

# **GALLIA COUNTY'S BRIDGE PROGRAM**

**2017 CEAO Bridge Workers, Engineers, and Superintendents**

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# GALLIA BRIDGES 10FT-20FT

- 2 Piece Concrete Box Culverts
  - In-house Construction
  - Joints - Forgiving
  - Materials/Installation ODOT Specifications
    - Bedding, Sealed, Butyl Seal, Grout, Waterproof
  - No wingwalls/headwalls
  - Contract guardrail in-place with box
  - Contract plan design and load rating.
  - Construction Time – Full Road Closure
  - Life Expectancy/Life Cycle Cost
  - Cost
  - Certifications - Crane



# GALLIA BRIDGES 20FT-30FT

- Precast Concrete Deck Beams Post Tensioned with Precast Concrete Block Spread Footer(or Piling).
  - In-house Construction vs Contract
  - Materials/Installation ODOT Specifications
    - Deck Beams (Not Box beams), Blocks, Concrete Class C, Reinforcing Steel, Bearing Pads, Tension Rods on every two beams and overlap, Non-shrink grout, Waterproof, Drip Strips
    - Contract Precast Deck Beams, Blocks, and guardrail in place.
    - Plan design and Engineer Stamped load rating.
  - Construction Time – Full Road Closure
  - Life Expectancy/Life Cycle Cost
  - Cost
  - Certifications - Crane



# GALLIA BRIDGES 30FT-40FT

- Galvanized Steel Beam with Precast Concrete Deck Panels.
  - In-house Construction
  - Materials/Installation ODOT Specifications
    - Galvanized Steel Beams, Deck Panels, Blocks and/or piling, Concrete Class C, Reinforcing Steel, Bearing Pads, Tension Rods on every panel/overlap and to beams, Non-shrink Grout, Waterproof, Drip Strips
    - Contract Precast Deck Panels, Blocks, and guardrail in place.
    - Contract Galvanized
    - Plan design and Engineer Stamped load rating.
  - Construction Time – Full Road Closure
  - Life Expectancy/ROI
  - Cost
  - Certifications - Crane

# GALLIA - BRIDGES OVER 30/40 FT (IN-HOUSE VS CONTRACT)

## Question

- Is it cheaper to replace a 40 foot bridge in-house as opposed to contract?
- **Contract Design-Build**
  - **Concrete or Steel – Galvanized**
  - **Concrete Deck/Wearing Surface with stay in place forms.**

Design Build Construction 200 Foot  
Span Cost=\$1,449,827.50

## Design and Construction

LBR = 80% = \$1,159,862

Credit= 15% = \$ 217,474

Local= 5% = \$ **72,491**



# GALLIA COUNTY BRIDGES - OTHER DECK TYPE CONSIDERATIONS

- Stay in Place Forms
  - Use on most bridge deck rehabs, many times replacing timber decks.
  - Part width construction
- Timber Decks – Maintain Only
  - Cheap – Labor Intensive
- Future
  - Rehabilitation of bridges with good abutments with recycled steel beams (Galvanized).
  - Build Forms
- Bridge-Culvert
  - Concrete Lining

