

# **ACCESS AND CAPACITY ENHANCEMENT (ACE) ALTERNATIVE GRAND COUNTY SUBMISSION DRAFT**

## **A Generational Blueprint for the Future**

### **Grand County Commission Submission Draft**

Prepared by Commissioner Brian Martinez | Grand County, Utah

For inclusion in: Arches National Park Visitor Access and Experience Plan (VAEP)

Date: November 2025

## **1. Introduction and Purpose**

The Access and Capacity Enhancement (ACE) Alternative provides a balanced, data-driven framework for managing visitation to Arches National Park (Arches) while protecting natural and cultural resources in accordance with the National Park Service's dual mandate under the 1916 Organic Act. This act directs NPS to conserve the scenery, natural and historic objects, and wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Grand County proposes the ACE Alternative to modernize outdated management assumptions and Desired Conditions, presenting a locally informed, technically grounded approach to adaptive management, infrastructure, and technology. This proposal presents the NPS with a cooperative model for sustainable access and protection, aligned with 2025 realities.

The Arches 2024 Visitor Access and Experience Plan (VAEP) proposed only two new management alternatives: the preferred Alternative B: Timed Entry Reservations and Alternative C: Daily Reservations. Both proposals require visitor reservations. These approaches favor demand restriction over infrastructure investment and increased visitor capacity. The VAEP dismissed a range of publicly supported alternatives because they were assessed to be inconsistent with maintaining Desired Conditions provided in the Arches 1989 General Management Plan<sup>1</sup> and the Arches 1995 Visitor Experience and Resource Protection (VERP) Implementation Plan. The timed entry reservation alternative has been piloted at Arches for four

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<sup>1</sup> <https://archive.org/details/generalmanagemen00arch/mode/1up>

years, since 2022. Grand County considers its impact on visitation, the local economy, and the community to be unacceptable<sup>2,3</sup>.

The VAEP purposes maintaining future summer visitation at major park attractions at 2022 levels. Summer visitation in summer of 2022 was the lowest at Arches since 2014. In effect this proposal will restrict future summer visitation to levels experienced over a decade ago, a trajectory which is unsustainable for Grand County<sup>4</sup>.

## 2. Objectives of the Alternative

The ACE Alternative aims to:

- Replace outdated Desired Conditions with measurable, modern performance metrics integrating capacity, infrastructure, and resource conditions to reflect current use and experience.
- Demonstrate how adaptive management, infrastructure investment, and technology sustain both resource protection and visitor access.
- Support Moab's economic and cultural vitality through responsible tourism management.
- Develop a replicable model for gateway communities that balances conservation and access.

## 3. Management Framework

The ACE Alternative is structured into three complementary domains:

1. Management Strategies – revising Desired Conditions, zoning, and adaptive management tools.
2. Infrastructure & Capacity Strategies – optimizing physical capacity and improving visitor flow.

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<sup>2</sup> “...park staff identified that peak use levels observed during the 2019 season were too high to meet desired conditions. Staff observed use levels during the 2022 season to be consistent with desired conditions...”. (VAEP, p. C-7). In 2019, Arches visitation was 27% higher than in 2022 over the months during which timed entry operated. (Source: [irma.nps.gov/Stats](https://irma.nps.gov/Stats)).

<sup>3</sup> “...gate closures were relatively rare during the comparison 2016-19 period...”; RRC Associates (2024), “NPS Report: Arches NP Economic Regional Data and Analysis”, p. 40

<sup>4</sup> When considering use levels, limiting attributes, and observed conditions, park staff identified visitor use levels in 2019 to be unsustainable and will not allow park to meet desired conditions. Based on observations, visitation levels during the summer 202 season were manageable and should be maintained in order to meet desired conditions.”

3. Technology & Information Systems – enabling real-time management and visitor engagement.

## 4. Management Strategies

### 4.1 Re-evaluate Desired Conditions

The ACE Alternative proposes that the Desired Conditions for Arches be formally re-evaluated to reflect modern use and operational realities while fulfilling NPS planning directives. Under the National Park Service's Management Policies 2006 (§ 2.1.2 and 2.3.1), Director's Order #2<sup>4</sup> and Director's Order #12 (NEPA Handbook), parks are required to review and, if necessary, revise General Management Plans at least every 10 to 15 years or when substantial new information, conditions, or technologies emerge. The current Desired Conditions are still based on the 1989 General Management Plan with visitor thresholds informed by a 1993 Visitor Experience Study<sup>5,6</sup>. These are more than 30 years old. During the intervening 36 years since 1989, there have been significant demographic, technological, and environmental changes, including a doubling of Utah and Colorado's population, the expansion of park boundaries (including the 3,140 acre Lost Springs Canyon addition in 1998), the construction of new infrastructure, and advances in visitor management technology, including the advent and near universal adoption of the mobile phone and the Internet.

Because the proposed 2024 Visitor Access and Experience Plan (VAEP) relies on outdated Desired Conditions for determining if alternatives meet park objectives, any solution which expands capacity will continue to be excluded. The failure to follow NPS planning directives and re-evaluate Desired Conditions effectively imposes historical 1989 and 1993 management conditions and visitor use preferences on future generations in perpetuity, preventing the consideration of viable, adaptive alternatives that reflect modern and evolving visitor expectations and management capabilities.

To help justify the dismissal of alternatives that would increase capacity to meet demand, the NPS decided not to update the 1993 Visitor Experience Study because *"there were concerns that a new study would be less representative of the visiting public"* and that *"a new study would likely skew 'crowd-tolerant' demographic"* foot note 6. Grand County disagrees with this

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<sup>4</sup> [https://www.nps.gov/subjects/policy/upload/DO\\_2\\_1-11-2021.pdf](https://www.nps.gov/subjects/policy/upload/DO_2_1-11-2021.pdf)

<sup>5</sup> VAEP, p. B-5

<sup>6</sup> In preparing the 2024 VAEP, the NPS elected not to update this 1993 Visitor Experience Study because *"there were concerns that a new study would be less representative of the visiting public"* and *"a new study would likely skew toward a more 'crowd-tolerant' demographic"*. VAEP, p. B-5, Footnote 1.

argument that contemporary public surveys are somehow (paradoxically) unrepresentative of the visiting public's preferences and expectations.

The 2021 Arches Visitor Spending and Experience Study<sup>7</sup> - *which was conducted during the period of highest visitation at Arches on record* - provides compelling evidence that today's visitors perceive higher visitation, capacity and enhanced infrastructure to be compatible with a quality visitor experience and resource protection (see Appendix A). In that study:

- 51% agreed that the number of people on trails was acceptable to protect the experience and prevent crowding (versus 17% who disagreed);
- 53% supported expanded parking at key attraction sites allowing for more visitors on related trails (versus 28% opposed);
- 65% supported expanded trail networks (versus 12% opposed);
- 72% favored a voluntary shuttle system (versus 12% opposed); while only
- 12% agreed that the development of facilities inside the park detracts from the visitor experience (45% disagreed including 38% who strongly disagreed).

These results demonstrate that improved management and infrastructure, rather than demand restriction, can provide a quality experience and high levels of resource protection.

The Desired Conditions re-evaluation process should employ modern social science and economic data to establish a Performance-Based Carrying Capacity Model, setting adaptive thresholds based on contemporary, measurable indicators such as resource conditions, visitor satisfaction, and infrastructure performance. This will enable Arches to accommodate more visitors responsibly, enhance public enjoyment, and ensure long-term conservation.

Access and capacity solutions were dismissed in the VAEP because infrastructure was considered adequate to meet outdated Desired Conditions.

## **4.2 Re-alignment of Zoning with Updated Desired Condition**

The ACE Alternative proposes two new zoning categories to reflect a diversity of visitor use preferences. This provides a more flexible and adaptive approach to the 'one size fits all' management alternatives provided in the 2024 Visitor Access and Experience Plan which

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<sup>7</sup> <https://irma.nps.gov/DataStore/DownloadFile/694474>

implicitly presume that all visitors share similar park destination and recreational preferences, and similar levels of crowd tolerance.

#### **A. Higher Density / Lower Solitude Zone**

The Higher Density / Lower Solitude zone will accommodate higher visitation during peak visitation periods through the development of new and enhanced infrastructure, including the provisions of additional parking and information technology. This zone will provide enhanced access to popular destinations for peak-period visitors who are demonstrably more crowd tolerant.

Importantly, during non-peak months and shoulder times of day in the peak tourism season, this zone will continue to provide opportunities for a lower density, higher solitude experience for visitors who are less crowd tolerant.

This zone will incorporate Balanced Rock, Wolfe Ranch to Delicate Arch, Delicate Arch Viewpoint, the existing Windows section, Devil's Garden to Landscape Arch, Sand Dune Arch and Park Avenue. Refer Appendix B and Appendix C.

#### **B. Lower Density / Higher Solitude**

Through the development of new and enhanced infrastructure such as additional primitive trails, the Lower Density / Higher Solitude zone will support expanded recreational opportunities for visitors who are more active, adventurous, and less crowd tolerant, during all times of the year. This zone will include longer more remote hikes through sections of the park with wilderness qualities, including solitude, natural sounds, quiet and wildlife. Refer Appendix B and Appendix C.

### **4.3 Adaptive Management Framework**

Redefined Desired Conditions will establish new thresholds for high and low capacity. When the desired conditions are redefined, new thresholds will be set and triggers established based on those thresholds. When triggers have been defined to meet the new desired conditions, technology can be leveraged to respond dynamically to conditions, managing visitation displacement by expanding capacity when necessary.

## **5. Infrastructure & Capacity Strategies**

Consistent with modern best practices, Grand County recognizes that Arches needs to become less vehicle dependent and more reliant on multi-modal and active transportation options. This will not only lessen traffic and parking congestion but encourage visitors to experience Arches in a more immersive manner. Presently, there are too few hiking and biking options. For example, beyond travelling by road visitors are unable to hike or bike the short 1.5 mile between Balance Rock and the Windows. Similarly, visitors are unable to hike from Sand Dune Arch to Skyline Arch and to Devils Garden trailhead. Instead, consistent with the 1989 General Management Plan visitors must drive and park, and then drive and park again to see these sites.

## 5.1 Transportation Improvements

### 5.1.1 Main Entrance

#### Mid-Term Improvements (6-18 months)

- Extend the southbound left-turn pocket on U.S. 191.
- Reopen the closed entrance lane.
- Allow for automated fee payment, including an electronic, pre-paid, QR code option to expedite entry.

### 5.1 Park Traffic and Parking

**Existing Conditions:** Parking at many key attractions is surprisingly limited.

1. **Park Avenue** has only 17 marked parking space, with capacity for approximately 4 oversized vehicles on unmarked asphalt. This is five (5) fewer parking spaces than the Sweet Cravings Bakery and sandwich shop on Main St, Moab.
2. **Balanced Rock** has only 20 parking spaces.
3. **The Windows** has 92 marked parking spaces<sup>8</sup>. This compares to 152 parking spaces at the Moab Field Station Hotel (formerly Super 8), 128 spaces at the Moab Valley Inn, 129 spaces at the Hyatt Place Hotel, 120 spaces at the Holiday Inn, 122 spaces at the Archway Inn, and 95 spaces at the Quality Suites.
4. **Devil's Garden** has 160 parking spaces. This compares to 170 parking spaces at the Moab LDS Church on 400 North and 162 spaces at the LDS Church on Locust Lane.

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<sup>8</sup> <https://www.nps.gov/arch/planyourvisit/parking.htm>

5. **Delicate Arch / Wolfe's Ranch** has 157 spaces.

#### **Short-term Improvements (0 – 6 months)**

##### **Park Avenue**

- Convert parallel parking on southern side to angle parking to increase parking capacity.

##### **Devil's Garden**

##### **Eastern parking section**

The sealed asphalt in this section is approximately 50 feet wide. It contains one traffic lane with oversized parking on the eastern side of the road, and unofficial, unmarked parallel parking on the western side.

- Remove bollards from eastern parking spaces.
- Restripe these spaces, reducing length from oversized to a generous standard vehicle length of approximately 20 feet (refer Federal Highway Administration Manual of Uniform Traffic Control Devices).
- Install formal, marked, parallel parking of standard size on western side of the road, which can also accommodate oversized vehicles across two spaces as necessary (8 feet wide).
- To improve traffic flow, install two lanes for through traffic (11 feet wide) to allow vehicles to more easily pass stopped vehicles entering and existing parking spaces.

##### **Western parking section**

- Stripe parallel parking on western side of road.

#### **Mid-term Improvements (6 – 18 months)**

- Windows and Devil's Garden: add parking inside traffic loops, expanding capacity and improving vehicular flow. (see map)
- Balanced Rock: expand parking capacity and add turn off and thru-traffic lanes to improve traffic flow.

- Delicate Arch: add turns lanes with space for U-turns, thru lanes for traffic continuing to Delicate Arch viewpoint, plus formal intersections with appropriate traffic signs to improve vehicular flow.

#### **Long Term Improvements (18 – 36 months)**

- Plan, develop and create a sealed road for secondary vehicle access at the northern park boundary via Salt Valley Wash, with an automated or staffed entrance booth. This is presently an unpaved road.

#### **5.2 Shuttle and Mobility Integration (18 – 36 months)**

- Launch MAT-operated shuttle connecting downtown Moab, Dinosaur Raptor State Park, and Arches Visitor Center.
- Implement dynamic shuttle frequency based on real-time congestion data.
- Link shuttle service to overflow parking and major lodging areas.

#### **5.3 New and Redesigned Trails (6 – 36 months) (Refer Appendix C)**

##### **Design and create:**

- A Delicate Arch loop trail to enhance visitor experiences, improve flow and reduce congestion.
- A multi-use pathway parallel to U.S 191 connecting Arches to Dinosaur Raptor State Park.
- A multi-use hardened trail as an official bike entrance into the park, connecting Dinosaur Raptor State Park with Balanced Rock and the Windows.
- Secondary interpretive trails in previously disturbed areas to disperse visitation.
- A Skyline Arch / Sand Dune Arch Loop trail, incorporating Broken Arch and Tapestry Arch (high density-low solitude).
- A Lost Canyon Overlook trail (low density – high solitude).
- A Lost Canyon trail (low density – high solitude).
- Upper and Lower Courthouse Wash trails (low density – high solitude).
- A Colorado River Overlook trail (low density – high solitude).



## 6. Technology & Information Systems

### 6.1 Mighty Five Mobile Platform (6 – 36 months)

A joint adaptive management and capacity optimization initiative between the NPS, State of Utah, and Grand County, providing real-time data on parking, crowding, and weather, along with push notifications and incentives to manage visitor distribution and encourage off-peak visitation. Dynamic management via the ACE App will inform visitors in real time (e.g., “*Skyline Trail Full – Try Delicate Arch Trailhead*”).

### 6.2 ACE Dashboard (06 – 36 months)

A shared management system linking NPS, State of Utah, Grand County, and SUU for live monitoring of visitation, parking telemetry, and MAT ridership. Includes quarterly reporting and public transparency.

## 7. Implementation and Partnerships

**Short-Term** (0–6 Months): County adoption and submission; initiate data-sharing and app prototype; restripe existing parking lots; add shuttle pickup at the Visitor Center via MAT.

**Mid-Term** (6–18 Months): Desired Conditions reclassification study; parking lot redesigns; new trail designs; bike path design.

**Long-Term** (18–36 Months): ACE Dashboard and app launch; Shuttle and parking telemetry pilots; Salt Valley Wash feasibility study; scalability studies; parking lot construction; new trails; bike path construction from Dinosaur Raptor State Park to the Windows.

**Partners:** NPS Intermountain Region, UDOT, Utah Office of Tourism, GOEO, Moab Area Transit, SUU Visitor Use Research Center, BLM, Utah State Parks.

## 8. Socio-Economic Context

The ACE Alternative supports Grand County’s gateway tourism-dependent economy by restoring significant revenue losses from visitation and mitigating negative direct, indirect, and induced economic impacts, while creating new economic opportunities in data management, shuttle and tour operations, and technology.

## 9. Conclusion

The ACE Alternative provides a scalable and balanced framework for sustaining visitor access and protecting resources. By combining management modernization, infrastructure improvements, and technology integration, Grand County provides a 21st-century model for adaptive, cooperative park management and public land stewardship.

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# APPENDIX A: EVIDENCE BASED SUPPORT FOR UPDATED DESIRED CONDITIONS

This appendix provides a modern empirical basis for redefining Desired Conditions and expanding sustainable visitor capacity at Arches National Park. It relies on the 2021 Arches Visitor Spending and Experience Study which was conducted in the spring of 2021 when visitation at Arches was the highest on record<sup>9</sup>. It provides strong evidence that higher visitor capacity can be achieved with high visitor satisfaction and resource protection, consistent with the ACE Alternative's objectives.

## A.1 Purpose

To establish a contemporary data foundation for revising the park's Desired Conditions in accordance with NPS Management Policies (2006, §2.1.2 & §2.3.1) and Director's Order #12, this appendix demonstrates that the 2021 Visitor Study supports capacity expansion rather than restriction, and that Arches' management framework must evolve accordingly.

## A.2 Narrative Synthesis

The 2021 Arches Visitor Study directly contradicts the 2024 VAEP's underlying assumption that expanded access degrades visitor experience and is inconsistent with resource protection. Survey data indicate that contemporary visitors overwhelmingly favor improvements to capacity, access, and mobility systems that recalibrate Desired Conditions upward.

## A.3 Core Survey Findings Supporting Capacity Expansion

The 2021 Arches Visitor Study directly contradicts the VAEP's underlying assumption that expanded access degrades visitor experience. Survey data indicate that visitors overwhelmingly favor improvements to capacity, access, and mobility systems that recalibrate Desired Conditions upward. 80% of survey respondents were college or trade school graduates, with 33% holding a doctoral, masters, or professional degree.

### Table A.1 2021 Visitor Use and Experience Summer Survey Results

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<sup>9</sup> Conducted from May 28 to June 07, 2021. Visitation in May and June 2021 was 225,789 and 238,499 respectively. For comparison, visitation in May and June 2025 was 193,448 and 175,660 respectively.

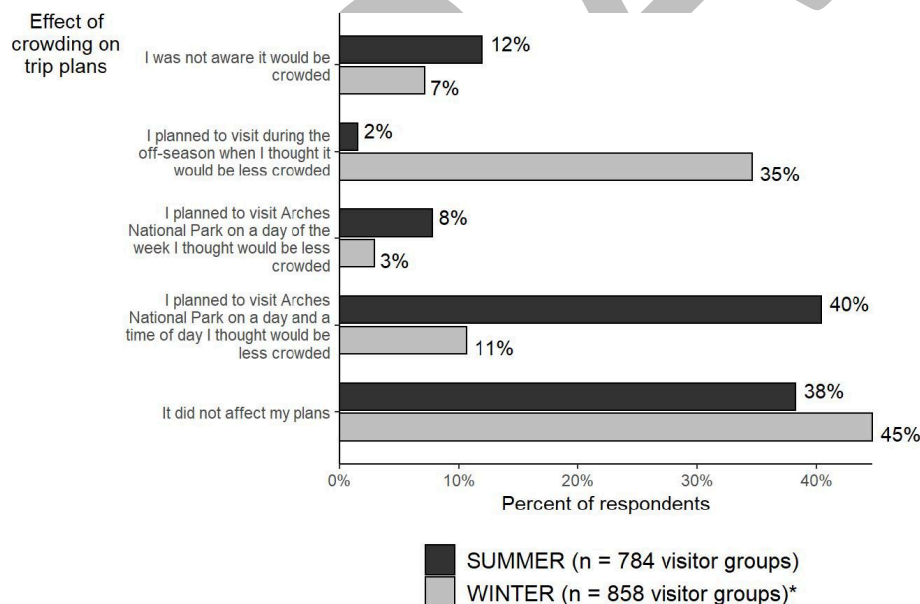
Visitor Preference of Condition	Survey Result	Interpretation
<b>Crowding</b>	<ul style="list-style-type: none"> <li>While 41% agreed that the park was too crowded in general, most visitors did not.</li> <li>51% agreed that the number of people on trails was acceptable to protect the quality of visitor experiences and prevent crowding. 17% disagreed.</li> </ul>	<ul style="list-style-type: none"> <li>Reflects that most people do not consider the park to be unacceptably crowded, especially at site attractions themselves.</li> <li>Confirms that infrastructure improvements to relieve congestion where experienced are warranted.</li> </ul>
<b>Development</b>	<ul style="list-style-type: none"> <li>Only 12% agreed that the development of facilities inside park detracts from visitors' experiences.</li> <li>45% disagreed, including 38% who strongly disagreed.</li> </ul>	<ul style="list-style-type: none"> <li>Further confirms that infrastructure development supports improved visitor experiences.</li> </ul>
<b>Parking</b>	<ul style="list-style-type: none"> <li>53% supported expanding parking at key attraction sites, allowing for more visitor on related trails.</li> <li>Only 28% were opposed.</li> </ul>	<ul style="list-style-type: none"> <li>Reflects demand for greater physical capacity and throughput.</li> </ul>
<b>Trail Expansions</b>	<ul style="list-style-type: none"> <li>65% supported expanding the trail network to provide additional recreation opportunities.</li> <li>Only 12% were opposed.</li> </ul>	<ul style="list-style-type: none"> <li>Shows broad interest in active recreation, creating opportunities to visit more of the park, dispersing use and reducing congestion.</li> </ul>
<b>Voluntary Shuttle Bus System</b>	<ul style="list-style-type: none"> <li>72% supported implementing a voluntary shuttle system to</li> </ul>	<ul style="list-style-type: none"> <li>Validates support for multi-modal, transit-based solutions to increase capacity and visitor flow.</li> </ul>

	increase modes of access. <ul style="list-style-type: none"> <li>Only 12% were opposed.</li> </ul>	
<b>Resource Protection</b>	<ul style="list-style-type: none"> <li>89% percent agreed that Arches natural resources were in pristine condition, including 36% who strongly agreed.</li> <li>Only 3% of people disagreed.</li> </ul>	<ul style="list-style-type: none"> <li>Confirms that high use levels do not compromise resource protection.</li> </ul>

## A.4 Empirical Evidence Supporting Capacity Re-Evaluation

Findings from the 2021 Study show that visitors remain highly satisfied and supportive of management improvements that expand access. These data provide strong empirical justification for reevaluating the Desired Conditions to allow for increased, well-managed capacity at Arches National Park.

**Figure A-1. Effect of Possible Crowding on Trip Plans**



$\chi^2=417.976$ ;  $p<0.001$

*Over one-third of summer reported that the possibility of crowding did not affect their trip plans—demonstrating that visitor crowd tolerance remains high even at record visitation levels.*

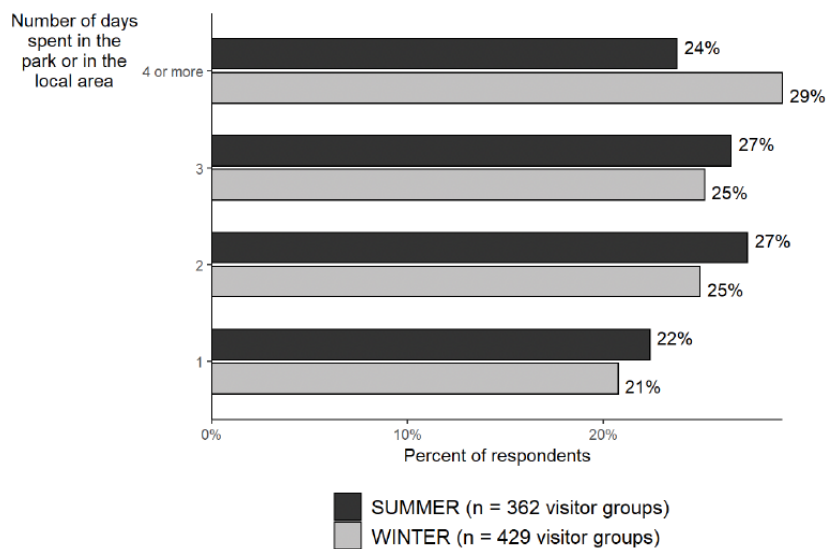
## Figure A-2. Support for Management Practices

**Table 14.** Support or opposition to management practices

Management practice	Season	N	Strongly Support	Support	Neither Support nor Oppose	Oppose	Strongly Oppose	Do not Know/No Opinion	Total	Statistic
Expand parking areas at key attraction sites, allowing for more visitors on the related trails	Summer	353	23%	30%	17%	22%	6%	2%	100%	$\chi^2=41.004$ ; $p<0.001$
	Winter	418	9%	26%	20%	31%	10%	4%	100%	
Implement advance timed entry reservations to the park to reduce crowding during the peak season	Summer	348	17%	42%	14%	18%	5%	3%	100%	$\chi^2=6.671$ ; $p=0.246$
	Winter	419	17%	45%	16%	12%	6%	5%	100%	
Expand trail network in the park to provide additional recreation opportunities	Summer	350	17%	48%	20%	11%	1%	3%	100%	$\chi^2=9.721$ ; $p=0.084$
	Winter	419	24%	44%	18%	7%	3%	4%	100%	
Implement advance timed entry reservations to visit specific areas of the park (i.e., site-specific permits)	Summer	350	9%	28%	21%	31%	9%	3%	100%	$\chi^2=4.812$ ; $p=0.439$
	Winter	418	10%	33%	19%	25%	9%	4%	100%	
Implement mandatory shuttle system to reduce traffic congestion	Summer	347	8%	20%	18%	36%	16%	2%	100%	$\chi^2=3.764$ ; $p=0.584$
	Winter	415	8%	19%	20%	31%	20%	2%	100%	
Implement voluntary shuttle system to increase modes of access	Summer	351	15%	57%	14%	10%	2%	3%	100%	$\chi^2=13.876$ ; $p=0.016$
	Winter	415	17%	48%	20%	7%	5%	3%	100%	
Temporarily close congested parking areas	Summer	352	3%	28%	28%	29%	7%	5%	100%	$\chi^2=7.789$ ; $p=0.168$
	Winter	414	6%	31%	26%	24%	9%	5%	100%	

*More than 70 percent of visitors support a voluntary shuttle service, and 50 percent support parking expansion. Public opinion favors infrastructure and mobility improvements that increase managed access rather than limit entry.*

## Figure A-5. Length of Stay in Park and Local Area



*Over half of respondents spend three or more days in Arches and Moab, reinforcing the direct economic benefit of sustaining and accommodating higher levels of visitation.*

## Figure A-6. Importance of Visiting Park Destinations

Table 7. Importance of visiting park destinations

Destination	Season	N	Extremely Important	Very Important	Moderately Important	Slightly Important	Not at all Important	Did not visit	Total	Statistic
Delicate Arch	Summer	317	42%	32%	13%	6%	1%	7%	100%	$\chi^2=6.806$ ; $p=0.235$
	Winter	377	40%	27%	15%	5%	1%	11%	100%	
Landscape Arch	Summer	302	20%	28%	24%	9%	2%	17%	100%	$\chi^2=1.53$ ; $p=0.91$
	Winter	367	20%	26%	27%	8%	2%	17%	100%	
Park Avenue	Summer	293	12%	16%	23%	13%	4%	32%	100%	$\chi^2=1.965$ ; $p=0.854$
	Winter	367	11%	15%	22%	14%	7%	32%	100%	
Fiery Furnace	Summer	295	7%	15%	23%	15%	7%	33%	100%	$\chi^2=13.738$ ; $p=0.017$
	Winter	366	10%	12%	19%	10%	5%	43%	100%	
Sand Dune Arch	Summer	287	9%	19%	25%	14%	6%	28%	100%	$\chi^2=3.315$ ; $p=0.652$
	Winter	358	11%	18%	22%	14%	8%	27%	100%	
Balanced Rock	Summer	310	20%	28%	30%	13%	4%	6%	100%	$\chi^2=12.728$ ; $p=0.026$
	Winter	374	16%	23%	29%	15%	5%	12%	100%	
Visitor Center	Summer	309	19%	20%	20%	12%	6%	22%	100%	$\chi^2=3.108$ ; $p=0.683$
	Winter	362	18%	17%	18%	12%	8%	26%	100%	
Windows	Summer	303	25%	31%	25%	7%	3%	9%	100%	$\chi^2=12.344$ ; $p=0.03$
	Winter	365	22%	25%	25%	7%	3%	18%	100%	
Other	Summer	81	31%	32%	15%	1%	1%	20%	100%	$\chi^2=5.267$ ; $p=0.384$
	Winter	110	42%	22%	14%	5%	1%	17%	100%	

*Nearly all visitors rated major park destinations as “very” or “extremely important.” Desired Conditions should ensure that capacity planning preserves access to these signature experiences, central to visitor satisfaction.*

### A.5 Interpretation and Recommendation

The 2021 Arches Visitor Study provides statistically grounded evidence for revising Desired Conditions. High satisfaction and widespread visitor support for infrastructure improvements indicate that Arches’ true social carrying capacity exceeds outdated thresholds. Therefore, the ACE Alternative recommends that NPS adopt a Performance-Based Carrying Capacity Model, integrating measurable indicators such as visitor satisfaction, resource condition, and infrastructure performance to guide responsible capacity expansion.

## APPENDIX B: RE-ALIGNMENT OF ZONING WITH UPDATED DESIRED CONDITIONS

**Table 1: Higher Density / Lower Solitude Zones**

Zone	Experience Description	Enhanced Infrastructure Requirements
<b>The Windows</b>	<ul style="list-style-type: none"> <li>• High interpretive use, social recreation and sightseeing focus, consisting of short and longer hikes on well demarcated paths &amp; trails</li> </ul>	<ul style="list-style-type: none"> <li>• Additional parking</li> <li>• Reconfigured traffic to improve flow, including addition of bypass lanes</li> <li>• Creation of additional loop trail connecting Windows with Garden of Eden, Cove of Cave, and Balanced Rock</li> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> <li>• Potable water facility</li> </ul>
<b>Balanced Rock</b>	<ul style="list-style-type: none"> <li>• Central scenic corridor with high levels of passing thru-traffic.</li> <li>• Social recreation and sightseeing focus, consisting of short hikes on well demarcated paths and trails</li> </ul>	<ul style="list-style-type: none"> <li>• Additional parking</li> <li>• Reconfigured traffic to Improve flow, including turn and bypass lanes</li> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> </ul>
<b>Delicate Arch</b>	<ul style="list-style-type: none"> <li>• Active recreation focus, consisting of longer, more challenging hikes on well demarcated paths and trails</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of an additional loop trail</li> <li>• Reconfigured traffic to improve flow, including turn lanes, intersections &amp; stop signs</li> <li>• Information technology</li> </ul>



		<ul style="list-style-type: none"> <li>• Potable water facility</li> </ul>
<b>Delicate Arch Viewpoint</b>	<ul style="list-style-type: none"> <li>• Social recreation and sightseeing focus, consisting of short hikes on well demarcated trails</li> </ul>	<ul style="list-style-type: none"> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> </ul>
<b>Devil's Garden Landscape Arch</b>	<ul style="list-style-type: none"> <li>• High interpretive use, social recreation and sightseeing focus, consisting of medium length hikes on well demarcated paths and trails</li> </ul>	<ul style="list-style-type: none"> <li>• Additional and reconfigured parking</li> <li>• Reconfigure traffic to improve flow, including bypass lanes and connectors</li> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> </ul>
<b>Sand Dune, Broken, Tapestry &amp; Skyline Arches</b>	<ul style="list-style-type: none"> <li>• High interpretive use, social recreation, active recreation and sightseeing focus, consisting of short to long hikes on well demarcated trails</li> </ul>	<ul style="list-style-type: none"> <li>• Create an additional loop trail connecting Sand Dune, Broken, Tapestry and Skyline Arches</li> <li>• Additional parking at Sand Dune Arch and Skyline Arch parking lots</li> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> <li>• Potable water facility</li> </ul>
<b>Park Avenue</b>	<ul style="list-style-type: none"> <li>• High interpretive use, social recreation and sightseeing focus, consisting of short hikes on well demarcated paths and trails</li> </ul>	<ul style="list-style-type: none"> <li>• Carpark reconfiguration and restriping</li> <li>• Improved trail demarcation, including fencing</li> <li>• Information technology</li> </ul>

**Table 2: Lower Density / Higher Solitude Zones**

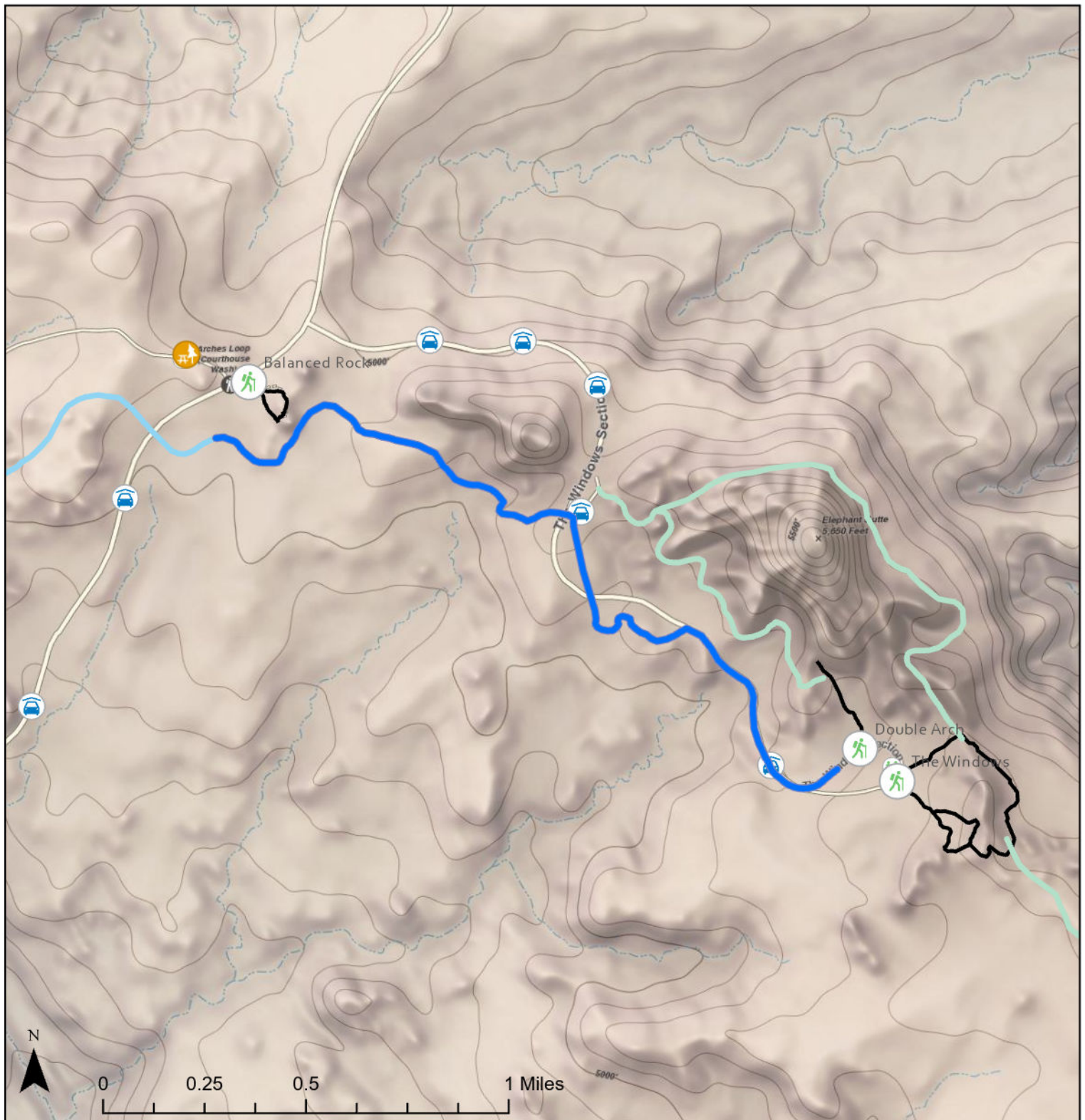
Area	Experience Description	Enhanced Infrastructure Requirements
<b>Colorado River Trail</b>	<ul style="list-style-type: none"> <li>Active recreation focus consisting of long hikes through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Creation of a new primitive trail connecting the Windows with a Colorado River overlook at its confluence with Salt Wash</li> <li>Higher quality trail demarcation and signage of Canyonlands NP quality</li> </ul>
<b>Delicate Arch Primitive Trail</b>	<ul style="list-style-type: none"> <li>Active recreation focus consisting of a physical hike through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Creation of new primitive trail along historical trail route connecting Delicate Arch Viewpoint with Delicate Arch</li> <li>Carpark restriping to reduce number of oversized vehicle spaces</li> <li>Higher quality trail demarcation and signage of Canyonlands NP quality</li> </ul>
<b>Devil's Garden Primitive Loop</b>	<ul style="list-style-type: none"> <li>Active recreation focus consisting of longer hikes through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Higher quality trail demarcation and signage of Canyonlands NP quality</li> </ul>
<b>Fiery Furnace</b>	<ul style="list-style-type: none"> <li>Active recreation focus through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	
<b>Tower Arch &amp; Klondike Bluffs</b>	<ul style="list-style-type: none"> <li>Active recreation focus through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Higher quality trail demarcation and signage of Canyonlands NP quality</li> </ul>

<b>Lost Springs Canyon Overlook</b>	<ul style="list-style-type: none"> <li>• Active recreation focus consisting of long hikes through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of a new primitive trail connecting Wolfe Ranch with Lost Springs / Swanky Arch Overlook</li> <li>• Higher quality trail demarcation and signage of Canyonlands NP quality</li> </ul>
<b>Lost Springs Canyon</b>	<ul style="list-style-type: none"> <li>• Active recreation focus consisting of long hikes and remote dispersed camping through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of a demarked primitive trails through Lost Canyon connecting Sand Dune Arch trailhead with Wolfes Ranch</li> <li>• Remote campsites like Canyonlands Needles district</li> </ul>
<b>Upper &amp; Lower Courthouse Wash</b>	<ul style="list-style-type: none"> <li>• Active recreation focus consisting of long hikes and remote dispersed camping through remote areas with wilderness qualities, including solitude, natural sounds, quiet and wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of a larger, marked carpark at Courthouse Wash</li> <li>• Creation of a demarked, signed primitive trails connecting carpark to upper &amp; lower Courthouse Wash</li> <li>• Toilet</li> </ul>

## APPENDIX C: EXPANDED TRAIL NETWORK

DRAFT

# DRAFT: Proposed Balance Rock to Double Arch



## Legend

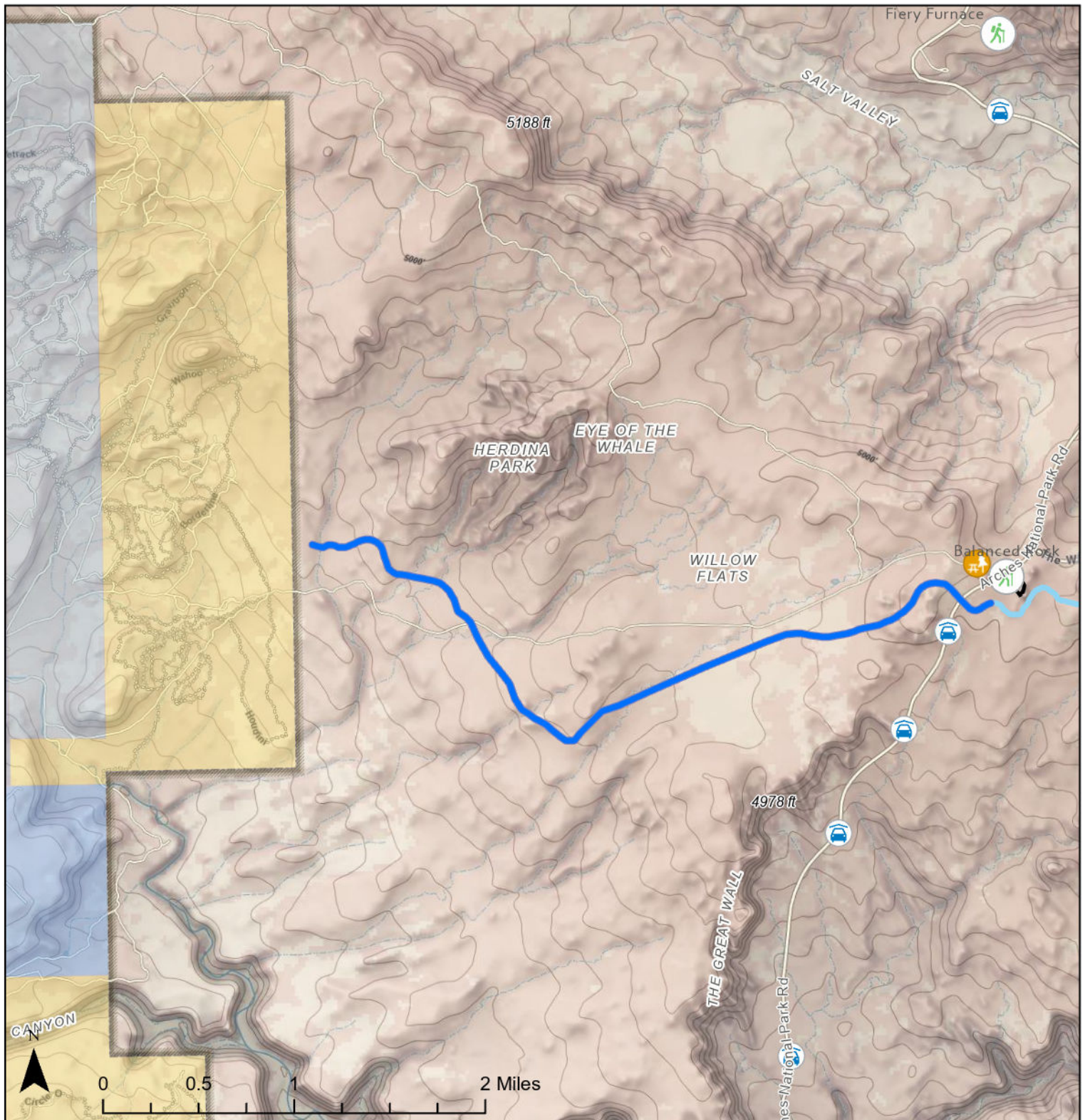
- Bike Path Balance Rock to Double Arch
- Bike - Proposed
- Hike - Proposed

- Arches Trailheads
- Pullout
- Arches Picnic Area

- Arches Restrooms
- Trail
- Arches Boundary



# DRAFT: Proposed Balance Rock to Utahraptor

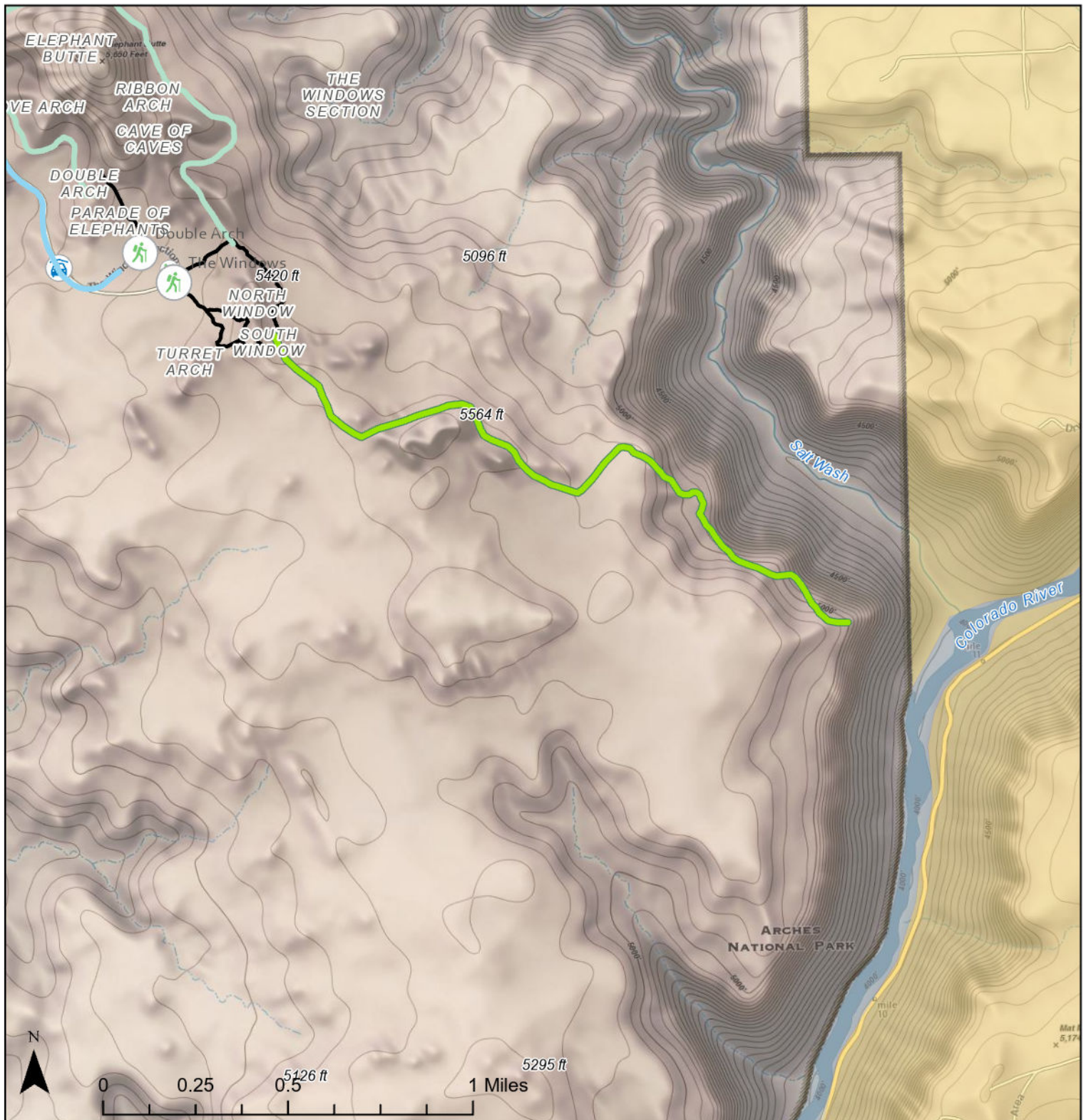


## Legend

- |   |                           |                            |
|---|---------------------------|----------------------------|
| Bike Path Balance Rock to Utahraptor Park | Arches Picnic Area        | State Trust Lands          |
| Bike - Proposed                           | Arches Restrooms          | State Sovereign Land       |
| Arches Trailheads                         | Trail                     | State Parks and Recreation |
| Pullout                                   | Bureau of Land Management | Arches Boundary            |



# DRAFT: Proposed Colorado River Overlook



## Legend

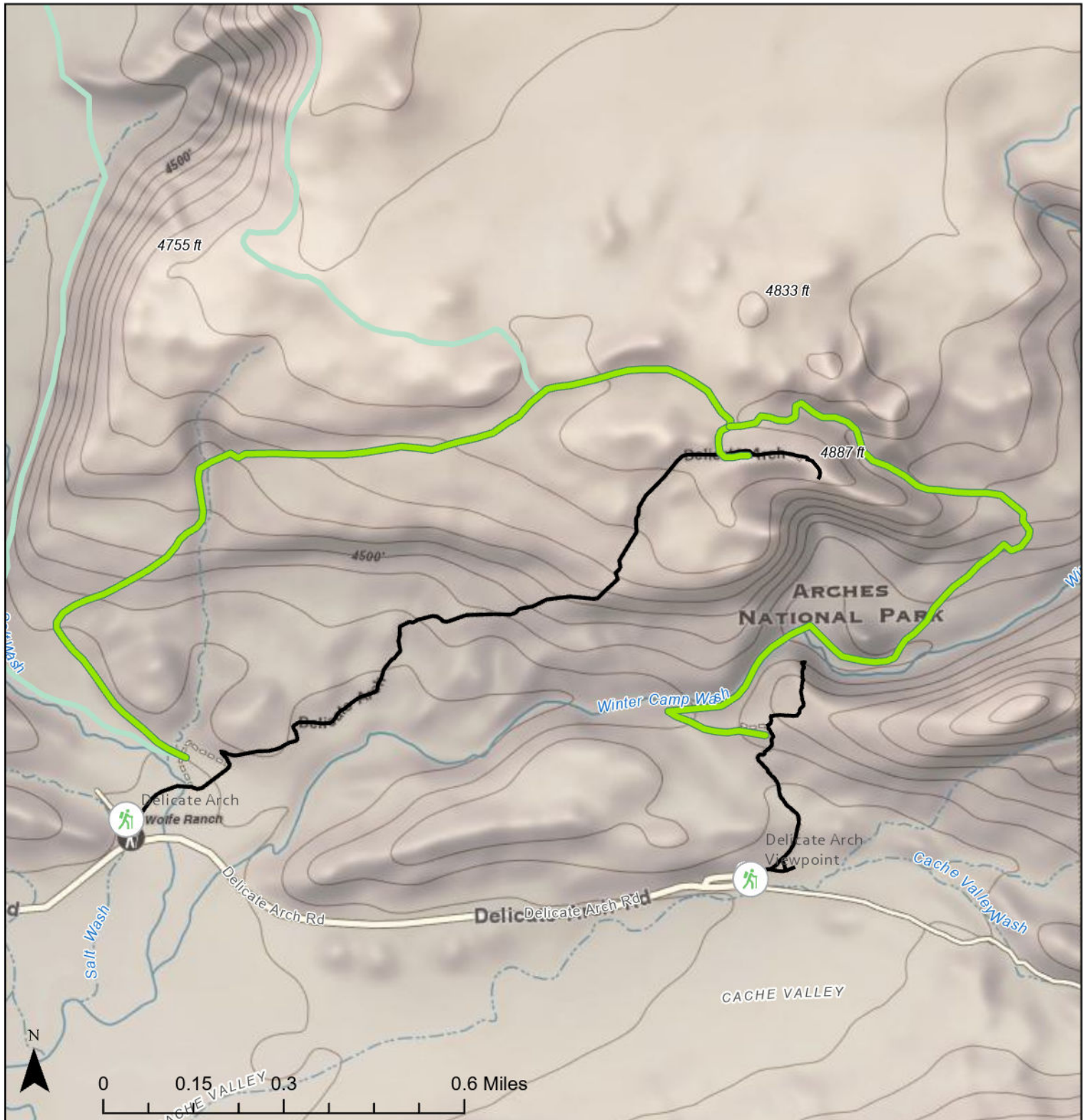
- Colorado River Overlook
- Bike - Proposed
- Hike - Proposed

- Arches Trailheads
- Pullout
- Arches Restrooms

- Trail
- Bureau of Land Management
- State Sovereign Land
- Arches Boundary



# DRAFT: Proposed Delicate Arch Loop

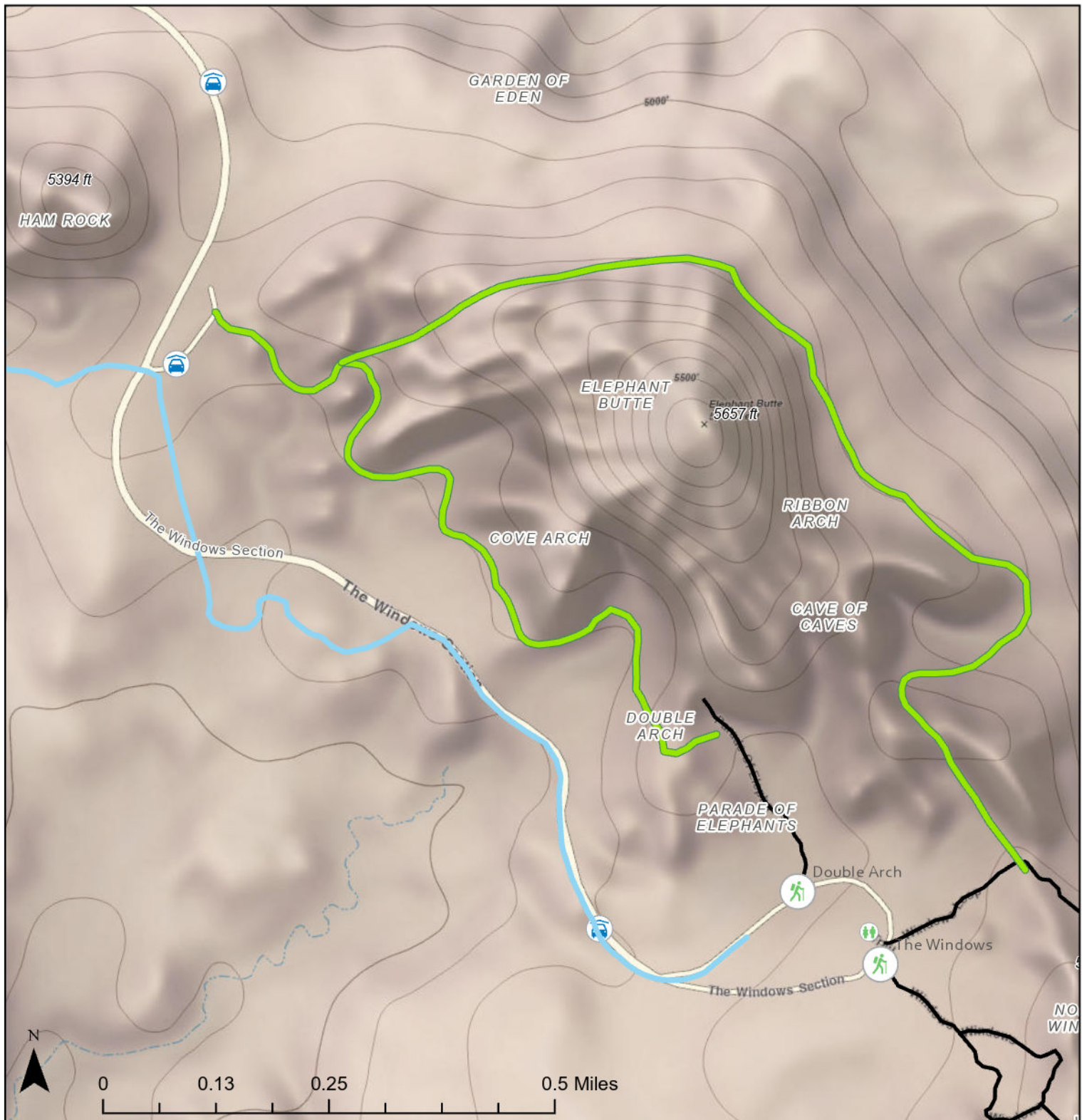


## Legend

- |   |   |   |
|---|---|---|
|  Delicate Arch Loop Trail |  Arches Trailheads |  Trail           |
|  Hike - Proposed          |  Arches Restrooms  |  Arches Boundary |



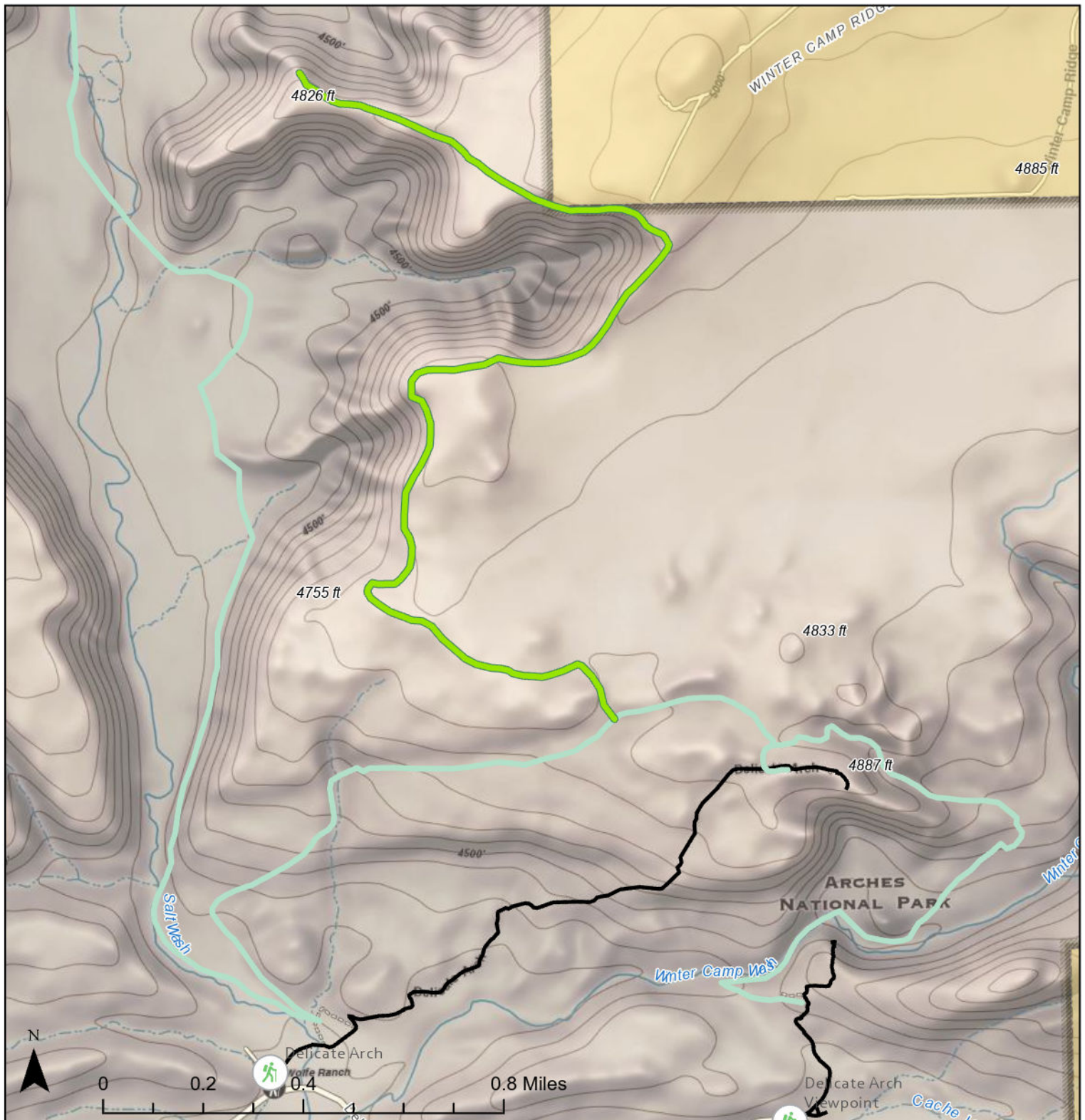
# DRAFT: Proposed Garden of Eden



## Legend

- |                      |                   |                  |
|----------------------|-------------------|------------------|
| Garden of Eden Trail | Arches Trailheads | Arches Restrooms |
| Bike - Proposed      | Pullout           | Trail            |
| Hike - Proposed      |                   | Arches Boundary  |

# DRAFT: Proposed Lost Canyon Overlook



## Legend

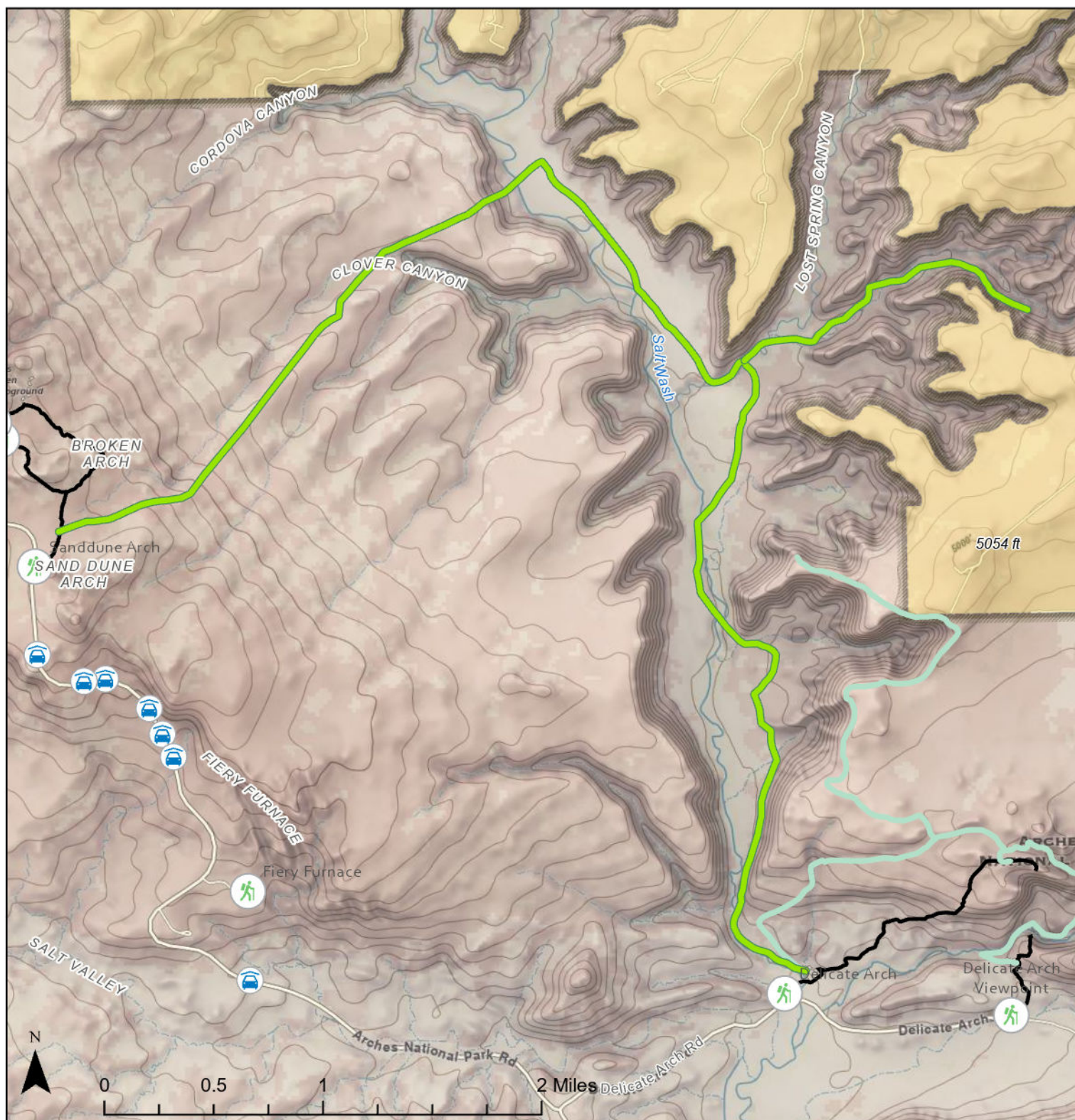
- Lost Canyon Overlook
- Hike - Proposed

- Arches Trailheads
- Arches Restrooms

- Trail
- Bureau of Land Management
- Arches Boundary



# DRAFT: Proposed Lost Canyon Primitive Trail

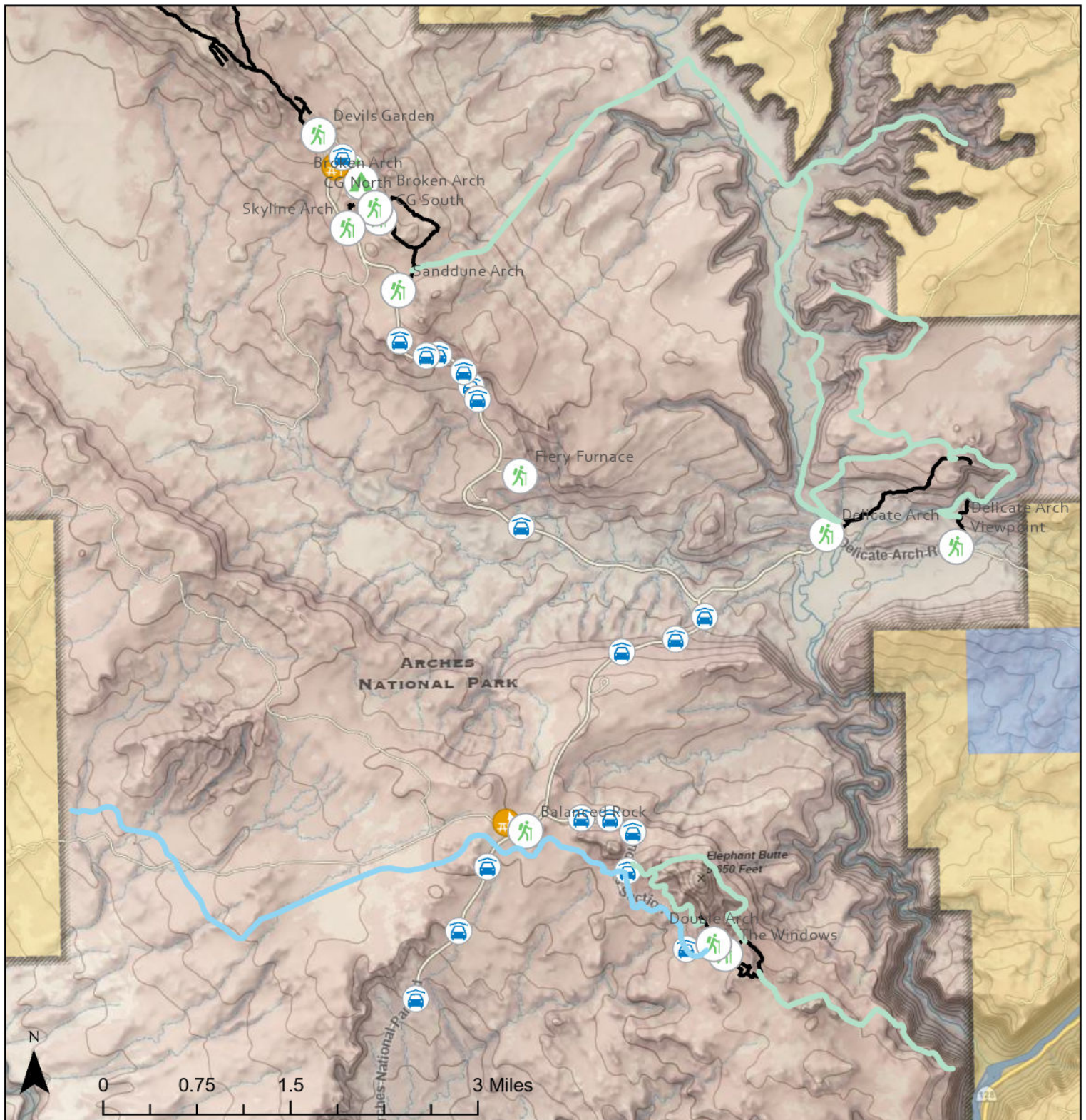


## Legend

- |                             |                  |                           |
|-----------------------------|------------------|---------------------------|
| Lost Canyon Primitive Trail | Pullout          | Bureau of Land Management |
| Hike - Proposed             | Arches Restrooms | Arches Boundary           |
| Arches Trailheads           | Trail            |                           |



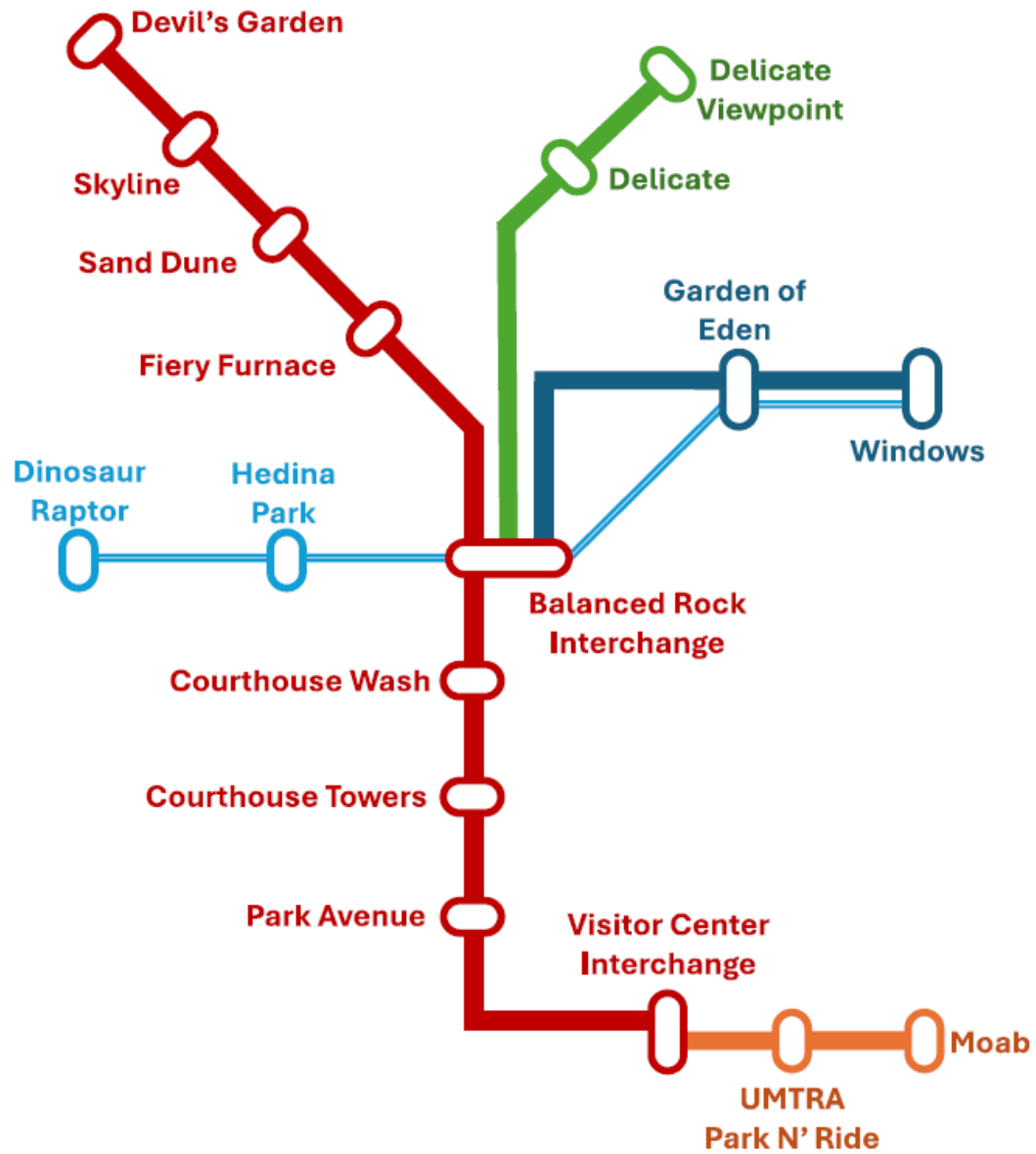
# DRAFT: Proposed Trails



## Legend

- |                   |                    |                  |                           |
|-------------------|--------------------|------------------|---------------------------|
| Bike - Proposed   | Pullout            | Campground       | Bureau of Land Management |
| Hike - Proposed   | Arches Picnic Area | Arches Restrooms | State Trust Lands         |
| Arches Trailheads | Trail              |                  | State Sovereign Land      |
|                   |                    |                  | Arches Boundary           |

## APPENDIX D: CONCEPTUAL MULTI-MODAL TRANSPORTATION PLAN



### Voluntary Shuttle System

- Main Line
- Delicate Line
- Windows Line

### Active Transportation Network

- Bike Paths

### Grand County Transit

- Moab Area Transit