Indiana Limestone Heritage Parks Project

Final Report



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Submitted October 25, 2005 by John Goss

1.0 Executive Summary

Indiana's Lieutenant Governor, Kathy Davis and the Indiana Tourism Division created a new grant program in 2003 designed to evaluate the development potential of new tourism attractions for Indiana. The Convention and Visitor Bureaus of Monroe and Lawrence Counties successfully partnered to study the feasibility of creating a series of attractions capturing the heritage of the limestone industry that historically and currently has supplied the majority of the construction limestone for the United States.

Dr. Laurel Cornell, a professor at Indiana University and Dan Owens, a graduate student launched the project in 2003 with an extensive search of the literature and the substantial records of the historical societies in both counties. Aerial photos and maps supplied the basis for identifying quarries and stone mills to be studied. Dozens of personal interviews with executives of limestone companies, property owners, historians and interested citizens provided a significant collection of background material. John Goss joined the project in 2004 to explore the possibilities for creating one or more limestone heritage properties with natural, recreational and interpretive amenities that would be attractive to visitors. Strategic Marketing Research Inc. performed the consumer surveys to measure the potential marketability and economic potential.

1.1 The Process

The project was divided into three phases and reports for each phase provide details of the progress of the study. Phase One examined previously created walking tours of Bedford and Bloomington highlighting significant limestone commercial and residential structures, the Indiana University campus, cemeteries with extensively carved monuments and the excellent courthouses in both counties. The conclusion is that the tours need to be updated and republished as useful visitor guides to passive visual experiences. Next, driving tours were evaluated to areas that quarries can be viewed from the road without entering the property. Driving tours with accompanying printed guides or compact disks would be another short-term addition that would enhance the visitor experience, but would have limited results in terms of creating an attraction.

Phase Two looked at the question of gaining public access to actually get visitors close to limestone in active and inactive quarries and mills. Currently, all limestone properties are privately owned and liability concerns limit access. The conclusion is that there are some properties available in both counties with potential for park designation with varying characteristics. Developers in the Bloomington area are building around quarries and are looking for a long term solution to what to do with the quarries. Some quarries are being filled for redevelopment areas. The potential for public and private ownership and management of quarry parks was also evaluated. A non-profit corporation to assemble property and develop plans and funding is the most likely way to succeed in advancing the park projects.

Gaining public access to working limestone operations does not appear feasible at this time. A creative and safe way to allow the public to see stone being milled and carved has great potential as a visitor draw, but is not something that the stone companies are encouraging. Architectural Stone in Bedford does have some limited tours that observe carving and milling.

Phase Three is a case study of several limestone properties open to the public in other communities. Some are public parks and some are successful privately owned operations.

DePauw Nature Park is located adjacent to the University campus and within walking distance of downtown Greencastle, Indiana. The University has developed trails, a wetland restoration and an education center and interpretive center in a former gravel quarry.

Nelson Ledges is a private campground with swimming and diving from limestone ledges in a quarry east of Cleveland, Ohio. Lifeguards in kayaks closely monitor swimming and diving activities. Concerts on weekends draw large crowds. On the 4th of July, about 2,500 people paid \$90 each to camp and listen to bands for the weekend.

Circleville, Ohio is about 30 minutes south of Columbus, Ohio and the home of several privately owned quarries that are used exclusively for scuba diving and snorkeling. The quarries attract divers from around the Midwest for practice and certification. The admission of \$10 per day has created a successful business model.

St. Cloud, Minnesota is the Granite Capital of the U.S. much like our own limestone capital here in Lawrence and Monroe counties. The Stearns County Parks system owns and operates a 600 acre park on the site of 20 former limestone quarries. This is the most successful recreation park and nature park utilizing quarry properties. It has been open for about 10 years and is self supporting with user fees for operation and maintenance costs. Grants and fundraising provided about \$6M for the development of the property. Swimming and diving are permitted in one quarry without lifeguards. An extensive trails system winds around piles of abandoned granite and picturesque quarries and wetlands. Interpretation of mining operations and some working equipment are planned for the future.

1.2 Conclusion

Therefore, based on the case studies, focus groups results and survey results from potential customers, a determination that limestone parks are feasible seems logical.

In addition, it has been proven that Interpretive Centers for heritage areas and for industries have proven successful around the country. The Forest Discovery Center in Starlight, Indiana combines multi-media exhibits and video on the history of Indiana's hardwood industry with a catwalk tour of an operating woodworking shop. The Furniture Learning Center in High Point, North Carolina provides an

interactive experience in furniture design and manufacturing. Based on all the information gathered over the last year the following recommended concepts are being offered.

1.2.1 Limestone Park at Woolery Stone Mill Concept

Woolery Stone Mill is located on Tapp Road about one mile east of State Road 37 and on the south edge of the City of Bloomington. The area has tremendous potential for a multi-faceted Limestone Park experience.

1.2.2 Foote's Tomb Nature Park Concept

Quarry technology in 1850 is demonstrated in the area known as Foote's Tomb located just east of the City of Bedford. The site has not been in use for about 50 years and has experienced a significant natural re-growth of vegetation and trees. This site is an excellent example of the natural evolution of a quarry site demonstrating the fact that nature can heal an area disturbed by quarrying in a relatively short period of time.

1.2.3 Limestone Discovery Center

Like the Furniture Discovery Center in North Carolina and the Forest Discovery Center in Starlight, Indiana the limestone industry could consider creating a place where visitors could follow the whole process of a block of stone from its quarry origin to its place in a prominent architectural structure or a work of art.

1.2.4 Limestone Design Center Concept

Developing a Limestone Design Center could introduce the public to the variety of exquisite architectural possibilities available for enhancing property value, energy efficiency and quality of construction. Demonstration areas for incorporating limestone into building plans would provide a unique opportunity to mass market limestone products contributing to a long prosperity for the industry.

1.2.5 Limestone Interpretive Center at Interstate 69 Rest Area Concept

Interstate 69 is being designed to pass directly through the middle of the limestone belt and make a turn off Highway 37 to the west near Victor Pike about 7 miles south of Bloomington.

A rest stop will be needed somewhere in the northern half of the route between Evansville and Indianapolis. A rest area with an interpretive center has already been tentatively planned overlooking the Patoka Wildlife Refuge in Gibson County. It seems quite reasonable to consider locating another rest area stop in the northern half of the route. There is potential for Lawrence and Monroe Counties to partner on the development of the center and have an ongoing role in the operation of the Limestone Welcome Center.

2.0 Focus Group Results

2.1 Bloomington Focus Group

Two focus group studies were held on the morning of October 14, 2005 at the Bloomington Convention Center. Approximately 25 people attended the two sessions. Four concepts were presented: Nature Park, Recreation Park, Interpretive Center and a Botanical Garden. The results of both focus groups indicated a strong interest in the recreational aspect of a quarry park. Swimming, rock climbing and hiking opportunities ranked quite high amongst the groups. An interpretive center was suggested in conjunction with a recreation area and the botanical experience was suggested in limited capacity. The Nature Area received the least amount of interest. The conclusion also showed an expectation of very broad support in the Bloomington community for the development of a limestone attraction. It was noted on the importance to combine the forces of historical, university, recreation and industry to give the attraction its greatest appeal. All members agreed it was a valuable attraction to add to Bloomington and while seasonal issues were to be considered, those issues are no different than what exists for current activities. Discussion of a restaurant setting like Spring Green, Wisconsin, a Frank Lloyd Wright design was mentioned repeatedly.

The following is a sampling of the SWOT analysis.

2.1.1 Nature Park

STRENGTHS

Wildlife watching
Least development
Lowest cost
Least maintenance
Native Plants feature possible
Visually interesting

WEAKNESSES

Limited use, frustration with lack of things to do Competing with other natural areas Safety

OPPORTUNITIES

Unique limestone area covered over by natural growth Partner with IU for living lab with native plants Surplus of skilled staff to create park Grant money should support City/county/IU partnership

THREATS

Financing and operating costs

Time for natural growth to enhance Liability Security Turf wars over partnerships

2.1.2 Recreation Park

STRENGTHS

Year round recreation Monitored for safety

Breaking Away -area already known

Promotes physical fitness

Unique combination of recreation activities in a different setting

Diverse user groups

State partnerships with DNR

WEAKNESSES

Expensive to outfit and maintain

Liability and safety

Traffic and parking issues

Spreading too thin with too many activities to maintain

OPPORTUNITIES

Hunger for outdoor music venue

Multiple locations could attract more travelers for diverse experiences

Fitness training

Getting involved with national organizations

THREATS

Expense

Time to acquire land and develop park

ATV and other pressures for use

Neighbors, noise, traffic

Competition with other parks in area

Difficult to be self-sustaining

2.1.3 Interpretive Center

STRENGTHS

Showcase heritage of stone industry

Limited land required

Provides year round indoor experience

Educational, good for school groups, families

Limestone Symposium and other local event connections

WEAKNESSES

Large building and funding

Knowledgeable staff

Exhibit development costs

Single visit

Support not as broad as for recreation park

May not be trip purpose, just additional stop

OPPORTUNITIES

Gateway to area and other activities

Professionals in area for involvement

Telling a story that is not being done well now

Grant sources

THREATS

Sustainability

Staffing

If not connected to other limestone sites, might not be as good an

experience as quarry or mill

2.1.4 Botanical Gardens

STRENGTHS

Unique

Distinct identity, visually striking, wow factor

Attracts different group of visitors for gardening

Tie into arts community

WEAKNESSES

Cost of creation

Maintenance commitment

Marketing challenge

OPPORTUNITIES

IU connections, Botany, arts

Private partnerships, Worms Way, Burnham woods, lots of expertise

available

Hook up with gardening groups to visit

THREATS

Weather

Sustainability

Competition with White River Gardens

2.2 Bedford Focus Group

A focus group was held at noon on October 19, 2005 at Stonehenge Hotel in Bedford. Four concepts were presented: Nature Park, Recreation Park, Interpretive Center and a Botanical Garden. The conclusion was that it is best to incorporate features of all four of the elements if possible for the broadest interest.

It was stated that a need to make the current Land of Limestone Exhibit more accessible to the public must be part of the project. The overall development of such a project would be a good effort to merge the varied interest groups within the Bedford community. The recommendation of a non-profit approach was considered the best route to go and that the local government will not be likely to sponsor such a development. It was requested to include the RV and ATV groups as target groups because they could benefit from inclusion in a final facility plan.

2.2.1 Nature Park

(Foots Tomb property as ideal location on east edge of Bedford)

STRENGTHS

Expand on Spring Mill Park attraction for the area Limited investment since it already overgrown Real public access to an old quarry that is not trespassing Multi-use trails for different groups Could reduce liability for other stone company properties if available to public

WEAKNESSES

Property not currently perceived as accessible Community vision lacking for property Limited possibilities for interpretation since the quarry is so old and equipment is gone Many competing park options within the area

OPPORTUNITIES

Property is available and not likely for development Chance to make it useful rather than trash dump Unique park for an additional stop for visitors already in the area Develop several activities for the property to appeal to different interests

THREATS

Private ownership now, not sure about interest in park Security concerns for the area

2.2.2 Recreation Park

STRENGTHS

Diversity of recreation
Broader audience
Family friendly
Group events
Winter use with ice possible

WEAKNESSES

Cost

Security

Staffing required

Short sighted community view of plans for quarries

OPPORTUNITIES

Combine heritage with recreation Trip motivator Co-op marketing with other parks IU partnerships possible Camping opportunity

THREATS

Funding Sustainability Liability

2.2.3 Interpretive Center

STRENGTHS

Great story to tell
Combination of a mill and quarry would be ideal
View stone milling process
Sculpture carving on site
Trip motivator

WEAKNESSES

Expensive to build and operate Location challenge Access to working quarry will be difficult

OPPORTUNITIES

Promotes stone industry
Partner with tourism to make multi-purpose
Partnership with an operating mill or quarry
Site overlooking quarry ideal
Funding from construction organizations and architects
Video experience

THREATS

One time visits
Renewing the exhibits
Costs initially and ongoing

2.2.4 Botanical Gardens

STRENGTHS

Unique in the area
Attracts older generation with time and money for travel
Revenue generator
Cultural sophistication

Makes a real destination

WEAKNESSES

Time to develop and grow plants Initial expense Cost of upkeep

OPPORTUNITIES

Partnerships with Purdue, Master Gardeners, other groups Replication of fountain from courthouse square Sculpture Gardens could be featured Greenhouse for year round interest

THREATS

Funding

Ownership challenge-local government not likely

3.0 Survey Results

Strategic Marketing Research Inc. conducted an on-line survey among 330 participants located within 150 miles of the Bloomington/Bedford area. The survey explored interest in three concepts, a limestone recreational park, a botanical garden and an interpretive center. The goal was to assess whether there was a reasonable level of interest in any of the concepts and to gather information from consumers regarding the concept and features that would be most appealing.

Respondents indicated the highest level of interest in the limestone recreational park concept. The botanical garden concept also received fairly high interest levels, though the interpretive center failed to generate as much interest. But, the level of interest for each of the concepts is quite high, with over 50% of the audience expressing interest in each of the concepts. These findings indicate that there is strong potential for any of the concepts.

Concept	Mean Interest Score	% Interested
Limestone recreational park	3.9	67.5%
Nature preserve or botanical garden	3.7	60.9%
Interpretive center	3.4	50.6%

 To better understand what consumers envision for each of the concepts, they were asked to rate a number of features which could be included as part of the facility. The following are the key features for each concept. Food and trails are important, and there is a strong interest in gardens.

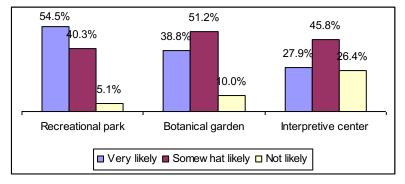
Recreational Park	Mean
Picnic areas / pavilions	4.3
Restaurant overlooking quarry	4.1
Hiking trails	4.0
Stay overnight in a converted stone mill	3.9
Campgrounds	3.9
Music and entertainment in a quarry setting	3.7

Botanical Garden	Mean
Restaurant for snacks and dining while visiting	4.0
Gardens with native plants	4.0
Children's garden, allowing a "hands-on" experience	3.8
Music and entertainment in quarry setting	3.7

Interpretive Center	Mean
Visitor center with displays and	3.6
information about the stone industry	

After asking about the types of features respondents would want in the proposed concept, respondents were asked to indicate their likelihood to visit such a facility if it included the desirable features. Strongest visitation likelihood was expressed for the recreational park. Again, these results are striking in terms of the strength of the concepts. Almost everyone indicated some likelihood to visit either the recreational park or the botanical garden, with almost three-quarters of the respondents indicating likelihood to visit the interpretive center. These concepts are clearly interesting and appealing to the target audience and will generate visitation.



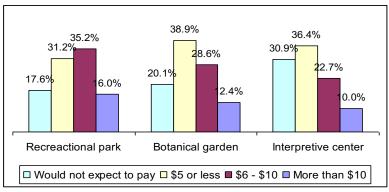


The information on likelihood to visit can be used to make usage projections. Of course, not everyone who indicates likelihood to visit will do so. Therefore, the standard formula for making a projection is the 80/20 rule, which indicates that 80% of those who say they are very likely to visit, and 20% of those who say they are somewhat likely to visit will do so. Using this calculation, the following are the projected usage percentages for the three concepts:

Recreational Park 52% Botanical Garden 41% Interpretive Center 31%

- To gauge the expected level of usage, they were asked how often they would anticipate visiting each proposed facility. Once again, highest usage was projected for the recreational park, with a projected 1.6 visits per year, followed by 1.3 for the botanical garden and .9 for the interpretive center.
- When asked how much they would expect to pay, per person, to use each of the proposed facilities, the recreational park exhibited the highest expected cost level, at \$4.50. Projected admission price for the garden was \$3.50 and \$3 for the interpretive center.





Demographics of the respondent group are provided below.

Age and Family	
Average Age	45
Female	59.3%
Married	63.2%
People in HH	2.9
Have kids	40.0%
Number of kids in HH w/ kids	2.1

Education	
High school graduate	
or less	22.6%
Some college or	
technical school	34.1%
College graduate	27.4%
Graduate work/	
advanced degree	15.9%

Income	
Less than \$20K	13.6%
\$20K but less than \$40K	26.9%
\$40K but less than \$60K	22.1%
\$60K but less than \$80K	16.3%
\$80K but less than \$100K	9.2%
\$100K or more	11 9%

Conclusions:

- The three concepts under consideration generated strong levels of interest among the target audience. These levels of interest are much stronger than other tourism product concepts that Strategic Marketing has tested. In addition, these levels of interest suggest that any of the three - or some combination of concepts would be quite successful.
- The strength of the concepts is demonstrated both in terms of the initial interest expressed, and the large number of people who indicate that they would be very likely to visit each attraction. Additionally, these attractions seem to be something that people anticipate visiting at least annually, and are willing to pay to visit.
- The Limestone Recreational Park is the strongest concept, and generated the highest interest, more projected frequency of usage and can support the highest admission price. The study did not test the concept of developing elements of each of the concepts, but it is likely that this would only strengthen the appeal, and generate additional visitation.

Key elements to include in the final design are food, trails, and gardens. There also seems to be good potential for some type of lodging facility – either a campground or inn. The appeal of various elements of the project suggests that a phased development plan could work well. Initial development of picnic areas, trails, and some landscaped areas would have initial appeal. The second phase could then include food service, musical events and other interpretive and garden features. Lodging could then be added as the viability of the concept is more proven.

4.0 Concept Recommendations

Based on information collected over the past year through interviews, site visits, case studies, focus groups and survey results the following concepts are recommended for further study.

4.1 Limestone Park at Woolery Stone Mill Concept

Woolery Stone Mill is located on Tapp Road about one mile east of State Road 37 and on the south edge of the City of Bloomington. The area has tremendous potential for a multi-faceted Limestone Park experience. Amenities of the Woolery area include:

- 1) A working quarry that is slated to complete its activity in the next two years and is potentially for sale;
- 2) Several quarries that have been inactive for more than 50 years and have become overgrown with natural vegetation;
- 3) Numerous massive piles of discarded stone blocks randomly placed and visually stimulating;



- 4) A trailhead for a walking and biking trail linked to the city system with expansion plans that could access other quarry sites;
- 5) The Wapehani Mountain Bike Park is also just north of the Woolery Mill and will be connected to the trail.
- All of the above are in addition to the impressive Woolery Stone Mill itself, the limestone building on site that served as the offices of the Woolery Stone Company and some original equipment.

The developer of the Woolery Mill site has reached a tentative agreement with a hotel chain to partner in the redevelopment of the site. The former stone mill is expected to be converted into upscale condominiums, a 100-room hotel and conference center plus a restaurant and a brewpub according to the current design plans.

This mill is a massive steel and glass structure that is in the process of restoration. The entrance has already been landscaped. Several pieces of limestone equipment are on site and more may be added with interpretation on the outside of the building. A crane is planned for erection in front of the building. The former offices of the Woolery Stone Company have been restored and are the home of the developer's successful electrical contracting business.

The lobby of the hotel and conference center will be an expansive open area. The developer is interested in creating a large exhibit area for limestone interpretation that possibly could be the home of the interpretive center contemplated in our survey research. There will be approximately 8,000 square feet available that could contain a substantial collection of exhibits and interactive and multi media experiences conveying the limestone story.

In addition, there is a already a popular city developed walking and bike trail passing through the Woolery property that connects to a loop trail around the south side of Bloomington. The city parks plan contemplates future expansion of the trail in the direction of Lake Monroe and will pass in close proximity to several other quarry sites including the Breaking Away quarry. This trail could eventually link to Lawrence County and limestone sites in Oolitic and Bedford. Wapehani Mountain Bike Park is a city owned and operated property on the site of a former Boy Scout camp with a small lake and a designated internal trail system. Bloomington Parks and Recreation plans to link the trail to Wapehani in the near future.

4.2 Foote's Tomb Nature Park Concept

Quarry technology in 1850 is demonstrated in the area known as Foote's Tomb located just east of the City of Bedford. The site has not been in use for about 50 years and has experienced a significant natural re-growth of vegetation and trees. The quarry is actually not a hole in the ground, but a hole in the side of the surrounding hills left by extracting stone at ground level making it quite unique. A



Ball State University class is currently studying the site for potential park development this semester. The name comes from the tombstone of the original owner and operator who is buried on the site.

The area lies in a flood plain limiting it development potential despite its proximity to the city and its easy access from Highway 50 east of Bedford. There is also a large wooded parcel to the south of Foote's Tomb that could potentially be included in a park project.

This site is an excellent example of the natural evolution of a quarry site demonstrating the fact that nature can heal an area disturbed by quarrying in a relatively short period of time. The stone has turned dark grey in the exposed rock face areas providing a nice backdrop for a nature experience and passive recreation with trails, picnicking areas and interpretation as possible uses.

4.3 Limestone Discovery Center

Like the Furniture Discovery Center in North Carolina and the Forest Discovery Center in Starlight, Indiana the limestone industry could consider creating a place where visitors could follow the whole process of a block of stone from its quarry origin to its place in a prominent architectural structure or a work of art. The Furniture Discovery Center highlights design and manufacturing of fine furniture taking visitors inside a workplace with a controlled and safe access. Similarly, the Forest Discovery Center allows the public to observe its manufacturing of ornate woodwork via a catwalk that safely puts the visitor high above the machinery and behind glass panels for viewing.

This concept would work particularly well at a stone mill like Architectural Stone in Bedford where complex design and shaping of limestone would be quite fascinating to visitors. It would obviously require construction of safe observation areas and the addition of interpretation and education in a nearby area.

The potential to include stone carving with old tools and modern air powered tools would be a significant additional visitor experience. There is also potential for a gallery and gift shop to market limestone art and products for home and garden.

The current commercial and residential market for limestone as an accent for windowsills, doors and fireplaces is escalating. As more communities adopt strict building codes requiring brick or limestone facings on buildings and homes, this market could be a substantial economic boon for Lawrence and Monroe Counties.



4.4 Limestone Design Center Concept

Developing a Limestone Design Center could introduce the public to the variety of exquisite architectural possibilities available for enhancing property value, energy efficiency and quality of construction. Demonstration areas for incorporating limestone into building plans would provide a unique opportunity to mass-market limestone products contributing to a long prosperity for the industry.

A Limestone Design Center could be an ideal location to host conferences for architects, commercial developers, financial advisors and construction companies that are considering options for projects of all sizes that could include limestone.

4.5 Limestone Interpretive Center at Interstate 69 Rest Area Concept

Interstate 69 is being designed to pass directly through the middle of the limestone belt and make a turn off Highway 37 to the west near Victor Pike about 7 miles south of Bloomington.

A rest stop will be needed somewhere in the northern half of the route between Evansville and Indianapolis. A rest area with an interpretive center has already been tentatively planned overlooking the Patoka Wildlife Refuge in Gibson County. It seems quite reasonable to consider locating another rest area stop in the northern half of the route. Design plans are still preliminary for the route and could be adjusted to include a limestone themed rest area at the intersection of Highway 37 and I69 in southern Monroe County within a few miles of dozens of stone quarries.

In keeping with the heritage of the region, the rest area building should be a limestone structure. The grounds could feature limestone sculpture and blocks of limestone to remind visitors that they are in fact in the Limestone Capital of America. Adding an interpretive center to the rest area could make it a destination in itself that would encourage economic development by introducing visitors to the unique quarry and stone mill experiences within a short drive of the interstate.

There is potential for Lawrence and Monroe Counties to partner on the development of the center and have an ongoing role in the operation of the Limestone Welcome Center.

The location is just a few miles north of the county line. The intersection of Highway 37 and the new interstate is also a logical place to greet visitors from the south coming into Monroe County and visitors from the north coming into Lawrence County. Since the interstate does not pass through Lawrence County, this is an excellent opportunity to introduce interstate travelers to other attractions



like Blue Springs Caverns, Spring Mill State Park, the Limestone Institute, and the limestone architecture of Bedford.

The schedule for developing I-69 is now about 8-10 years away. However, if the location chosen is on Highway 37, it has potential to be developed in an earlier timeframe and be useful as a visitor center about halfway from Indianapolis to French Lick and West Baden on the route that is expected to experience a significant increase in traffic in 2008 with the opening of the revitalized hotels and the gaming boat. The rest of south central Indiana and southwestern Indiana would also benefit from exposure of their attractions in the welcome center on what is expected to become a transcontinental travel route from Canada to Mexico.

Since right of way has not been purchased yet, it might be possible to locate the Limestone Rest Area between the lanes of I-69 and Highway 37 making it more accessible from all directions. In West Virginia, the Tamarack arts and crafts center is a rest area at the convergence of two interstates and located for easy ingress and egress.

A design competition could make the rest area architecturally significant and an appropriate home for telling the limestone story. A sculpture garden could enhance the picnic and walking area encouraging travelers to stretch their legs. Adding interpretation to the visible highway cuts is an opportunity for a geological education component. Developing exhibits documenting the limestone history and heritage of the area could make the stop an attractive destination. With an attractive gateway to limestone country on the interstate, the incentive to invest in additional limestone experiences in the area would increase. The combination of several different limestone experience choices could entice travelers to plan overnight or longer stays in the area.

