

# I-95/Route 630 Diverging Diamond Interchange

**March 3, 2015**

**Marcie Parker, P.E.**

**Fredericksburg District Administrator**

**Michelle A. Shropshire, P.E.**

**Assistant District Administrator – Preliminary Engineering**

# How did we get here?

- **Project budget reduced by \$35 million in SYIP update**
- **Developed scope reduction options to focus on core interstate work**
- **Designed alternate concept to reduce footprint, streamline design and preserve key project features**
  - **Hospital Drive connection**
  - **Link to Courthouse Road**
  - **Maintain number of commuter parking spaces**

# Diverging Diamond Interchange



*Diverging Diamond Interchange at Exit 136 (Zion Crossroads) on Interstate 64, Louisa County*

# What is a Diverging Diamond Interchange?

- Ramps similar to traditional diamond interchange
- Design briefly crosses traffic to the left side of the road
- “Free” or simple left and right turns from all directions
- Pavement markings, signs and signals direct motorists through the intersections



***Diverging Diamond Interchange at Exit 136 (Zion Crossroads) on Interstate 64, Louisa County***

# Diverging Diamond Interchange: Benefits

- **Fewer conflict points**
- **Reduction in crashes compared with traditional interchange design**
- **Efficient for heavy left-turn movement**
- **Better sight distance at turns**
- **Signals are two-phase – shorter cycle lengths**
- **Interstate U-turns are accommodated well**
- **Small footprint – fewer impacts/right of way**
- **More cost effective than other interchange configurations**

# Diverging Diamond Interchanges in Virginia

- **First DDI in Virginia was completed spring 2014**
  - **I-64 and Route 15 at Zion Crossroads**
- **Other DDIs underway in Virginia**
  - **I-581 and Valley View Boulevard, City of Roanoke**
  - **Route 460 and Southgate Drive at Virginia Tech**
  - **I-66 and Route 15, Town of Haymarket**

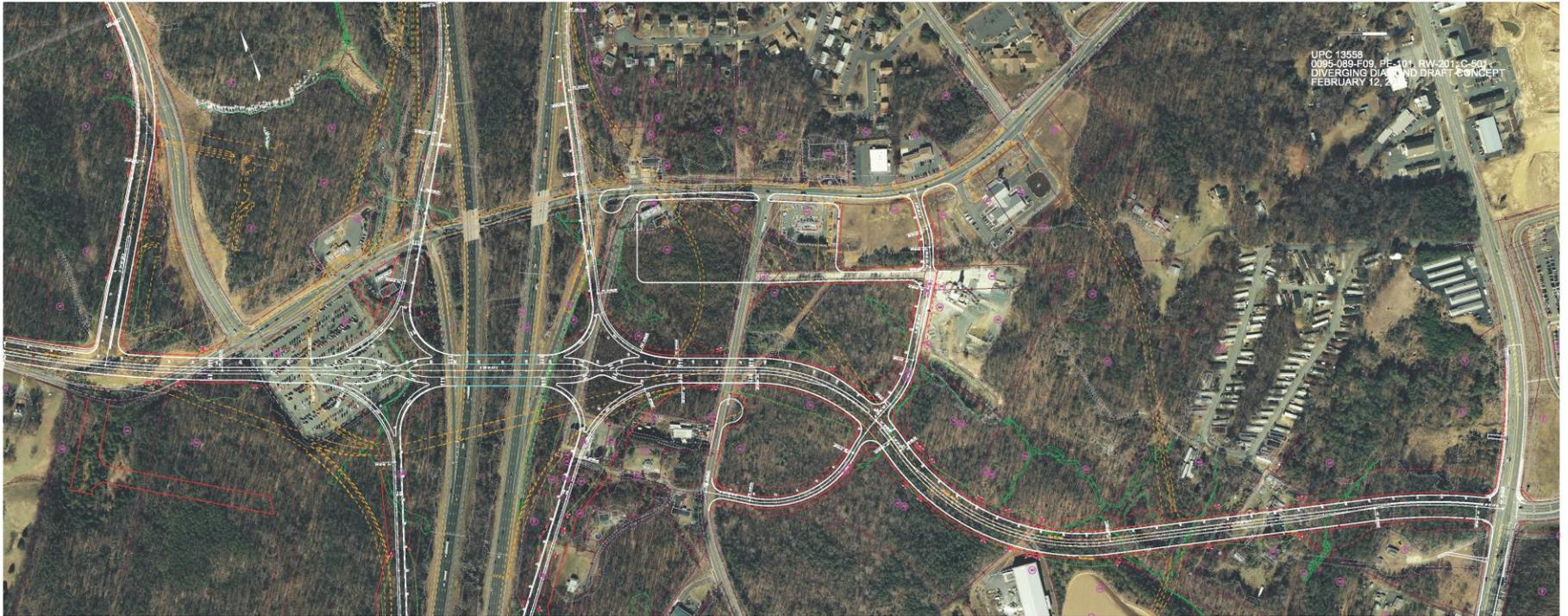
# Diverging Diamond Interchange – History

- **Concept originated in France in 1970s**
- **Concept “reinvented” by Gilbert Chlewicki in early 2000s**
  - **Inspired by the freeway-to-freeway interchange between I-95 and I-695 north of Baltimore, Maryland**
- **Missouri Department of Transportation first to construct**
  - **I-44 and Route 13 in Springfield opened in 2009**
- **45 states have a DDI in operation, under construction or in the planning stages**

## **Why do we recommend a DDI at Exit 140?**

- **Reduce footprint/impacts (right of way & environmental)**
- **Achieve operational goals of project**
- **Maintain key project components**
- **Meet budgetary constraints of project**

# Diverging Diamond at I-95 and Route 630



## **Next steps:**

- **Update Interchange Modification Report (IMR)**
- **Re-evaluate environmental impacts**
- **Develop preliminary plan**
- **Hold design public hearing**
- **Begin Design-Build procurement process  
(Request for Qualifications/Request for Proposals)**