



DENTON HILL STATE PARK

Feasibility study for all-season operation

January 2016





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Study team

- **Moshier Studio** Pittsburgh PA *architecture*
- **Pashek Associates** Pittsburgh PA *landscape architecture, operations*
- **H. F. Lenz** Johnstown PA *civil and building engineering*
- **SE Group** Burlington VT *operations, market and financial analysis*
- **Stevens Engineering** New London NH *ski lift engineering*
- **Crawford Consulting** Pittsburgh PA *cost estimating*
- **Sno.Matic** Lyme NH *snowmaking engineering*
- **RRC Associates** Boulder CO *market assessment*



DCNR team

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We are grateful for the participation of stakeholders, skiers, area residents, elected officials, and all who provided ideas for the future of Denton Hill State Park.



Study process

The purpose was to evaluate the potential to expand the current ski-only operation to a four-season operation, taking advantage of the current trail connections into the park such as hiking, biking and cross-country skiing. How can the park potentially complement and enhance other state investments in the region such as the Pennsylvania Lumber Museum, Lyman Run State Park, Cherry Springs State Park, Sinnemahoning State Park, Kinzua Bridge State Park and Elk Country Visitors Center? How can the park be economically sustainable going forward?

- Data gathering site visit (February 2015)
 - Compiling data about the park- attendance, financial data, infrastructure conditions, building conditions, previous market studies. Meet with previous operators regarding challenges.
- Required infrastructure repair/ upgrades for future ski operations
 - New water and compressed air lines, new snowmaking equipment, Calculate snowmaking water requirements, Confirm withdrawal rate from stream, Cost estimates for necessary infrastructure repairs
- Evaluate historical operations and financials of concession operations
 - Develop target points for required visitor levels needed to generate adequate revenue for break-even and profitable operation.
 - Target staffing levels required for facility operations and maintenance
- Stakeholders meeting (August 2015)
 - Revise based on feedback, continue to refine financial projections and skier visitation levels.
- Develop four-season activity ideas
 - Research data on other four-season components that similar ski facilities use for year-round operations
 - DCNR then conducted an online survey to gauge interest and support
- Refine based on inputs, and present recommendations at public meeting (January 2016)



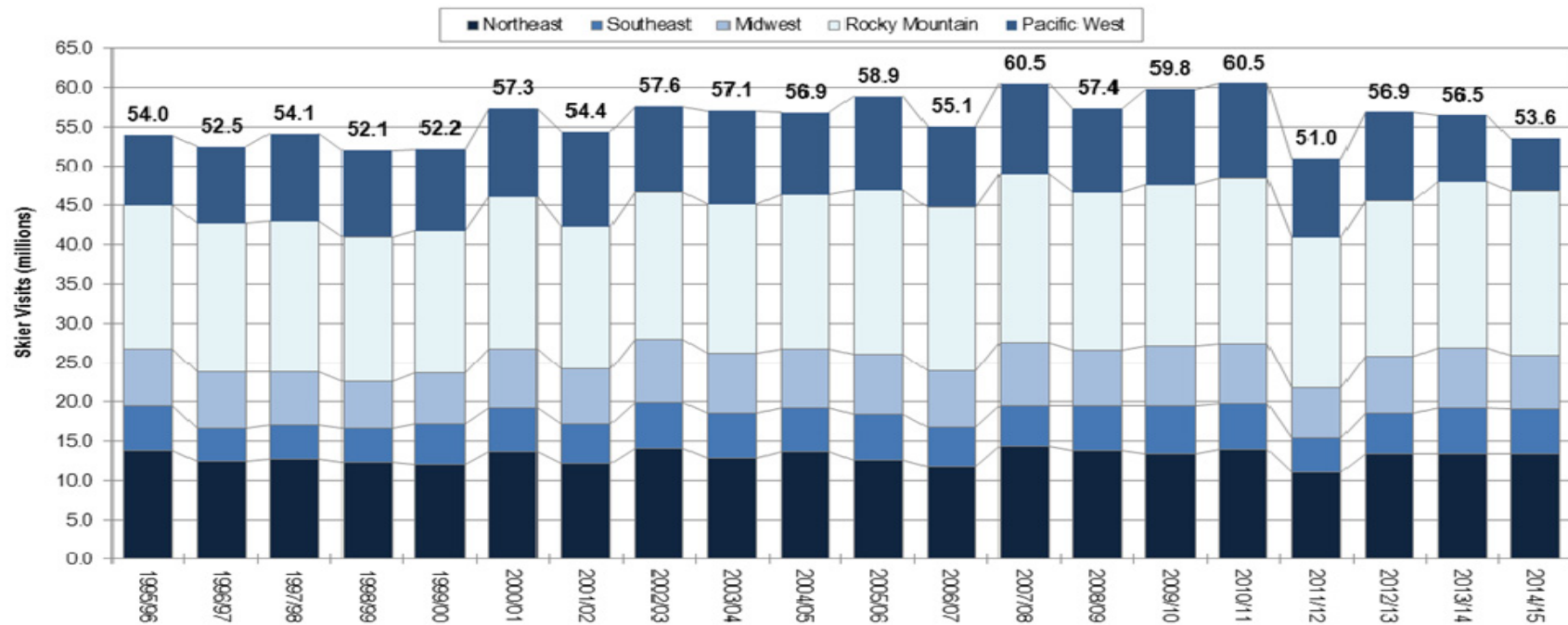
Key findings

- Denton Hill State Park's ski facilities provide important recreation opportunities for Potter County and the surrounding PA Wilds region. It's also an important contributor to the Coudersport area economy.
- Winter visitation levels have dropped in recent years, making operating and maintaining the ski facilities challenging. Skiing is a stable sport where significant growth is unlikely- so it's important to attract skiers from a larger area.
- Visitors to Potter County appreciate natural beauty, wildlife and the affordability of their recreation options.
- The park infrastructure is aging and the snowmaking system is in disrepair. The lifts need repair but their uphill capacity is excellent.
- Compared to other small ski facilities, DHSP had similar expenditures for labor and cost of goods, yet higher costs for utilities and insurance.
- Going forward, the park returns to winter profitability at about 12,500 ski visits per season, at an average of \$42 (in today's dollars) of revenue per skier. This level of visitation was typical from 2002-2008. Providing a larger tube park may increase visitation levels by non-skiers.
- The park needs renovation and improvements to infrastructure in order to remain in service. Conceptually, upgrades include:
 - Repair the double and triple ski lifts, rebuild one Poma lift, and create a first-time-on-skis area near the lodge.
 - Create a new tubing park near the lodge, with a ski-under culvert to return to the base of the triple lift.
 - Replace the snowmaking system: pumps, compressors, water and air lines, snow guns and groomers for the 39 acres of trail surface.
 - Redesign the parking lot to provide more capacity, and improve traffic flow and bus drop-off.
 - Renovate the main lodge to enhance its appearance, improve energy efficiency and accessibility, and position it for more decades of use.
 - Add lighting to all the trails
- Construction estimate for these improvements in 2015 dollars- about \$12,500,000.
- Four-season use of the park can take advantage of the rebuilt lifts to provide gravity sports. A survey of year-round options gave 1669 people an opportunity to provide feedback; zip lines and lift-served mountain biking were top choices. The scenic location of the park led others to support festival use.

For more information, please visit www.dcnr.state.pa.us/stateparks/findapark/dentonhill



Ski industry history and challenges

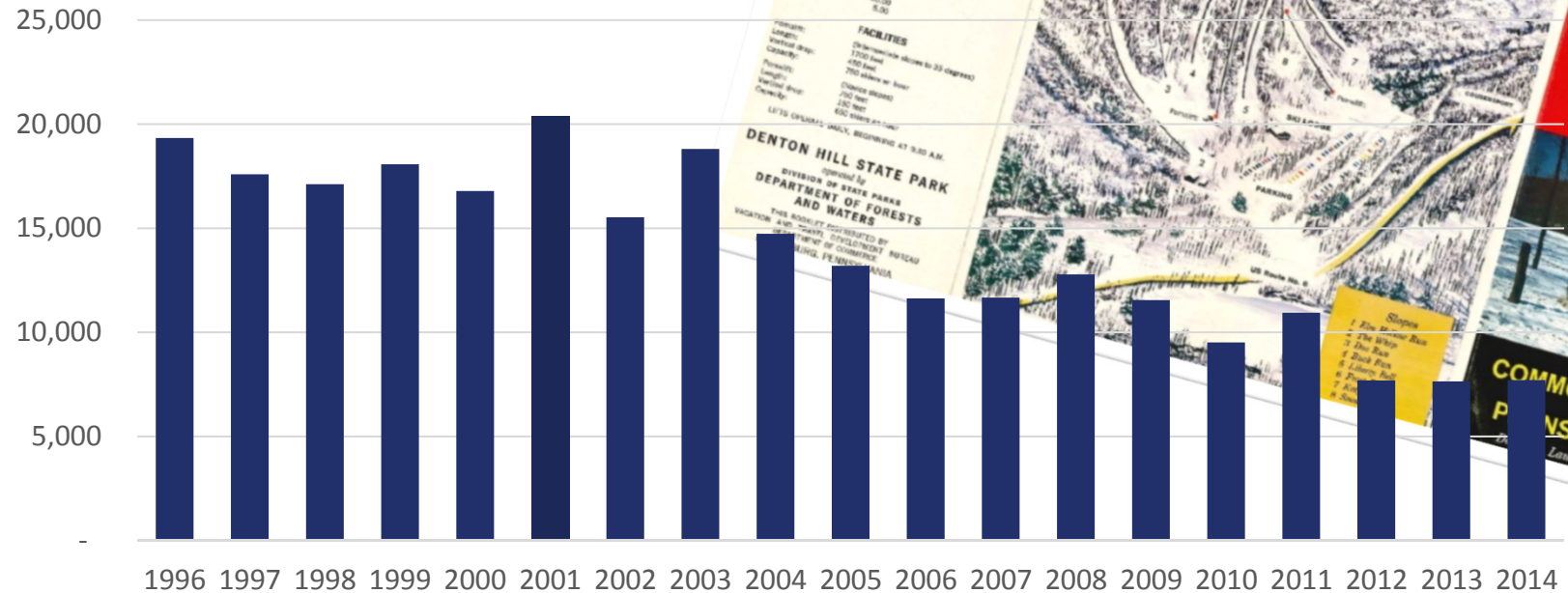


Skiing is a mature industry, with flat skier visits nationally and declining visits in the Northeast.

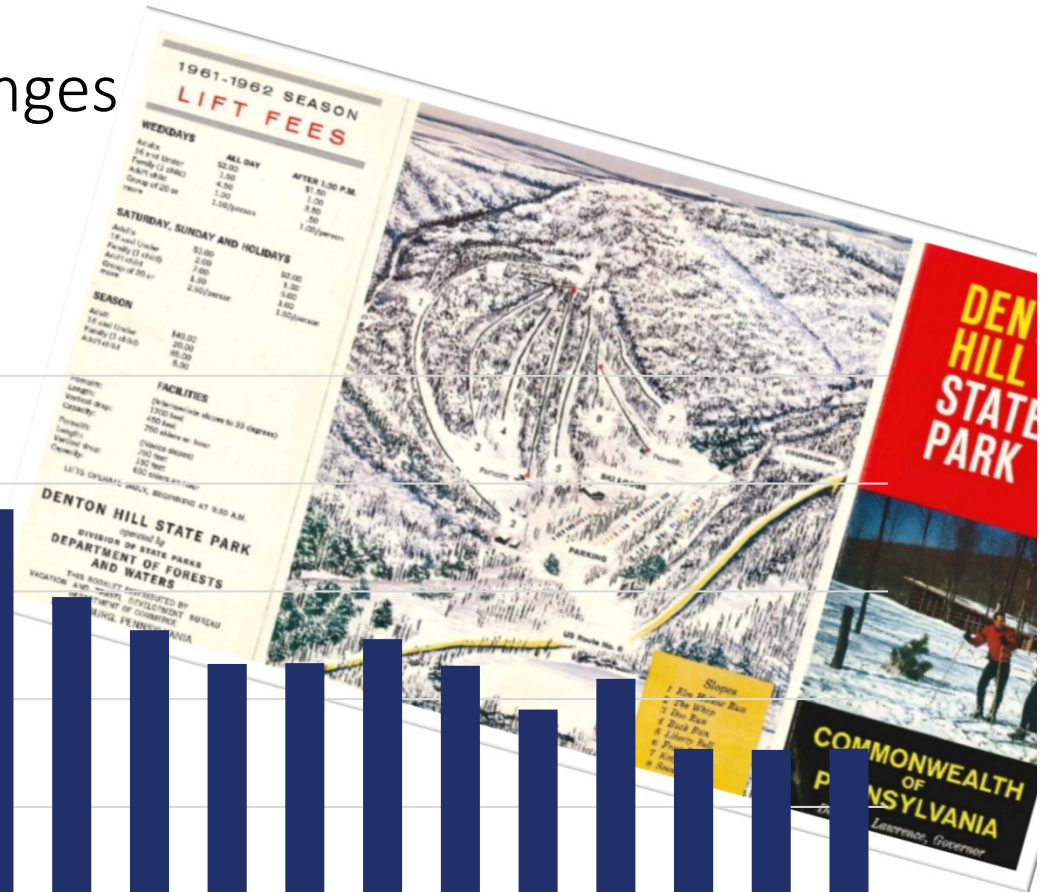


Park history and challenges

- History and attendance



Denton Hill has experienced particularly sharp declines in visitation in the part ten years.





Park history and challenges

- Lifts
- Terrain



The double (Hall) lift needs preventative maintenance work. The triple (Riblet)- needs PM and a leaning tower be fixed.

The Poma #1 is missing carriers, removal is recommended. The Poma #2 also needs PM and missing carriers reinstalled.

Total capacity of 2800 skiers per hour, if utilized at 30-45%, equates to 800 skiers per day with 2-minute wait times. There is a small area that has served as a tubing park in the past.



Park history and challenges

- Snowmaking infrastructure

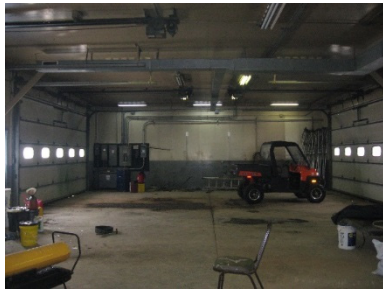


Electrical service to the site was upgraded in 2002 and is more than adequate for the lifts, pumps and compressors. The switchboards, disconnects, motor starters and panels are in poor condition. Snowmaking pipes, pumps and compressors are in poor condition or missing. There is adequate water flow and onsite water storage from the adjacent stream to continue to withdraw water for snowmaking.



Park history and challenges

- Buildings
 - Lodge
 - Maintenance
 - Cabins



The lodge opened in 1961, and is substantially built with an iconic dining room. The building envelope is under-insulated, accessibility is limited, kitchen is at the end of its life, basement and attic levels are in need of reconfiguration. The electrical system is in need of replacement, a new fire alarm system should be planned, and ventilation is needed to meet current codes. There's no air conditioning. Cabins are newer and in good condition. Reservations were handled by the ski operator. Year-round use levels might be higher if they were part of the state's reservation system.

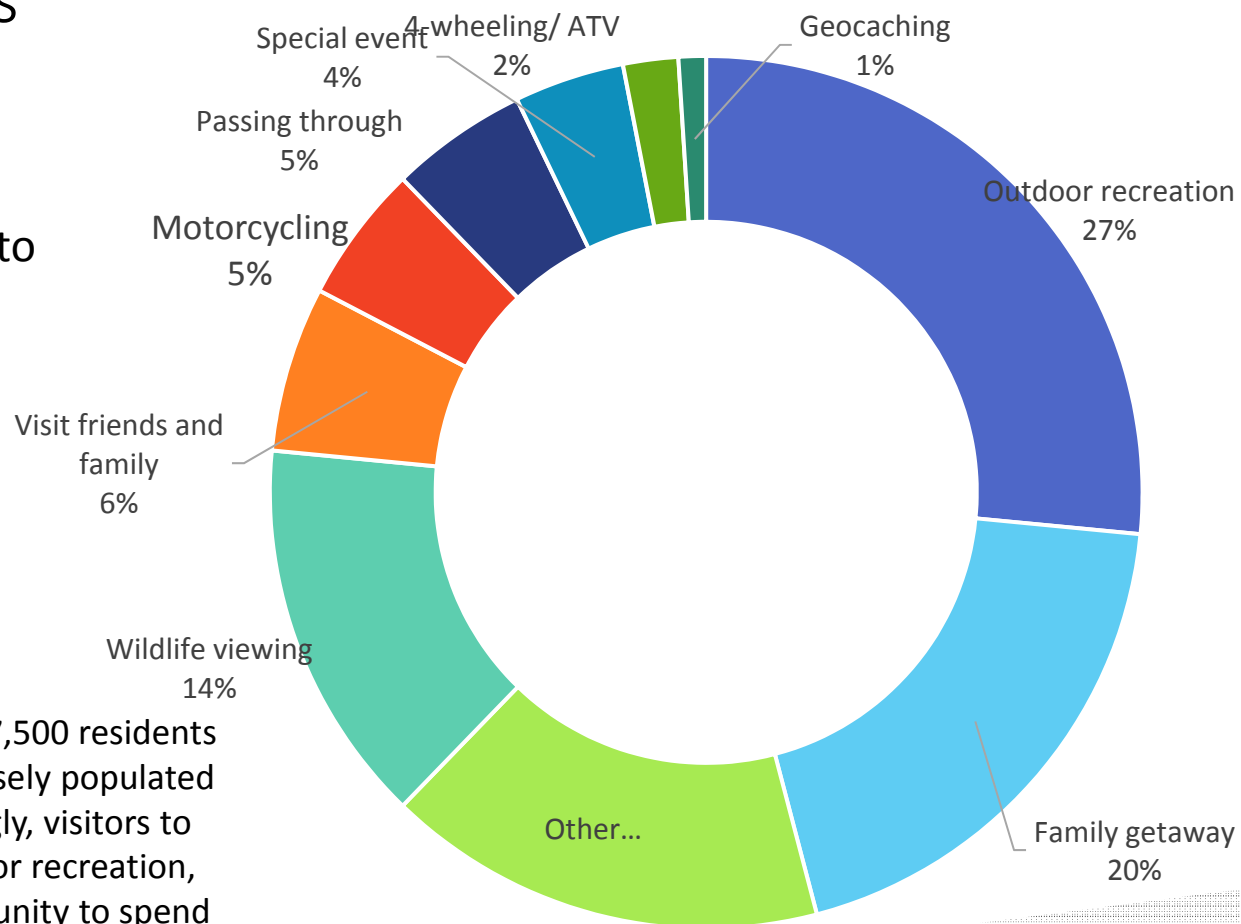
Support buildings include a compressor building, maintenance building, and sewage treatment building. The compressor building is in poor condition, and the maintenance and sewage treatment building require some mechanical and electrical upgrades to remain in service for the coming decades.



Market Analysis

- Why do visitors travel to the PA Wilds Region?

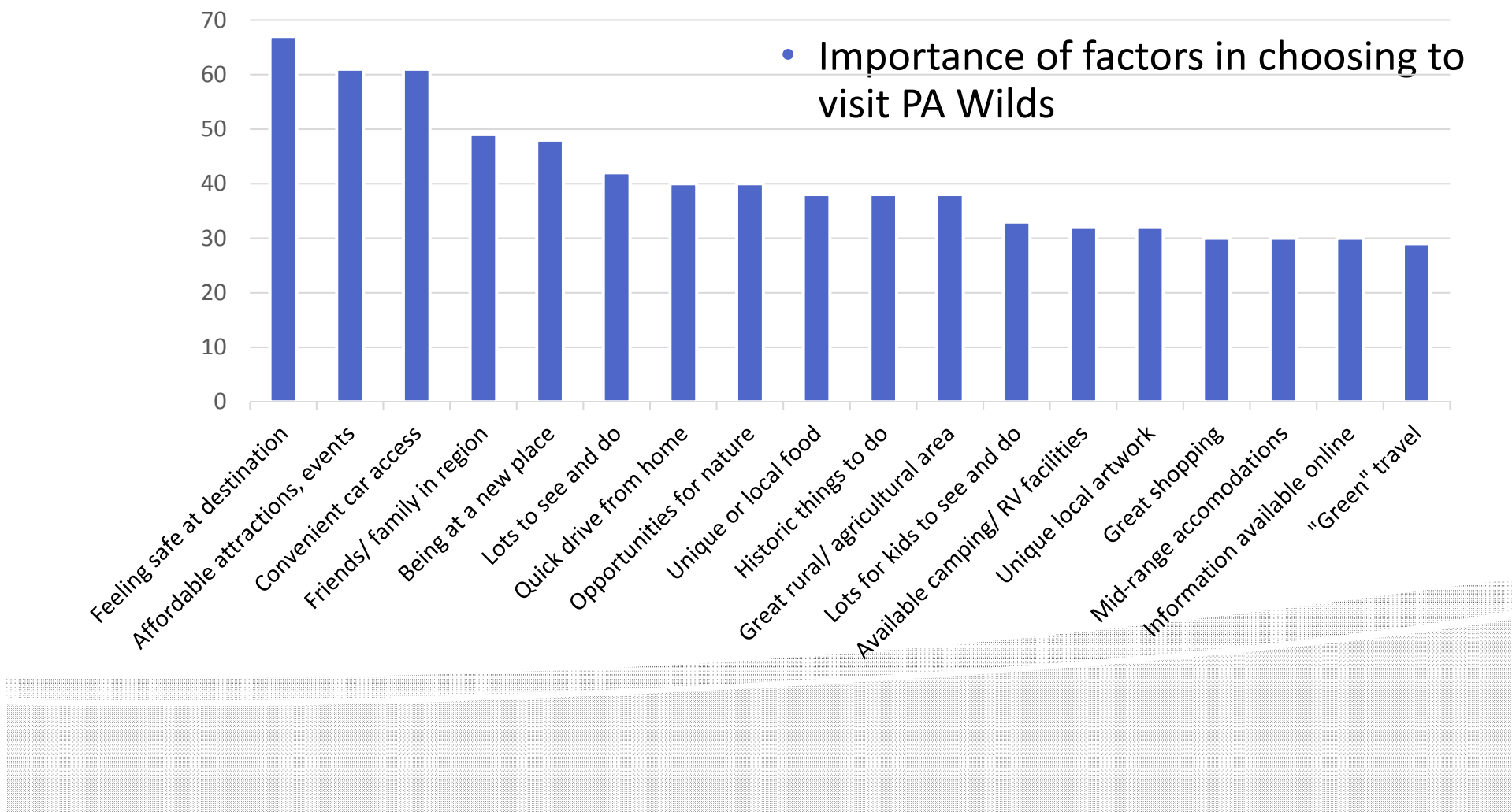
Potter County's population of 17,500 residents makes this among the least-densely populated areas in the state. Not surprisingly, visitors to Potter County appreciate outdoor recreation, wildlife viewing, and the opportunity to spend time with family. About three-quarters of visitors to Potter county make overnight trips, and 80% are repeat visitors. Preferred lodging is cabins and campgrounds.



PA Wilds Leisure Visitor Conversion and ROI study, North Star Destination Strategies



Market Analysis

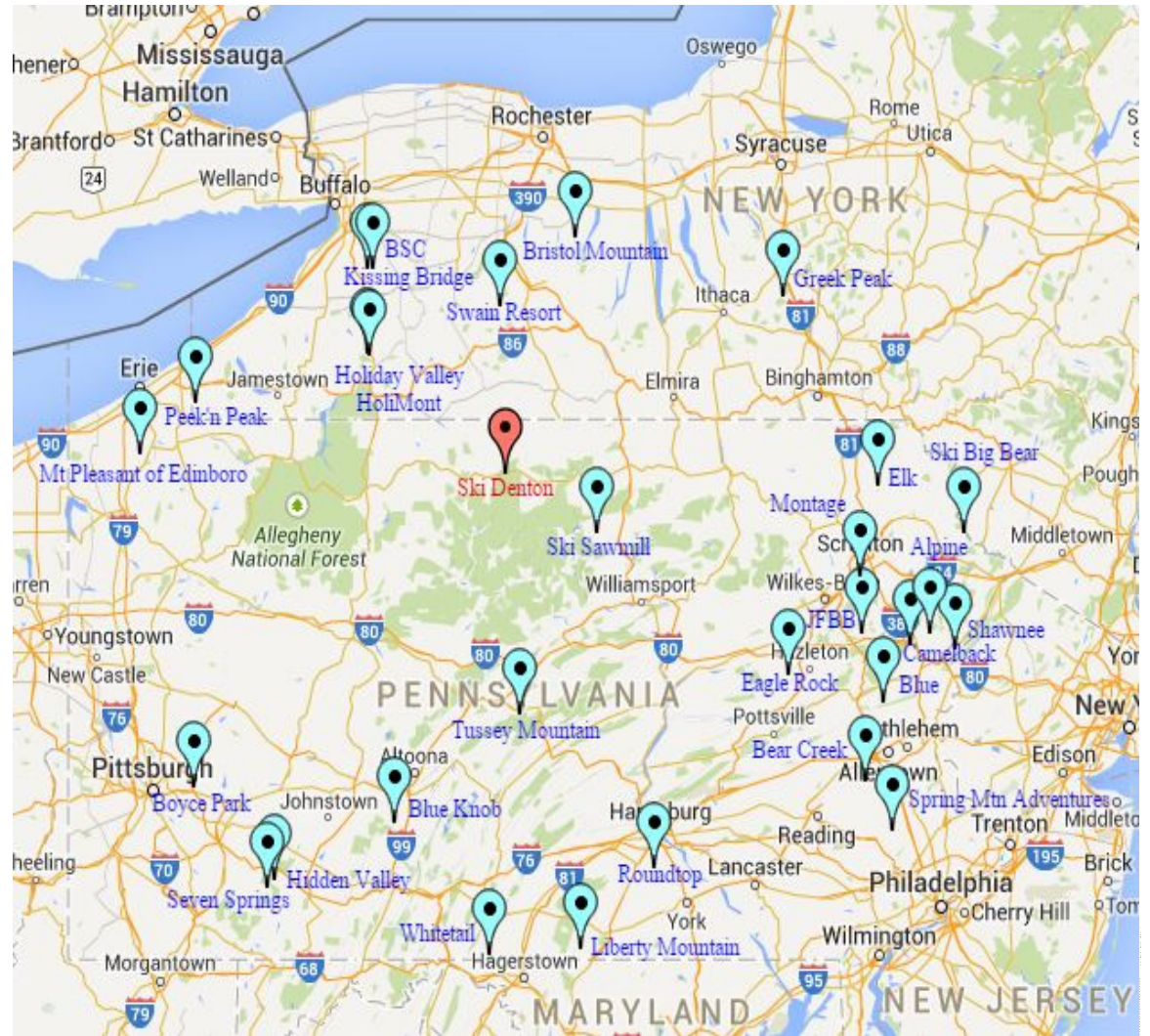




Market Analysis

- Competition

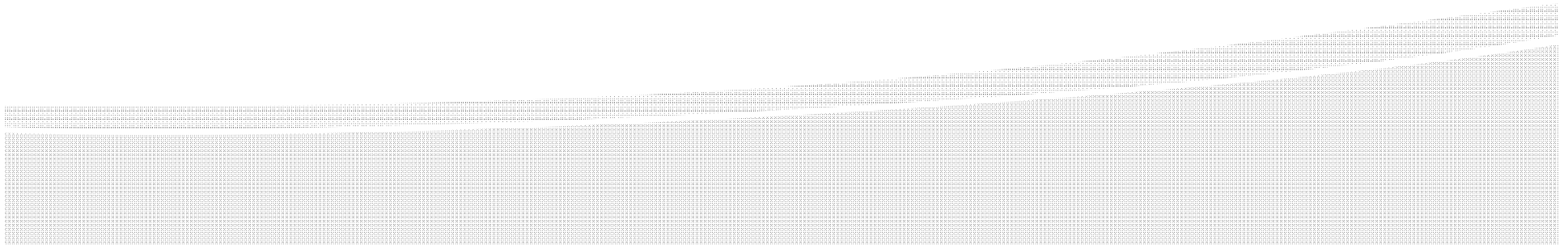
Based on national data of percentage of population that are skiers, Potter County might produce about 1800 skier visits annually. It is critical to attract skiers from outside the immediate area. In the past, skiers have come from the Williamsport, State College, Harrisburg, Lancaster, Reading and York areas, as well as southern New York State. Denton Hill is distinctive for challenging trails like Avalanche, superb uphill lift capacity- which means short lift lines- and its family-feeling.





Benchmarking analysis- winter

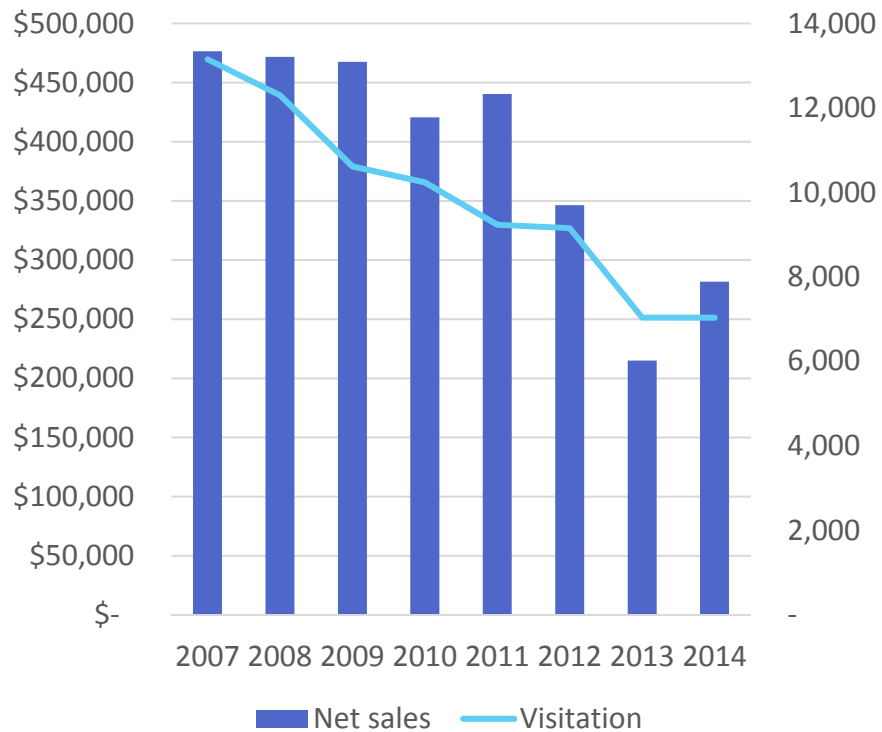
- Every year, Denton Hill's concessionaire was required to submit a report to the Commonwealth, detailing revenue and expenses, so that lease payments could be calculated. Denton Hill incurred losses in 2007, 2012 and 2014. Comparison charts on the next few pages show a trend of reduced spending on staff, relatively consistent and high expenses for utilities and insurance, and increased cost for interest, loan payments and payments to the state or previous concessionaire.
- The National Ski Areas Association itself collects similar data every year, so it is possible to compare DHSP's financials with the industry. The smaller ski resorts often don't participate in the survey, so the class of resorts – at 7,500,000 vertical transport feet/ hour- most comparable to DHSP is still considerably larger, as DHSP is only 3,000,000.
- Another survey, the Kottke analysis, does capture some of the smaller facilities, so SE Group used a hybrid of these surveys to benchmark DHSP.
- Coinciding with this study, SE Group was working with another small Northeast resort, and their data is also included for comparison here.



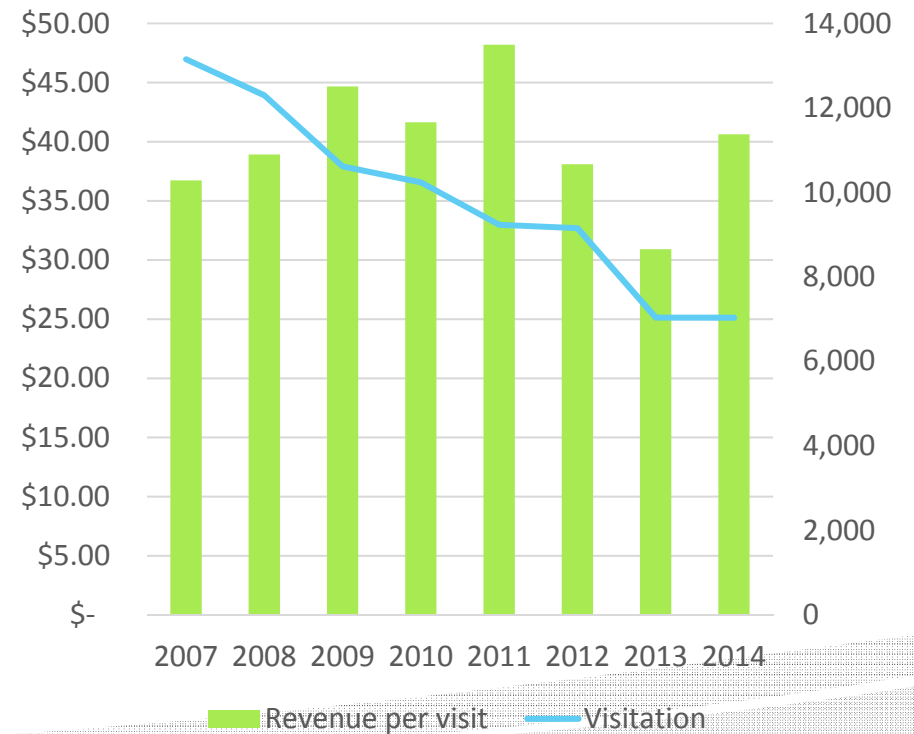


Benchmarking analysis- winter

Revenue at Denton Hill

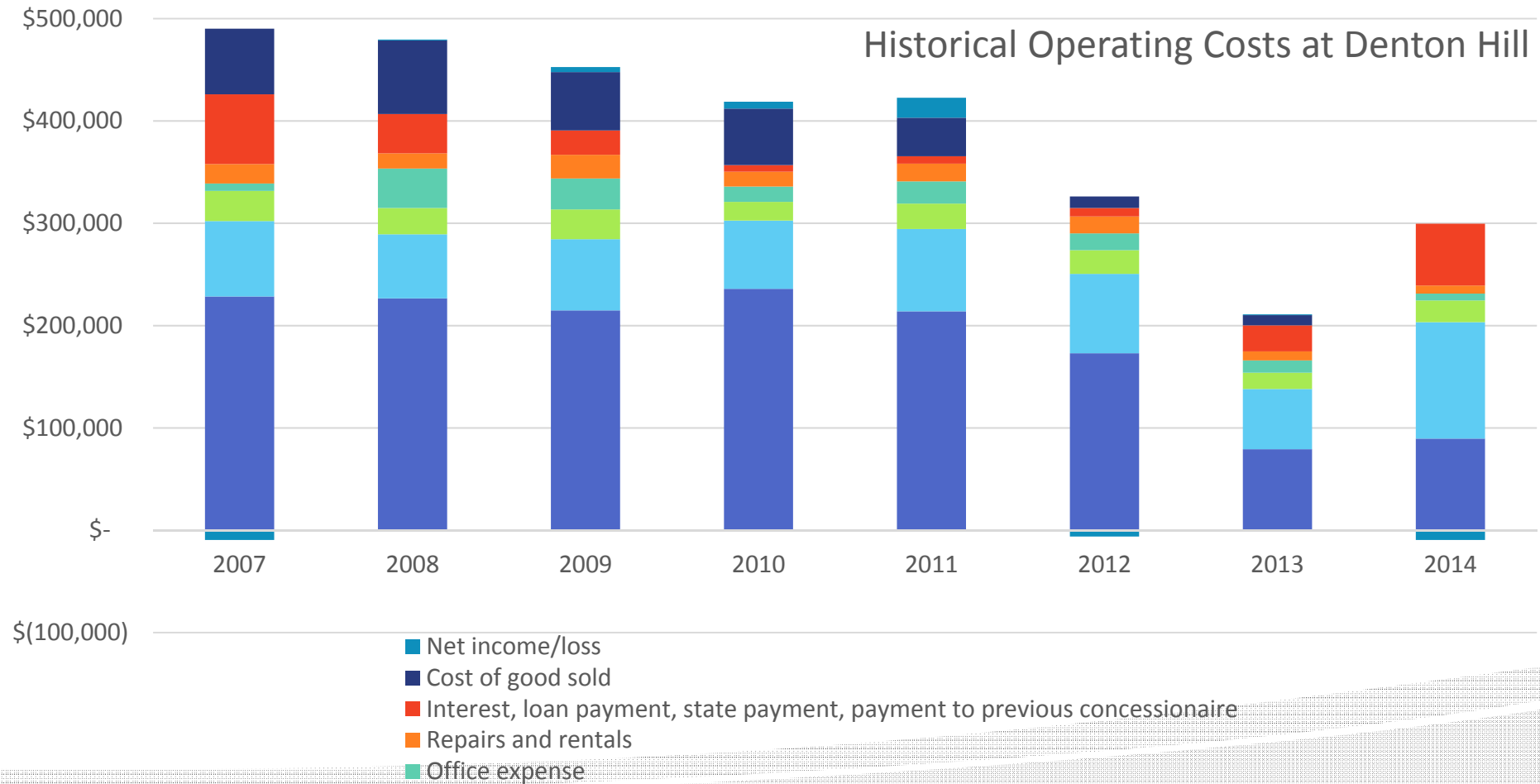


Revenue per visit to Denton Hill





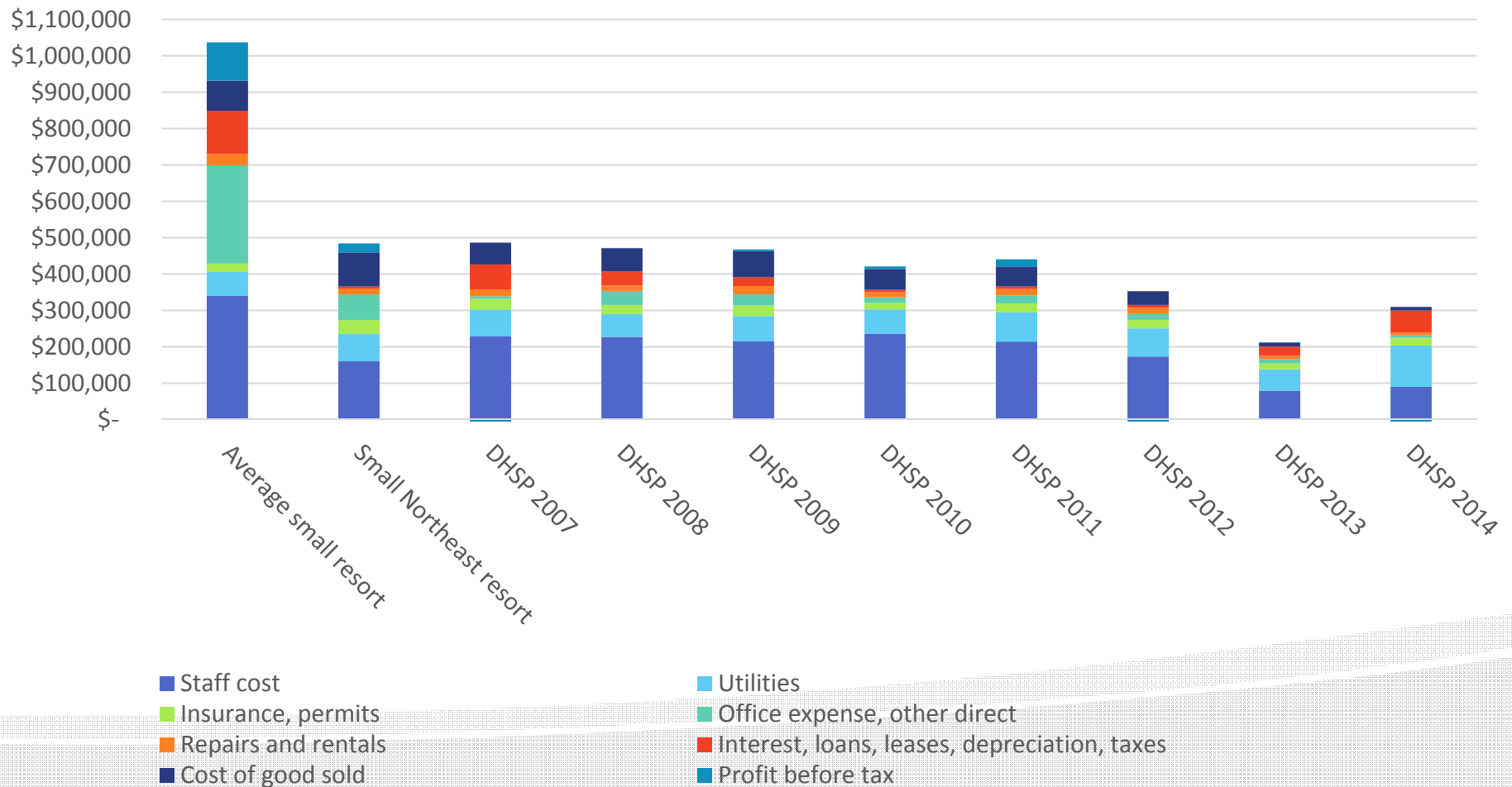
Benchmarking analysis- winter





Benchmarking analysis- winter

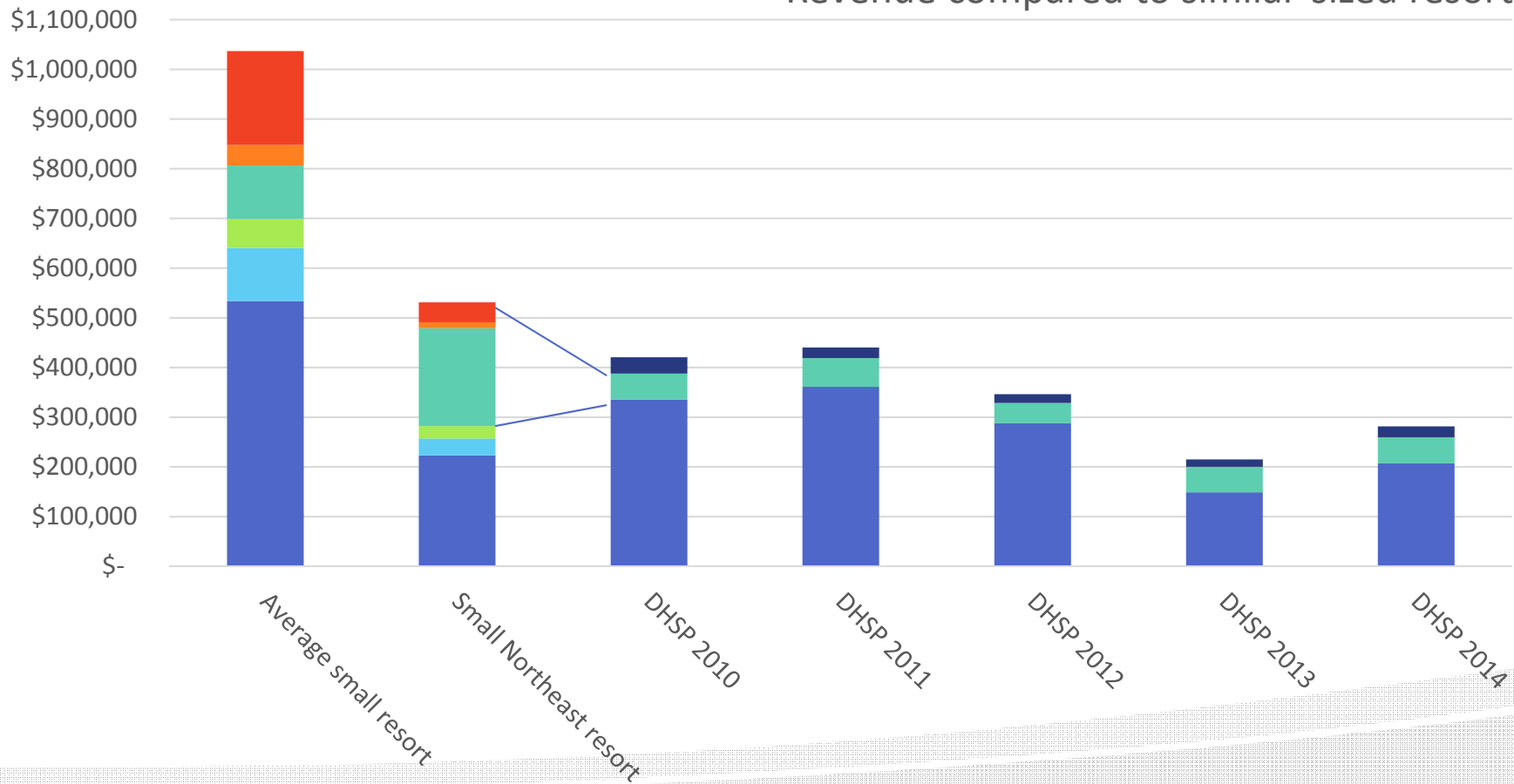
Expenses compared to similar-sized resorts





Benchmarking analysis- winter

Revenue compared to similar-sized resorts

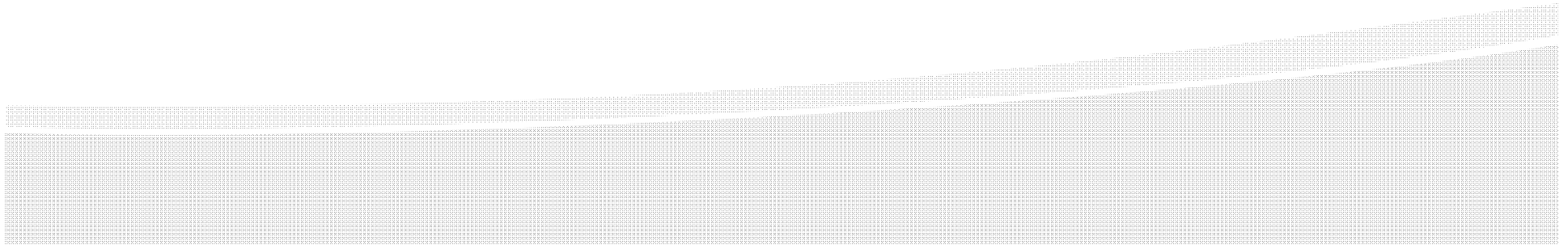


Lift tickets Snow play Lessons Food and beverage Retail Rental Lodging



Future Operations- winter

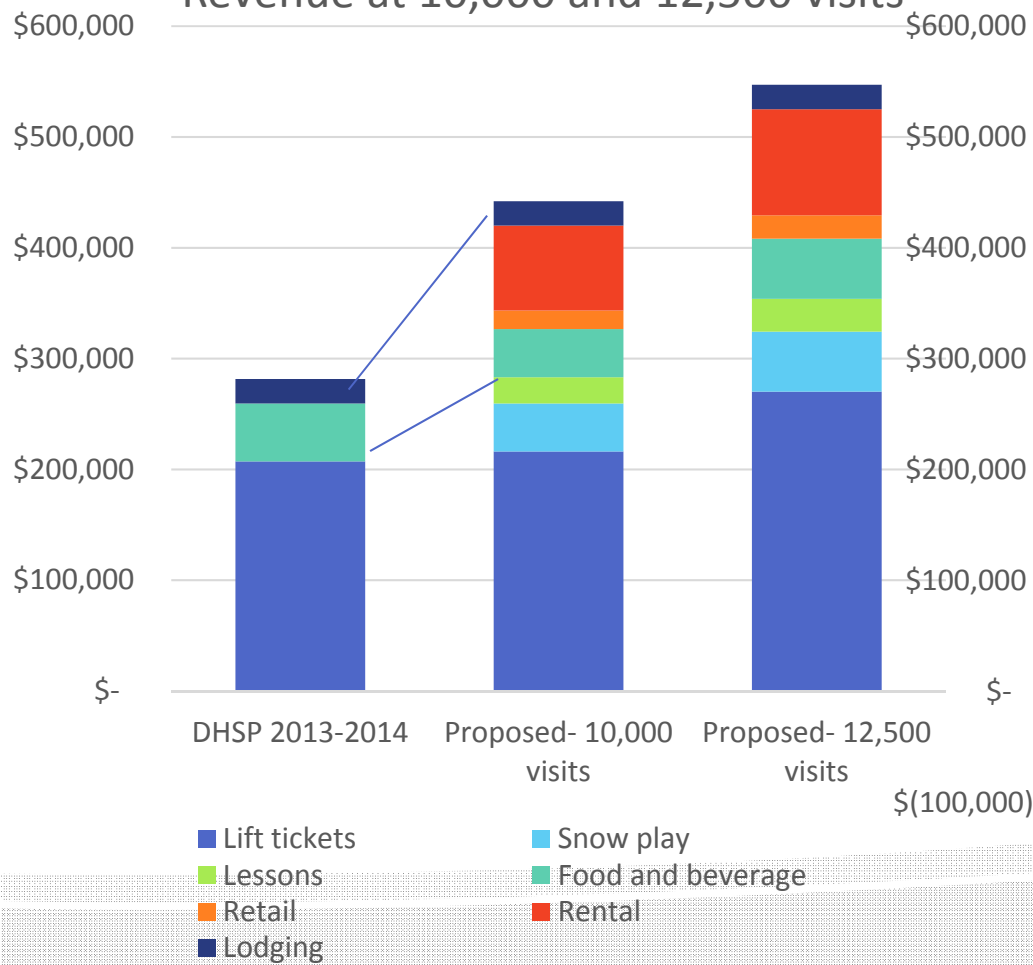
- An objective of this study was determining the visitor levels that would allow DHSP to operate sustainably.
- Revenue is a blend of lift and tubing tickets, food and beverage, rentals, lessons and retail sales. By comparing DNSP's revenue streams with other smaller ski resorts, SE Group was able to build-up a projected income statement.
- On the expense side, the study team developed a future staffing model, and projected other expenses from comparable resorts, modifying for historic costs on utilities and insurance.
- Unlike a comparable private facility, capital construction costs/ depreciation are not included in projected expenses. The study team recommends a maintenance reserve or escrow be budgeted to provide for unexpected repairs or unusual weather conditions.
- A level of 12,500 annual skier visits provides an operating income and allows for improved staffing.



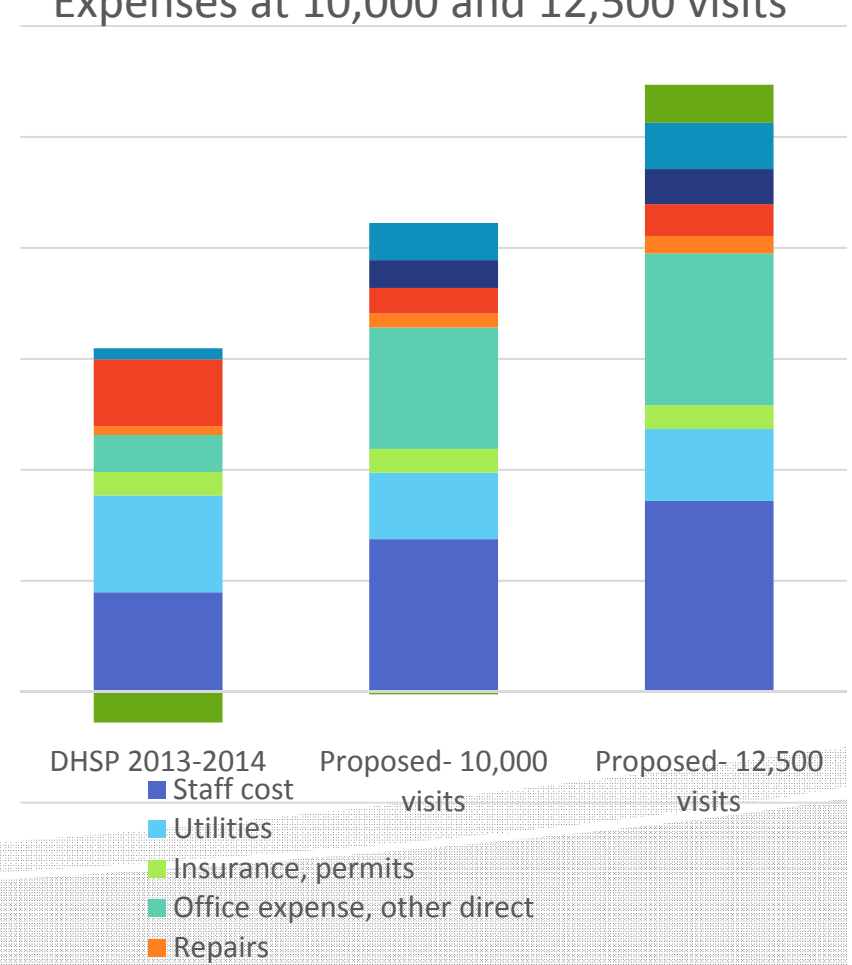


Future operations- winter

Revenue at 10,000 and 12,500 visits



Expenses at 10,000 and 12,500 visits





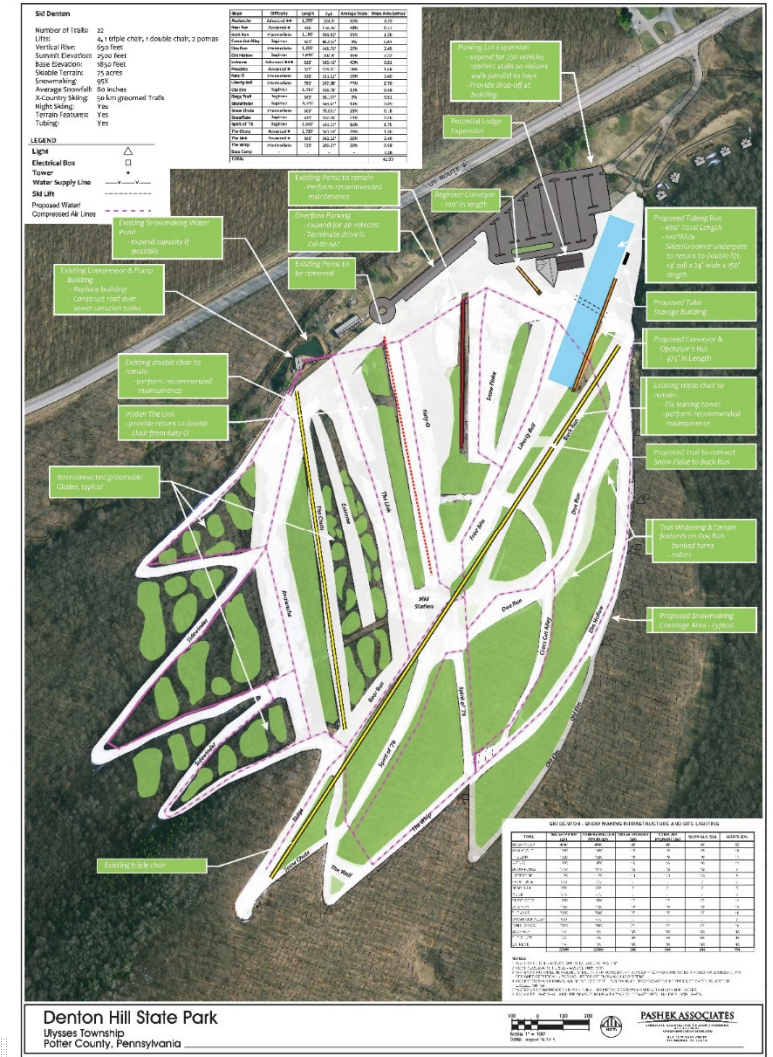
Conceptual Site Plan

What is needed to position Denton Hill State Park for the next half-century, and attract this level of skier visits again?

- Lifts
 - Repair of double and triple lifts to maintain uphill capacity, keep ability to match capacity to visitor levels, and provide redundancy.
 - New conveyor at new tubing park
- Terrain
 - New, larger tubing park closer to Lodge
 - Groomable glades, widening The Link, banked turns and rollers on Doe Run, new trail connecting Snow Flake to Buck Run.
 - Very-low-slope area near Lodge for first-time-on-skis instruction
- Snowmaking infrastructure
 - New water and compressed air lines on all trails
 - New compressors and pumps
- Parking
 - Expand and reorient parking lot
 - Provide drop-off area and overflow parking

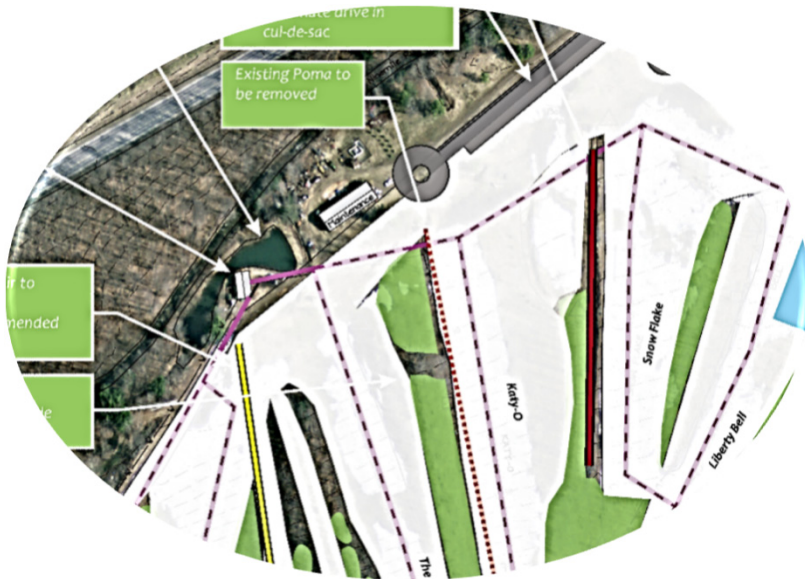


Conceptual Site Plan





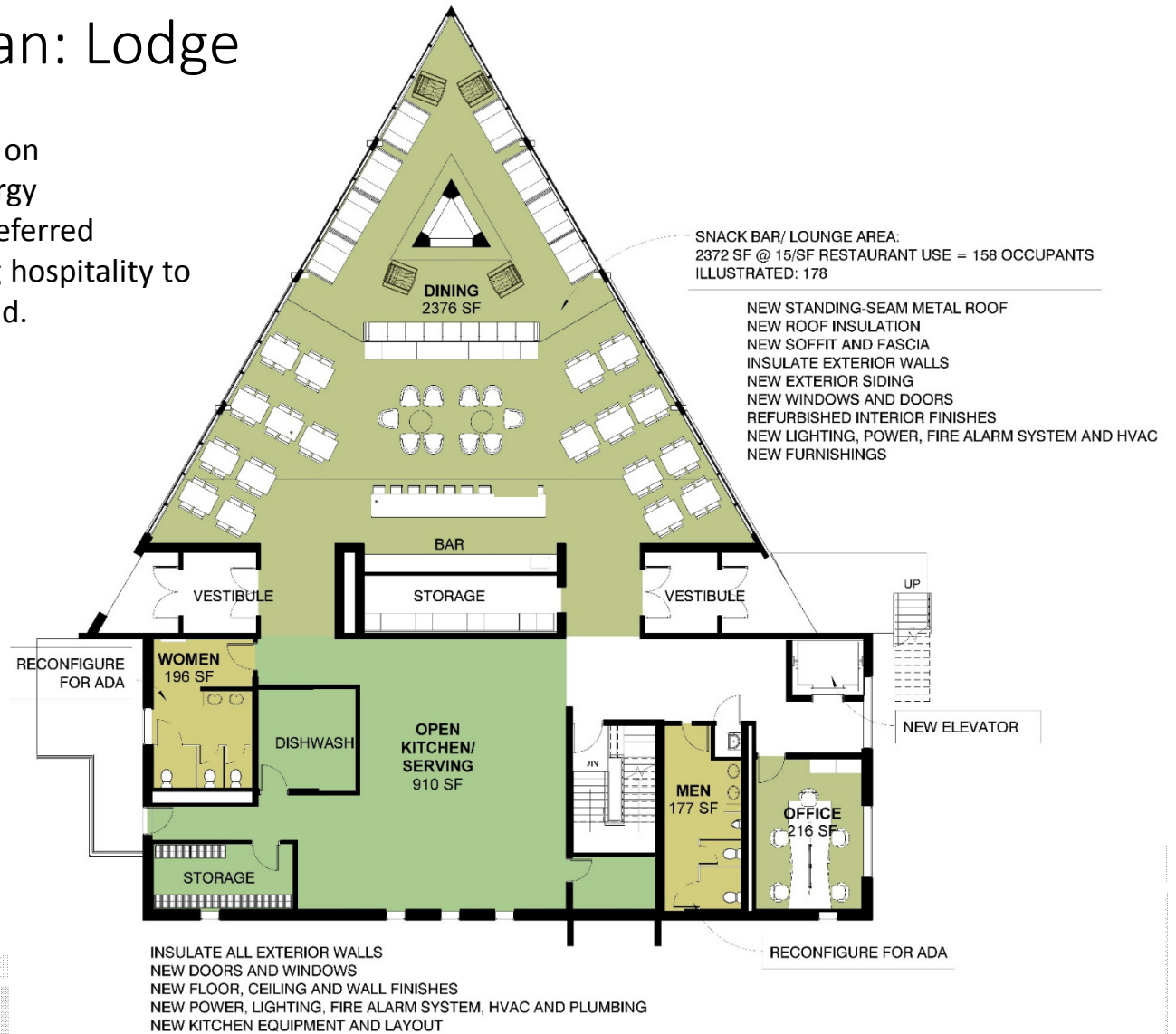
Conceptual Site Plan





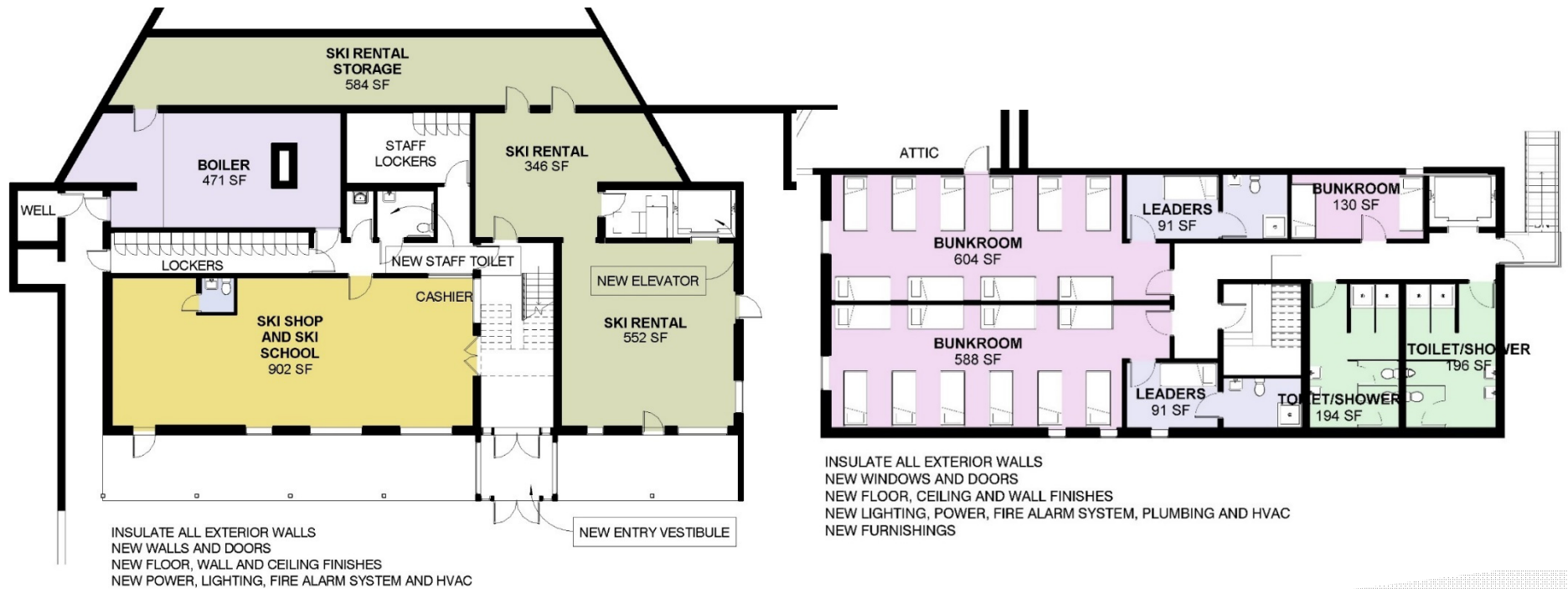
Conceptual plan: Lodge

Lodge improvements focus on accessibility, improved energy performance, addressing deferred maintenance and providing hospitality to skiers and guests year-round.





Conceptual plans: Lodge





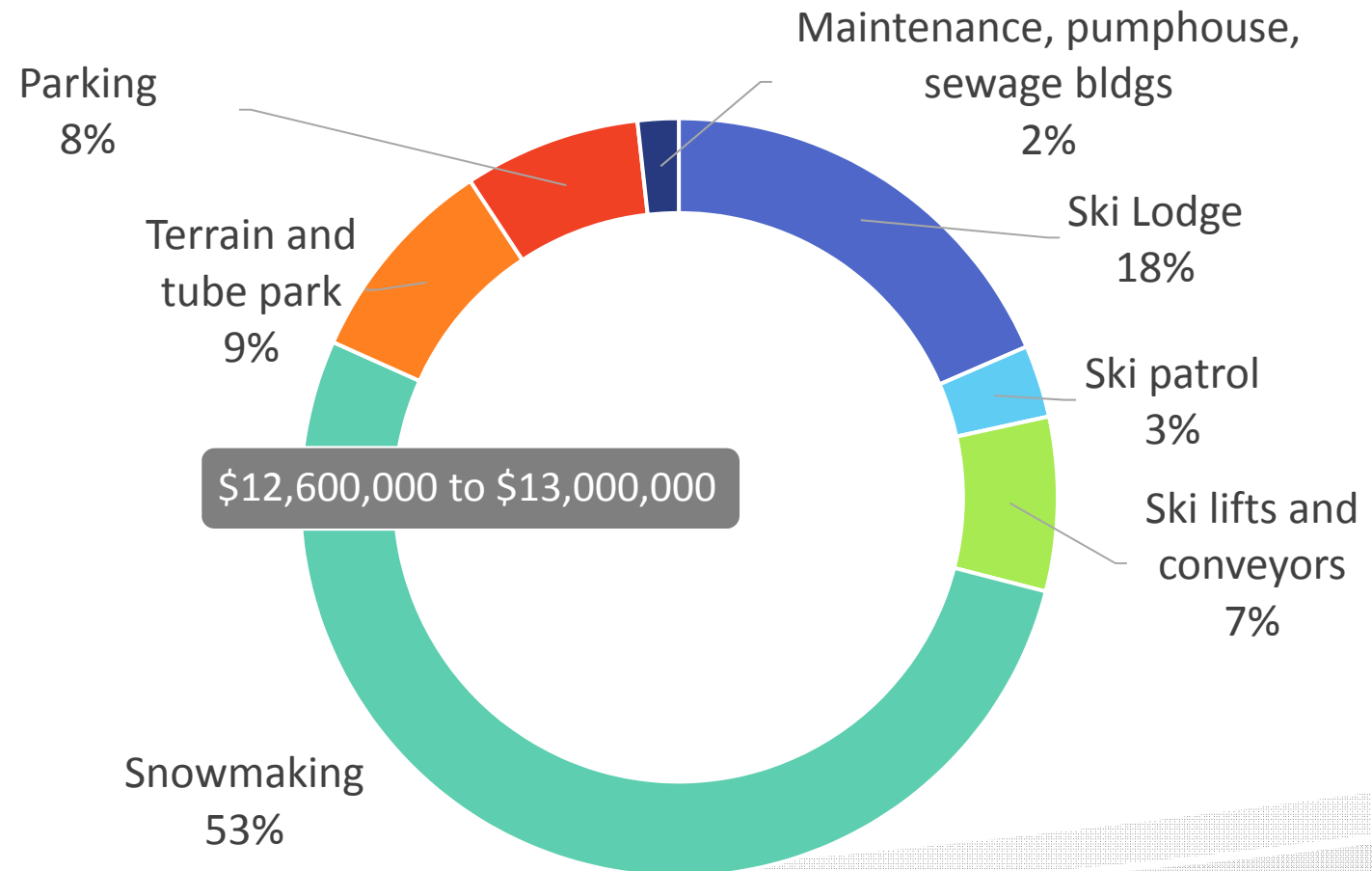
Conceptual plans: Lodge

The iconic look of the Lodge is maintained. There is space nearby on the site that can be developed for event hosting, or a new building for the ski patrol.





Construction cost estimate





Year-round activities

Gravity sports



Location based

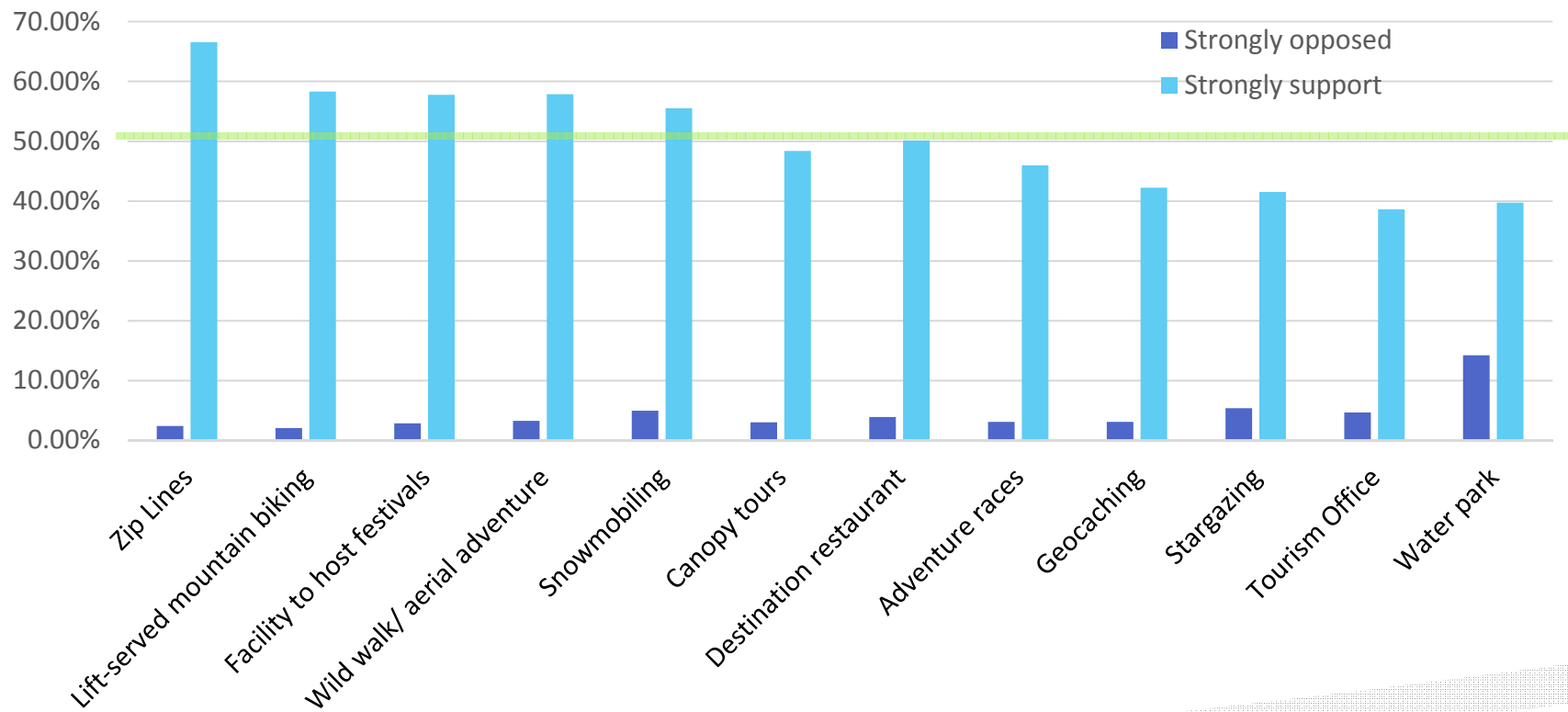


Competitor resorts offer weddings, ziplines, mountain biking, golf, Eurobungy, climbing wall, laser tag, geocaching, festivals, boating, alpine slides and batting cages. The focus at DHSP was on activities that would capitalize on the rebuilt lifts, not change the character of the park- unique recreation options that might draw visitors from a larger area, much as the archery festival does. DCNR conducted a web survey that attracted 1669 responses.



Year-round activities

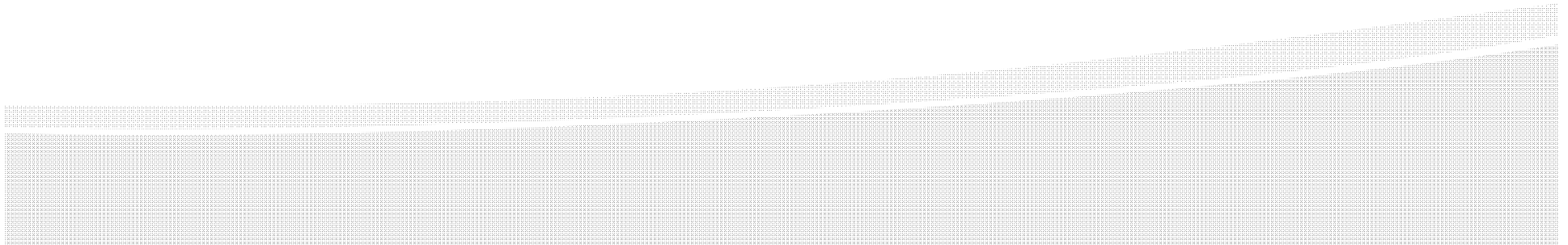
- Survey responses:





Study conclusions and next steps

- Denton Hill State Park needs \$12.6m to \$13m in capital improvements to address current problems and position it for decades of service.
- Denton Hill needs at least 12,500 winter visitors annually, at about \$42 per visitor, for a concessionaire to operate profitably.
- Denton Hill will likely remain closed for several more years until capital improvements can be made.





Appendices:

- Existing Conditions Assessment
- Market Assessment
- Snowmaking and water supply calculations
- Financial analysis- winter operations
- Site plan
- Building plan
- Construction cost estimate