



# Bear Tavern Bridge Task Force Recommendations

Hopewell Township Committee

November 8, 2004



# Task Force Background

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- Mercer County originally commissioned studies for the replacement of the bridge in the 1970's.
- In the late 1980's, Janssen Pharmaceutica sought long term planning approvals from Hopewell Township. During the hearings on those approvals the replacement of the bridge was discussed but Mercer County was not in a position to replace the bridge at that time.
- The Bear Tavern Road Bridge was determined to be individually eligible for listing in the New Jersey and National Registers of Historic Places on June 3, 1991.

# Task Force Background

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- During consideration for a grant to construct a walking path along the abandoned railroad bed on the Alliger parcel adjacent to the Municipal site in 2002, the Hopewell Township Committee learned of Mercer County's intent to relocate the bridge as part of its reconstruction effort.
- The Township Committee sought comment from the Historic Sites Committee regarding this proposal.
- The Historic Sites Committee commented that the bridge was of historical significance; not just for Hopewell Township, but for the State as a whole as this bridge one of only several left in the State.

# Task Force Background

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- The bridge was locally designated as a historic landmark by Hopewell Township on May 3, 2001.
- Discussions were undertaken with Mercer County to preserve the bridge in its current configuration. These discussions involved many meetings over a two year period and involved representatives of Mercer County Engineering and Transportation Department, Janssen Pharmaceutica, and the Hopewell Township Committee and Engineer.

# Task Force Background

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- Having never reached a consensus, in 2004 the Hopewell Township Mayor appointed a Task Force to independently review the bridge, the needs for its reconstruction, and various construction alternatives and to recommend several alternatives based upon a mediated decision making process.

# Task Force Members

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- Peter Brittingham, Hopewell Township Resident
- Frank Fechter, Lieutenant-Hopewell Township Police
- Robin Fogel, Hopewell Township Resident
- Heidi Kahme, Hopewell Township Historic Preservation Commission
- Paul Pogorzelski, Hopewell Township Engineer
- Craig Rolwood, Mayor's Task Force on Traffic and Trucking
- Greg Sandusky, Acting Mercer County Engineer
- John Subacus, Janssen Pharmaceutica
- Andrea Tingey, Office of State Historic Preservation

## FACILITATOR

- Ray, New Jersey Office of Dispute Settlement

# Task Force Mission and Objectives

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## Task Force Mission

Recommend alternatives to Mercer County by August, 2004

## Task Force Objectives

- Conduct an open process
- Assess issues/concerns
- Use most up-to-date information
- Establish clear criteria
- Consider alternative solutions
- Consider potential problems
- Define problems clearly
- Set clear priorities, determine most important
- Cost effective
- Consider existing conditions/constraints
- Consider impact on surrounding streets

# Task Force Approach

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- First meeting on **April 19, 2004**
- Met bi-monthly, open to public
- **7** meetings overall
- Data gathered from:
  - Mercer County Engineer
  - Hopewell Township Police
  - Hopewell Township Engineer
  - New Jersey Office of Historic Preservation
  - New Jersey Department Of Transportation
  - Institute of Transportation Engineers
- Used data and logic to form recommendations

# Step 1: Assess the Issues

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- List issues
- Separate/clarify/review information
- Set priorities
- Determine next steps

# Assumptions

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- First Mercer County Route 579 (a.k.a. Bear Tavern Road) will not be classified as a Truck Route as a result of any changes to this structure due other roadway limitation north of Mercer County Route 546. Mercer County Route 579 (a.k.a. Bear Tavern Road) will not be classified as a Truck Route as a result of any changes to this structure due other roadway limitation north of Mercer County Route 546.
- There are no sidewalks intended unless offered by way of reuse of this bridge (Alternate 4b). Cantilever walkway modification or separate walkway structures were felt to be invasive from a historic preservation standpoint.

# Assumptions

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- Shared Passage:
  - Vehicles - Intent is only to secure the ability to safely pass two vehicles
  - Bicycles may travel in the lane of traffic to cross the short distance across the bridge. Otherwise, in widened sections, limited shoulder areas may be used to effect Context Sensitive Design strategies.
  - Pedestrian traffic is limited in the area

# The Issues

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- Safety
  - Risk of Bridge Collapse
- Maintain Scenic Value of Bridge and Surroundings
- Maintain Historic Value



# The Issues

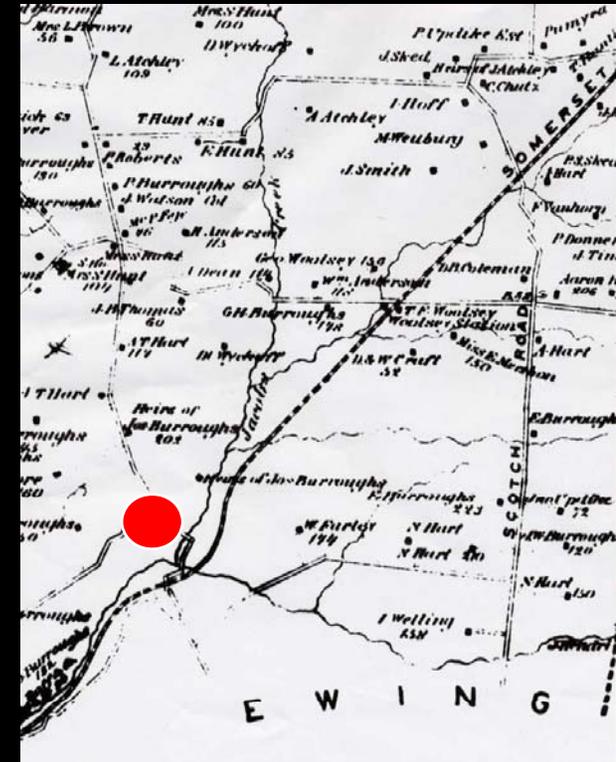
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- Provide Unrestricted Passage of Opposing vehicles
- Emergency Vehicle Passage
- School Bus Passage
- Shared passage with bicyclists
- Shared passage with pedestrians



# The Issues

- Archaeological Impacts
- Environmental Impacts
- Maintains a Traffic Calming Effect



# The Issues

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- Area-Wide Traffic Impacts
- Construction Costs
- Maintenance Costs



# Data on Accidents

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Several years of accident data were reviewed and considered in development of Issues for consideration. This data was also used to identify any unusual driver characteristics or behavior patterns in this area.

Source: Hopewell Township Police Records

# Data on Traffic

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## PEAK HOUR TRAFFIC VOLUMES Bear Tavern Road Bridge

Time	AM Peak	PM Peak
Eastbound	342	446
Westbound	442	268
Totals	784	714

Based upon approximation that peak hour represents 8-10 percent of total daily traffic, Average Daily Traffic is projected at 7,800 vehicles

Source: Traffic counts by Mercer County Engineer

# Step 2: Develop Recommendations

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- State the decision
- Develop criteria
- Classify criteria into MUSTs and WANTS
- Evaluate Alternatives
  - Generate alternatives
  - Screen alternatives through the MUSTs
  - Compare alternatives against the WANTS
- Assess Risks and Adverse Consequences
  - Identify risks and adverse consequences
- Make Recommendations
  - Make the best balanced choice

# Decision Statement

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- Select a set of bridge design alternatives in ranking order to provide guidance to Mercer County for use in its design process

# MUST Criteria

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- Must meet the American Association of State Highway and Transportation Official (AASHTO) Standards with design exceptions as required to achieve State Historic Preservation Office/ New Jersey Department of Environmental Protection requirements approvals
- Must meet New Jersey Department of Environmental Protection requirements
- Must achieve Mercer County approval

# WANT Criteria and Weights

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- Eliminates risk of structural collapse
  - Weight: 10
- Maintains scenic value of bridge and surroundings
  - Weight: 7.1
- Provides unrestricted passage of opposing vehicles
  - Weight: 7.0
- Provides or maintains traffic calming effect
  - Weight: 6.8
- Not necessarily compliant with Secretary of the Interior (SOI) preservation standards but has historic value
  - Weight: 6.6

# WANT Criteria and Weights (2)

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- Allows for emergency vehicle passage
  - Weight: 6.5
- Maintains environmental integrity of surroundings
  - Weight: 6.3
- Area Wide traffic impact by suppressing increased traffic
  - Weight: 5.9
- Construction costs
  - Weight: 3.5
- Maintenance costs
  - Weight: 1.8

# WANT Criteria and Weights (3)

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- Complies with or exceeds historic standards established by the Secretary of the Interior (SOI)
  - Weight: 4.9
- Provides for shared passage of bicycles
  - Weight: 3.9
- Allows for school bus passage
  - Weight: 3.6
- Minimize potential for archeological impacts from footprint of construction
  - Weight: 3.5
- Provides for shared passage of pedestrians
  - Weight: 2.9

# Alternatives Considered

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1

No Build  
(Eg. Higginsville Road)



2

Rehabilitate existing  
bridge to be Historic SOI  
compliant  
(Eg. Higginsville Road)



# Alternatives Considered

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## 3a

Rehabilitate existing bridge – slice and widen, strengthen as necessary



## 3b

Rehabilitate existing bridge – slice and widen, increase height to 14 feet, provide new structural underpinning



# Alternatives Considered

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## 4a

Rehabilitate existing bridge in-kind for one way traffic and provide parallel compatible vehicular bridge



## 4b

Rehabilitate existing bridge in-kind for pedestrians and bicyclists and provide parallel compatible vehicular bridge



# Alternatives Considered

5a

Replace with economical bridge; Move existing bridge to new site



5b

Replace with context sensitive design bridge; Move existing bridge to new site



# Alternatives Considered

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6a

Replace with economical bridge; Demolish existing bridge



6b

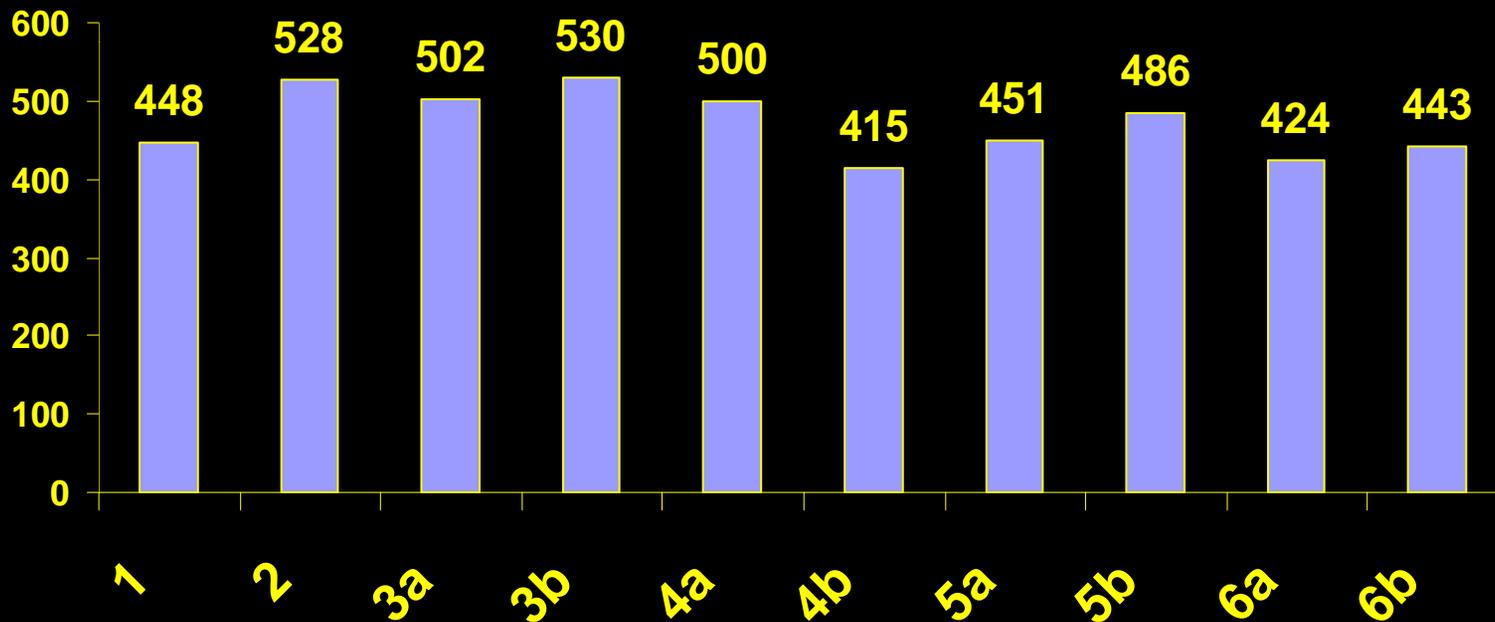
Replace with context sensitive design bridge; Demolish existing bridge



# Rank Ordered Scores

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(Highest Possible = 802)



# Recommended Alternatives

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## Highest Ranked Alternate

### Alternate 3b

Rehabilitate existing bridge – slice and widen, increase height to 14 feet, provide new structural underpinning

#### Key Reasons:

- Eliminates structural collapse risk
- Permits entire range of emergency vehicles
- Permits passage of school buses
- Retains traffic calming ability
- Retains scenic value of existing structure

# Recommended Alternatives

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## 2<sup>nd</sup> Highest Ranked Alternate

### Alternate 2

Rehabilitate existing bridge to be Historic SOI compliant

#### Key Reasons:

- Maintains maximum historic value
- Best retains scenic values
- Offers best traffic calming
- Minimizes area-wide traffic impacts

# Recommended Alternatives

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## 3<sup>rd</sup> Highest Ranked Alternate

### Alternate 3a

Rehabilitate existing bridge – slice and widen,  
strengthen as necessary

#### Key Reasons:

- Eliminates structural collapse risk
- Permits some emergency vehicles
- Retains traffic calming ability
- Retains scenic value of existing structure