



Green River Crossing Concepts

Preliminary Concepts and Analysis • March 2009





Park ferry operations are impacted all too frequently by both low water and high water conditions.

Getting Across Green River

The Green River Ferry site, initially developed in 1934, serves as a river crossing location, river access for canoes, a boat ramp for fishing boats, and a parking area for trail and river users. Operation of the Green River Ferry continues to be negatively impacted by extended closures during periods of low and high water—impacts that affect local citizens and park staff by presenting safety problems, limiting access to recreation resources, and cutting off frequently used travel routes. Issues relating to the operation of the river crossing have been the subject of several studies within the past 20 years, and the insights provided by those studies now provide a solid platform for decisions to be made by park management, with full public input about how best to manage the river crossing for the future.

General Management Plan, 1983

“To make the Hilly Country more accessible and to facilitate required trans-park traffic, it is recommended that a bridge be built across Green River near the vicinity of Houchins Ferry. Before implementing this proposal, a design analysis and environmental assessment will be conducted to determine the project’s feasibility and to identify possible bridge sites.”

“The Green River is subject to 50-foot flood crests creating extensive areas of floodplain. Consequently, in keeping with Executive Order 11988, no permanent structures will be built within the 100-year (base) floodplain.”

“The stretches of the Green and Nolin River flowing through Mammoth Cave National Park were included in a January 1982 “Nationwide Inventory” of rivers appearing to have potential for consideration for the National Wild and Scenic Rivers System. No congressionally mandated study or proposal has been made to include the rivers in the national system. However, whenever specific development concept planning occurs, the National Park Service will consider and attempt to mitigate the effects of its action on the values that may qualify the river for inclusion in the system.”

Federal Highway Administration Bridge Study, 1992

A 1992 study by the Federal Highway Administration examined the feasibility of a high level bridge; costs for the four concepts ranged from \$21 million to \$31 million (1996 figures). The study recommended improving signage to direct visitors to the Hilly Country. Costs for bridge construction at the Green River Ferry site were estimated in 2005 at \$50 million.

Corps of Engineers Study, 2005

The Corps of Engineers finalized and released its study of the locks/dams on Barren and Green Rivers in June 2005. The study showed the dams to be in extremely poor condition and experiencing significant piping and seepage. The study identified the need to renovate ferry landings for operation in low water.

Current Statistics

86,000

vehicles crossed Green River Ferry in 2008

Commuters 57,333

Park staff 8,600

Park visitors 20,067

4,291

canoes launched or took out at Green River Ferry

493

boats launched or took out at Green River Ferry

46

parking spaces are available at the Green River Ferry parking lot

Ferry Closures

2008

Low-Water Closures: 19

High-Water Closures: 7

2007

Low-Water Closures: 30

High-Water Closures: 0

2006

Low-Water Closures: 0

High-Water Closures: 3

2005

Low-Water Closures: 21

High-Water Closures: 2

NPS Concept and Value Analysis, 2005

In the FY05 Omnibus Spending Legislation, Congressman Ron Lewis earmarked \$248,000 in FHWA-Ferry Boat Discretionary Program for a ferry improvement project. Processed through Kentucky Department of Transportation, the funding was used for pre-design (development of concepts, a value analysis report (VA), schematic design, and a cost estimate). In FY08, \$311,752 was allotted through the same method for environmental compliance and design documents.

Mission-Related Issues

- Park access – visitors, commuters, emergency response in the park and through the park, and park management.
- Ensuring public safety
- Archeological resources – Discovery of a significant archeological site during the VA suggests a high probability of the presence of archeological sites throughout the Green River Ferry site.
- Endangered Species – Mussels

Concepts

The park used the VA to compare the relative advantages and disadvantages of three preliminary river crossing concepts: a high level bridge, a low-water bridge/ford, and improvements to the Green River Ferry crossing site. A second phase of the VA addressed the physical needs for related site development adjacent to the river crossing site, such as parking, canoe/boat launches, and trails. The following criteria were used:

- Public safety,
- Natural/cultural resource protection,
- Visitor enjoyment/recreation,
- Operation/sustainability,
- Other advantages/disadvantages to the NPS.

An additional factor considered was that *Miss Green River II*, a concession-operated boat tour, closed its operation and was removed from the site.



High water conditions and fast-moving debris make ferry operations hazardous.



Low water closures are not uncommon. The Green River Ferry could not function for an aggregate of 30 days—nearly a month put together—in 2007.



Water levels can restrict ferry passage for vehicles with bike racks or trailers in tow, or long vehicles such as RVs.

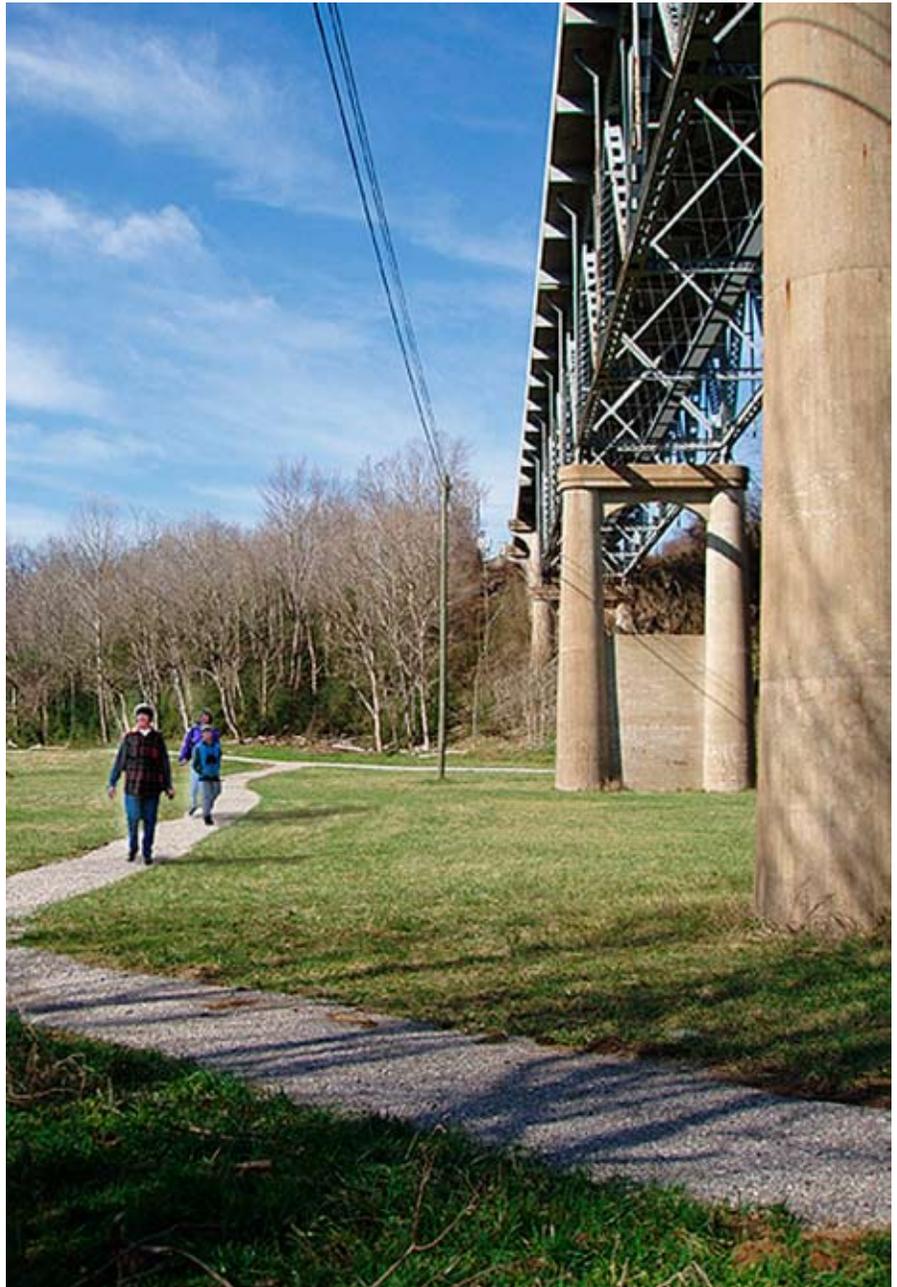
High-Level Bridge

VA rating = 295

- 24/7 access, 365 days per year—no restriction to traffic flow
- Access for all types and sizes of vehicles, excluding commercial vehicles
- Water elevation does not affect traffic—road does not end in river during high or low water
- Significant improvement to increasing visitation to Park facilities
- Improvements to local traffic flow
- Meets requirements of Executive Order 11988 for federal road construction
- Large footprint—requires the most reconstruction of approach roads and boat ramps, and has the greatest impact on habitat
- During construction (~2 years) ferry operations must be decreased, with some closures
- Scale of structure may be excess to the carrying capacity of the small connecting roads

Cost estimate: \$50,000,000 + maintenance cost (2005 estimate)*

* Cost estimates are being revised; current estimates will be included in public involvement materials in the spring.





Low-Water Bridge/Ford

VA rating = 0

- Does not meet federal road design criteria
- KYDOT supports this conclusion

Cost estimate: \$12,000,000 (2005 estimate)*

* Cost estimates are being revised; current estimates will be included in public involvement materials in the spring.



Improvements to the Ferry Site

VA rating = 300

- Overall minimal footprint, using existing roads
- Does not require any improvements outside the footprint of the project; communication with the traveling public could be improved, however, with the installation of electronic “smart signs” and implementation of 511 telephone information service
- Periodic dredging will be required to ensure sufficient draft to operate the ferry
- Will likely require mussel relocation periodically due to dredging
- Implementation can be done in phases to minimize interruptions in ferry service

Cost estimate: \$6,500,000 + maintenance, dredging and mussel relocation costs (2005 estimate)*

* Cost estimates are being revised; current estimates will be included in public involvement materials in the spring.



Next Steps

The park will begin a public engagement period in the spring. The public will be invited to provide input on the river crossing preliminary concepts, site development options, and to offer other ideas for consideration. Later in the year, the public will be asked to comment again on the draft environmental assessment.

Tentative Schedule for Public Involvement

March 2009	Public meeting announcement and press release
April 2009	Public meetings (Lincoln and Brownsville) Public comment period begins
May 2009	Public comment period ends
June-August 2009	Draft Environmental Assessment (EA) review by NPS and other agencies
September 2009	Release draft EA for public review and post on the PEPC internet site
October 2009	Public meeting
November 2009	End of public comment
December 2009	Draft Finding Of No Significant Impact (FONSI) for agency review and approval