4A (including the Common to All actions described earlier) would include the general actions summarized below.

- 11 miles of existing trail removed from sensitive resources or removal of trails that duplicate trails with lower visitor use.
- Addition of 6.5 miles of Interpretive hiking trails
- Addition of 40.7 miles of hiking trails
- Addition of 5.4 miles of equestrian trails
- Addition of 11.5 miles of cross-country ski trails
- Addition of 8 miles of multi-use trails
- 35 miles of improvement for bikes on existing roads within Park boundary.
- Addition of 213 parking spaces with either expanded or new parking areas/trailheads.
- new paddle launch sites
- new riverside campsites
- new trailside campsites

New Interpretive Hike Trails

- *Canal Visitor Center Boardwalk Loop*: 0.60 miles of a riverside loop hiking trail starting at Canal Visitor Center, adjacent to the Cuyahoga River on the east side of the river and linking into the Towpath at Tinkers Creek Road. Due to the proximity to the river, a boardwalk system would be utilized.
- *Reroute Jaite Loop Trail*: As described in Alternative 3A.
- *Hines Hill Loop*: As described in Alternative 3A.
- *Blue Hen Falls Loop Trail*: As described in Alternative 3A.
- *Lock 29 Hike Loop trail*: As described in Alternative 3A.
- *Hunt Farm River Loop Trail*: As described in Alternative 3A.
- *Buttermilk Falls Trail*—A 0.3 mile hiking trail between Blue Hen Falls and Buttermilk Falls along the perimeter of the riparian area. Boardwalks may be required.
- *Maplewood Overlook Trail*: This one mile trail would travel from the existing Maplewood picnic Area along the ridge east of the picnic area to an overlook area. The site would travel adjacent or near Camp Mueller.
- *Shady Grove Trail*: This trail would provide 0.30 miles of a small loop hiking trail from the Shady Grove picnic area, to the rim of the Boston Run and back to the parking area.

New Hiking Trails

- *West Rim Trail* - As described in Alternative 3A.
- *Five Falls Trail* - As described in Alternative 3A.
- *Upper Dugway Hiking Trail*: As described in Alternative 3A as a bridle trail.
- *Coordinate improvements with the Village of Peninsula to connect trail users from Lock 29*: Towpath Trail to Upper Dugway Trail as described in Alternative 3A.
- *Sagamore Hiking Loop Trail*: A 2.4 mile hiking loop south of Sagamore Road.
- *Mudcatcher Hiking Loop Trail*: A 3.0 mile hiking loop west of Chaffee Road, north of Route 82 and south of Valley View/Canal Road.
- Connector trail utilizing the existing roadway between Station Road trailhead to Route 82.
- 0.60 miles of hiking trail from Station Road Connector Trail to Towpath Trail, near Greenwood Village proposed connector trail.

- *Columbia Hiking Trail*: A 1.3 mile hiking trail from Columbia Picnic area to the Buckeye Trail and Blue Hen-Buttermilk Trail units.
- *Everett to Plateau Hiking Trail*: A 0.45 mile trail along east side of Oak Hill Road connecting the two trail systems.
- *Plateau to Tree Farm Hiking Trail*: A 1.20 mile trail between Plateau and Tree Farm connecting the two trail systems.
- *Tree Farm trail to Daffodil Trail Connector Trail*– Hiking trail connecting Tree Farm to Daffodil trail in Furnace Run Unit of MPSSC. The trail would travel north of Major Road cross at Route 303, travel the perimeter of the former Coliseum site, cross Black Road, travel along the south side of Brush Road on NPS and MPSSC property and into Daffodil trailhead.
- *Gateway Hiking Trail*: A 3.70 mile hiking trail between Pine Lane and Happy Days Lodge along the north side of Route 303.
- *Reroute of the Buckeye Trail*: Reroute the Buckeye trail from its existing on-road location to an off-road alignment starting north of Bath Road at the Towpath Trail and connecting to the existing Buckeye Trail, east of the O’Neil Woods Metropark. This reroute would be approximately 0.70 miles.
- *Ira-Howe Trail*: Establish a new hiking trail of 1.35 miles extending the primitive trail from the Buckeye Trail at Martin Road, west of Ira, crossing Ira south of Hale Farm and connecting to the Hale Farm Connector.
- *Ira-Hampton Trail*: Establish 2.50 miles of new hiking trail between the Towpath Trail and Hampton Hills Unit of MPSSC. The trail would run from the Towpath Trail, along Ira Road, either adjacent or vacating Ira Road, across to the Brown-Bender Barn site up onto the plateau above, heading south to the Grether Farm, then crossing Steele Corners Road to the north Hampton Hills MPSSC parking area.
- *Lower Furnace Run Trail*: As described in Alternative 3A.

New Equestrian Trails

- *Everett to Hale-Howe Trail* as described in Alternative 3A.
- *Reroute of trail from Covered Bridge Trailhead to Riding Run Trail* to north side of Furnace Run along Everett Road. A bridge would be required to cross Furnace run near the existing Riding Run Trail access point on Everett Road.
- *New loop west of existing Riding Run trail* for an additional 1.85 miles.

New Multi-Use Connectors

- *Old Carriage Road Connector Extension*: As described in Alternative 2A.
- *Old AP Road Connector Trail from Peninsula-Lock 29 to Bike and Hike at Boston Mills Road*: As described in Alternative 2A.

New Cross-Country Ski

- *South Carriage Trail*: As described in Alternative 2A.
- *High Meadow Trail*: As described in Alternative 3A.

Neighborhood Connectors

- *Greenwood Village Hike Connector Trail*: Will provide an additional 0.10 mile hike route to the Towpath Trail from a common access point of Greenwood Village.
- *Echo Hills Connector trails*: Two trails including a 0.25 mile of hiking trail to existing Buckeye Trail and 0.50 miles of Multi-Use to Whaley Lane and crossing Parkview road and to existing

Equestrian Center trails in Brecksville Reservation. These would both be on Cleveland Metroparks land and municipal roadways connecting into common areas of the Echo Hills Neighborhood.

- *Chart Road Connector Trail*: A 0.75 mile hiking trail beginning at Chart Road connecting to Hampton Hills Trails.

Bike Lanes. Recommendations for new or improved conditions for Bike Lanes within the Park would be the same as described in Alternative 3A.

Campsites. The campsites for Alternative 4A are the same as described in Alternative 2A with the addition of one additional site.

- South Truxell. A campsite located between Truxell Road and Quick Road east of the Lake and Kendall Lake cross-country trail systems. The site would be accessed from the proposed East Rim Trail in Alternative 4B. The site would be accessible for hikers and bicyclists.

Parking. New, expanded and relocated areas would be the same as described for Alternative 3A plus the expansion of the Cancasi parking area, near the intersections of Route 82 and Chafee Road at the existing NPS facilities. The Cancasi parking area expansion would serve as the Mudcatcher trailhead facility as outlined in Table 5.

Table 5. Additional Park Areas, Alternative 4A

Parking	Expand or New	Additional Car Parking Spaces	Equestrian Spaces	Approximate Number of Acres of Disturbance
Mudcatcher at Cancasi	New/Expand	15	-	0.50

2.5.7 Alternative 4B - Destination Focus with Off-Road Single-Track Bicycle Trails

Alternative 4B would include all trail elements that are proposed in Alternative 4A with the addition of off-road single track bike trail routes and an additional parking area expansion. Alternative 4B is depicted in Figure 10.

Trails. Off-road, single-track bicycle trails are proposed on the east rim of the valley. The East Rim Trail would provide 20.68 miles of trail for off-road bicycle use. The route would include a long distance option along the east boundary of the Park with smaller loops for shorter riding experiences within the route. The route would include a section adjacent to the Krejci restoration site, the Dugway Trail loop, approximately one mile of the existing and proposed rerouted Buckeye Trail north of Route 303, the proposed Gateway trail, approximately 4 miles between Route 303 and Quick Road and a portion of the proposed Armington Trail. The proposed alignment would add approximately 10 miles of trail from Alternative 4A. Three small loops of varying distances would be provided north of Armington Pond, on the Upper Dugway Trail portion and east of the Krejci restoration site. An additional trailhead would be developed near Hines Hill road to accommodate an increase in trail users. This alternative would create

a new trail between Pine Lane and the Old Akron Peninsula Road and eliminate either the Buckeye Trail or Valley Bridle Trail to reduce duplicate trails, particularly where steep terrain and wet conditions exist.

Parking. New, expanded or relocated parking areas for Alternative 4B includes the 17 areas proposed in Alternative 4A. In addition, one new parking area is proposed to accommodate the proposed off-road bicycle trails. This is the expansion of the existing lot located at Boston Mills Road and Akron-Peninsula Road, near the existing Bike and Hike Trailhead. In addition, the existing Little Meadow parking area would be utilized as the south trail head for the East Rim Trail.

2.5.8 Alternative 5 - ReUse, Recreation and Destination (Preferred Alternative)

As a result of the impact analysis, the park assembled a “hybrid” of trail elements that best meets the goals of the plan and minimizes impacts to park resources. This preferred “hybrid” approach used Alternative 3B as its baseline concept. Elements causing significant impacts were removed and trail elements from all of the alternatives were combined to create the alternative that best suits the Park, its resource conditions and visitor use. Alternative 5 is depicted in Figure 11.

Trail elements were established in Alternative 5 based upon the following goals; 1) limit the increase of new trails to 30-35 miles, 2) establish a suite of new trail facilities, 3) establish a limited off-road, single-track bicycle trail area of approximately 10 miles, 4) limit expansion of equestrian trail, while improving facilities and existing trails for this use, and 5) provide trails that limit their overall impact to park resources. Alternative 5 would increase total trail miles within CVNP by 37 miles from existing conditions if fully implemented. Trail elements included in the Preferred Alternative are listed below. “Conditional” trails are subject to the development of other facilities or activities conducted prior to implementation. These activities are described under each individual conditional trail.

- All Restoration Trail Elements described under Common to All Action Alternatives with the exception of the Lake Trail removal. The removal of a portion of Lake Trail will not occur under this plan.
- Adoption of the Sustainable Trail Guidelines as described under Common to All Action Alternatives and provided in detail in Appendix C.

Trails. The following types of trails would be developed.

New Interpretive Hike Trails

- *Horseshoe Pond Perimeter Loop Trail at Tree Farm Unit:* 0.20 miles of accessible trail around Horseshoe Pond connecting to the Tree Farm loop, as identified in Common to All Action Alternatives.
- *Ira River Trail:* Utilize existing undesignated trail from Towpath Trail at Ira Trailhead as access to the Cuyahoga River. The trail would be approximately 0.15 miles. Boardwalks and river overlook may potentially be part of trail features, as identified in Common to All Action Alternatives.
- *Terra Vista Trail:* Use of the existing trail routes used currently for access for scientific study, where feasible, would occur for a 1.75 mile loop and hike only trail connector to the Towpath Trail as identified in Alternative 2a.
- *Canal Visitor Center River Trail:* 0.60 miles of a riverside loop hiking trail starting at Canal Visitor Center, adjacent to the Cuyahoga River on the east side of the river and linking into the Towpath at Tinkers Creek Road as identified in Alternative 4A.

- *Canal Visitor Center Upper Loop Trail*: A new trail loop crossing the Scenic Railroad along Hillside Road and utilizing the NPS lands south of Hillside as identified in Alternative 3A.
- *Jaite Loop Trail* (including new equestrian link to Highland Road and Valley Bridle): Provide a connection from the Towpath Trail utilizing the existing Jaite Bridge or new bridge across Cuyahoga River and realign the existing trail as a loop trail to the Jaite Historic District. The trail loop and connection would total approximately 1.0 miles as identified in Alternative 3A
- *Stanford-Hines Hill Loop Trail*: Establishes 0.50 miles of hiking trail from existing Stanford Trail along Hines Hill Road and returning to the Stanford House to establish a new loop that connects into the Hines Hill Conference Center facilities and the Stanford House as identified in Alternative 3A.
- *Blue Hen Loop Trail*: Provide a 0.5 mile hiking trail loop at Blue Hen Falls, through a re-design of the current trail as identified in Alternative 3A.
- *Buttermilk Falls Trail*: A 0.3 mile hiking trail between Blue Hen Falls and Buttermilk Falls along the perimeter of the riparian area. Boardwalks may be required as identified in Alternative 4A.
- *Lock 29 Loop Trail*: Provides a .75 mile hiking trail loop north of Lock 29 and south of Stumpy Basin between the Towpath Trail and the Scenic Railroad as identified in Alternative 3A.
- *Coliseum Boardwalk Trail*: 0.25 miles of new boardwalk trail for bird viewing along southern edge of Coliseum site as identified in Alternative 2A.
- *Hunt Farm River Trail*: Provide a 0.30 mile hiking trail from Hunt Farm to the Cuyahoga River south of the Furnace Run stream as identified in Alternative 3A.

New Hiking Trails

- *Connector trail from Towpath Trail to Valley Picnic area and Plateau-Oak Hill Trail system*: 0.10 miles of connector trail utilizing existing road bed from Towpath Trail crossing Riverview and add new trail from the road bed to Valley Picnic Trailhead as identified in Common to all Action Alternatives.
- *Connect Valley Bridle Trail with Salt Run Trail*: A 0.20 mile connection of Salt Run Trail to Valley Bridle trail to provide link for long-distance hiking trail experience from Happy Days to Hunt Farm as identified in Common to all Action Alternatives.
- *Mudcatcher Loop Trail(Conditional)*: A 3.0 mile hiking loop west of Chaffee Road, north of Route 82 and south of Valley View/Canal Road as identified in Alternative 4A. Prior to implementation of this trail, additional public outreach and community involvement will be conducted in coordination with local jurisdictions and adjacent private property owners during planning and design. If the design concludes that the trail cannot be realized without undesirable impacts to adjacent property owners, the trail element will not be implemented.
- *South Carriage Loop Trail*: Utilize existing undesignated trails for 3.0 mile loop connecting off of proposed Old Carriage Trail Connector extension where feasible as identified in Alternative 2A.
- *Five Falls Trail*: A 1.5 mile hiking trail and connection to Brandywine Falls, the proposed Highland Connector Trail, Bike and Hike Trail, and Towpath Trail as identified in Alternative 3A.
- *Columbia Hike Trail*: A 1.3 mile hiking trail from Columbia Picnic area to the Buckeye Trail and Blue Hen- Buttermilk Trail units as identified in Alternative 3A.
- *Everett-Plateau Connector Trail*: A 0.45 mile trail along east side of Oak Hill Road connecting the two trail systems as identified in Alternative 4A.
- *Lower Furnace Run Loop Trail*: Provide a trail from Everett Trailhead to existing Furnace Run trail west of Oak Hill Road as identified in Alternative 3A.

- *Off-Road Buckeye north at Bath Road*: A 0.45 mile trail along east side of Oak Hill Road connecting the two trail systems as identified in Alternative 4A.
- *Ira-Howe* (Conditional, Subject to the future facility use at Cranz House): Establish a new hiking trail of 1.35 miles extending the primitive trail from the Buckeye Trail at Martin Road, west of Ira, crossing Ira south of Hale Farm and connecting to the Hale Farm Connector as identified in Alternative 4A.
- *Ira- Hampton* (Conditional, Subject to the future facility use at Brown-Bender House): Establish 2.50 miles of new hiking trail between the Towpath Trail and Hampton Hills Unit of MPSSC as identified in Alternative 4A.

New Equestrian Trails

- *Howe-Everett Connector Trail*: A new trail between Everett Covered Bridge and the Hale Connector Trail and improvements to existing natural surface trails to Howe Meadow as identified in Alternative 3A. (0.5 mile)
- *Jaite Connector Trail*: Utilize proposed route for Jaite Loop trail and extend for equestrian use to cross Highland Road and connect to existing Valley Bridle near the Jaite Wayside Parking area as identified in Alternative 3A. (0.5 mile)
- *Reroute of Valley Bridle Trail near Brecksville Reservation*: 0.10 miles of new trail to replace trail removed out of existing wetland area as identified Common to All Action Alternatives.

New Multi-Use Trails

- *Sagamore Connector Trail from Canal Road to Bike and Hike Trail*: Examine closing and vacating 1.2 miles of existing Sagamore Road that includes a portion for conversion to a multi-use path and a portion for off-road multi-use path to the Bike and Hike on Cleveland Metroparks land as identified in common to all action alternatives.
- *Stanford Connector Trail from Brandywine Falls to Stanford-Towpath Connector*: A 1.0 multi-use connector trail between Brandywine Falls and the Stanford Connector as identified in Common to all action alternatives.
- *Old Carriage Connector Extension*: Extend existing Old Carriage Road connector 0.35 miles to existing Bike and Hike Trail as identified in Alternative 2A.
- *Highland Connector Trail (Conditional)*: New multi-use connector from Bike and Hike to Towpath on south side of Highland Road. Extend on north side of Highland Road from Towpath to Vaughn overflow parking area as identified in Alternative 3A. Additional public outreach and community involvement will be conducted in coordination with local jurisdictions and with adjacent private property owners during planning and design of the trail. If the design concludes that the trail cannot be realized without undesirable impacts to adjacent property owners, the trail element will not be implemented.
- *Old Akron-Peninsula Connector Trail*: Utilization of abandoned road section and new off-road or shared-road trail as identified in Alternative 2A.

New Cross-Country Trails

- *High Meadow Trail*: A new 5-kilometer (3.1 miles) trail located west of Blue Hen Falls, near the existing Kurowski fields as identified in Alternative 3A.
- *Armington Trail Connector Loop*: A new loop from Cross-Country Trail to Little Meadow Trailhead of 1.2 miles of trail utilizing, where feasible, existing service roads for an outer loop connection between the existing Cross-Country trail and Little Meadow parking with access to Quick Road as identified in Common to all action alternatives.

New Off-Road, Single-Track Bicycle Trails

- *East Rim Central Trail*: A portion of the Dugway section of the route described in Alternative 4B route combined with Krejci Loop section identified in Alternative 3B. (approximately 10 miles)
- *High Meadow Loop + ReUse/Reroute of Buckeye Trail from Boston Mills to Station Road(Conditional)*: This is a combination of a portion of the West Rim Loop described in Alternative 3A and the reuse portion described in Alternative 2B. Conditional, subject to evaluation by the Park of the following activities: implementation of the proposed 10 mile trail (above) and its success to meet the goals and objectives of the Trail Plan, connections to off-roadbike trail systems as a result of potential expansion on other Metroparks lands in other Park units, Metroparks implementation of shared use on the Buckeye trail portion owned by them that may terminate at NPS lands, identification of existing or proposed trail routes for alternative through-hiking only trail experiences, evaluation of the utilization of a shared use schedule for limited off-road bicycle use on designated days of the week, and the institution of an education initiative for shared-use, best practices. Upon evaluation of these activities and conditions, the Park will determine the viability to proceed with this trail element.

Bike Lanes

- All described in Alternative 3A except Wheatley Road.

Neighborhood Connectors as described in Alternative 4A.

- *Greenwood Village Hike Connector Trail*: Will provide an additional 0.10 mile hike route to the Towpath Trail from a common access point of Greenwood Village.
- *Echo Hills Connector Trail*: 0.50 miles of Multi-Use Trail on Cleveland Metroparks lands to Whaley Lane and crossing Parkview road and to existing Equestrian Center trails in Brecksville Reservation
- *Chart Road Connector Trail*: A 0.75 mile hiking trail beginning at Chart Road connecting to Hampton Hills Trails.

Trail Facilities

Paddle Launch Sites: Alternative 5 would include the three Primary paddle access sites (Ira II, Station Road and Rockside). The secondary paddle access sites would be conditional to the successful management and determination of visitor use from the implementation of the primary paddle access sites.

Campsites: Campsites in Alternative 5 would include sites described under Actions Common to All Alternatives and Alternative 3A. Given the expansion of a new use throughout the park, Alternative 5 contains primary sites and secondary sites. Secondary sites would be implemented upon the completion and subsequent evaluation of management and visitor use at the primary sites. Additionally, all campsites would be designated campsites with defined tent-pads. All campsites described as dispersed would be proposed in Alternative 5 as designated. Alternative 5 proposes three primary campsites with a total of six to nine camping tent-pads and four secondary campsites with an additional eight to twelve camping tent-pads.

Primary Campsites (as described in Actions Common to All Alternatives):

- Fraze: Riverside and Towpath Trail-side campsite.
- North of Hunt Farm: Riverside and Towpath-trail side campsite.
- Buckeye Trail West – Trail-side campsite

Secondary Campsites (subject to operations and demand of use from primary campsite implementation) All secondary campsites are described under Actions Common to All Action Alternatives unless otherwise noted.

- Upper CVC campsites (trail) as described in Alternative 3A.
- Old Carriage North (trail)
- Buckeye – Dugway (trail)
- Buckeye – O’Neil (trail)

Parking. Alternative 5 proposes the expansion, improvements and additions of parking areas as described in Actions Common to All Alternatives and individual parking areas described in Alternatives 2A, 3A and 4A. Alternative 5 identifies 15 parking areas that include the expansion of existing parking spaces with 175 additional spaces, redesign of two parking areas with 27 parking spaces, three new parking areas with a total of 40 spaces, and two new equestrian parking areas with 20 horse-trail parking spaces. The parking lot totals are predicated on all proposed lots being completely built to maximum recommended capacity. Monitoring of parking area carrying capacity will be continued to determine final number of parking spaces for each lot.

Parking Areas Common to All Action Alternatives identified in Alternative 5.

- Expand Jaite Wayside (no equestrian parking expansion included)
- Expand/Relocate Blue Hen
- Expand Lock 29 Overflow
- Expand Hunt Farm
- Expand/Relocate Indigo Lake
- Expand Pine Lane for Equestrian Use
- Expand/Improve Coliseum
- Expand Tree Farm
- New Ira Paddle
- New Old Orchard Equestrian Only Parking Area.
- Expand Canal Visitor Center (conditional on use demand increasing)

Parking Areas as described in Alternative 2A identified in Alternative 5.

- Improve/Expand Terra Vista

Parking Areas as described in Alternative 3A identified in Alternative 5.

- Expand Bike & Hike – Boston Mills Lot (MPSSC)
- New High Meadow

Parking Areas as described in Alternative 4A identified in Alternative 5.

- Expand Cancasi (as Mudcatcher trailhead)

2.5.9 Alternatives Considered but Dismissed

The public scoping planning process described in Chapter 1 generated many proposed elements and modifications of the trail system. All proposals were examined and evaluated as part of the development of the alternatives. Some elements or alternatives were considered but dismissed due to one or more of the following factors.

Property ownership. During public scoping, trails were proposed within the CVNP boundary on lands not owned by NPS or the two metropolitan park districts. Additionally, there were trails brought forth to re-evaluate from the 1985 Trail Plan which in 2012, have a variety of private or otherwise incompatible ownership for trail development, limiting their feasibility. Many of these trails would require the assemblage of multiple land parcels for acquisition. As the Park moves towards investing in the improvements of its existing lands, land acquisition for the sole purpose of recreational use is a limited priority. These are largely removed for consideration in the alternatives due to the current private or public use of the lands and additional acquisition costs that would be required in these locations.

Shared Trail Uses. The concept of shared trail use among all trail user groups was considered and evaluated. Input from users that could potentially have conflicting uses was sought. Due to the lack of applicable locations and to provide the best quality visitor experience for all trail user groups, shared use between two groups that may experience particularly high conflict levels (equestrians and off-road bike users) was considered, but dismissed in the alternatives.

Trails in Sensitive Areas. Trails were proposed in high quality large forested areas, particularly in the upper Furnace Run region, managed and owned by Metro Parks, Serving Summit County, and the newly acquired Blossom Music Center property. Given the challenging terrain, very limited connectivity to other elements in the Park, size, current level of undisturbed land, and their high resource sensitivity, these areas were considered but dismissed for trail development.

Significant Expansions of Trails for Specific Uses. During public scoping, many of the trail user groups, particularly the mountain bike and equestrian trail users, desired significantly expanded trail miles within CVNP for their particular use. Given the current use, limitations of land ownership and resource conditions, and current, planned or projected regional trail systems available to these user groups, significant expansions were not included in the final alternatives. Additions and moderate expansions of some uses were included in some of the alternatives.

Other New Uses. During the public scoping period, the public was invited to provide ideas regarding the future trail system in the Park. Some proposals are prohibited by NPS Management Policies (off-road motorized vehicles) or are outside the scope of a Trail Plan (i.e., rock-climbing; all-terrain and gravity-oriented/downhill bike areas). These will not be considered further.

2.5.10 Environmentally Preferable Alternative

The environmentally preferable alternative is the alternative required by 40 CFR 1505.2(b) to be identified that causes the least damage to the biological and physical environment and best protects, preserve and enhances historical, cultural and natural resources. Alternative 2A has been selected as the environmentally preferable alternative because it is the alternative that best meets this guidance. This is accomplished through the adoption of the Sustainable Trail Guidelines, restoration and removal

of trails in sensitive areas, and the limited expansion of trails, use of existing disturbed areas for trails and connections to regional trail networks to serve a variety of users throughout all regions of the park.

2.6. Comparison of Alternatives

The alternatives provide opportunities to examine the trail options in the Park for a variety of visitor experiences on the trails and their impacts to Park resources and relationships to activities within or adjacent to the Park boundary. A comparison of alternatives was conducted for their level of development, environmental consequences, Plan goals, and NEPA goals. This section provides a summary of these comparisons.

Comparison of Trail Development

Table 6 provides a comparison of the alternatives by trail miles by trail use. Total trail mileage includes all trails within CVNP including trails owned and managed by NPS, Cleveland Metroparks, Metroparks, Serving Summit County, and the Buckeye Trail Association.

Comparison of Cost Estimates/Budget

As part of the Trail Management Plan, conceptual cost estimates were developed for the alternatives (Table 7). NPS and industry cost estimating were used as the general guidance. The cost estimates are intended to demonstrate the relative change in costs by the change in levels of trail development. Once a plan is approved, specific costs should be determined as part of detailed planning and design of each trail element in the approved plan. The approval of the plan will not guarantee funding. Staffing will be dependent on NPS funding levels, park and service wide priorities and partnership funding initiatives. Costs may be reduced by site conditions, sustainable practice methods and use of volunteers and other partnerships for the Trails Program. Conceptual costs estimates outline costs for the two core activities: 1) Planning, design, construction, and implementation costs for the alternatives and their various trail elements and 2) Operations and long term maintenance to sustain the trails on an annual basis.

Comparison of Alternatives by Environmental Consequences

For the purpose of the Environmental Impact Statement (EIS), an issue or impact topic describes an environmental problem or relationship between a resource and an action or actions. Impact analysis predicts the degree to which the resource will be affected, with direct, indirect and cumulative effects considered. Intensity and duration of effects are also considered in the analysis. Effects are both adverse and beneficial and will vary depending on the affected resource and the proposed action. Chapter 4, Environmental Consequences, includes the impact analysis methodology and findings for each issue topic identified for this Plan. Table 8, provides a summary comparison that shows the type of impacts expected with each alternative by impact topic.

Comparison of Alternatives by Plan Goals

Utilizing the goals and objectives established for the Plan outlined in Section 1.1.3, a general comparison of the alternatives and how they meet the Plan's five primary goals is summarized in Table 9.

Comparison of Alternatives by NEPA Goals

The alternatives were evaluated on how they meet the goals stated in section 101 of the National Environmental Policy Act. Table 10 summarizes a general comparison of the alternatives by NEPA goals.

Table 6. Comparison of Trail Miles

Trails	Alt 1	Alt 2A	Alt 2B	Alt 3A	Alt 3B	Alt 4A	Alt 4B	Alt 5
Subtotals								
Total Existing Trails	174.9	174.9	174.9	174.9	174.9	174.9	174.9	174.9
Total Common to All	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
New Trails Total	-	17.05	17.05	30.76	40.53	64.03	77.90	46.05
Trails Removed	-	-11.06	-11.06	-11.06	-11.06	-11.06	-12.80	-12.63
Net Additional Trails	-	6.0	6.0	19.7	29.47	52.97	65.10	37.65.
Bike Lanes	-	-	-	38.0	38.0	38.0	38.0	37.0
Total CVNP Boundary Trails	176.63	180.59 (3.5% increase)	180.59 (3.5%)	195.44 (11.5%)	205.21 (16%)	228.68 (30%)	240.81 (37%)	213.36 (21%)
NPS	107.1	112.08 (+5)	112.08 (+5)	126.93 (+19.84)	136.7 (+29.61)	160.17 (+53.08)	172.3 (+65.21)	138.22 (+31.13)
Trail Acres (trail miles x trail type tread width)	112	120 (+8)	120 (+8)	137 (+25)	134 (+22)	148 (+36)	153 (+41)	133 (+21)
Trail Parking Areas (in acres)	20.82	24.97	24.97	26.42	26.92	26.92	27.42	28.77

Table 7. Cost Estimates

	Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Planning, Design and Construction Costs								
Proposed Removal-Revegetation	-	\$144,521	\$144,521	\$144,521	\$144,521	\$144,521	\$144,521	\$144,521
Proposed Trails Installation	-	\$1,814,805	\$2,130,705	\$3,629,458	\$3,754,858	\$4,162,231	\$4,494,331	\$3,336,750
Bicycle Lanes Installation	-	-	-	\$1,925,590	\$1,925,590	\$1,925,590	\$1,925,590	\$1,781,980
Water Trail Launch Sites	-	\$3,627	\$3,627	\$3,627	\$3,637	\$3,627	\$3,627	\$2,000
Campsites	-	\$5,628	\$5,628	\$5,628	\$5,628	\$5,628	\$5,628	\$2,800
Proposed Parking	-	\$256,649	\$289,847	\$321,937	\$390,543	\$368,412	\$368,412	\$324,188
Subtotal	-	\$2,225,230	\$2,574,328	\$3,960,650	\$4,154,666	\$4,539,898	\$4,871,998	\$3,810,259
25% design/planning /admin	-	556,307	\$643,582	\$990,162	\$1,038,666	\$1,134,974	\$1,217,999	\$952,564
10% Contingency	-	\$222,523	\$257,432	\$396,065	\$415,466	\$453,989	\$487,199	\$381,025
Subtotal with Bike Lanes	-	-	-	\$7,272,467	\$7,534,388	\$8,054,451	\$8,502,786	\$6,925,828
Subtotal without Bike Lanes	\$0.00	\$3,004,060	\$3,475,342	\$5,346,877	\$5,608,798	\$6,128,861	\$6,577,196	\$5,143,848
Operations and Maintenance Annually								
2011 Operating Maintenance Budget	\$279,360	\$279,360	\$279,360	\$279,360	\$279,360	\$279,360	\$279,360	\$279,360
Annual Maintenance of proposed trails	-	\$42,814	\$71,098	\$111,548	\$114,234	\$164,487	\$194,758	\$99,758
Trail Management (FTE @40k per year)	-	\$120,000 (3 FTE)	\$120,000 (3 FTE)	\$240,000 (6 FTE)	\$240,000 (6 FTE)	\$400,000 (10 FTE)	\$400,000 (10 FTE)	\$240,000 (6 FTE)
Subtotal Operations and Management	\$279,360	\$442,174	\$470,458	\$630,908	\$633,594	\$843,847	\$874,118	\$619,118
Totals								
Construction	\$0.00	\$3,004,060	\$3,475,342	\$5,346,877	\$5,608,798	\$6,128,861	\$6,577,196	\$5,143,848
Operations & Management	\$279,360	\$442,174	\$470,458	\$630,908	\$633,594	\$843,847	\$874,118	\$619,118
Total without Bike Lanes	\$279,360	\$3,446,234	\$3,945,800	\$5,977,785	\$6,242,392	\$6,972,708	\$7,451,314	\$5,762,966

Table 8. Summary Comparison of Alternatives by Environmental Consequences

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: WATER RESOURCES							
Riparian Buffers and Stream Crossings							
Long-term minor to moderate adverse from 94 miles of all trails within buffer zone and 400 stream crossings.	Long-term negligible adverse riparian buffers from decrease of trail miles in riparian zone. Long-term beneficial to stream crossings from decrease in number of stream crossings.	Long-term negligible adverse riparian buffers from decrease of trail miles in riparian zone. Long-term beneficial to stream crossings from decrease in number of stream crossings.	Long-term, minor to moderate adverse from an increase of 35.94 trail miles within riparian zone and potential increase of 71 stream crossings.	Long-term minor to moderate, adverse from an increase of 42 trail miles within riparian zone and potential increase of 136 stream crossings.	Long-term moderate and adverse from increase of 44 trail miles within riparian zone and potential increase of stream crossings by 94.	Long-term moderate and adverse from increase of trail miles within riparian zone by 48.55 and a potential increase of stream crossings by 143.	Long-term minor to moderate, adverse from increase of 37.94 trail miles within riparian zone and potential increase of stream crossings by 84.
Floodplains							
Long-term minor to moderate adverse from 22 miles all trails within floodplain.	Long-term negligible adverse to floodplains from increase of 0.69 trail miles within floodplain.	Long-term negligible adverse to floodplains from increase of 0.69 trail miles within floodplain.	Long-term minor, adverse from an increase of 4.88 trail miles within floodplain and small boardwalk systems in floodplains.	Long-term minor, adverse from increase of trail miles by 4.88 within floodplain and small boardwalk systems at two sites. Mountain bike trails are not within floodplain.	Long-term minor and adverse from increase of trail miles by 4.29 within floodplain and small boardwalk systems at three sites.	Long-term minor and adverse from increase of 4.29 trail miles within floodplain and small boardwalk systems at three sites. No mountain bike trails are within floodplain.	Long-term minor, adverse from increase of 3.77 trail miles within floodplain and potential small boardwalk systems at two sites. Mountain bike trails are not within floodplain.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Wetlands							
Long-term minor adverse from 37 all trail miles within 25' buffer of wetlands and 20 miles within 125' wetland buffer.	Long-term negligible adverse to wetlands from reduction of trails within 25' wetland buffer and minor increase of 2.8 of all trail miles within 125' wetland buffer.	Long-term negligible adverse to wetlands from reduction of trails within 25' wetland buffer and minor increase 2.8 of all trail miles within 125' wetland buffers.	Long-term minor to moderate adverse from an increase of 2.27 trail miles within 25' wetland buffer and an increase of 12.33 trail miles within 125' wetland buffer.	Long-term minor to moderate adverse from an increase of trail miles by 2.77 within 25' wetland buffer and an increase of trails miles by 20 within 125' wetland buffer.	Long-term minor to moderate adverse from an increase of 3.9 trail miles within 25' wetland buffer and an increase of 26 trail miles within 125' wetland buffer.	Long-term minor to moderate adverse from an increase of 5.2 miles within 25' wetland buffer and an increase of 30.8 trail miles within 125' wetland buffer.	Long-term minor to moderate adverse from increase of 2.67 trail miles within 25' wetland buffer and an increase of 19.66 trail miles within 125' wetland buffer.
Water Quality							
Long term, minor adverse from trail conditions where increased sedimentation to streams occurs.	Long term negligible to minor adverse from minimal increase of trail miles in one cold water habitat watershed.	Long term moderate adverse from minimal increase of trail miles in one cold water habitat watershed and increase of trail use in sensitive water resource areas.	Long term minor to moderate adverse from increase of trail miles in two cold water habitats and increase in trails, high quality watersheds.	Long term minor to moderate adverse from increase of trail miles in two cold water habitats and increase in trails in, high quality watersheds.	Long term minor to moderate adverse from increase of trail miles in three cold water habitats and increase in trails in less disturbed, high quality watersheds.	Long term minor to moderate adverse from increase of trail miles in three cold water habitat watersheds and increase in trails in, high quality watersheds.	Long term minor to moderate adverse from increase of trail miles in two cold water habitat watersheds and increase in trails in, high quality watersheds.
Cumulative Impacts							
Long-term negligible to moderate and adverse from suburban development activities outside of the Park where water resources may be modified or lost. Long-term beneficial impacts if restorative actions related to the Brecksville Dam and combined sewer overflows occur.							
Trail Facilities Common to All Action Alternatives (Water Resources)							
Long-term, negligible adverse from minimal change in footprint within riparian zone and no required stream crossings. Long-term, negligible to minor impacts from the proximity of three launch sites, three campsites and four parking areas. Long-term negligible to minor from presence of some facilities within floodplains. Long-term minor to moderate adverse impacts from increased human activity on the river, campsites, and runoff from additional parking surface areas.							

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: VEGETATION							
Habitat Fragmentation and Spread of Invasive Plants							
Long-term, minor to moderate and adverse from vegetative disturbance from 186 acres of total trail footprint within the primary vegetation communities, presence of exotic plants along main trail corridors, and trails in areas of rare or special status plant species.	Long-term, negligible to minor and adverse from minimal reduction of two trail acres within the primary vegetation communities and limited expansion of trails that would increase spread of invasive plants.	Long-term minor and adverse from minimal reduction of two trail acres in the primary vegetation communities, increase of trail use in an isolated region of the Buckeye Trail, and limited expansion of trails that would increase spread of invasive plants.	Long-term, minor to moderate and adverse from additional 25 acres of trail corridors in primary vegetation communities including expansion of trails in some new areas. Potential for increased exotic plant proliferation may occur for high use interpretive trails and new trailhead entry areas.	Long-term, moderate and adverse from additional 36 acres of trail corridors in primary vegetation communities, including new mountain bike trails in upland forest areas of the central east and west rim of the Park. Potential for increased exotic plant proliferation may occur for high use interpretive trails and new trailhead entry areas.	Long-term, moderate and adverse from additional 38 acres of trail corridors in primary vegetation communities including expansion of trails in areas throughout the park. Potential for increased exotic plant proliferation may occur for high use interpretive trails, new trailhead entry areas and expanded primitive trails in undisturbed upland forest areas.	Long-term, moderate and adverse from additional 50 acres of trail corridors in primary vegetation communities including expansion of trails in areas throughout the park and new mountain bike trails along the central and southern eastern rim of the park. Potential for increased exotic plant proliferation may occur for high use interpretive trails, new trailhead entry areas and expanded primitive trails in undisturbed upland forest areas.	Long-term, minor to moderate and adverse from additional 31 acres of trail corridors in primary vegetation communities including expansion of trails in areas throughout the park. Potential for increased exotic plant proliferation may occur for high use interpretive trails, new trailhead entry areas and expanded primitive trails in undisturbed upland forest areas.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Cumulative Impacts:							
Long-term, negligible and adverse effects from continuing development projects within and near the Park boundary that may cause vegetation disturbance but the increase of future exotic management activities and habitat restoration on disturbed sites within the Park.							
Trail Facilities							
Long-term, negligible to minor adverse impacts on the primary vegetation communities from minor ground disturbance in isolated regions of the park.							
IMPACT TOPIC: WILDLIFE							
Habitat Fragmentation and Disturbance							
Long-term, minor and adverse due primarily from the overall continued fragmentation of forest habitats in the Park.	A minimal change of less than 10 acres in affected forest blocks and vegetation communities will likely maintain the existing long-term, minor adverse impacts on wildlife and their habitats.	A minimal change of less than 10 acres in forest and shrubland vegetation communities, zero affected change in forest blocks greater than 100 acres, and the addition of mountain biking on one trail will likely maintain the existing long-term, minor adverse impacts on wildlife and their habitats.	Long-term, minor to moderate adverse impacts on wildlife primarily from increased habitat fragmentation and loss with an increase of 35 acres of affected forest and shrubland and change in five forest blocks greater than 100 acres.	Long-term, minor to moderate adverse impacts on wildlife primarily from increased habitat fragmentation and loss with an increase of 45 acres of affected forest and shrubland and change in four forest blocks greater than 100 acres.	Long-term, moderate adverse impacts on wildlife from a significant level of fragmentation of large forest habitat blocks and change in disturbance by an increase of 45 acres of affected forest and shrubland and change in four forest blocks greater than 500 acres.	Long-term, moderate adverse impacts on wildlife from a significant level of fragmentation of large forest habitat blocks and change in disturbance by an increase of 57 acres of affected forest and shrubland and change in four forest blocks greater than 500 acres.	Long-term, moderate adverse impacts on wildlife from a significant level of fragmentation of large forest habitat blocks and change in disturbance by an increase of 39 acres of affected forest and shrubland and change in three forest blocks greater than 100 acres.
Cumulative Impacts:							
Short-term and long-term minor and adverse from emerging development, increased loss of habitat, temporary disturbance from construction projects and potential changes associated with climate change. Future wildlife management plans currently in development will affect local wildlife populations beneficially.							
Trail Facilities Common to All Action Alternatives							
Long-term negligible to minor and adverse from the position of trail facilities on the edge of forest blocks, minimal footprint and minimal localized disturbance from new or expanded uses.							

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: SOILS							
Soil Resources							
Long-term, minor to moderate adverse impacts from 69 trail miles in areas of soils with high erodibility, 60 trail miles in soils very limited for recreational paths and 22 trails with segments with trail grades that exceed 15%.	Long-term, negligible adverse impacts from use of existing disturbed areas, no change in trail miles within soils with high erodibility or very limited for recreational trails. No trails proposed are on grades greater than 15%.	Long-term, negligible to minor adverse impacts from use of existing disturbed areas, no change in trails in limited suitable soils. No trails are proposed on grades greater than 15%. New mountain bike use will increase use on erosion-prone Buckeye Trail.	Long-term, minor adverse from 75 trail miles in areas of soils with high erodibility, 66 trail miles in soils very limited for recreational paths, and nine new trails with segments with grades that exceed 15%.	Long-term, minor to moderate and adverse from 84 trail miles in areas of soils with high erodibility, 70.5 trail miles in soils very limited for recreational paths, nine new trail segments with trail grades that exceed 15% and mountain bike trails where some steep grades exist.	Long term, moderate, adverse from 90 trail miles trails in areas of soils with high erodibility, 77 trail miles in soils very limited for recreational paths, and fourteen new trails with segments with trail grades that exceed 15%.	Long-term moderate, adverse from 105 trail miles in areas of soils with high erodibility, 83 trail miles in soils very limited for recreational paths, fourteen new trails with segments with trail grades that exceed 15%, and portions of the mountain bike trail where steep grades exist.	Long-term minor to moderate, adverse from 82 trail miles in areas of soils with high erodibility, 68 trail miles in soils very limited for recreational paths, seven new trails with segments where trail grades may exceed 15%, and portions of the mountain bike trail where steep grades may occur.
Cumulative Impacts:							
Short-term and long term minor to moderate adverse impacts from soil conditions during construction projects inside and outside of the Park and continued soil compaction and soil loss from present and continuing urbanization.							
Trail Facilities Common to All Action Alternative							
Short-term and long-term negligible to minor effects on soil resources are expected from temporary disturbance during construction and minimal area of disturbance from access and use of launch sites, campsites, and new and expanded parking areas.							

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: CULTURAL RESOURCES							
National Register of Historic Places							
Long Term negligible to minor adverse from vulnerability of ground disturbance in high use areas and unauthorized use on unmanaged social trails.	Long Term negligible to minor adverse from three additional NRHP listings, but no modifications or change in resource.	Long term, negligible to minor adverse from proposed trail actions within perimeter of five countryside properties, but minimal disturbance. No additional impacts from mountain bike trails.	Long term, negligible to minor adverse from proposed trail actions within perimeter of five countryside properties.	Long term, negligible to minor adverse from proposed trails within perimeter of five countryside properties. No additional effect from mountain bike trails.	Long term, negligible to minor adverse from proposed trails within perimeter of ten countryside properties.	Long term, negligible to minor adverse from proposed trail within perimeter of ten countryside properties and proximity of mountain bike trail within four properties.	Long term, negligible to minor adverse from increase in proposed trails within or adjacent to eight NRHP listings. NRHP sites are not within proximity to proposed mountain bike trails.
Rural Landscapes and Scenic Values							
Long Term negligible to minor adverse from vulnerability of ground disturbance in high use areas and unauthorized use on unmanaged social trails.	Long Term negligible to minor Adverse from proposed actions within proximity of three Countryside properties, but minimal disturbance.	Long term, negligible to minor adverse from proposed actions within proximity of three Countryside properties, but minimal disturbance. No additional impacts from mountain bike trails.	Long term, negligible to minor adverse from proposed trails within perimeter of five countryside properties.	Long term, negligible to minor adverse from proposed trails within perimeter of five countryside properties. No additional effect from mountain bike trails.	Long term, negligible to minor adverse from proposed trails within perimeter of ten countryside properties.	Long term, negligible to minor adverse from proposed trail within perimeter of ten countryside properties and proximity of mountain bike trail within two properties.	Long term, negligible to minor adverse from increase in proposed trails within or adjacent to eight NRHP listings. NRHP sites are not within proximity to proposed mountain bike trails.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Archeological Resources							
Long Term negligible to minor adverse vulnerability from ground disturbance in high use areas and unauthorized use on unmanaged social trails.	Long Term negligible to minor Adverse from two proposed trails in proximity to known or potential archeological resources.	Long term, negligible to minor adverse from two proposed trails in proximity to known or potential archeological resources. No additional impacts form mountain bike trails.	Long term, negligible to moderate, adverse, from thirteen proposed trails within proximity of known resources and potential surface disturbance.	Long term, negligible to moderate adverse from thirteen proposed trails within proximity of known resources and potential surface disturbance, including increase survey for mountain bike trail areas.	Long term, negligible to minor adverse from proposed trails within proximity of known resources and increase survey for areas not determined including for the mountain bike trail.	Long term, negligible to minor adverse from proposed trails within proximity of known resources and increase survey for areas not determined including for the mountain bike trail.	Long term, negligible to moderate adverse from thirteen proposed trails within proximity of known resources and increase survey for areas not determined including for the mountain bike trail.
Cumulative Impacts:							
Continued use of neighborhood social trails will continue under this alternative, resulting in long-term, negligible to minor and adverse impacts on cultural resources. Impacts resulting from the Boston Mills Area Development Plan/Environmental Assessment may occur.							
Trail Facilities Common to All Trail Facilities							
Long-term, negligible to minor adverse impacts on NRHP properties, Countryside Initiative program elements and archeological resources. Impacts to archeological resources and will need to be evaluated through site-specific surveys to ensure mitigation of impacts.							

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: VISITOR USE EXPERIENCE							
Visitor Use Experience							
Long-term, minor to moderate, adverse from overcapacity at high peak use areas, limited variety of trail experiences and potential for trail user conflict in high use areas. No effect from public health and safety or education and interpretation opportunities.	Long-term, beneficial from limited expansion of park facilities, and limited variety of new trail experiences and opportunities for programming. Long-term, minor to moderate adverse impacts from trail user conflicts and public health and safety on trail conditions on some trails.	Long-term beneficial from expansion of park facilities, limited variety of new trail experiences, including mountain bike and limited new areas for programming. Long-term, minor to moderate adverse impacts from trail user conflicts and public health and safety in some new trail areas.	Long-term beneficial impacts from expanded variety of trail experiences, from dispersal of uses in high use areas, and expansion of park resource learning. Long-term, minor adverse from increase in visitation patterns in expanded trail areas. Long-term minor to moderate adverse from proximity of some trails to trail facilities.	Long-term beneficial impacts from expanded variety of trail experiences. Long term negligible and adverse impacts from increased education on new trails and uses. Long-term, minor to moderate adverse from increased trail user conflict on some portions of the new mountain bike trail, increased visitation patterns in expanded trail areas, and increased remote proximity of some trails to trail facilities.	Long-term beneficial impacts from expanded variety of trail experiences, from learning, and separate primary user type trail systems to reduce trail user conflict. Long-term, negligible, adverse, from expansion of primitive, low use Trails. Long-term moderate adverse impacts from limited access to trail facilities from expanded primitive trail system.	Long-term beneficial impacts from expanded variety of trail experiences. Long-term, negligible impacts from increased education on new trail uses and expansion of primitive trails and isolated expansion of mountain bike trail in low use areas. Long-term, minor to moderate adverse, from limited trail intersections and shared use. Long-term, moderate, adverse from trail facilities and limited access of expanded primitive trail system.	Long-term beneficial from expanded variety of trail experiences. Long-term, negligible from expansion of limited primitive, trails, and isolated expansion of mountain bike trail in low use areas and increased education on new trail use. Long-term, minor adverse, from limited trail intersections and shared use and limited access of trail facilities from expanded primitive trails.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Cumulative Impacts:							
Long-term beneficial impacts from regional trail and trail facility expansion and improvements on the Cuyahoga River to improve water resource conditions for recreational use.							
Trail Facilities Common to All Action Alternatives							
Trail facilities and amenities will provide long-term beneficial impacts to visitor use experience from the improvement of facilities for visitation, new and expanded trail user experiences and new opportunities for education and interpretation. Long-term minor to moderate impacts visitor use and experience from potential trail user conflict in high use areas by new uses and public safety and health issues associated with river conditions for human contact and human waste management at campsites.							

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
IMPACT TOPIC: SOCIOECONOMIC							
Local Governments, Residents and adjacent landowners							
Long term, minor to moderate adverse impacts from unmanaged social trails and unimproved access to the park trails. No effects on business.	Long term, minor and adverse from proximity of three trails to adjacent land owners in a regional limited area of park and reuse of three public roads for trail use.	Long term, minor to moderate, adverse from use of Cleveland Metroparks and MPSSC land for mountain bike trail use. Proximity of three trails to adjacent lands owners reuse of three public roads for trail use, and increased road crossings for trails, including mountain bike trail use.	Long term, minor to moderate, adverse by use of other jurisdiction lands for trail placement, proximity of eight trails to adjacent land owners in isolated areas throughout park, reuse and of public roads for trail use and increase in trail crossings on public roads.	Long term, minor to moderate, adverse from use of other jurisdiction lands for trails, proximity of ten trails to adjacent land owners in isolated areas, reuse of public roads for trail use and increase in trail crossings on public roads.	Long term, moderate and adverse from use of other jurisdiction lands, proximity of ten trails to adjacent land owners in multiple areas, reuse of public roads, and increase in trail crossings on public roads.	Long term, moderate and adverse from use of other jurisdiction lands, proximity of ten trails to adjacent land owners in multiple areas, reuse of public roads, and increase in trail crossings on public roads.	Long term, minor to moderate, adverse from use of other jurisdiction lands for trail placement, proximity of eight trails to adjacent land owners in isolated areas throughout park, reuse and of public roads for trail use and increase in trail crossings on public roads.
Local business							
No effects by changes in use.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from limited trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from limited trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from limited trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from limited trail expansion.	Short-term and long-term beneficial impacts from new construction opportunities and local business opportunities from limited trail expansion.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Cumulative Impacts: (Socioeconomic)							
Long-term beneficial impacts from potential increased business opportunities spurred by regional trail development. Long-term, minor and adverse impacts on local governments for additional services potential required on future regional and local greenways and trails.							
Trail Facilities Common to All Action Alternatives (Socioeconomic)							
Trail facilities will have long-term negligible and adverse impacts on costs to visitors from marginal costs for water trail use permits, long-term minor and adverse from noise associated with some facilities and their proximity to non-NPS lands, long-term negligible and adverse from increase uses and additional entry points from public roads for expanded trail facility uses from public roads, and short-term and long-term beneficial impacts on business from new opportunities for business and construction activities associated with expanded trail facilities and uses.							
IMPACT TOPIC: PARK OPERATIONS							
Park Operations							
Long term minor adverse, from limited staff to meet current operations of trail management. No effect by no new facilities proposed.	Short and long term negligible to minor, adverse from reuse of current staff operations or minor increase of less than five new support staff and limited existing facility expansion.	Long term, minor, adverse from reuse of current staff operations or minor increase of less than five new support staff and limited existing facility expansion.	Long term, minor to moderate, adverse from additional staff support of 5-8% from current staff levels and expansion of operations for new and expanded facilities.	Long term, moderate, adverse from additional staff support of 8-10% from current staff levels and expansion of operations for new and expanded facilities.	Long term, moderate to major, adverse from significant increase of staff operation support of greater than 10% from current staff levels expansion of operations for new and expanded facilities.	Long term, major, adverse, from significant increase of staff operation support of greater than 10% from current staff levels and expansion of operations for new and expanded facilities.	Long term, moderate, adverse from additional staff support of 5-10% from current staff levels and expansion of operations for new and expanded facilities.

Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B	Alternative 5
Partner Operations							
Long term negligible adverse from the increase role of Trails Forever for capital and ongoing maintenance support	Long term minor adverse, from limited support for expansion of trails.	Long term negligible, adverse from limited support for expansion of trails and support by new user groups.	Long term, minor to moderate, adverse, from increase of trail operational support.	Long term, minor to moderate, adverse from increase of trail operational support.	Long term, moderate, adverse from significant increase of trail operational support.	Long term, moderate, adverse from significant increase of trail operational support.	Long term, minor to moderate, adverse from increase of trail operational support.
Local Jurisdiction Operations							
No effect, from no new facilities proposed.	Long term negligible to minor adverse, from multi-use connector trails and few trails involving localized jurisdictions.	Long term, minor, adverse, from multi-use connector trails and mountain bike trail on primarily non-NPS jurisdiction.	Long term, minor, adverse, from multi-use connectors, bike lanes and localized trails involving multiple jurisdictions.	Long term, minor to moderate, adverse, from multi-use connectors, bike lanes, localized trails involving multiple jurisdictions and proximity of mountain bike trails to other jurisdiction trails.	Long term, moderate, adverse from multi-use connectors, bike lanes, localized trails involving multiple jurisdictions and proximity of mountain bike trails with access to other jurisdictional trails.	Long term, moderate, adverse from multi-use connectors, bike lanes, localized trails involving multiple jurisdictions and proximity of mountain bike trails to other jurisdiction trails.	Long term, minor to moderate, adverse, from multi-use connectors, bike lanes, localized trails involving multiple jurisdictions and proximity of mountain bike trails to other jurisdiction trails.
Cumulative Impacts:							
Expanding residential and commercial development or redevelopment surrounding the Park may increase visitation and undesignated entry points into the Park, resulting in minor adverse, long-term impacts on park operations and management. Long-term minor adverse impacts from increased river use by expansion of river use access facilities outside of park, and potential water quality improvements from Route 82 dam and reduction of combined sewer overflows.							
Trail Facilities Common to All Action Alternatives							
Short-term and long-term, minor to moderate adverse, from its increase for staffing and operations required for new facilities and long-term negligible to minor adverse from increased design and contract service coordination, increased construction and ongoing maintenance for trail facilities, and increased coordination with local jurisdictions on new facilities, particularly river use.							

Table 9. Summary Comparison of Alternatives by Plan Goals.

Plan Goal	Trail User Experience	Footprint on Park Resources	Sharing Park Resource Stories	Sustaining the Trail Network	Utilization of Trail Partnerships
Alternative 1	Maintains current user experiences. Limits new uses and new experiences. Continue degradation of trail facilities may inhibit trail user experience.	Degradation of resources from trails and high use areas will continue to compromise park resources.	Provides opportunities along main corridors of park and limited on secondary trails.	Backlogged operations, degraded trail conditions and absence of sustainable trail management guidance in place limit the sustainability of the trail network.	Park has established partnerships through Trails Forever and Volunteer program.
Alternative 2A	Limited expansion of new trail experiences to regional greenway networks and short interpretive areas and minor connections between park trails.	Sustainable Trail Guidelines and minimal trail expansion will minimize trail footprint.	Limited expansion of sharing park resource stories.	Sustainable Trail Guidelines will incorporate practices and strategies to sustain the trail network.	Continuing trail partnerships with marginal increase in support. Expansion of user groups to support trail network will occur.
Alternative 2B	Same as Alternative 2A plus the addition of off-road bicycle use for limited expanded new outdoor recreation experiences in the park.	Sustainable Trail Guidelines and minimal trail expansion will minimize trail footprint.	Limited expansion of sharing park resource stories.	Same as Alternative 2A Some limitations may occur due to trail expansion and required resources to sustain.	Same as Alternative 2A Additional expansion of user groups with off-road bicycle use to support trail network.
Alternative 3A	Expansion of trails in all regions of the park, utilizing the visitor contact centers as the primary starting point for long and short trail experiences. Multi-use connections to regional greenway networks and coordination of bike lanes provide alternative user experiences to access the park.	Expansion of trails in some areas of park will have a footprint on park resources but be minimized by Sustainable Trail Guidelines.	Some expansion of sharing park resource stories, particularly adjacent to existing visitor contact centers.	Same as Alternative 2A Limitations will occur due to expansion of trails and additional required resources to sustain.	Expanded partnership resources will be required to support expanded trail system. Expansion of user groups to support trail network will occur.

Plan Goal	Trail User Experience	Footprint on Park Resources	Sharing Park Resource Stories	Sustaining the Trail Network	Utilization of Trail Partnerships
Alternative 3B	Same as Alternative 3A plus the addition of new mountain trails in two park areas to expand new outdoor recreation experiences in the park.	Expansion of trails in some areas of park will have a footprint on park resources but be minimized by Sustainable Trail Guidelines.	Some expansion of sharing park resource stories, particularly adjacent to existing visitor contact centers	Same as Alternative 3A.	Same as Alternative 3A. Additional expansion of user groups with off-road bicycle use to support trail network.
Alternative 4A	Expansion of trails in all regions of the park, including the expansion of intra-park long distance trails. Multi-use connections to regional greenway networks and coordination of bike lanes provide alternative user experiences to access the park.	Expansion of trails in many areas of park will have a footprint on park resources but be minimized by Sustainable Trail Guidelines.	Significant expansion of sharing park resource stories through destination trail systems adjacent to visitor contact centers and to primitive park resource features.	Same as Alternative 2A Limitations will occur due to expansion of trails and additional required resources to sustain.	Significant partnership resources will be required to support expanded trail system. Expansion of user groups to support trail network will occur.
Alternative 4B	Same as Alternative 4A plus the addition of a new off-road bike trail system through multiple regions of the park to expand new outdoor recreation experiences in the park.	Expansion of trails in many areas of park will have a footprint on park resources but be minimized by Sustainable Trail Guidelines	Significant expansion of sharing park resource stories through destination trail systems adjacent to visitor contact centers and to primitive park resource features.	Same as Alternative 4A.	Same as Alternative 4A. Additional expansion of user groups with off-road bicycle use to support trail network.
Alternative 5 (Preferred Alternative)	Expansion of trail experiences for recreation and destination trails, including limited new off-road bicycle use.	Expansion of trails in many areas of park will have a footprint on park resources but be minimized by Sustainable Trail Guidelines	Expansion of trails to share park resource stories, near visitor contact centers and primitive areas of the park.	Sustainable Trail Guidelines will incorporate practices and strategies to sustain the trail network.	Expanded partnership resources will be required to support expanded trail system. Expansion of user groups to support trail network will occur.

Table 10. Comparison of How Alternatives Meet Goals of National Environmental Policy Act

NEPA Goals	Goal 1: Fulfill the responsibilities of each generation as trustee of the environment for succeeding generation.	Goal 2: Ensure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings	Goal 3: Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or undesirable or unintended consequences	Goal 4: Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.	Goal 5: Achieve a balance between population and resource use that will permit high standards of living and wide sharing of life's amenities.	Goal 6: Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.
Alt 1	Trails will continue to be degraded and compromise conditions of trail system that limit its long-term sustainability.	Visitor use conflict and visitor capacity occurs during peak seasonal use in some locations of the park.	Trails will continue to degrade park resources where use type and use frequency are causing impacts.	Trails provide opportunities for access and information on park resources related to our national heritage.	Some trails by overuse, resource conditions or trail design and limited connections. minimize a balanced approach.	Some sustainable practices are in place. Maximum extent of NPS sustainability goals has not been achieved.
Alt 2A	Incorporation of Sustainable Trail Guidelines will set forth measures to sustain park resources for generations to come.	Limited trail additions and trail facilities will assist in reducing visitor conflict and a limited variety of visitor experiences.	Utilize previously disturbed areas to minimize resource impacts and the introduction of Sustainable Trail Guidelines.	Limited expansion of trails provide limited new opportunities for access and information on park resources related to our national heritage.	A balanced approach is achievable by improved trail conditions and limited expansion, including community connections.	Sustainable Trail Guidelines in combination with parkwide sustainable goals will achieve NPS sustainability goals.
Alt 2B	Same as Alternative 2A.	Same as Alternative 2A.	Same as Alternative 2A.	Same as Alternative 2A.	Same as Alternative 2A. Off-road bicycle trail increases use in sensitive resource area.	Same as Alternative 2A.

NEPA Goals	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
Alt 3A	Same as Alternative 2A. Expansion of trails may limit resources to fully sustain trail network successfully.	Additions of trails and trail facilities for a variety of users throughout the park will assist in reducing visitor conflict and a limited variety of visitor experiences.	Use of Sustainable Trail Guidelines will minimize resource degradation. Increase in trail miles may increase resource disturbance.	New trails expand opportunities for access and information on park resources.	A balanced approach is achievable by improved trail conditions and community connections. Use of sustainable design will assist in meeting goal.	Same as Alternative 2A plus the addition of road bike facilities to increase alternative transportation options in the Park.
Alt 3B	Same as Alternative 3A.	Same as Alternative 3A.	Same as Alternative 3A with addition of off-road bicycle trails that may increase human conflict conditions.	Same as Alternative 3A.	Same as Alt 3A. A portion of off-road bicycle trail will increase use insensitive resource area.	Same as Alternative 3A.
Alt 4A	Same as Alternative 3A.	Additions of trails and trail facilities for a variety of users in the park will assist to reduce visitor conflict and a variety of visitor experiences.	Use of Sustainable Trail Guidelines will minimize resource degradation. Increase in trail miles may increase resource disturbance.	New trails in a variety of regions of the park expand opportunities for access and information on park resources.	Same as Alt 3A.	Same as Alternative 3A.
Alt 4B	Same as Alternative 3A.	Same as Alternative 4A.	Same as Alt. 4A with addition of off-road bicycle trails that may increase human conflict conditions.	Same as Alt. 4A, Off-road bicycle trail will increase use in sensitive cultural resource area.	Same as Alt 4A.	Same as Alternative 3A.
Alt 5	Same as Alternative 3A.	Same as Alternative 3A.	Same as Alt. 3A. Off-road bicycle trails will minimize resource degradation and human conflict.	Same as Alternative 4A.	Same as Alternative 3A.	Same as Alternative 3A.

Figure 2: Alternative 1, No Action

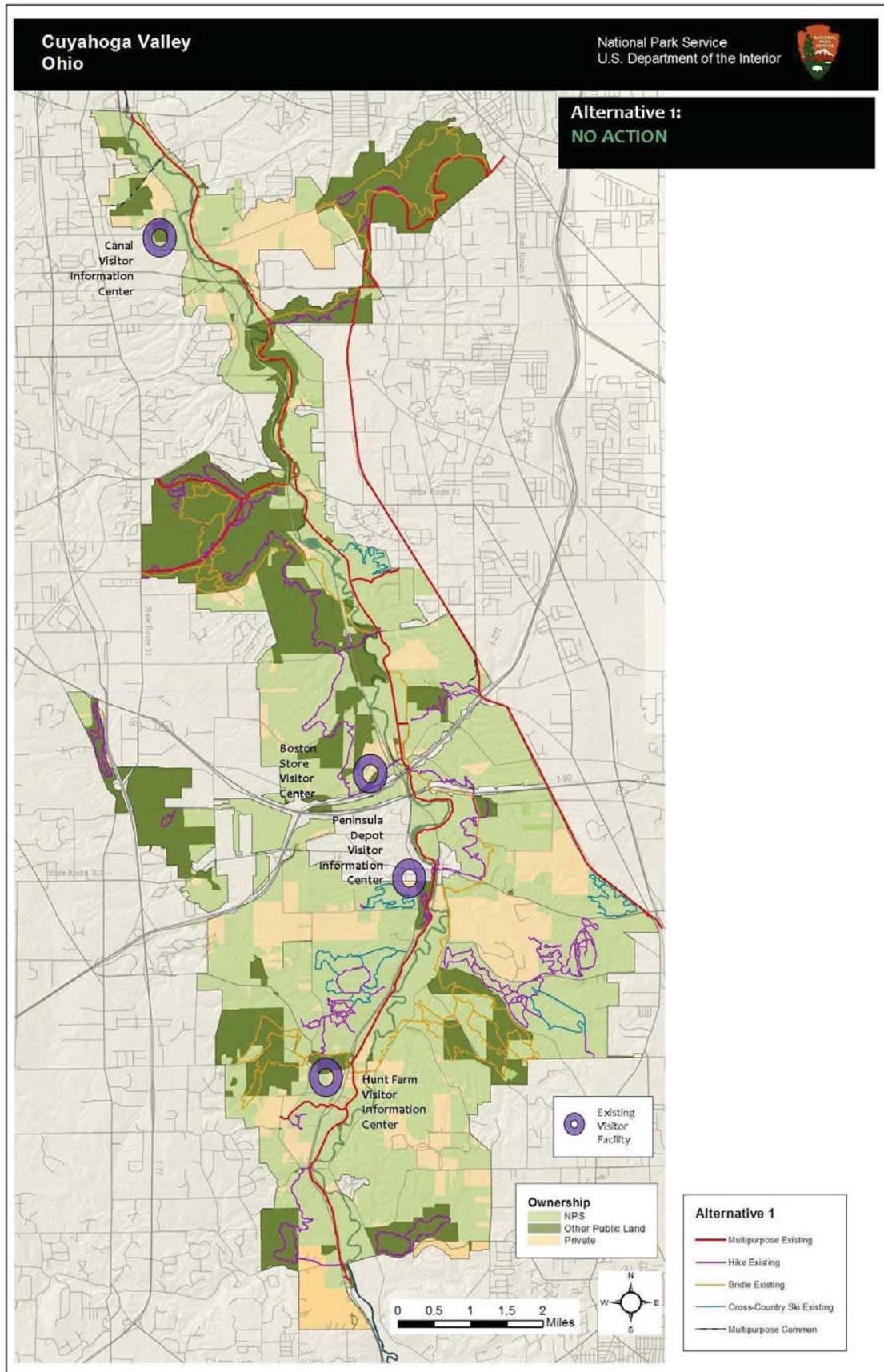


Figure 3: Restoration

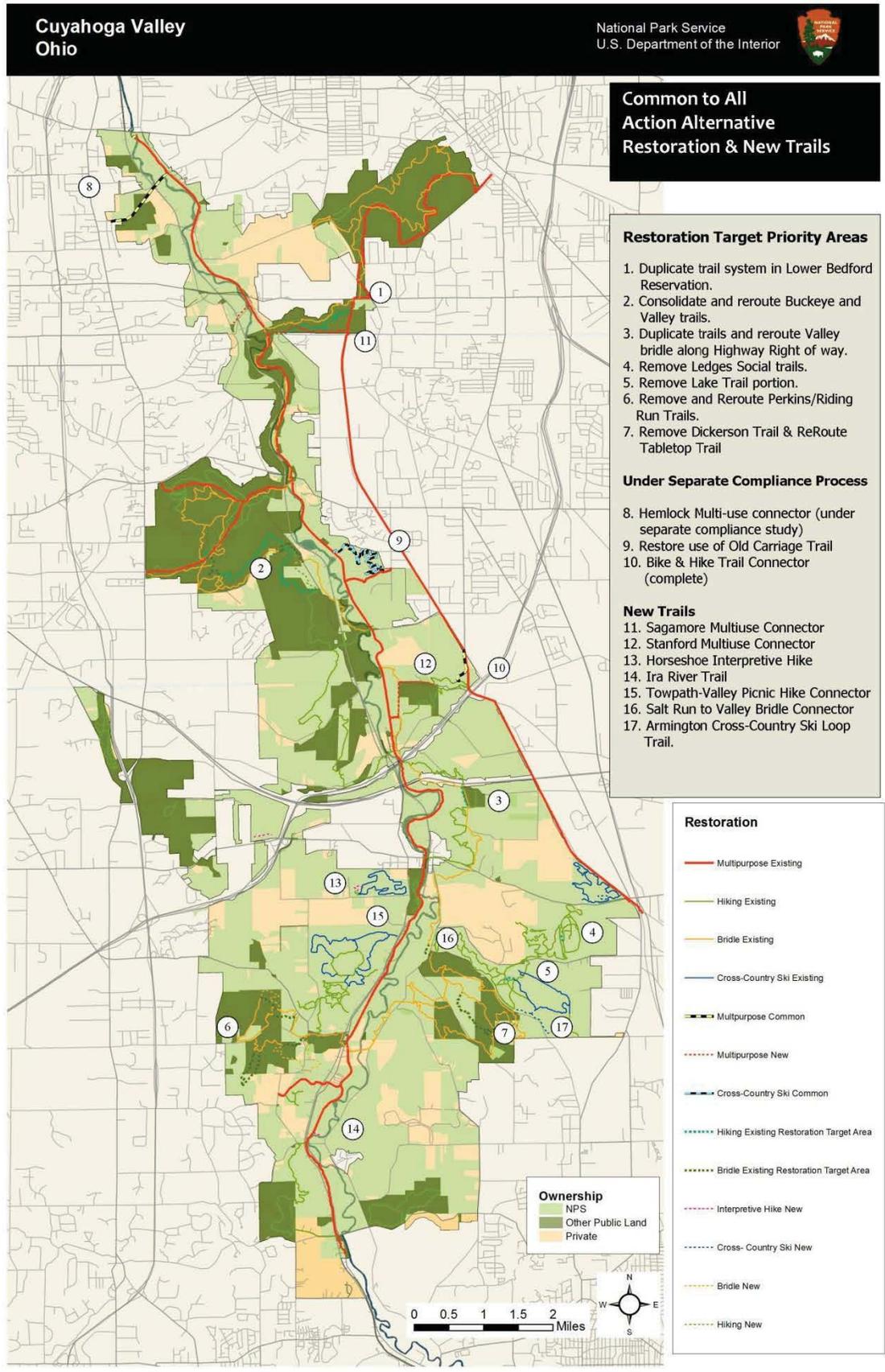


Figure 4: Trail Facilities

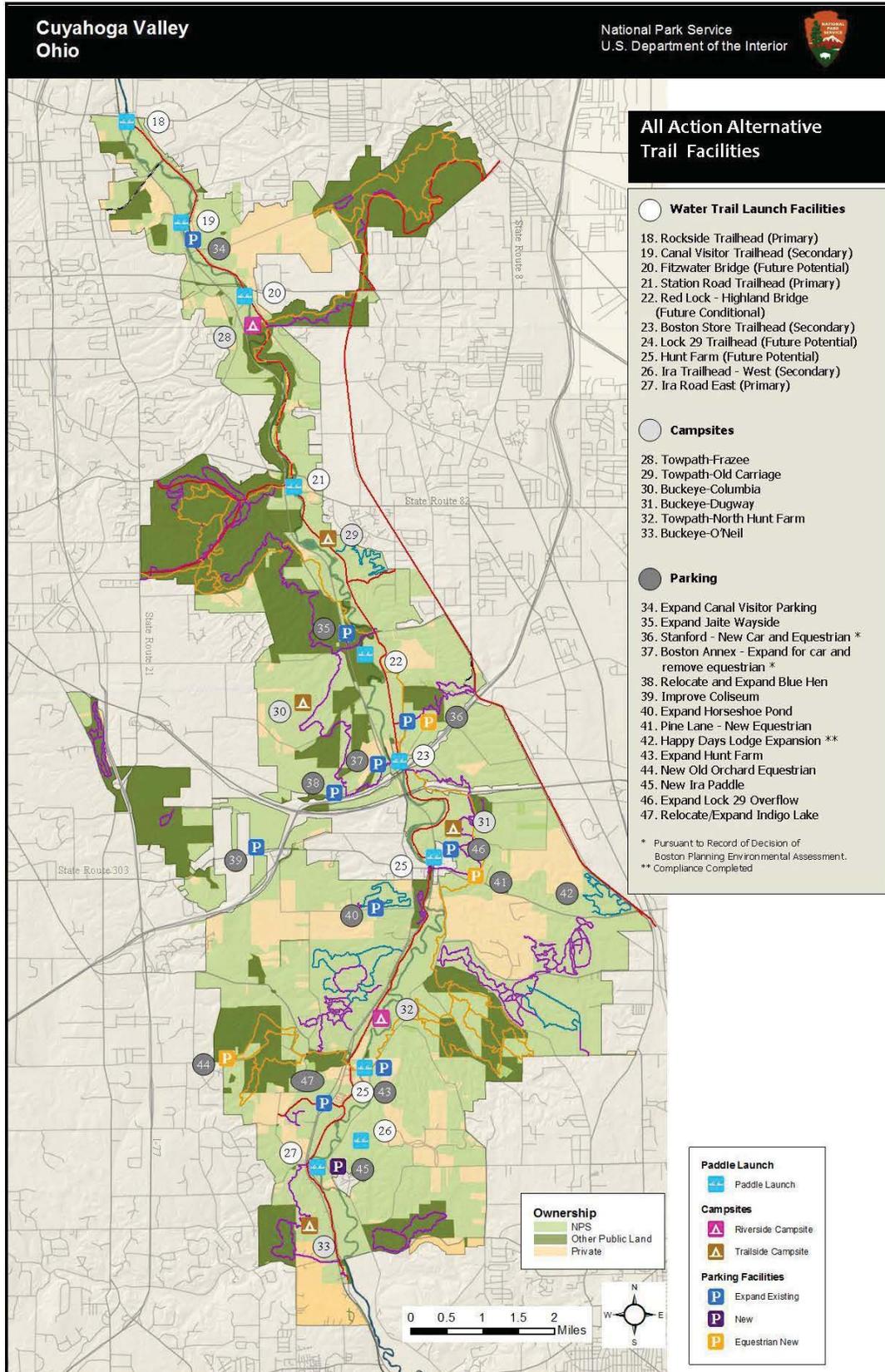


Figure 5: Alternative 2A, ReUse

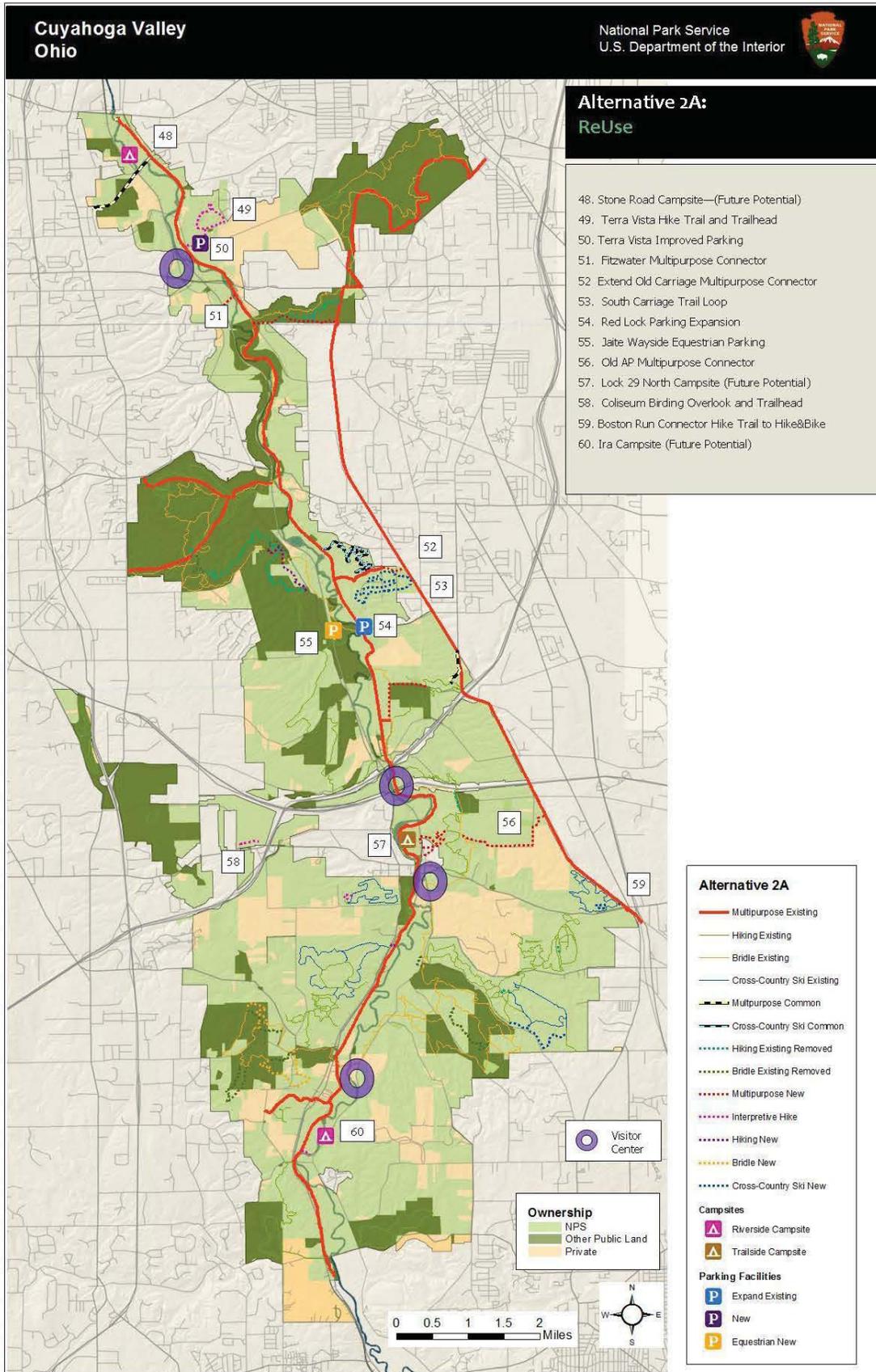


Figure 6: Alternative 2B. ReUse + Off-Road Bicycling Trails

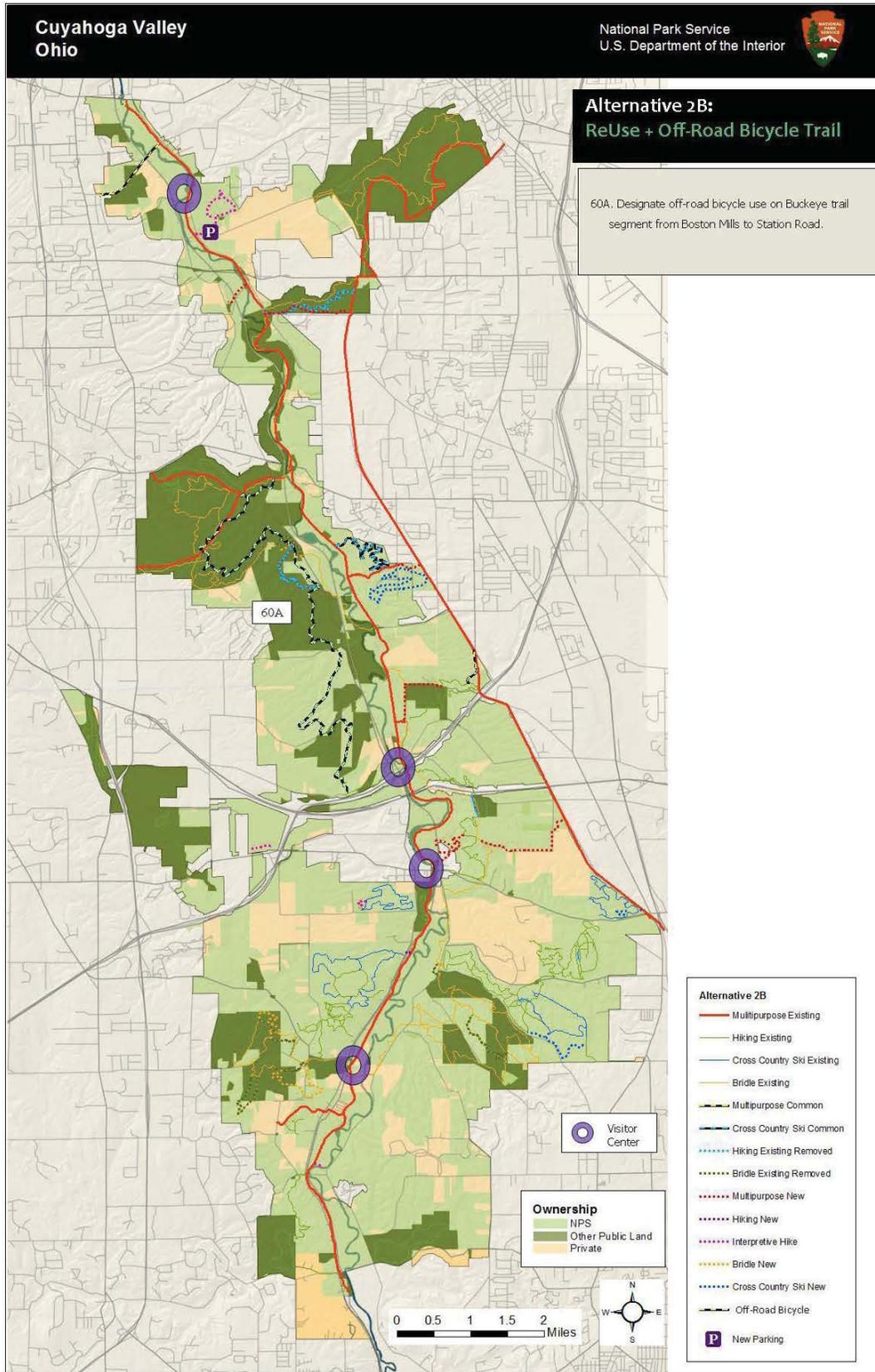


Figure 7: Alternative 3A. Recreation Focus

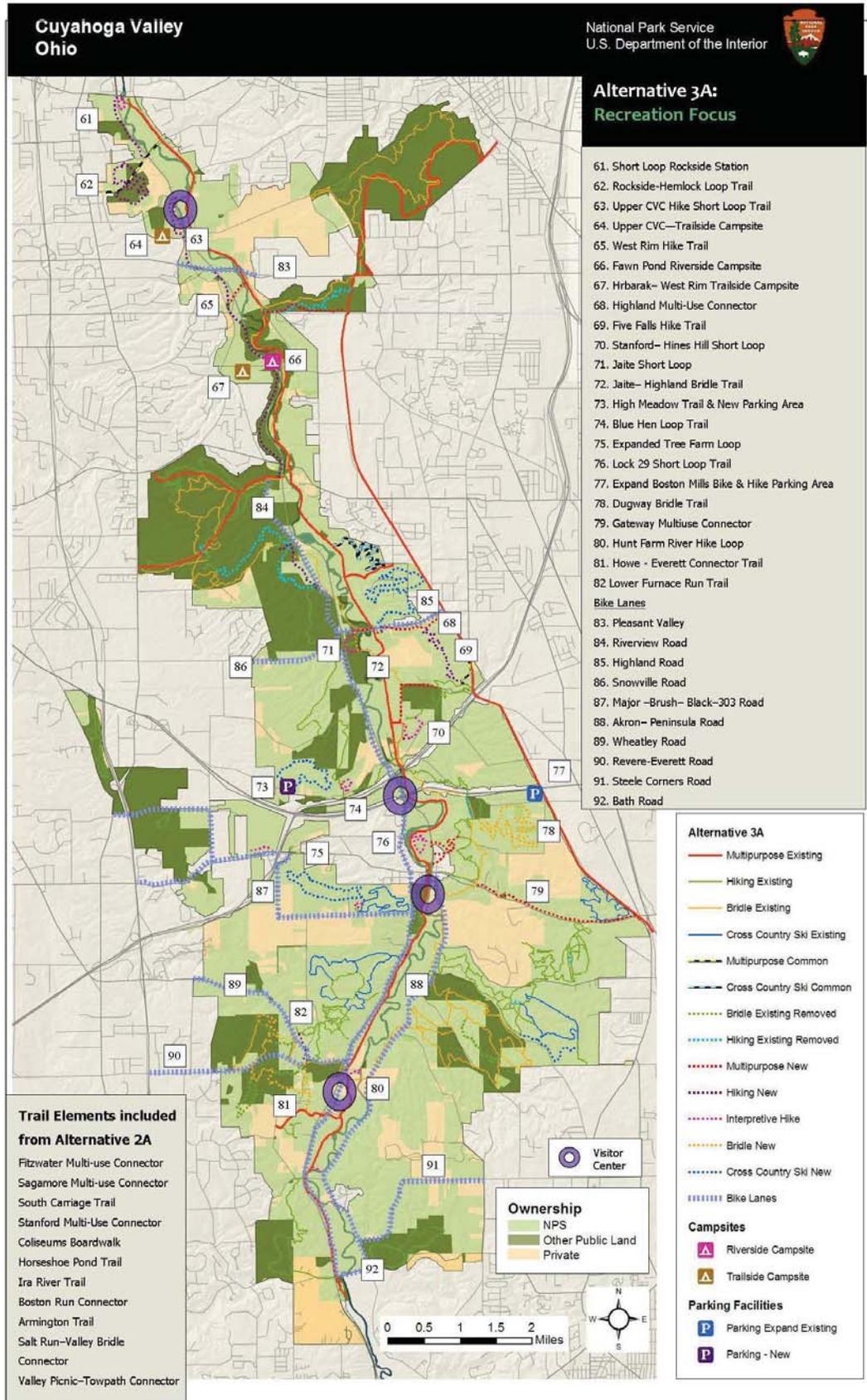


Figure 8: Alternative 3B. Recreation Focus + Off-Road Bicycling Trails

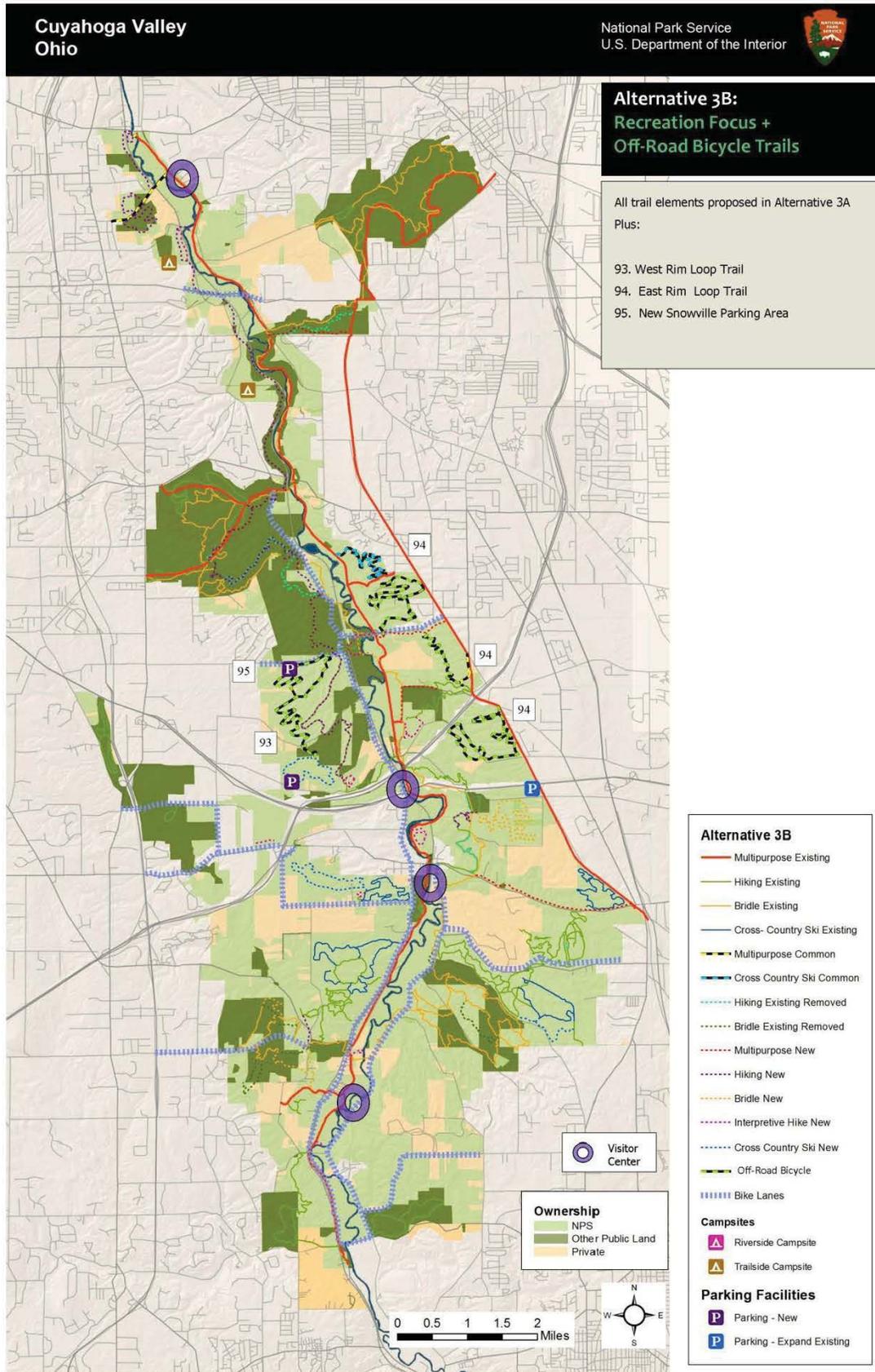


Figure 9: Alternative 4A. Destination Focus



Figure 10: Alternative 4B. Destination Focus + Off-Road Bicycle Trail

