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An Economic Analysis of Zion National Park Scenarios

Proposed developments at Zion National Park's east entrance include the construction of a new visitor center, lodging, and hiking/biking trails along with the deployment of an electric shuttle fleet. This study analyzes the economic impacts of east park improvements on Kane and Washington counties over 10 years by comparing this high-investment scenario with a projected baseline scenario.

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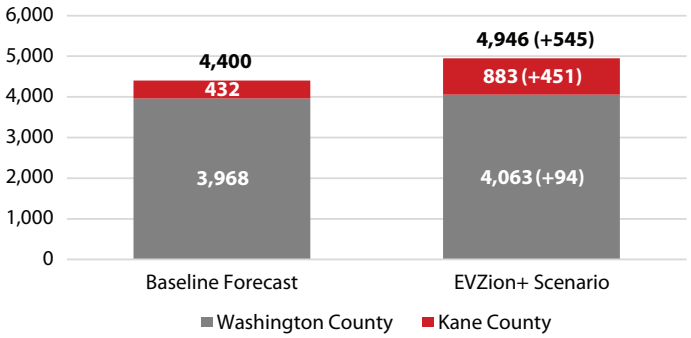
Analysis in Brief

Utah's "Crown Jewel" Zion National Park (Zion NP) experienced a 47.5% increase in visitation from 2014 to 2019, accommodating an additional 1.7 million visitors over the course of five years. Although park visitor spending supports jobs and generates tax revenue in the park's surrounding counties, increased park visitation can have negative impacts on the Zion NP visitor experience, local gateway communities, and the natural environment. As a result, park managers and community stakeholders continue to consider ways to assuage visitation-related impacts, including limiting park visitation, implementing a parkwide electric shuttle system to disperse park visitors, and expanding tourism infrastructure and recreational opportunities near the park's east entrance. In this report, the Gardner Institute projects a baseline scenario for Zion NP from 2020 to 2030 and analyzes the economic and fiscal impacts of east park developments (EVZion+) in Kane and Washington counties.

Key Findings

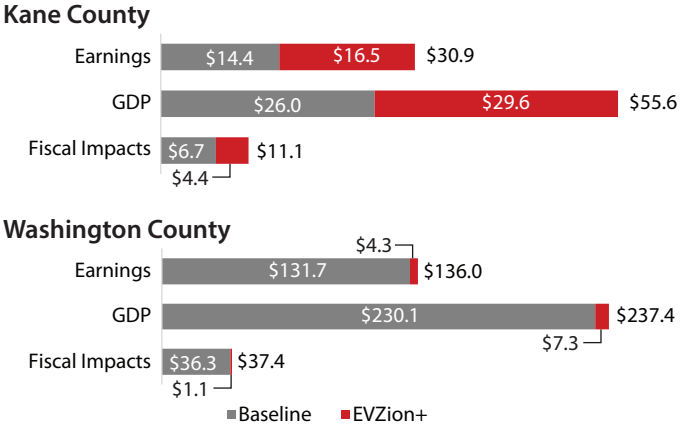
- **Zion NP Experienced Record Spending in 2019**—In 2019, Zion NP visitors spent a record $253.6 million in Kane and Washington counties, supporting 4,438 jobs, $140.5 million in earnings, $235.3 million in GDP, and $42.2 million in state and local tax revenue.[1]
- **Zion is Utah's Most Popular National Park**—One-third of all Utah national park spending was by Zion National Park visitors, and over 40% of all Utah national park visitors made a trip to Zion.
- **National Park Visitors are Big Spenders**—Utah park visitors are one of Utah's top visitor spending groups, with an estimated $1,133 spend per travel party per stay in 2019, and an estimated annual statewide spend of over $434 million outside of the park and its surrounding gateway communities.[2]
- **East Zion Developments (EVZion+) Would Create Significant Economic Impacts in Kane County**—Proposed east park developments would support 451 new average annual jobs from 2020 to 2030, along with $16.5 million in additional earnings, $29.6 million in new GDP, and $4.4 million in added state and local tax revenue.

EVZion+ Total Economic Impacts, 2020–2030
(Average Annual Jobs)



Note: In parentheses are increments EVZion+ improvements add to baseline. Totals may not match due to rounding.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data using REMI PI+ economic model

Economic Impacts of EVZion+ by County, 2020–2030
(Average Annual Impacts; Millions of 2020 Dollars)



Note: Horizontal axis scale tailored to each county.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data using REMI PI+ economic model

- **EVZion+ Would Also Create Positive Economic Impacts in Washington County**—Proposed east park developments would support 94 new average annual jobs from 2020 to 2030, along with $4.3 million in additional earnings, $7.3 million in new GDP, and $1.1 million in added state and local tax revenue.

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Section 1: Introduction

This report develops and compares a projected baseline Zion NP visitation scenario to an east park development scenario (EVZion+).[3] The analysis first highlights the significance of Zion NP to Utah's travel and tourism industry, locally, regionally, and statewide. Next, the report estimates the economic and fiscal impacts of planned park and east entrance developments in comparison with baseline impacts in Kane and Washington counties. Finally, to complete the study, the Gardner Institute considers emerging issues, including the self-limiting nature of overtourism at Zion National Park, which could influence future park visitation trends.

1.1 Zion National Park Is Top Driver of Utah's Travel and Tourism Industry

Zion NP is a top driver of Utah's travel and tourism economy. One hundred years after its 1919 designation, Zion ranked as the fourth most-visited of all 62 U.S. national parks. As an "anchor tenant" of Southwestern Utah, Zion NP generates about one-third of all Utah national park visitor spending and over 40% of all park visitation (see Table 1).

In 2019, according to the National Park Service, Zion NP visitors spent a record $261.4 million (an estimated $253.6 million of it in Kane or Washington counties), generating a total of 4,438 jobs, $140.5 million in earnings, $235.3 million in GDP, and $42.2 million in state and local tax revenue (see Table 2). These impacts represent 7.4% to 8.8% of all economic activity in Kane County and 3.1% to 3.9% of all economic activity in Washington County (see Figure 1).

In addition, Zion NP visitor spending in Kane County ($39.2 million) generated $3.6 million in local sales tax revenue or 35.8% of Kane's total local sales tax revenue. In Washington County, $214.4 million in visitor spending generated $16.6 million in local sales tax revenue or 21.0% of Washington County's local sales tax revenue.

More broadly, Zion NP visitors spend money both inside and outside of Utah gateway communities. For instance, the Utah Office of Tourism's marketing campaigns that highlight Zion NP—most notably its "Mighty 5®" marketing campaign—produce a "halo effect" by drawing visitors to parks and local gateway communities as well as generating additional visitor spending in Utah's regional and statewide economies. A recent Longwoods International study of nine state tourism campaigns showed that tourism advertising not only attracts visitors and their money, it also "creates major positive lift on the destination's image for economic development—as a place where people want to live, work, buy a second home, retire, start a business, start a career, or go to college. Visiting a destination creates a

Table 1: Direct Visitor Spending and Spending Share by National Park, 2019
(Millions of 2020 Dollars and Visitors)

National Park	Direct Visitor Spending	Share	Number of Visitors	Share
Arches	$203.5	24.6%	1.7	15.5%
Bryce Canyon	$224.7	27.2%	2.6	24.2%
Canyonlands	$46.4	5.6%	0.7	6.9%
Capitol Reef	$90.8	11.0%	1.2	11.5%
Zion	**$261.4**	**31.6%**	**4.5**	**41.9%**
Total	**$826.9**	**100.0%**	**10.7**	**100.0%**

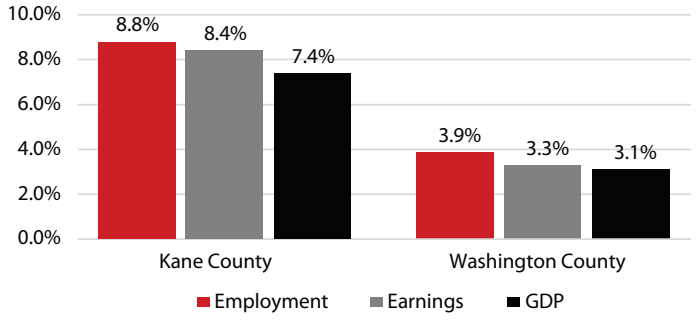
Source: Kem C. Gardner Policy Institute analysis of National Park Service data

Table 2: Economic Impacts of Zion NP Visitor Spending, 2019
(Millions of 2020 Dollars)

Impact	Kane County	Washington County	Total
Visitors	673,240	3,680,379	4,353,619
Direct Spending	$39.2	$214.4	$253.6
Total Impacts:			
Employment	471	3,967	4,438
Earnings	$14.6	$125.8	$140.5
GDP	$25.8	$209.5	$235.3
Tax Revenues	$6.6	$35.7	$42.2

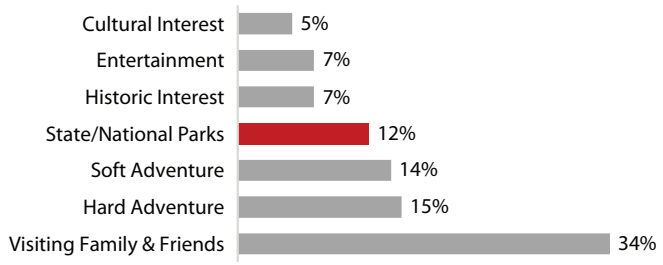
Note: Total impacts include direct, indirect, and induced economic impacts based on the nonlocal portion (97.8%) of direct visitor spending. Totals may not match due to rounding. Tax revenues include total state and local tax revenues generated by total economic impacts. Amounts do not include 134,648 Zion NP visitors spending $7.8 million in Iron County.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data using REMI PI+ and IMPLAN economic models

Figure 1: Economic Impacts of Zion NP Visitor Spending, 2019
(Share of County Economy)



Note: Shares represent total economic impacts as a percentage of total employment, earnings, or GDP in the counties.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data using REMI PI+ economic model

Figure 2: Share of Utah Visitors by Traveler Activity, 2019



Source: Omnitrak

Table 3: Spending Per Travel Party Per Stay by Primary Activity
(2020 Dollars)

Activity-Driven Travel	Spending per Stay
State and National Parks	$1,133
Historic Interest	$873
Hard Adventure	$871
Entertainment	$646
Soft Adventure	$493
Cultural Interest	$460
Visiting Family and Friends	$428

Source: Omnitrak

similar lift on these attributes" (Longwoods, 2015). Tourism advertising's "major positive lift" or "halo effect" takes place at the local, regional, and statewide level.

According to SMARInsights, Mighty 5 advertisements featuring Zion NP along with Utah's four other national parks influenced about 1.4 million Utah trips in 2019, resulting in about $2.2 billion in statewide visitor spending (SMARInsights, 2019). Assuming that all Mighty 5 ad-influenced visits included a trip to one or more of Utah's five national parks, where total 2019 park spending was $826.9 million (2020 dollars) and not all Zion NP visitors were ad-influenced, then it can also be assumed that over $1.4 billion was spent by these same visitors in Utah, but outside of national park gateway communities. Based on estimates that 31% of Utah national park spending was attributed to Zion NP visitors in 2019, it can be concluded that Zion NP visitors spent at least $434 million in Utah's economy that year.

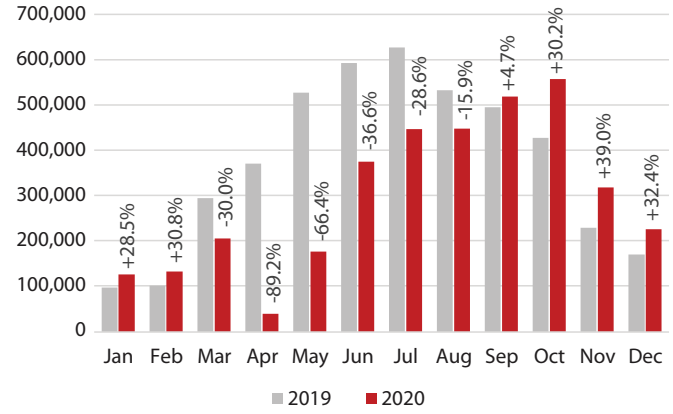
Additionally, studies have shown that communities with recreation opportunities attract visitors who might one day return to permanently relocate. In 2019, a Headwaters Economics study (years 2010–2016) showed that rural recreation communities attract more new residents and higher incomes than rural non-recreation counties (Headwaters Economics, 2019). The study showed that positive net migration occurred in six of Utah's 14 rural recreation counties.[4] Also, the average household income of new residents moving into a county was generally higher in Utah's rural recreation counties compared with its rural non-recreation counties. Likewise, the fastest average earnings growth took place in these recreation counties, including Kane County. Of Utah's 14 rural recreation counties, Kane had the second-greatest net migration per 1,000 residents and the second-highest growth in average earnings per job.[5] Similarly, an earlier U.S. Department of Agriculture study of 311 rural U.S. counties concluded that rural tourism and recreation development lead to higher employment growth rates, positively affected income levels, lower local poverty rates, and improvements in local educational attainment and health (Reeder, 2005).

Omnitrak's Utah traveler survey data supports that Utah park visitors are some of Utah's biggest spenders. In 2019, travel survey respondents who noted that they were motivated to travel to Utah for its state and national parks (12%) spent an average $1,133 per travel party per stay, compared with $428 per stay for travel parties visiting family/friends—Utah's largest visitation group (Omnitrak, 2020) (see Figure 2 and Table 3).

However, due to its popularity, Zion and its surrounding communities have recently experienced tourism-related impacts such as congestion, pollution, and overwhelmed infrastructure. As a result, Zion stakeholders, including park managers, local business owners, nonprofit directors, and county leaders, have been discussing park management ideas, including park and trail capacities, visitor dispersion, infrastructure improvements, and other potential visitor experience enhancements.

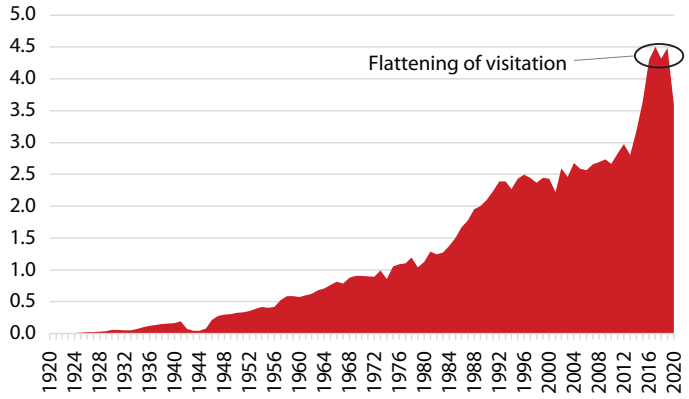
In this report, the Kem C. Gardner Policy Institute analyzes the economic and fiscal implications of proposed east entrance investments (EVZion+) compared with a projected baseline scenario over the next 10 years. This research was sponsored by Kane County, Washington County, Utah Office of Tourism, Utah Office of Outdoor Recreation, Utah Department of Transportation, Zion Forever, Zion Mountain Ranch, and the Zion Ponderosa Ranch Resort.

Figure 3: Zion NP Visitation by Month, 2019 vs. 2020
(Park Visitors, Year-over-Year Change)



Source: Kem C. Gardner Policy Institute analysis of National Park Service data

Figure 4: Zion NP Visitation, 1919–2020
(Millions of Visitors)



Note: For forecast growth rates and annual visitation since 2000, see Table A3 in the Appendix.
Source: National Park Service

1.2 Analyzing Zion National Park Scenarios

The Gardner Institute worked with Zion NP managers and stakeholders to project the outlook of park visitation based on recent visitor counts, the self-limiting effects of park crowding, and the possible impacts of proposed east park developments. In this report, the authors forecast 11 years (2020–2030) of visitation and spending for both a baseline "business as usual" scenario and an "EVZion+" scenario, focusing on the park's most prominent gateway communities, located in Kane and Washington counties. The report compares the forecasted baseline scenario with the EVZion+ scenario to better highlight potential east entrance development impacts in Kane and Washington counties.

Notedly, the COVID-19 pandemic significantly impacted 2020 Zion NP visitation and spending. Figure 3 shows 2019 vs. 2020 monthly Zion visitation, which reflects pandemic-influenced park closures and shifting travel trends. Prior to the pandemic, 2020 visitation was trending 30% above 2019 visitation. It then began to drop in March with the arrival of COVID-19 and the enactment of stay-at-home orders. Visitation came to a halt with national park closures in April and began to rebound as the park reopened in May. Not only did Zion NP visitation return to normal by early fall, but it was also up 30% to 40% throughout the end of the year, setting visitation records for the months of September through December.

This visitation variability and the unpredictability of the COVID-19 pandemic and subsequent vaccine distribution complicate park visitation forecasting. Although the pandemic has influenced greater domestic car travel and has enhanced travelers' interest in outdoor recreation, it is hard to predict whether this trend will continue once vaccines are more widely available and life again resembles "pre-COVID times". Despite the ever-changing state of the pandemic and traveler preferences, however, the authors believe that the flattening out of visitation leading up to the pandemic best represents the park's overall baseline heading into the next 10 years.

Section 2. Baseline Scenario

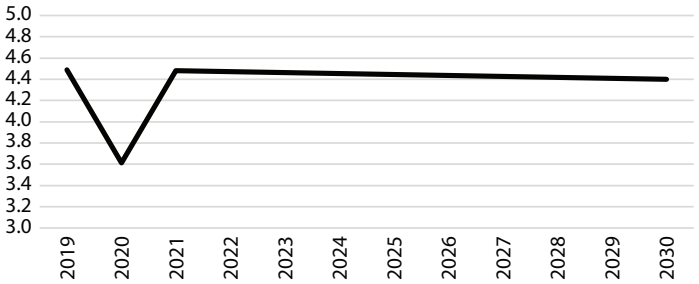
In this study, the baseline scenario is the "business as usual" or "status quo" park management scenario, which forecasts what park visitation and economic impacts might look like from 2021 to 2030 with no capital investments or visitor capacity mandates. This scenario considers the "self-limiting" aspect of park overtourism reflected in the flattening out of park visitation in the years leading up to the pandemic.

Over the past 100 years, Zion NP visitation has fluctuated due to a variety of social, economic, and environmental factors, but has been on an overall upward trend. When depicted visually, there are two prominent park visitation increases (see Figure 4). During the first surge, from 1982 to 1993, park visitation increased 92%, or by 1.1 million visitors to a total of 2.4 million visitors. The next identifiable surge took place from 2013 to 2017, when park visitation increased 60%, welcoming an additional 1.7 million visitors to a total of 4.5 million visitors. From 2016 to 2019, however, Zion NP experienced a leveling-off of visitation—something park managers and stakeholders attribute to overcrowding and the park reaching its maximum capacity. From 2017 to 2019, Zion NP was experiencing a –0.2% annual average year-over-year change, or very mild decline. Additionally, travel experts believe the COVID-19 pandemic will continue to have a significant impact on international park visitation for the next two to three years. According to past Zion NP visitor studies, international visitors made up to a quarter of park visitors during the high tourist season.

After much consideration, the authors believe that Zion NP will return to about 4.5 million visits in 2021 and then continue on its zero-growth, flattening-out path into the near future as the park reaches capacity and crowding impacts detract from additional visitation.[6]

Baseline forecasts from 2020 to 2030 suggest that Zion NP visitor spending will support an average annual 4,400 jobs in Kane and Washington counties, $146.1 million in earnings, and $256.1 million per year in economic activity (GDP) (see Table 4). Of the direct, indirect, and induced employment impacts, 9.8% will fall within Kane County. The following EVZion+ section provides additional baseline scenario economic impact modeling.

Figure 5: Zion NP Visitation, Baseline Scenario, 2019–2030
(Millions of Visitors)



Note: Zion National Park forecast begins in 2021.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data

Table 4: Average Annual Economic Impacts, Baseline Scenario, 2020–2030
(Jobs and Millions of 2020 Dollars)

Location & Type	Amount	Share of Total	Share of Economy
Kane County			
Employment	432	9.8%	8.1%
Earnings	$14.4	9.9%	8.3%
GDP	$26.0	10.1%	7.4%
Washington County			
Employment	3,968	90.2%	3.9%
Earnings	$131.7	90.1%	3.4%
GDP	$230.1	89.9%	3.4%
Total			
Employment	4,400	100.0%	4.1%
Earnings	$146.1	100.0%	3.6%
GDP	$256.1	100.0%	3.6%

Note: Impacts represent direct, indirect, and induced effects. Totals may not match due to rounding. Shares of economy represent total economic impacts as a percentage of total employment, earnings, or GDP in the counties.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

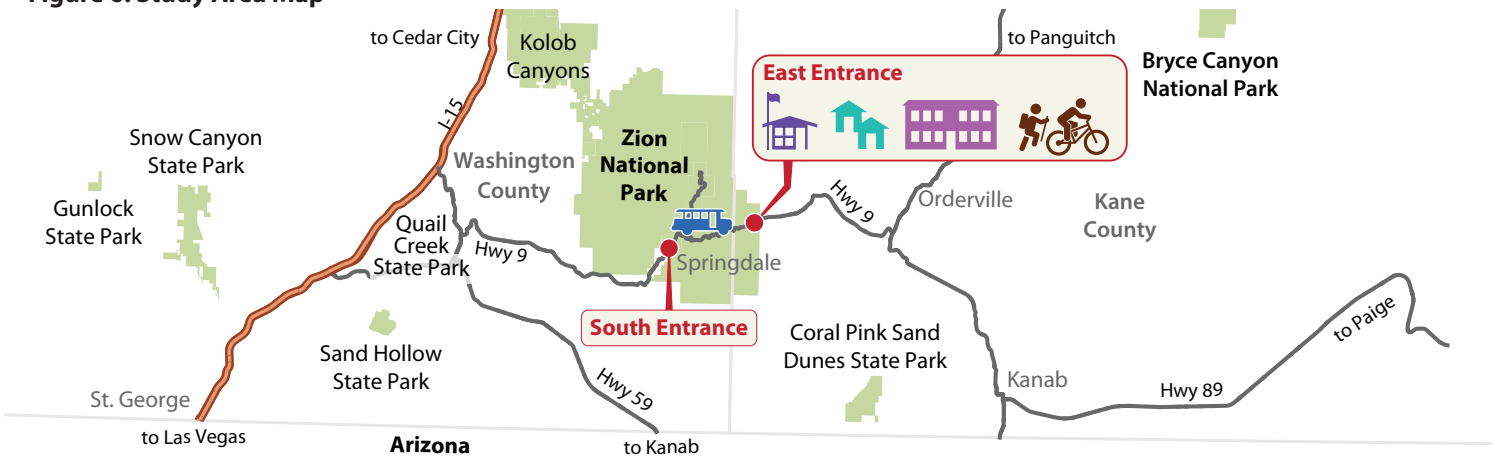
Section 3. EVZion+ Scenario

The "EVZion+" scenario considers increased investments, including the purchase and operation of a new 100% electric Zion NP shuttle fleet linking the south and east entrances, and other tourism-related investments and developments at the park's east entrance. This scenario consists of six components in Kane and Washington counties (see Figure 6).

1. **EVZion:** the purchase and deployment of a fleet of zero-emission, electric vehicles that transport visitors between Zion NP's South Entrance Visitor Center, the proposed East Entrance Visitor Center, and the city of Kanab, passing through the Zion-Mount Carmel Tunnel; also included is the construction of a shuttle hub, shuttle stops, and all necessary EVSE (electric vehicle supply equipment) (Utah Clean Cities, 2019). The park's current shuttle system only transports visitors up and down Zion Canyon.
2. **Zion National Park Electric Shuttle Fleet Replacement:** the purchase and deployment of 39 electric vehicles to replace Zion's 39 propane shuttles; includes the construction of new shuttle charging stations.
3. **East Zion Visitor Center (formerly "Applecross Station"):** the construction of a new visitor center at the park's east entrance, which will include a theater, café, retail space, and outfitter space (inside) and a shuttle stop, farmer's market space, and parking lot (outside).
4. **Hiking/biking trails:** 42 miles of designated trails/routes near the East Zion Visitor Center/shuttle stop.
5. **Commercial lodging:** the construction of four commercial lodging facilities, including Zion Ponderosa Lodge (30 rooms), Baby Ridge (50 rooms), Spirit Mountain (75 rooms), and Grand Mountain Lodge (182 rooms) (Zions Bank, 2020).
6. **Residential development:** the construction of Buffalo Preserve (15 units), Peaches Subdivision (24 units), Zion Ridge (40 units), and Clear Creek Ranch/Zion Mountain Partnership (215 units) (Zions Bank, 2020).

EVZion+ developments have been proposed to assuage park overcrowding by allowing for greater dispersion of park visitors. Issues such as traffic jams, air pollution, lack of parking, long lines, and crowded hiking trails can negatively impact the park visitor experience. The EVZion+ scenario would offer additional visitor parking (East Zion Visitor Center) while at the same time offering alternatives to driving (see Figure 16 in Section 4.4 for the St. George to Kanab City transit plan), the potential reduction of south entrance-to-east entrance traffic and wait times (Zion–Mt. Carmel Highway Tunnel passage), and the curtailment of overall carbon emissions. Likewise, the new East Zion Visitor Center and east park trail system could help disperse park hikers and trail users by offering more attractions and recreational opportunities on the less-visited east side of the park.

Figure 6: Study Area Map



East Zion Visitor Center
$15.5 million for construction

Residential Developments
150 homes ranging in market value from $0.6 to $1.8 million

Commercial Lodging
Four hotels with 337 rooms total
Room rates from $200+ per night

EV Visitor Shuttles
EV connecting east and south entrances with Kanab
EV replacing propane shuttles on Zion Scenic Dr

Trails
42 miles of new hiking and biking trails in Zion NP

Source: Kem C. Gardner Policy Institute; Utah Automated Geographic Reference Center, SGID

3.1 Infrastructure and Attractions: Shuttles, Visitor Center, and Trails

Currently, there are three zero-emission shuttle project plans for Zion NP. For the first project, the NPS plans to upgrade the park's 39 propane shuttles with an entirely electric shuttle fleet.[7] As of September 2020, Zion NP estimated charging station and related construction spending at $5.0 million.[8] The second project, referred to as "EVZion," involves the implementation of an electric shuttle fleet that will run a new route from the park's south entrance (via the Zion-Mt. Carmel Highwya Tunnel) to the park's east entrace/Kanab beginning in 2021 (Utah Clean Cities, 2019). The two EVZion pilot electric shuttles will cost $600,000, plus $960,000 for the electric charging system and bus stop construction (Utah Clean Cities, 2019). The third project will be to work with Kane County, Kanab City, UDOT, and Utah Clean Cities to secure funding to expand the EVZion pilot project to a full fleet with scheduled service connecting Kanab and other gateway communities to Zion.

The construction budget for the proposed East Zion Visitor Center is $12.5 million from Spring 2021 to Spring 2022 (Watts Construction, 2020).[9] After opening, the Visitor Center will employ an average of 20 seasonal workers and eight full-time staff. The two planned retail operations at the Visitor Center, a store and a farmer's market, will likely generate $2.5 million in annual sales beginning in 2023 (see Table 5).

Aside from replacing the Zion NP shuttle fleet, implementing EVZion, and constructing an East Zion Visitor Center, 42 miles of biking and hiking trails are planned to open in four phases, from 2021 to 2024.[10] Trail construction will employ between nine and 15 employees each year. After the trails open, ongoing maintenance will require an estimated three additional employees.

3.2 Visitor Accommodations: Commercial Lodging and Rental Homes

The construction and operation of four planned commercial lodging developments, starting with the 182-room Grand Mountain Lodge, will have significant economic impacts in Kane County. Hotel construction will generate employment primarily from 2022 to 2025, when the last of the four developments opens. The combined 337 new rooms near the east entrance (see Table 6) represent a 29.4% increase in capacity over the county's 1,146 hotel rooms in 2019 (Smith Travel Research, 2020). Expected occupancy rates average 60.3% or 204 nights per year, which is consistent with Kane County's historical average. In 2025, depending on market conditions, target room rates will range from $210 to $1,050 (an average of $580 per night) and increase with inflation thereafter.

Table 5: Retail Developments at Zion NP East Entrance, 2023

Development	Taxable Value of Property	Annual Sales
Apple Cross Junction store	$500,000	$2,000,000
Farmer's Market	$0	$500,000
Total	**$500,000**	**$2,500,000**

Source: Zions Bank

Table 6: Planned Commercial Lodging Near Zion NP East Entrance, 2025

Development	Rooms	Nightly Room Rate	Occupancy	
			Share	Days
Grand Mountain Lodge	182	$460	69.0%	252
Spirit Mountain	75	$1,050	44.9%	164
Baby Ridge	50	$530	54.8%	200
Zion Ponderosa Lodge	30	$210	54.8%	200
Total	**337**	**$580**	**60.3%**	**204**

Note: Occupancy rate forecasts are constant from 2025 to 2030 for the first three hotels. At Grand Mountain Lodge, which opens two years earlier, expected occupancy rises from 58% in 2023 to 71% in 2025 and thereafter. Rounded to the nearest $10 in 2025, intended room rates increase by 2.6% per year through 2030. Total row includes averages for occupancy rate and room rate, weighted by the number of rooms per hotel.
Source: Zions Bank

Historical data for 38 commercial lodging properties in Kane County and Springdale (a town in Washington County, south of Zion NP and near the Kane County border) suggest that average daily rates in the area are projected to rise from $183 in 2019, to $210 in 2023, and $287 in 2030 (Smith Travel Research, 2020). The Gardner Institute's economic impact analysis allows time for EVZion+ accommodations to affect tourism spending patterns, as current pricing gives way to the expected higher-end lodging rates in Table 6.

Besides commercial lodging, developers have planned four residential construction projects near Zion NP's east entrance. For two of the projects, developers intend to rent most of the new homes to visitors. Construction for 150 homes begins in 2023, with an expected average market value of $705,000 (see Table 7). Depending on market conditions, the 100 rental units are likely to bring in an average of $560 per night in their first year. All 150 homes would be ready for residents and tourists by 2030. Residential development would continue until 2042 for the completion of another 144 homes, 80 of which would be rented. Economic impact results in this report do not include planned investments that would accrue to Kane and neighboring counties after the study period ends in 2030.

Table 7: Residential Developments Near Zion NP East Entrance, Planned Completion 2023–2030

Development	Number of Homes		Average per Housing Unit		
	Completed	Rented	Market Value	Rental Fee	Rental Occupancy
Clear Creek Ranch/Zion Mountain partnership	71	64	$500,000	$600	27.4%
Zion Ridge, phase 3	40	36	$600,000	$500	27.4%
Peaches Subdivision	24	0	$800,000	NA	NA
Buffalo Preserve	15	0	$1,800,000	NA	NA
Total	**150**	**100**	**$705,000**	**$560**	**27.4%**

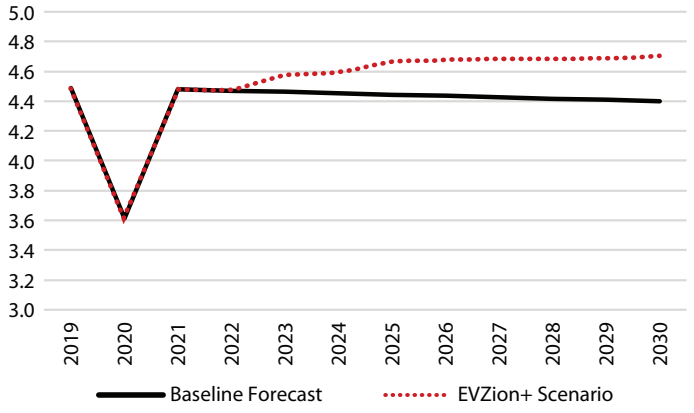
NA = not applicable
Note: Occupancy rates, 100 nights out of 365, are constant for all years. Market value (rounded to the nearest $1,000) and single-day rental fees (rounded to the nearest $10) are for 2023, and expected to grow 3.0% and 2.5% per year, respectively. "Total" row includes averages for market values, rental fees, and occupancy rates, weighted by the number of units per development.
Source: Zions Bank

3.3 Local Economic Impacts

Ongoing visitor spending and planned investments in Kane County's tourism economy will bring additional future park visitation and significant economic impacts to the county and region. Figure 7 compares EVZion+ visitation trends with baseline trends. East entrance investments are expected to raise total spending by nonlocal Zion NP visitors by an average of $21.7 million per year, 8.1% above the forecasted baseline amount.[11] This effect accompanies additional economic activity from the construction and operation of the EVZion+ components documented in Sections 3.1 and 3.2.

EVZion+ forecasts from 2020 to 2030 suggest that Zion NP visitor spending will support 4,946 jobs in Kane and Washington counties, $166.9 million in annual earnings, and $293.0 million per year in economic activity (GDP) (see Table 8). Of the direct, indirect, and induced employment impacts, 17.9% will fall within Kane County.

Figure 7: Projected Zion NP Visitation, 2019–2030
(Millions of Visitors)



Note: Zion National Park forecasts begin in 2021.
Source: Kem C. Gardner Policy Institute analysis of data from National Park Service, Zions Bank, and Smith Travel Research

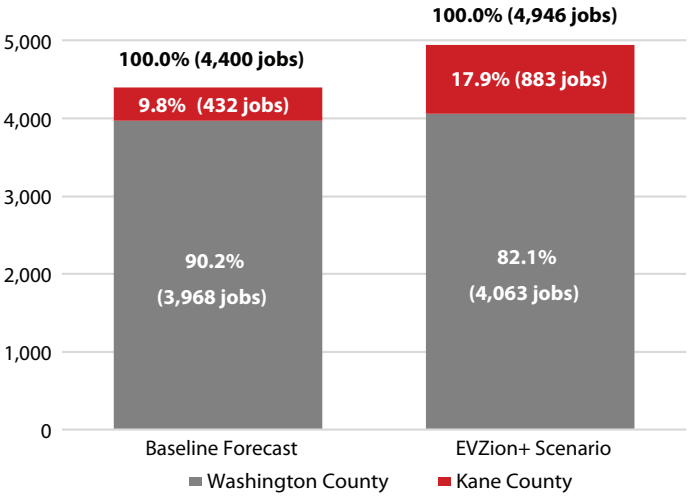
Table 8: Average Annual Economic Impacts, EVZion+ Scenario, 2020–2030
(Jobs and Millions of 2020 Dollars)

Impact	Baseline Forecast[1]	EVZion+ Change[2]	EVZion+ Total[2]	Share of Two-County Total	Share of Economy[3]
Kane County					
Employment	432	451	883	17.9%	16.9%
Earnings	$14.4	$16.5	$30.9	18.5%	17.0%
GDP	$26.0	$29.6	$55.6	19.0%	15.1%
Washington County					
Employment	3,968	94	4,063	82.1%	3.7%
Earnings	$131.7	$4.3	$136.0	81.5%	3.1%
GDP	$230.1	$7.3	$237.4	81.0%	3.1%
Total					
Employment	4,400	545	4,946	100.0%	4.3%
Earnings	$146.1	$20.8	$166.9	100.0%	3.7%
GDP	$256.1	$36.9	$293.0	100.0%	3.6%

Note: Impacts represent direct, indirect, and induced effects. Totals may not match due to rounding.
1. Baseline forecast represents ongoing economic activity from Zion National Park visitor spending without east entrance improvements.
2. EVZion+ scenario incorporates new economic activity from investments near the park's east entrance.
3. Shares of economy represent total EVZion+ impacts as a percentage of total employment, earnings, or GDP in the counties.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Figure 8: County Shares of Economic Impacts, EVZion+ Scenario, 2020–2030

(Average Annual Employment)



Note: Results include total direct, indirect, and induced impacts per year. EVZion+ scenario includes baseline forecast and additional impacts from new economic activity due to improvements near the east entrance of Zion National Park. Totals may not match due to rounding.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Table 9: Local Government Revenue Generated by Baseline and EVZion+ Economic Impacts, 2020–2030

(Average Annual Revenue in Millions of 2020 Dollars)

Impact	Kane County	Washington County	Total	Share
Baseline Forecast	$3.6	$16.8	$20.4	86.4%
EVZion+ Scenario	$2.8	$0.4	$3.2	13.6%
Total	**$6.4**	**$17.2**	**$23.6**	**100.0%**
Share	**27.1%**	**72.9%**	**100.0%**	

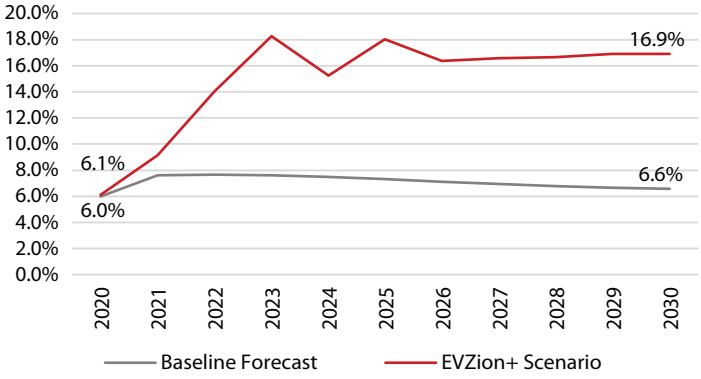
Note: Results based on the total economic impacts of baseline Zion National Park visitor spending and east entrance improvements. Totals may not match exactly due to rounding.
Source: Kem C. Gardner Policy Institute analysis using IMPLAN economic software and the Gardner Institute fiscal model

EVZion+ will add an average of 451 jobs to Kane County's total economic impact through 2030. Regional economic gains, 545 jobs, also include 94 jobs added in Washington County. Kane County's share of the employment impacts from Zion NP visitor spending and EVZion+ improvements is 17.9% of the two-county total (see Figure 8). This outcome reflects sustainable growth within a framework of rural economic development and clean-air energy sources.

Each year from 2020 to 2030, ongoing (baseline) Zion NP visitors' spending in Utah will generate an estimated average of $20.4 million in local government revenue in Kane and Washington counties (see Table 9). EVZion+ improvements will produce another $3.2 million for a total of $23.6 million per year.

Figure 9: Kane County Economic Impacts, EVZion+ Scenario, 2020–2030

(Forecasted Share of Total GDP in the County)



Note: EVZion+ unevenness reflects construction in 2023 and 2025.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

3.4 Share of Local Economies

Kane County

In 2020, Zion NP visitor spending generated an estimated $19.7 million of Kane County's GDP, 6.0% of countywide economic activity (Figure 9). Due to pandemic disruptions to nonlocal travel, this share was uncharacteristically low compared with 2019 visitor spending (7.4% share). Current baseline trends suggest that, without additional investments, the percentage will rise to 7.6% in 2021 and then slowly decline to 6.6% of Kane County GDP by 2030 ($26.6 million, inflation-adjusted). These results reflect direct, indirect, and induced GDP impacts.

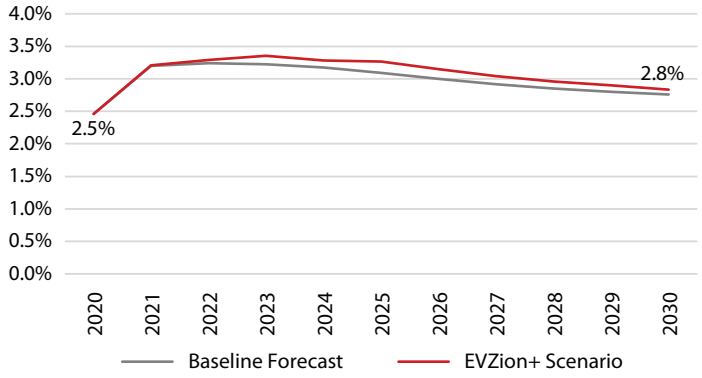
EVZion+ developments will further align Kane County's economy with Zion NP. By 2030, the construction and operation of the new East Zion Visitor Center, transit options and trails, housing and commercial lodging, and baseline visitor spending would directly and indirectly support 16.9% of economic activity in the county ($68.5 million in GDP). These results do not include all Zion NP-related economic activity in the region. For example, these shares do not reflect economic impacts from National Park Service (NPS) spending or that of NPS employees living in Kane and neighboring counties.

Washington County:

EVZion+ will generate additional economic activity in Washington County related to Zion NP tourism. While EVZion+ developments center on the east entrance in Kane County, they are designed to improve the visitor experience broadly and accommodate increased visitation without further crowding hot spots in the park. According to baseline forecasts, Washington County's reliance on Zion NP tourism is likely to rise from 2.5% of county GDP in 2020 to 3.2% the next year, before tapering to 2.8% in 2030 (see Figure 10). In inflation-adjusted dollars, the 2020 baseline figure of $162.4 million will increase

Figure 10: Washington County Economic Impacts, EVZion+ Scenario, 2020–2030

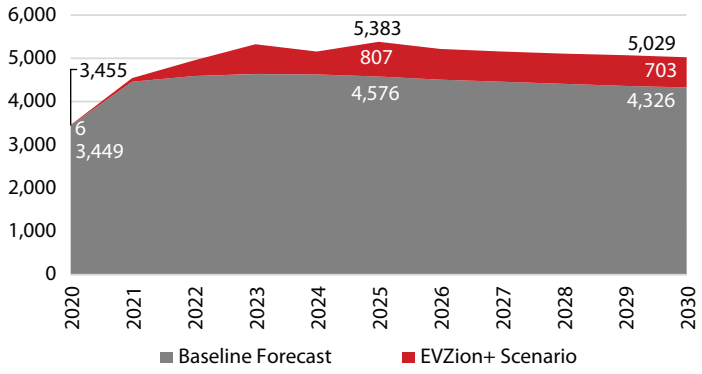
(Forecasted Share of Total GDP in the County)



Note: Shares for 2030 are 2.76% (baseline) and 2.84% (EVZion+).
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Figure 11: Kane and Washington County Total Employment Impacts, EVZion+ Scenario, 2020–2030

(Direct, Indirect, and Induced Impacts)



Note: Economic impacts are from baseline visitor spending forecasts and increased economic activity associated with east entrance investments.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

to $245.6 million in 2030. As other sectors of Washington County's economy grow too, East Zion developments are not expected to significantly alter the role of Zion NP tourism spending as a share of the county's entire economy, which will still round to 2.8% after a 0.08% increase representing 545 jobs in Washington County. With EVZion+, growth in tourism-related economic activity should disperse somewhat more evenly between Kane and Washington counties. However, at $252.7 million, GDP impacts in 2030 would remain 3.7 times larger in Washington County than in Kane County.

3.5 Economic Impacts in Kane and Washington Counties

In Kane and Washington counties combined, estimated total economic impacts from Zion NP visitor spending will rise from an estimated 3,455 jobs in 2020 to 5,029 in 2030 (see Figure 11). Employment impacts from east entrance improvements peak

Table 10: Average Annual Total Economic Impacts in Kane and Washington Counties, EVZion+ Scenario, 2020–2030

(Average Annual Jobs and Millions of 2020 dollars)

Source of Impact	Employment	Earnings	GDP
Baseline Forecast			
Visitor Spending	4,400	$146.1	$256.1
EVZion+ Scenario[1]			
Electric Shuttles[2]	4	$0.2	$0.3
East Zion Visitor Center	35	$1.7	$2.5
Trails	7	$0.3	$0.5
Commercial Lodging	106	$4.8	$8.5
Residential Developments	68	$2.7	$5.3
Additional Visitor Spending[3]	326	$11.2	$19.7
Subtotal	**545**	**$20.8**	**$36.9**
Total	**4,946**	**$166.9**	**$293.0**

Note: Impacts represent direct, indirect, and induced effects. Totals may not match due to rounding.

1. EVZion+ scenario incorporates new economic activity from improvements near the east entrance of Zion National Park. For more detailed results by EVZion+ component, see Tables A1 and A2 in the Appendix.
2. Includes additional two EVZion shuttles and proposed replacement of propane shuttles.
3. Includes additional visitor spending generated by east entrance investments, beyond visitor spending in the baseline forecast and from itemized EVZion+ components.

Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

at 807 jobs in 2025 due to multiple construction projects. By 2030, EVZion+ impacts moderate to 703 jobs, a 16.3% increase over the 4,326-job employment baseline.

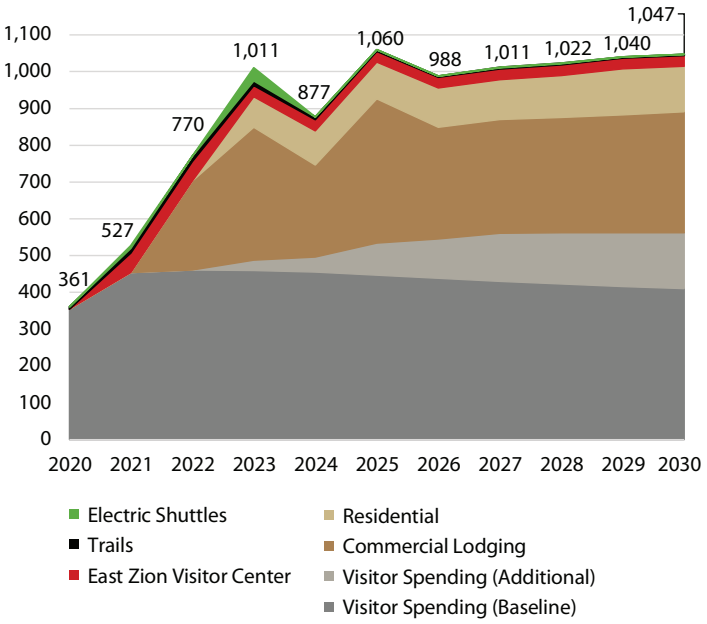
Additional visitor spending generates nearly 60% of the 545 average annual new jobs from EVZion+ investments (see Table 10). Commercial lodging expansion generates almost one-fifth (106) of these jobs, followed by residential housing construction at 12.4%, 68 jobs. While the Visitor Center, EV shuttles, and new trails collectively add only 46 jobs, they are central to attracting tourists to Zion NP's east side.

In Kane County alone, total employment impacts, which include baseline visitor spending, will reach an estimated 1,047 jobs by 2030, of which 637 jobs will stem from EVZion+ improvements (see Figure 12). Of these impacts, new commercial lodging, residential developments, and additional visitor spending will likely produce the largest economic impacts. However, any component's impacts are unreliable alone since new economic activity depends on the collective draw of transit, trail, and visitor center amenities.

Beyond baseline visitor spending, Kane County's total economic impacts will support a forecasted average of 451 jobs each year from 2020 to 2030 (see Table 11). This substantial employment growth will generate an average of $16.5 million in annual earnings and $29.6 million in annual GDP during those 11 years. These amounts incorporate elements such as room rentals to park visitors and the local spending of visitor center employees.

Figure 12: Kane County Employment Impacts, EVZion+ Scenario, 2020–2030

(Direct, Indirect, and Induced Impacts by Source; Jobs)



Note: Economic impacts are from baseline visitor spending forecasts and increased economic activity associated with east entrance improvements in the EVZion+ scenario.
Source: Kem C. Gardner Policy Institute analysis using REMI PI + economic model

By generating additional visitation and positive spillover effects, EVZion+ investments will also significantly increase tourism activity in Washington County. While the net effect remains positive, as Zion NP's east entrance improvements distribute visitor traffic more evenly, some growth in economic activity will shift from Washington County to Kane County.[12] For example, from 2020 to 2030, somewhat slower growth in Washington County's commercial lodging industry related to new east entrance alternatives will likely result in 151 fewer jobs than the projected baseline growth (see Table 12). However, increased countywide visitor spending of 250 jobs will more than offset this moderation in accommodations sector growth for a net effect of 94 jobs, including all EVZion+ components. Adding EVZion+ activity to the baseline forecast, Washington County's employment impacts will average 4,063 jobs from 2020 to 2030. Total impacts will also bring an average of $136.0 million in earnings and $237.4 million in GDP in each of the 11 years.

3.6 Which Industries Benefit?

The industries that would benefit most from East Zion improvements are leisure and hospitality, retail trade, construction, and government (see Figure 13). Over one-third of earnings impacts and 45.1% of employment impacts in Kane and Washington counties fall within the leisure and hospitality industry (primarily accommodations). Other industries can

Table 11: Average Annual Total Economic Impacts in Kane County, EVZion+ Scenario, 2020–2030

(Jobs and Millions of 2020 Dollars)

Source of Impact	Employment	Earnings	GDP
Baseline Forecast:			
Visitor Spending	432	$14.4	$26.0
EVZion+ Scenario:[1]			
Electric Shuttles[2]	4	$0.1	$0.3
East Zion Visitor Center	32	$1.5	$2.3
Trails	7	$0.2	$0.5
Commercial Lodging	256	$9.1	$16.3
Residential Developments	77	$2.8	$5.6
Additional Visitor Spending[3]	75	$2.6	$4.7
Subtotal	**451**	**$16.5**	**$29.6**
Total	**883**	**$30.9**	**$55.6**

Note: Impacts represent direct, indirect, and induced effects. Totals may not match due to rounding.

1. EVZion+ scenario incorporates new economic activity from improvements near the east entrance of Zion National Park. For more detailed results by EVZion+ component, see Tables A1 and A2 in the Appendix.
2. Includes additional shuttles for East Zion route and proposed replacement of propane shuttles. See Appendix tables regarding the possibility of a smaller Kane County share of the electric shuttle impacts in Table 10.
3. Includes additional visitor spending generated by east entrance investments, beyond visitor spending in the baseline forecast and from itemized EVZion+ components.

Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Table 12: Average Annual Total Economic Impacts in Washington County, EVZion+ Scenario, 2020–2030

(Jobs and Millions of 2020 Dollars)

Source of Impact	Employment	Earnings	GDP
Baseline Forecast:			
Visitor Spending	3,968	$131.7	$230.1
EVZion+ Scenario:[1]			
Electric Shuttles[2]	1	$0.0	$0.1
East Zion Visitor Center	3	$0.1	$0.2
Trails[3]	0	0.0	0.0
Commercial Lodging	–151	–$4.4	–$7.8
Residential Developments	–10	–$0.1	–$0.3
Additional Visitor Spending[4]	250	$8.7	$15.1
Subtotal	**94**	**$4.3**	**$7.3**
Total	**4,063**	**$136.0**	**$237.4**

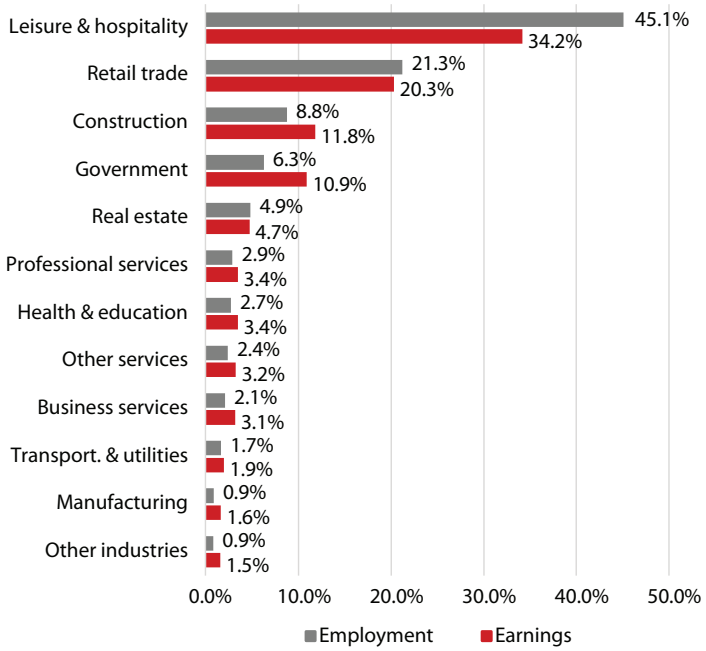
Note: Impacts represent direct, indirect, and induced effects. Totals may not match due to rounding.

1. EVZion+ scenario incorporates new economic activity from improvements near the east entrance of Zion National Park. For more detailed results by EVZion+ component, see Tables A1 and A2 in the Appendix.
2. Includes additional two EVZion shuttles for East Zion route and proposed replacement of propane shuttles. The earnings impact is $34,000. See Appendix regarding the possibility of slightly larger Washington County electric shuttle impacts.
3. Trail-related impacts are 0.3 jobs, $15,000 in earnings, and $26,000 in GDP.
4. Includes additional visitor spending generated by east entrance investments, beyond visitor spending in the baseline forecast and from itemized EVZion+ components.

Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Figure 13: Industry Shares of Economic Impacts, EVZion+ Scenario, 2020–2030

(Percentage of Total Impacts in Kane and Washington Counties)



Note: Impacts represent direct, indirect, and induced effects. "Other industries" includes those with fewer than 25 jobs in combined baseline forecast and EVZion+ scenario economic impacts. These industries include wholesale trade, natural resources, finance and insurance, and information services.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

expect modest to considerable support from these tourism-focused developments. These employment impacts include baseline visitor spending and EVZion+ improvements for Zion NP's east side.

Leisure and hospitality (primarily from accommodations) would see an average increase of 2,233 jobs per year from 2020 to 2030, 45.1% of the total for all industries (see Table 13). EVZion+ improvements would create 162 of those jobs beyond the baseline economic impact of 2,070 jobs. Retail would add 1,052 jobs, over one-fifth of total baseline and EVZion+ impacts. Of the average annual employment impact of 4,946 jobs in all industries, 545 (11.0%) would come from East Zion improvements.

Four industries will provide workers in Kane and Washington counties with an average of more than $15.0 million in additional earnings per year from 2020 to 2030 (see Table 14). Economic impacts in the leisure and hospitality industry not only provide the most visitor spending-related employment, but also the most earnings, at $57.0 million from baseline and EVZion+ activity. Well-paying federal, state, and local government jobs provide 11.8% of earnings, $19.6 million annually, from only 6.3% of employment.

The jobs in Kane and Washington counties created by Zion NP visitor spending and EVZion+ developments will each pay an estimated average of $33,700 in inflation-adjusted dollars per year from 2020 to 2030. Leisure and hospitality, the industry

Table 13: Average Annual Employment Impacts by Industry, EVZion+ Scenario, 2020–2030

(Jobs in Kane and Washington Counties)

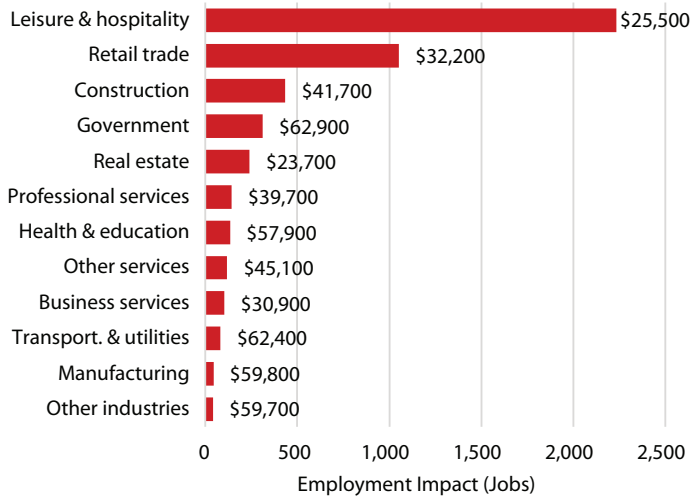
Industry	Baseline Forecast[1]	EVZion+ Change[2]	EVZion+ Total[2]	Share
Leisure and hospitality	2,070	162	2,233	45.1%
Retail trade	926	127	1,052	21.3%
Construction	291	144	436	8.8%
Government[3]	263	49	312	6.3%
Real estate	220	21	241	4.9%
Professional services	135	9	144	2.9%
Health and education	127	9	135	2.7%
Other services	109	10	119	2.4%
Business services	99	4	104	2.1%
Transportation and utilities	77	7	84	1.7%
Manufacturing	42	2	44	0.9%
Other industries[4]	41	1	42	0.9%
Total	**4,400**	**545**	**4,946**	**100.0%**
Share	**89.0%**	**11.0%**	**100.0%**	**NA**

Note: Average employment represents combined direct, indirect, and induced economic impacts. Totals may not match due to rounding.
1. Baseline forecast represents ongoing economic activity from Zion National Park visitor spending without east entrance improvements.
2. EVZion+ scenario incorporates new economic activity from investments near the park's east entrance.
3. Government row includes local, state, and federal jobs.
4. "Other industries" includes those with total employment impacts below 25 jobs: wholesale trade, natural resources, finance and insurance, and information services.

Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Figure 14: Average Annual Earnings per Job by Industry, EVZion+ Scenario, 2020–2030

(Number of Jobs and Earnings per Job From Total Economic Impacts in Kane and Washington Counties; 2020 Dollars)



Note: Bar lengths along the horizontal axis represents employment impacts matching the "EVZion+ Total" column of Table 13 as context for average earnings per job (labels). Average earnings for all industries equaled $33,700. "Other industries" includes those with employment impacts below 25 jobs each: wholesale trade, natural resources, finance and insurance, and information services. Dollar amounts, rounded to the nearest $100, represent combined direct, indirect, and induced economic impacts.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Table 14: Average Annual Earnings Impacts by Industry, EVZion+ Scenario, 2020–2030

(Earnings From Jobs in Kane and Washington Counties; Millions of 2020 Dollars)

Industry	Baseline Forecast[1]	EVZion+ Change[2]	EVZion+ Total[2]	Share
Leisure and hospitality	$51.3	$5.7	$57.0	34.2%
Retail trade	$29.9	$4.0	$33.9	20.3%
Government[3]	$16.3	$3.3	$19.6	11.8%
Construction	$12.9	$5.2	$18.1	10.9%
Health and education	$7.4	$0.5	$7.8	4.7%
Professional services	$5.4	$0.3	$5.7	3.4%
Real estate	$5.4	$0.3	$5.7	3.4%
Other services	$4.8	$0.6	$5.4	3.2%
Transportation and utilities	$4.8	$0.4	$5.2	3.1%
Business services	$3.0	$0.2	$3.2	1.9%
Manufacturing	$2.5	$0.1	$2.6	1.6%
Other industries[4]	$2.3	$0.2	$2.5	1.5%
Total	**$146.1**	**$20.8**	**$166.9**	**100.0%**
Share	**87.5%**	**12.5%**	**100.0%**	**NA**

Note: Average earnings represent combined direct, indirect, and induced economic impacts. Totals may not match due to rounding.

1. Baseline forecast represents ongoing economic activity from Zion National Park visitor spending without east entrance improvements.
2. EVZion+ scenario incorporates new economic activity from investments near the park's east entrance.
3. Government row includes local, state, and federal jobs.
4. "Other industries" includes those with total earnings impacts below $2.0 million: wholesale trade, information services, finance and insurance, and natural resources. Totals may not match due to rounding.

Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

with the most employment (2,233 jobs), will pay $25,500 per job annually, which is below the average for all economic impacts. In several industries, average earnings from economic impacts will be above $50,000 per year (see Figure 14).

3.7 Fiscal Impacts

The Gardner Institute estimated government revenues generated by the economic impacts of Zion NP baseline visitor spending and EVZion+ east entrance investments.

Under the baseline scenario, from 2020 to 2030, Kane County and its municipalities will receive an estimated average annual $3.6 million in tax revenues from ongoing visitor spending (see Table 15). Estimated local tax revenues in Washington County are $16.8 million, 82.4% of the two-county total of $20.4 million per year. From 2020 to 2030, Kane and Washington counties will also generate an estimated average annual $22.5 million in state revenues related to Zion NP visitor spending, 84.6% of it from Washington County. These revenues will help offset government expenses to provide services to residents whose jobs depend on national park tourism.

The economic impacts of EVZion+ scenario developments would increase state and local government revenue impacts by

Table 15: State and Local Government Revenue Generated by Baseline Economic Impacts, 2020–2030

(Average Annual Revenue in Millions of 2020 Dollars)

Impact	Kane County	Washington County	Total
Local Government:			
Property tax revenues	$1.6	$7.5	$9.1
Sales tax revenues	$2.0	$9.3	$11.3
Subtotal	**$3.6**	**$16.8**	**$20.4**
State Government:			
Sales tax revenues	$1.8	$10.7	$12.5
Personal income tax revenues	$0.2	$2.3	$2.5
Corporate income tax revenues	$0.0	$0.3	$0.3
Other tax	$1.0	$6.2	$7.2
Subtotal	**$3.1**	**$19.5**	**$22.5**
Total	**$6.7**	**$36.3**	**$42.9**

Note: Results based on total economic impacts of Zion National Park visitor spending. From Kane County, corporate tax revenues are $$42,894. Local revenues include those from counties and municipalities. Totals may not match due to rounding.
Source: Kem C. Gardner Policy Institute analysis using IMPLAN economic software and the Gardner Institute tourism fiscal model

Table 16: State and Local Government Revenue Generated by Total EVZion+ Scenario Economic Impacts, 2020–2030

(Average Annual Revenue in Millions of 2020 Dollars)

Impact	Kane County	Washington County	Total
Local Government:			
Property tax revenues	$3.2	$7.7	$10.9
Sales tax revenues	$3.2	$9.5	$12.7
Subtotal	**$6.4**	**$17.2**	**$23.6**
State Government:			
Sales tax revenues	$2.8	$11.1	$13.9
Personal income tax revenues	$0.5	$2.4	$2.9
Corporate income tax revenues	$0.1	$0.3	$0.4
Other taxes	$1.3	$6.5	$7.8
Subtotal	**$4.7**	**$20.3**	**$25.0**
Total	**$11.1**	**$37.5**	**$48.6**

Note: Local revenues include those for counties and municipalities. Totals may not match due to rounding.
Source: Kem C. Gardner Policy Institute analysis using IMPLAN economic software and the Gardner Institute tourism fiscal model

an estimated 13.3%, from an average annual of $42.9 million (baseline forecast) to an estimated $48.6 million (see Table 16). EVZion+ developments would increase Kane County's local government revenue impacts 77.7%, or from $3.6 million to $6.4 million. State tax revenue impacts from Kane County would increase by 32.3% (from $3.1 million to $4.7 million). EVZion+ developments would increase Washington County's local government revenue impacts by 2.4% (from $16.8 million to $17.2 million), while state revenue impacts from Washington County would increase by 4.1%, or from $19.5 million to $20.3 million.

Section 4. Considerations

When considering future national park visitation and spending trends, it is important to acknowledge a variety of emerging issues. This section addresses Zion NP capacity, the Utah Office of Tourism's Red Emerald Initiative, and equity, diversity, and inclusion initiatives recently introduced in the public, private, and nonprofit sectors. Emerging issues also include the larger St. George-to-Kanab transportation plan and the potential impacts of climate change on future Zion NP travel and tourism.

4.1 Zion National Park Capacity

Significant visitation increases in a relatively short period of time can not only generate increased economic impact, but also a variety of social and environmental impacts. Traffic, pollution, lack of parking, long lines, crowded trails, and environmental degradation can result from overcrowding or "overtourism" at national parks.[13] The immense popularity of Utah parks can lead park managers to limit visitation and require special permits for high-use areas. Park crowding can also negatively impact the visitor experience and deter potential visitors.

As required by the National Parks and Recreation Act of 1978, national park managers must complete a General Management Plan (GMP) that identifies—and commits to the implementation of—visitor carrying capacities for all park system units.[14] The need to identify visitor carrying capacity and adhere to the philosophy of "adaptive management" has been discussed by Zion NP managers for many years. Currently, managers have implemented extensive visitor use and experience studies to guide them in their current planning endeavors. They have delineated seven Zion NP frontcountry study areas and plan to conduct detailed visitor capacity analyses of each study area.[15] Capacity analyses look at facilities such as transportation, natural and cultural resources, and visitor patterns and usage, accounting for both current conditions as well as potential actions that would enhance visitor experiences and opportunities. Under different park management scenarios, managers would introduce measures to monitor conditions over time and provide feedback on the effectiveness of management actions.

In essence, it is important to weigh the costs of overtourism against the benefits of adaptive management. Previous studies have shown that when park congestion and excessive wait times degrade the park visitor experience, they also decrease the amount of money visitors are willing to spend on that experience. In fact, if the park visitor experience suffers too much, visitor expenditures are often diverted away from the park altogether. Conversely, if park visit quality is improved by reduced congestion and wait times, then park visit value increases, as do visitor expenditures (Paterson, 2018). Thus, maintaining the quality of the visitor experience can have a net positive economic influence.[16]

4.2 Red Emerald Initiative

In 2019, the Utah Office of Tourism continued to uphold its Red Emerald Strategic Plan, a community-led vision aimed at attracting quality visitation by promoting Utah's "rarefied, distinctive, and unique" assets. Proposed east entrance developments listed in this study adhere to Red Emerald Initiative goals by aiming to improve the quality of the Zion NP visitor experience through reduced auto congestion and park tunnel wait times (EVZion), pollution reduction (EVZion and zero-emission, 100% electric park shuttle fleet), potential crowd reduction and dispersion (facilitating visitor movement from the busy south entrance to new east entrance amenities), economic diversification (the construction of east entrance facilities), recreation diversification (42 miles of new hiking/biking trails), and additional educational opportunities (e.g., East Zion NP geology, habitat, wildlife, and cultural heritage).[17]

4.3 Equity, Diversity, and Inclusion

Future national park visitor demographics and preferences will most likely change due to U.S. population demographic shifts, international travel expansion, and outdoor recreation's growing equity, diversity, and inclusion initiatives. In 2013, the National Park Service created its Office of Relevancy, Diversity, and Inclusion to promote an increasingly inclusive and participatory organizational culture that works toward all Americans establishing a personal connection to national parks and programs (National Park Service, July 2020). Similarly, Outdoor Afro; Hispanics Enjoying Camping, Hunting, and the Outdoors (HECHO); Latino Outdoors; and Hiking Every Available Trail (HEAT) are among the organizations that for years have led equity, diversity, and inclusion initiatives particularly relevant to national parks (Root, 2017). In February 2020, the Outdoor Industry Association launched an initiative that not only encourages outdoor recreation companies to become more inclusive, equitable, and diverse workplaces, but also aims to create a best practice system that ensures "everyone in the outdoors is welcome" (Outdoor Industry Association, 2020).

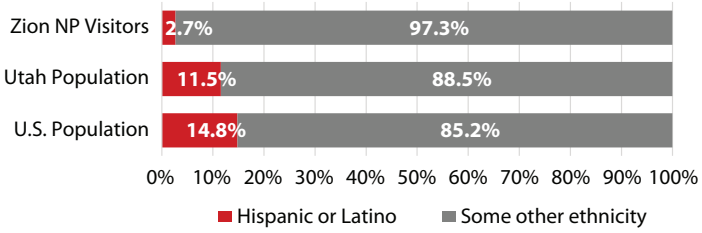
Based on 2006 Zion NP visitor demographic data, Black or African American visitors were the most underrepresented Zion NP racial group (0.7%) compared with the U.S. population (13.2%) (see Table 17). Hispanic or Latino visitors were also underrepresented as an ethnic group (2.7%) compared with

Table 17: Race of Zion National Park Visitors, 2006
(Share of Total Visitors and Population)

Race Group	Zion NP Visitors	Population	
		Utah	U.S.
Asian	5.7%	2.0%	4.9%
Black or African American	0.7%	1.3%	13.2%
Native American	1.1%	1.3%	1.5%
Pacific Islander	0.7%	0.9%	0.3%
White	91.8%	94.4%	80.1%
Total	**100.0%**	**100.0%**	**100.0%**

Note: "Native American" stands for "American Indian and Alaska Native." Pacific Islander group includes Native Hawaiians. Due to data limitations, Utah population shares do not reflect group quarters populations or people whose race was outside the five groups listed.
Source: National Park Service and U.S. Census Bureau (for Utah population, American Community Survey, Integrated Public Use Microdata Series; for U.S. population, 2008 Statistical Abstract)

Figure 15: Ethnicity of National Park Visitors, 2006
(Visitor and Population Shares)



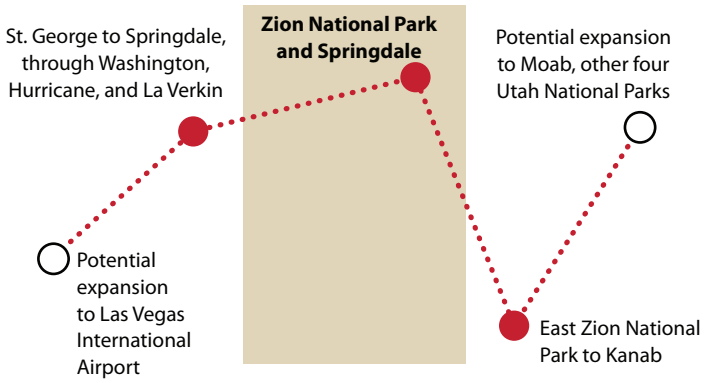
Source: National Park Service and U.S. Census Bureau

Utah (11.5%) and U.S. populations (14.5%) (see Figure 15). Interestingly, Zion NP received a disproportionately large share of Asian visitors (5.7%) compared with Utah (2.0%), due mostly to international visitation. However, because Zion NP visitor demographic data is over a decade old, visitor demographic changes since 2006 are unknown.

4.4 Comprehensive Transportation Plan

Public transportation and public transit systems have the potential to enhance accessibility, or people's ability to reach goods, services, and activities. Best practices transport planning considers physical mobility, quality, affordability, sustainability, system connectivity, and land use patterns (Litman, 2020). Kane and Washington county planners have envisioned a comprehensive public transportation plan that includes electric shuttle transportation from St. George to the south entrance of Zion NP. From there, visitors would be able to ride park shuttles to Zion Canyon or to the park's east entrance on proposed EVZion shuttles. At the east entrance, shuttles could then transport visitors to the city of Kanab. Of course, this system would work in reverse as well, from Kanab, through Zion NP, and ultimately to St. George. There have also been conversations about ultimately establishing routes from St. George west to the

Figure 16: St. George-to-Kanab Transportation Plan



Source: K. Sophie Will/The Spectrum and Daily News

Las Vegas International Airport and east to Utah's four other national parks and Moab (see Figure 16). Of course, funding is imperative to the development of this comprehensive transportation plan, along with the consideration of many other feasibility aspects, which are outside the scope of this study.

4.5 Climate Change

Climate change will continue to impact Zion NP's ecosystem and visitation. A recent scientific study reported double the rate of warming in U.S. national parks compared with all of the U.S. (Gonzalez et al., 2018). Continually increasing air and water temperatures tend to produce earlier and more severe storms, glacial/snow melting, and heat waves/droughts. Changing weather patterns directly affect the ecosystem by altering plant and animal cycles and changing wildlife habitat. Although rising temperatures can extend the tourism season, especially during the cooler months, extreme high temperatures can shorten the summer tourist season—especially in Southwestern Utah. Severe weather events (e.g., floods, mudslides, and rock slides) can limit or completely eliminate access to park roads and trails. Scientists agree that reducing carbon dioxide emissions is the most effective way to offset climate change. Utilizing cleaner energy production alternatives (e.g., solar, geothermal, wind, etc.), taking public transportation as often as possible, and replacing fossil fuel-burning vehicles with 100% electric vehicles are some ways to offset carbon dioxide emissions. Several proposed EVZion+ investments embrace sustainable technologies, such as replacing propane-fueled shuttles with electric shuttles and offering EVZion electric transport.

Additionally, east entrance developers view the East Zion Visitor Center, lodging facilities, and residential unit construction through the lens of carbon neutrality; and they plan to achieve carbon neutrality on the energy-use side without sacrificing comfort on the guest-experience side.[18] The International Living Future Institute in Seattle, Washington, has advised east entrance

developers on creating "socially just, culturally rich, and ecologically restorative" communities (2020). East entrance lodging and residential developments expect to be "net-positive" by omitting "red list" construction materials and employing a passive building design.[19] In fact, east entrance property not only has access to a warm water well, but also is geographically well-positioned for solar energy production. Developers have expressed the desire to be—and want their future guests to feel— "part of the solution and not part of the problem."[20]

4.6 Study Limitations

Data limitations. Study conclusions are based on available information. The most recent Zion NP visitor demographic data is from 2006 and only captures visitor responses from August 2–8, 2006 (summer) and November 1–7, 2006 (fall). As for Utah visitor data, the authors rely on Omnitrak traveler surveys. Omnitrak's Utah traveler sample sizes are relatively small, especially for Zion NP visitors. Additionally, there is no way to distinguish which national parks or state parks respondents visited as the Utah questionnaire allows respondents to mark only the option: "visited state/national park."

Additional developments and investments. The Gardner Institute based its results on the large Zion NP and east entrance investments documented in Section 3. Other potential causal effects lie outside the scope of this study and could lead to more, or less, favorable outcomes than those presented for Kane and Washington counties. For example, the authors did not consider additional west-of-Zion development and investments, aside from a measured market response there to east entrance and within-park improvements.

Forecasted scenarios in this report depend on historical private and public investment and consumption dynamics in Southwestern Utah. The forecasts do not grasp some of the more spontaneous possibilities in Kane and Washington counties through 2030. The baseline scenario reflects ongoing business growth in tourism and other sectors. Meanwhile, the EVZion+ scenario reflects elevated investment activity generated by the east entrance developments and accompanying increases in visitor spending. Both scenarios incorporate investment and growth in Kane and Washington counties for hotels, restaurants, convenience stores, and other businesses that are not EVZion+ components. However, exceptional levels of private or public investment unrelated to EVZion+ could produce county outcomes above or below this report's baseline scenario results. Likewise, exceptional investment decisions in response to EVZion+ improvements (beyond predictable market-driven reactions) could produce outcomes that do not match this report's EVZion+ scenario results. Unexpected investment shifts related to EVZion+ could produce further advances beyond scenario investment estimates or, alternatively, entail a retreat below scenario estimates. The study's tourism and economic model balances many possibilities, but inherent uncertainty about the future and human behavior attend all forecasts.

Finally, the authors did not consider possible community events using east entrance developments, such as future mountain bike races on the 42-mile trail system. Opportunities for new events could potentially have a significant economic impact on Zion NP's east entrance and Kane and Washington counties in the coming years.

Section 5. Conclusion

The Gardner Institute estimates that Zion NP visitation and spending will return to 2019 levels in 2021 and continue on a relatively flat path forward (baseline scenario). The EVZion+ scenario features an array of Zion NP east entrance developments, including EV shuttles, a visitor center, trails, commercial lodging, and residential developments. As EVZion+ plans are realized, Kane and Washington counties will both experience economic and fiscal benefits above baseline expectations. Gains in Kane County will be particularly pronounced as a share of its economy. The authors believe that continued Zion NP visitation growth without future infrastructure investment risks negatively impacting the park visitor experience to the point of necessary visitor park capacity restrictions and diminished local economic benefits. In addition, the authors feel it is important for Zion NP managers and east entrance developers to consider emerging local, national, and global issues as they develop future park management plans and direct infrastructure investments.

Section 6. Economic Terms

Employment is a measure of the average number of full-time and part-time jobs, including self-employed workers. Jobs reflect a person's place of work, not necessarily their place of residence. This report follows the U.S. Bureau of Economic Analysis concept of employment.

Earnings consist of employee compensation and self-employment income. Earnings equal the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income. Supplements include such items as employer contributions for employee health insurance policies and retirement accounts.

Gross domestic product (GDP) is a measure of total economic activity in a region. A "product" can be either a service or a tangible good. GDP avoids double-counting intermediate sales and captures only the value added to final products by capital and labor in a region, such as Kane and Washington counties.

Direct, indirect, and induced impacts. Utah's travel and tourism industry is composed of a variety of industry sectors, including arts, entertainment, recreation, accommodations, foodservice, retail, transportation, equipment rentals, and other personal services. Visitor spending generates direct, indirect, and induced impacts, which make up total economic impacts. When Utah visitors purchase from Utah businesses, these are the direct effects, including the employees and earnings that are supported by these purchases. These businesses purchase inputs from other local businesses, who in turn may purchase from other local businesses. These rounds of activity produce indirect employment and earnings effects. Then, direct and indirect employees spend a portion of their earnings in the local economy, spurring additional "induced" effects. In the tourism industry, a direct spending example would be a visitor paying their hotel bill. Indirect spending would be the hotel owner purchasing bed sheets from an in-state linen company. Induced spending would include hotel employees and linen company employees spending their paychecks on personal purchases (e.g. rent, groceries, health care, etc.).

Section 7. Analysis Methods

7.1 Assumptions

The authors have made several assumptions about economic activity through 2030 based on east entrance improvements included in the EVZion+ scenario. For the electric shuttle projects, analysts assume that requested federal funding will be forthcoming. However, since suppliers outside of Utah will likely manufacture the busses and EVSE charging equipment, analysts do not anticipate a local economic impact from those components. By contrast, equipment installation and bus stop construction will create local economic impacts.

Regarding trail construction, Gardner Institute analysts anticipate that jobs will last nine months per year. Employment in a given year is proportional to the miles of trail that will open in May of the following year. Analysts assume trail maintenance employment for completed segments will begin in 2021 and reach three full-time employees in 2024 when all 42 miles are completed.

New commercial lodging near the east entrance may take some time to attract visitors. Gardner Institute economic impact results incorporate the midpoint between a hotel's target room rate (see Table 6 in Section 3.2) and projected market rates based on trends for existing hotels in Kane County and Springdale. Even if occupancy rates respond more than room rates to the movement of visitors to the east side of Zion NP, the approach in this analysis reflects both current and potential visitor spending patterns during what may be a transformative decade for Kane County's tourism sector.

Not all of the new economic activity EVZion+ improvements generate can be considered economic impacts to Kane and Washington counties. Principally, some of the guests at the new hotels and rental homes near the east entrance would otherwise have chosen alternative accommodations in Kane and Washington counties. For Kane County, Gardner Institute analysts assume 72% of visitor spending from stays at new residential and commercial lodging is a net increase in economic activity. Without EVZion+ improvements from 2020 to 2030, baseline forecasts suggest Kane County will enjoy about 14% of economic activity (GDP) in Washington and Kane counties' combined accommodations industry. Washington County would secure the remaining 86%. Since a significantly larger portion of Washington County's accommodations (unspecified in the data) involve business and leisure travel unrelated to Zion NP, analysts double Kane County's share to 28%. Institute analysts assume accommodations spending will fall below baseline growth elsewhere in the county in the amount of 28% of direct economic activity (new jobs and dollars spent) for EVZion+ lodging and residential developments in the county through 2030. At least for commercial lodging, the four new hotels' 22.7% share of Kane County's commercial lodging capacity corroborates the 28% assumption as safely conservative (Smith Travel Research, 2020).

Washington County's more diversified accommodations industry, compared with that of Kane County, also prompted us to reduce the Washington County share of 86% by half. Gardner Institute analysts project that accommodations spending in the latter county will decrease below baseline by only 43% of new Kane County hotel and home rental activity generated by the EVZion+ scenario. These adjustments make the Gardner Institute's results more accurate since the EVZion+ scenario involves not only leisure and hospitality industry growth, but also tourism dispersion and an improved visitor experience.

The Gardner Institute estimated construction spending for new commercial lodging and residential developments as shares of new property market values in Zions Bank forecasts. Institute analysts calculated commercial lodging construction spending at 85.9% of annual market values (similar to those in Table 2 in Section 1), based on a survey by hospitality consulting firm HVS regarding hotel development costs in 2018 and 2019 (Major, 2019). The remaining 14.1% of market value reflects the value of undeveloped land. Similarly, analysts estimated residential construction-related spending at 81.6% of sales prices (see Table 7 in Section 3.2, for market values), based on 2019 United States single-family home prices and costs acquired from the National Association of Home Builders (Ford, 2019). The remaining 18.4% of the sales price is primarily based on land value.

Besides the published documents cited on the references page, the authors' analysis relied on information local experts provided, mostly in September and October of 2020. For cost and timing estimates for replacing propane shuttles, analysts relied on personal communications with Jeff Bradybaugh, Superintendent of Zion National Park, and Jenny Staroska, Transportation Manager at Zion NP. For park capacity and visitor information, analysts communicated with Susan McPartland, Visitor Use Planner of Zion NP. For information on the EVZion proposal, analysts spoke with Tammie Bostick, Executive Director of Urban Clean Cities. Visitor Center employment estimates came from personal communications with Jill Burt, Director of Operations and Retail Sales, and Mark Preiss, Director, both at the Zion National Park Forever Project. For trail construction and maintenance employment and timing estimates, analysts contacted Kevin McLaws, CEO and co-owner of Zion Mountain Ranch, and Tara McKee, Program Manager at Utah Office of Outdoor Recreation. Finally, Institute analysts relied on a Zions Bank analysis of key projections for the commercial lodging and residential developments, provided by Kane County Commissioner, Brent Chamberlain.

7.2 Zion NP Visitation and Visitor Spending

To forecast Zion NP visitation trends, the Gardner Institute utilized the average annualized rate of visitation change from 2017 to 2019 (–0.2%). In addition to recent park visitation trends, baseline estimates drew on the authors' personal communication with park managers, local business owners, and local government officials. The authors also considered national and international travel forecasts. The National Park Service provided direct park spending numbers and nonlocal spending portion. The authors analyzed local sales, employment, tax revenue, and accommodation data to estimate the portion of visitor spending that impacts each of the park's surrounding counties and gateway communities.

7.3 Economic Impacts

To calculate the indirect and induced impacts that resulted from direct Zion NP visitor spending activity in 2019, the Institute input National Park Service data and utilized both IMPLAN and REMI PI+ economic software for analysis. To estimate future indirect and induced impacts that resulted from visitor spending and investments in tourism infrastructure and businesses, Institute analysts customized an economic impact model for Utah for the years 2020 to 2030. REMI PI+ version 2.4, developed by Regional Economic Models, Inc., is a dynamic, multiregional simulation software package that estimates the economic, population, and labor market impacts of specific economic changes. The analytical framework incorporates input-output relationships, general equilibrium effects, economic geography, and econometrics.

7.4 Fiscal Impacts

Gardner Institute analysts have also customized a travel and tourism fiscal impact model. This customized model utilizes both the 2019 IMPLAN economic modeling software and the Gardner Institute tourism fiscal model. The tourism fiscal model uses visitor spending, current state and local tax rates, and state and local tax revenues to estimate visitor-related state and local sales tax and "other" state tax revenues (i.e., visitor spending-generated portion of fuel tax, aviation fuel tax, boat registration, OHV registration, motor vehicle rental tax, beer, liquor, and tobacco tax, and statewide transient room tax). State income, state corporate, and local property tax revenues are generated by IMPLAN economic software. The Institute limits its model to state and local governments because Utah federal tax collections have a relatively small impact on federal government receipts. Similarly, the Institute assumes federal spending in the state in a given year is largely independent of economic activity in Utah's industries, including the travel and tourism–related industries.

Appendix

Tables A1 and A2 itemize the total economic impacts from the construction and ongoing operation of new facilities and services added to baseline visitor spending. EVZion+ components include electric shuttles, a visitor center, biking and hiking trails, commercial lodging, and housing developments around the east entrance. Inflation-adjusted earnings and GDP amounts are 11-year totals, while employment impacts are single-year averages. These results provide transparency for Gardner Institute estimates of collective outcomes from EVZion+ improvements. Any investment pursued individually, without complementary elements of the EVZion+ scenario, may generate smaller economic impacts than those presented here.

Table A3 documents historical growth in National Park visitation in Utah since 2000.

Table A1: Employment and Earnings Impacts by Component, 2020–2030
(Jobs and Millions of 2020 Dollars)

Component	Average Annual Employment			Total Earnings		
	Kane County	Washington County	Total	Kane County	Washington County	Total
1. Visitor Spending, Baseline Forecast	431.9	3,968.3	4,400.2	$158.7	$1,448.7	$1,607.3
1. Visitor Spending, Additional from EVZion+ Scenario	75.4	250.4	325.8	$28.5	$95.2	$123.7
2. EVZion Shuttle, Construction for New East Route	0.6	0.1	0.7	$0.2	$0.1	$0.3
2. Electric Shuttle, Construction for Fleet Replacement	3.1	0.7	3.8	$1.3	$0.3	$1.6
3. East Zion Visitor Center Construction	7.0	1.5	8.5	$2.8	$0.7	$3.5
3. East Zion Visitor Center Operation	24.7	1.6	26.2	$14.1	$0.8	$14.9
4. Trail Construction	3.6	0.2	3.8	$1.5	$0.1	$1.6
4. Trails Operations	3.0	0.1	3.1	$1.2	$0.1	$1.3
5. Commercial Lodging Construction	59.8	12.6	72.4	$24.8	$6.0	$30.8
5. Commercial Lodging Operations	196.6	–163.3	33.3	$75.9	–$54.3	$21.6
6. Residential Construction	53.8	10.1	63.9	$21.9	$5.0	$26.8
6. Residential Operations	23.7	–19.7	4.0	$9.1	–$6.5	$2.6
Subtotal: Construction	**127.8**	**25.3**	**153.1**	**$52.5**	**$12.1**	**$64.6**
Subtotal: Operations	**247.9**	**–181.3**	**66.6**	**$100.3**	**–$60.0**	**$40.4**
Subtotal: Visitor Spending	**507.3**	**4,218.7**	**4,726.0**	**$187.1**	**$1,543.8**	**$1,731.0**
Total	**883.0**	**4,062.7**	**4,945.7**	**$339.9**	**$1,496.0**	**$1,835.9**

Note: Amounts represent all 11 years, even for components where operations do not begin for a few years or construction takes a relatively short time. Impacts represent direct, indirect, and induced effects. If Washington County companies provide construction for the electric shuttle fleet replacement, most of the 3.8 jobs and $1.6 million in earnings would accrue there instead of Kane County.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Table A2: GDP Impacts by Component, 2020–2030

(Millions of 2020 Dollars)

Item	Kane County	Washington County	Total
1. Visitor Spending, Baseline Forecast	$285.8	$2,530.7	$2,816.6
1. Visitor Spending, Additional from EVZion+ Scenario	$51.4	$165.6	$217.1
2. EVZion Shuttle, Construction for New East Route	$0.5	$0.1	$0.6
2. Electric Shuttle, Construction for Fleet Replacement	$2.4	$0.5	$2.9
3. East Zion Visitor Center Construction	$5.4	$1.2	$6.6
3. East Zion Visitor Center Operation	$20.1	$1.3	$21.4
4. Trail Construction	$2.8	$0.2	$2.9
4. Trails Operations	$2.4	$0.1	$2.5
5. Commercial Lodging Construction	$46.6	$10.1	$56.6
5. Commercial Lodging Operations	$132.7	–$95.5	$37.3
6. Residential Construction	$45.5	$8.4	$53.9
6. Residential Operations	$16.1	–$11.5	$4.6
Subtotal: Construction	**$103.1**	**$20.5**	**$123.6**
Subtotal: Operations	**$171.4**	**–$105.6**	**$65.8**
Subtotal: Visitor Spending	**$337.3**	**$2,696.4**	**$3,033.6**
Total	**$611.7**	**$2,611.2**	**$3,223.0**

Note: Totals represent all 11 years, even for components where operations do not begin for a few years or construction takes a relatively short time. Impacts represent direct, indirect, and induced effects. If Washington County companies provide construction for the electric shuttle fleet replacement, most of the $2.9 million in GDP impacts would accrue to Washington rather than Kane county.
Source: Kem C. Gardner Policy Institute analysis using REMI PI+ economic model

Table A3: Zion National Park and Utah National Park Visitation, 2000–2020

Year	Zion NP Visits	Total NP Visits
2000	2,432,348	5,332,266
2001	2,217,779	4,946,487
2002	2,592,545	5,147,950
2003	2,458,792	5,042,756
2004	2,677,342	5,318,157
2005	2,586,665	5,329,931
2006	2,567,350	5,165,498
2007	2,657,281	5,445,591
2008	2,690,154	5,670,851
2009	2,735,402	6,002,104
2010	2,665,972	6,072,900

Year	Zion NP Visits	Total NP Visits
2011	2,825,505	6,304,838
2012	2,973,607	6,555,833
2013	2,807,387	6,328,040
2014	3,189,696	7,239,149
2015	3,648,846	8,369,533
2016	4,295,127	10,087,077
2017	4,504,812	10,507,960
2018	4,320,033	10,630,144
2019	4,488,268	10,703,389
2020	3,591,254	7,768,945

Year	Zion NP Visits	Total NP Visits
Average Annual Rate of Change		
2000–2019	3.3%	3.7%
2010–2019	6.0%	6.5%
2015–2019	5.3%	6.3%
2017–2019	–0.2%	0.9%
Annual Percent Change		
2018–2019	3.9%	0.7%
2019–2020	–20.0%	–27.4%

Note: Utah National Parks include Arches, Bryce Canyon, Canyonlands, Capitol Reef, and Zion. Long-term forecasts in this report based primarily on growth rates during years before the pandemic anomaly.
Source: Kem C. Gardner Policy Institute analysis of National Park Service data

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Endnotes

1. Nonlocal spending in 2020 dollars.
2. In 2020 dollars.
3. This study does not not consider additional west-of-Zion development and investments, aside from a measured market response there to east entrance and within-park improvements. For more information, see Section 4.6 of this report.
4. For more information on the Headwaters study, see Gardner Institute blog dated April 25, 2019, found at https://gardner.utah.edu/blog-recreation-antidote-to-rural-population-and-job-loss/
5. Although Washington County did meet Headwaters Economics' definition of a recreation county, it did not meet their definition of a rural county.
6. During the internal review process, report authors received an alternative viewpoint that 2021 visitation may surpass 2019 visitation based on the pent-up demand for travel due to the COVID-19 pandemic in 2020 and then return to baseline in 2022.
7. Subsequent to report completion, Zion NP was awarded a $33.5 million grant from the federal government for this project (Zion National Park, 2021).
8. Based on personal communication with Jenny Staroska, transportation director, Zion National Park, on September 29, 2020, the Gardner Institute expected the total budget for upgrading Zion NP propane shuttle system to reach $50 million, with an estimated 90% ($45 million) paid to an out-of-state electric shuttle manufacturer and the remaining 10% ($5 million) devoted to local construction in 2023. At the time of the February 2021 federal grant award announcement, construction was slated to begin in 2021 and span more than one year. Exact construction spending was still not available.
9. In early planning, people referred to the East Zion Visitor Center as the Applecross Visitor Center. Subsequent to report completion, Utah's Community Improvement Board (CIB) awarded preliminary approval to Kane County for a low-interest, 30-year loan to construct the Visitor Center. Also, planned investment for the visitor center increased by $3.0 million to $15.5 million. In this regard, the report's results for this EVZion+ component, based on a $12.5 million investment, are likely too low.
10. Based on personal communication with Tara McKee, Program Manager of Utah Office of Outdoor Recreation, on July 20, 2020, and with Kevin McLaws, CEO and co-owner of Zion Mountain Ranch, on October 23, 2020.
11. In 2019, 82% of visitor spending occurred in Washington County and another 15% in Kane County. Iron County captured the remaining 3%. By 2030, planned EVZion+ components are expected to raise Kane County's share to 19% and lower Washington County's share to 78%. Projected increases in visitation and visitor spending from EVZion+ will more than offset Washington County impacts from this redistribution of visitor spending, by $4.3 million per year. Even with the four-percentage-point swing, the combined net effect for Washington County is $13.0 million in additional annual visitor spending. Besides these projected changes in general visitor spending trends, other EVZion+ components have their own economic impacts in each county (see Table 12).
12. During the review process, the Gardner Institute received feedback that its tourism and economic modelling may underestimate the extent to which Washington County will benefit from EVZion+ improvements. This study sought middle ground regarding the distribution of EVZion+ economic gains between Kane and Washington counties. Kane County is the site of most EVZion+ investment, yet Washington County can expect favorable spillover effects given connections between the counties, such as visitor and resident transportation patterns. EVZion+ will increase Zion NP's total capacity by encouraging visitors to spread throughout the park and its gateway communities. Even within Zion NP's baseline visitation, nonlocal visitors who otherwise would have limited themselves to the south entrance may shift some of their time and travel budget to emerging Kane County destinations. EVZion+ will allow Southeast Utah to provide a better experience for more people, perhaps over longer stays, but EVZion+ will not solely attract additional Zion NP visitors who would not have been a part of baseline projections. The Gardner Institute systematically incorporated these elements in a framework with limited between-county substitution and substantial new growth. Primary outcomes are increased tourism-related activity in both counties. Nuances within that growth are effects on the distribution of gains among the neighboring counties and their industry composition. Ultimately, given the uncertainty inherent in forecasting, the extent to which economic activity from EVZion+ accrues to Washington County (versus Kane County) could prove to be greater than or less than the results of the authors' analysis. Their findings for each EVZion+ component rely on local economic data, NPS visitation trends, information requests, economic theory, tourism modelling, deliberation among researchers, and other sources noted in the report.
13. "Overtourism" is defined as "the phenomenon whereby certain places of interest are visited by excessive numbers of tourists, causing undesirable effects for the places visited" (https://www.lexico.com/en/definition/overtourism; see also Starr, 2019). In recent years, the Utah Office of Tourism has addressed "overtourism" concerns by creating marketing campaigns aimed at diverting visitors to the scenic landscapes and recreation opportunities in lesser known parts of the state. The tourism office's "Road to Mighty" marketing campaign (2018) and subsequent "What Lies Between" marketing campaign (2019) highlighted Utah destinations found "between" the state's popular national parks.
14. See https://www.nps.gov/mawa/upload/public-law-95-625.pdf.
15. Study areas include Zion Canyon: 1) Narrows to Big Bend; 2) Big Bend to Grotto; 3) Grotto to Canyon Junction, Lower Zion Canyon; 4) Canyon Junction to South Entrance, Kolob Canyon; 5) Canyons from Park Entrance to Scenic Drive End; 6) Terrace Road from Southwest Boundary to North Boundary at Lava Point, and Zion–Mt. Carmel Highway; and 7) Canyon Junction to east entrance.
16. Per-visitor spending has not been adjusted in any of the scenarios in response to expected changes in congestion and wait times.
17. Note "potential" crowd reduction because EVZion could also potentially move more visitors from the east entrance to Zion Canyon.
18. Based on personal communication with Kevin McLaws and Steve Neeleman on November 9, 2020.
19. "Red list" materials are those determined to be the most polluting to the environment, most bio-accumulating in the food chain, and the most harmful to construction and factory workers (see https://living-future.org/declare/declare-about/red-list/). "Passive building" comprises a set of design principles used to attain a quantifiable and rigorous level of energy efficiency within a specific quantifiable comfort level (see https://www.phius.org/what-is-passive-building/passive-house-principles).
20. Based on personal communication with Kevin McLaws and Steve Neeleman on November 9, 2020.

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