



**STEWART**  
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# Fordham Corridor Ped Bridge Analysis

Town of Chapel Hill

December 2, 2014

- Topography
- Floodplain
- Property
- Development Patterns
- Pedestrian/Cycling Network
- Safety
- Constructability



S ELLIOTT RD




E FRANKLIN ST

FORDHAM BLVD.

LEGION RD

EPHESUS CHURCH RD



Type	Span Range	Cost	Application Notes
 <p>Prefab Steel Truss</p>	<p>Up to 100' Up to 200' Over 200'</p>	<p>\$200-\$250/SqFt \$250-\$350/SqFt \$400+/Sqft</p>	<ul style="list-style-type: none"> <li>• “Traditional” transportation construction</li> <li>• Compressed construction schedule</li> <li>• Designs can be customized</li> <li>• Large cranes required on longer spans</li> <li>• Requires large lay-down areas</li> </ul>
 <p>Cored Slab/Box Beam</p>	<p>Cored up to 70' Box up to 110'</p>	<p>\$130-\$150 \$140-4160</p>	<ul style="list-style-type: none"> <li>• “Traditional” transportation construction</li> <li>• Low cost</li> <li>• Limited design flexibility</li> <li>• Limited aesthetic treatments</li> </ul>
 <p>Suspension</p>	<p>250' – 450'</p>	<p>\$350-\$450 SqFt</p>	<ul style="list-style-type: none"> <li>• Extremely flexible design for long spans</li> <li>• High aesthetic/branding value</li> <li>• Smaller construction equipment</li> <li>• Light environmental impact</li> <li>• Costly</li> </ul>

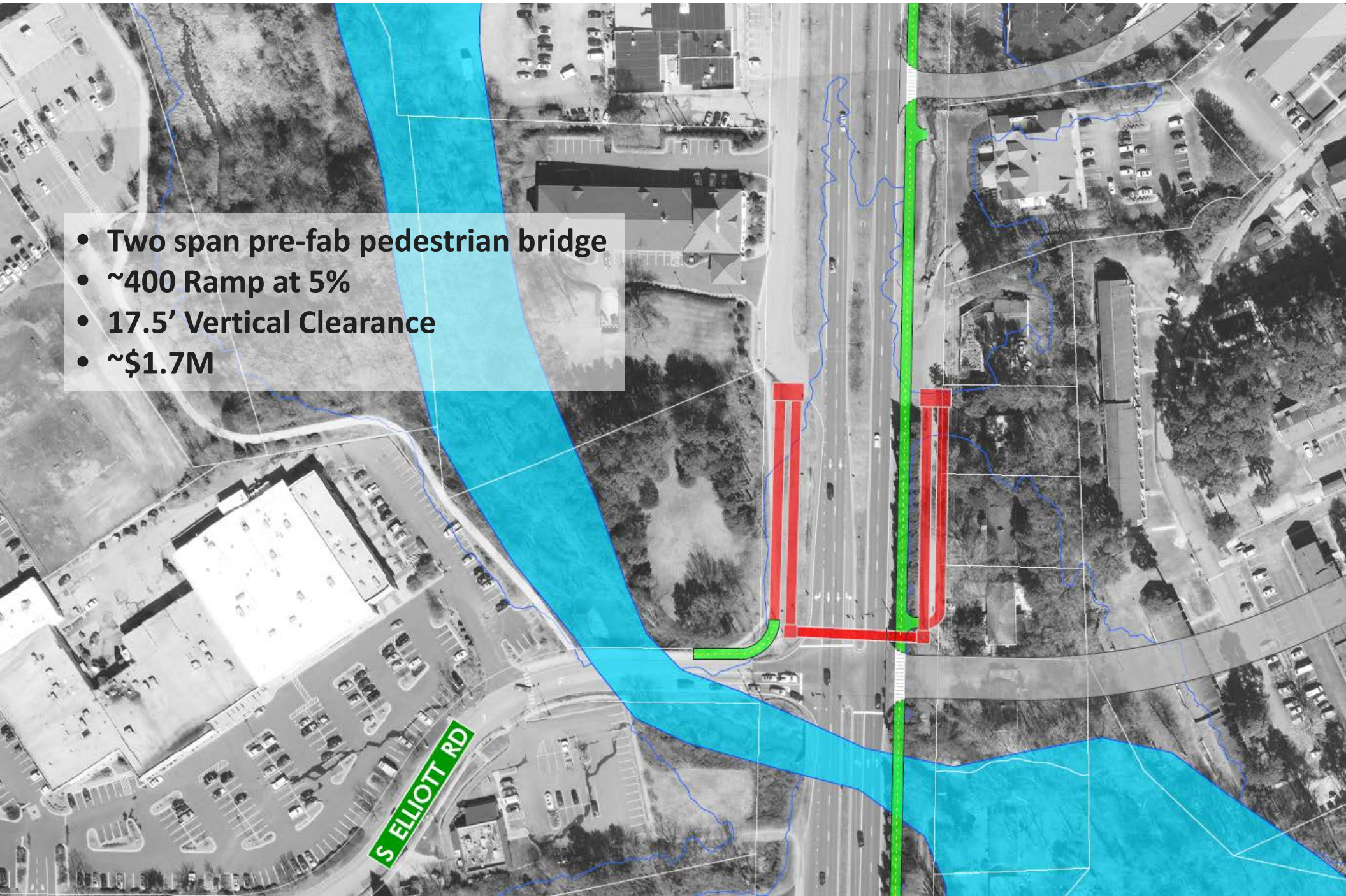
- Bridge Structure
- Foundations
  - \$40-75K (micro piles – drilled shaft)
- Ramps
  - \$200-\$250 per square foot
- Elevator
  - \$50K-\$85K (2 Stop, Hydraulic)
- Pedestrian Culvert
  - \$2,500 per linear foot
- Multi-Use Path
  - \$75-90 per linear foot
- Lighting
  - 10-15% of structure cost
- Metalizing
  - \$60K per bridge

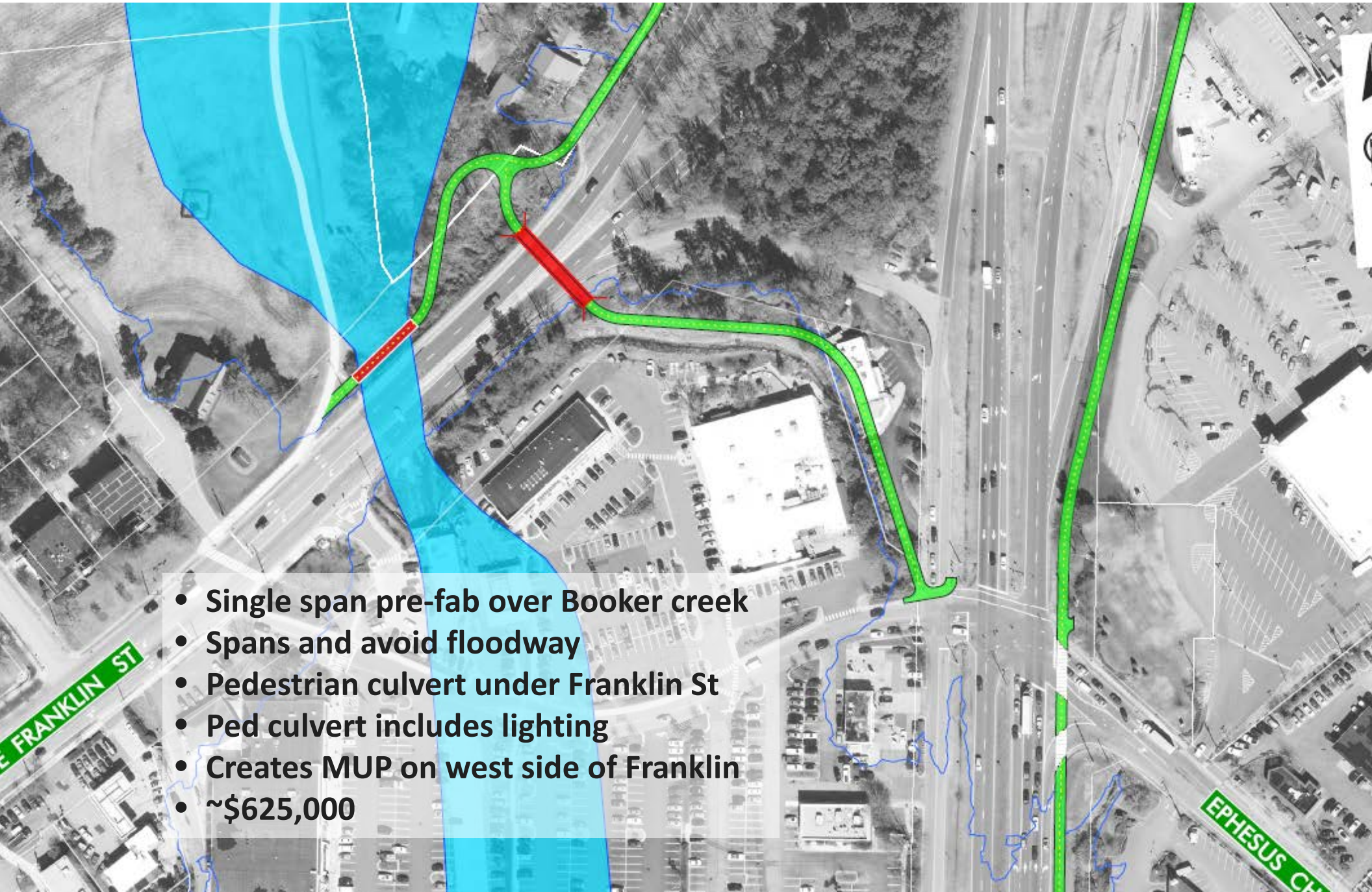
# Elliott/Fordham Bridge

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- Two span pre-fab pedestrian bridge
- ~400 Ramp at 5%
- 17.5' Vertical Clearance
- ~\$1.7M





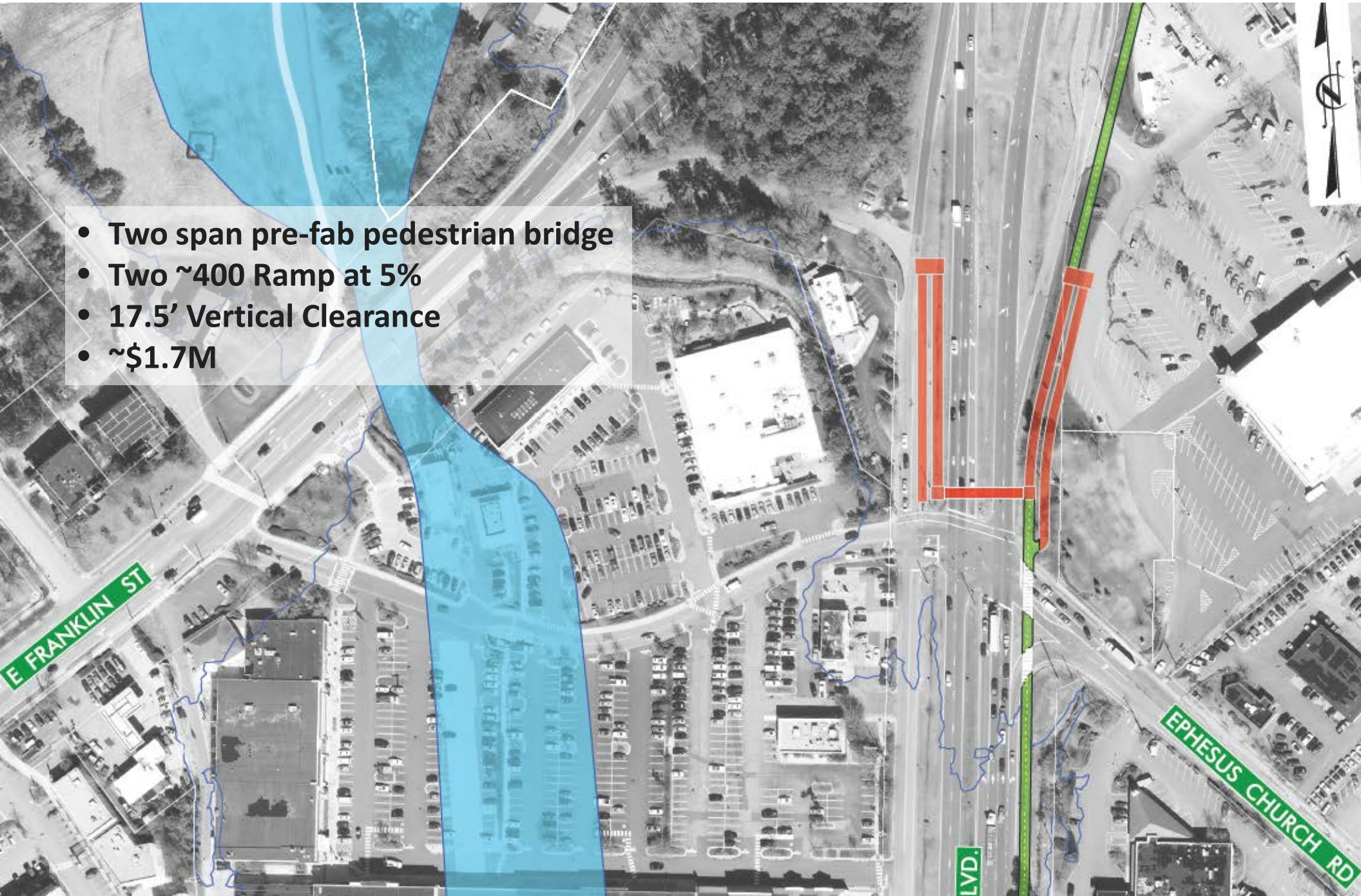
- Single span pre-fab over Booker creek
- Spans and avoid floodway
- Pedestrian culvert under Franklin St
- Ped culvert includes lighting
- Creates MUP on west side of Franklin
- ~\$625,000

# Ephesus / Fordham Crossing

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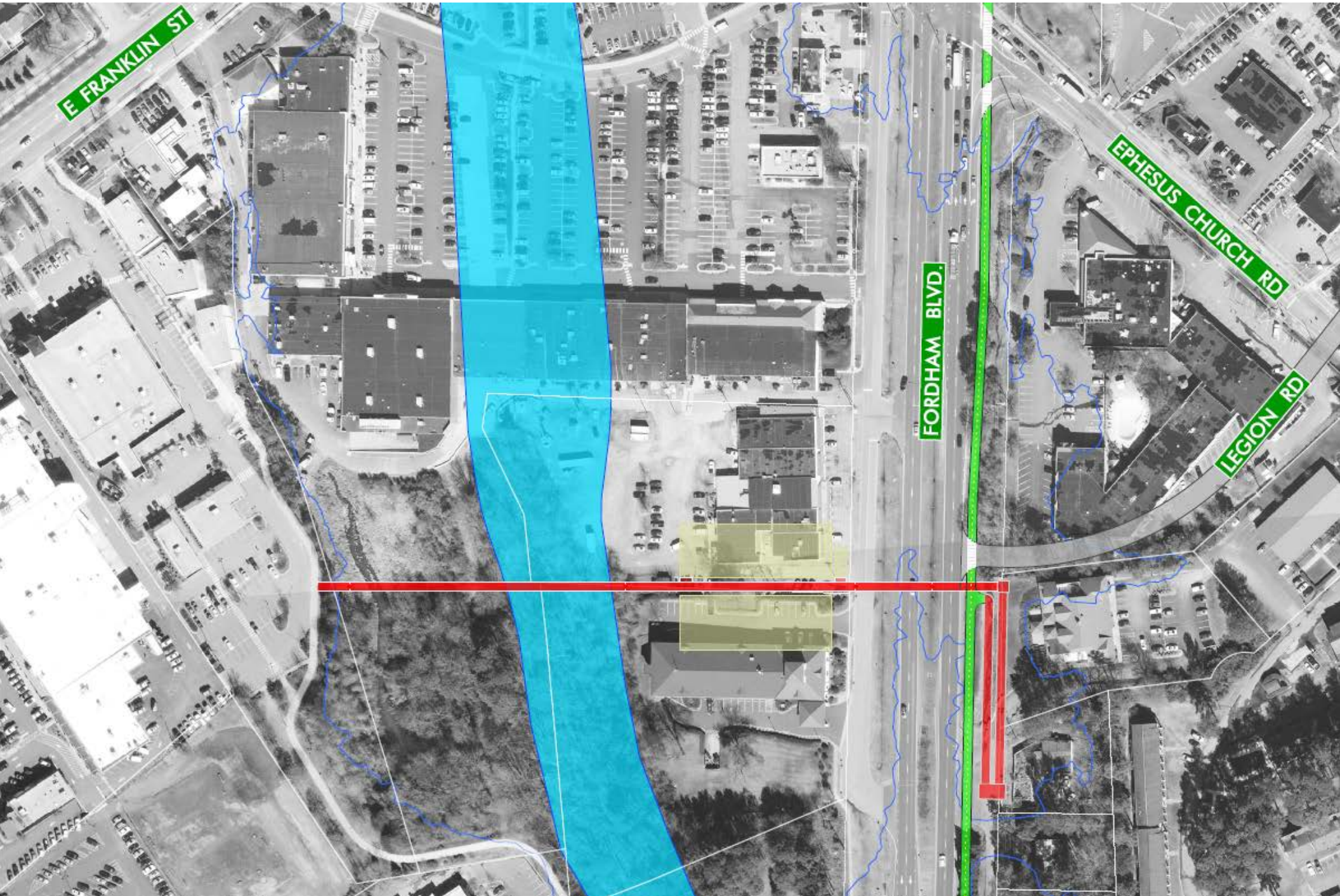
- Two span pre-fab pedestrian bridge
- Two ~400 Ramp at 5%
- 17.5' Vertical Clearance
- ~\$1.7M





Now out of the Box!

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Multi Use Path

## Suspension Bridge Zone

- Natural Experience Amidst Dense Development
- Spans 360 Feet
- Minimal Impacts to floodway and wetlands
- ~\$1.7M

## Development Zone

- Creates pedestrian level connection to future development
- Spans 300 Feet
- ~\$350K

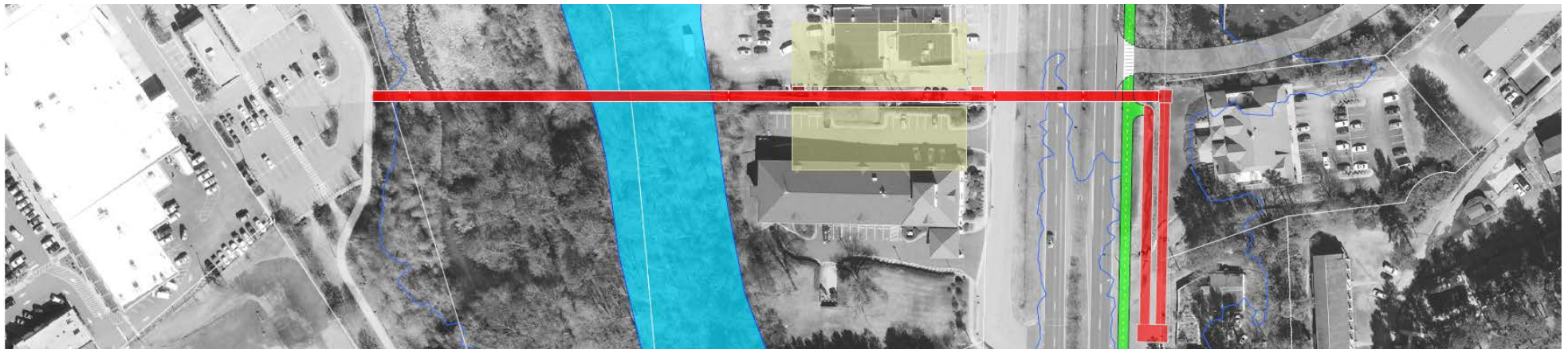
## Highway Zone

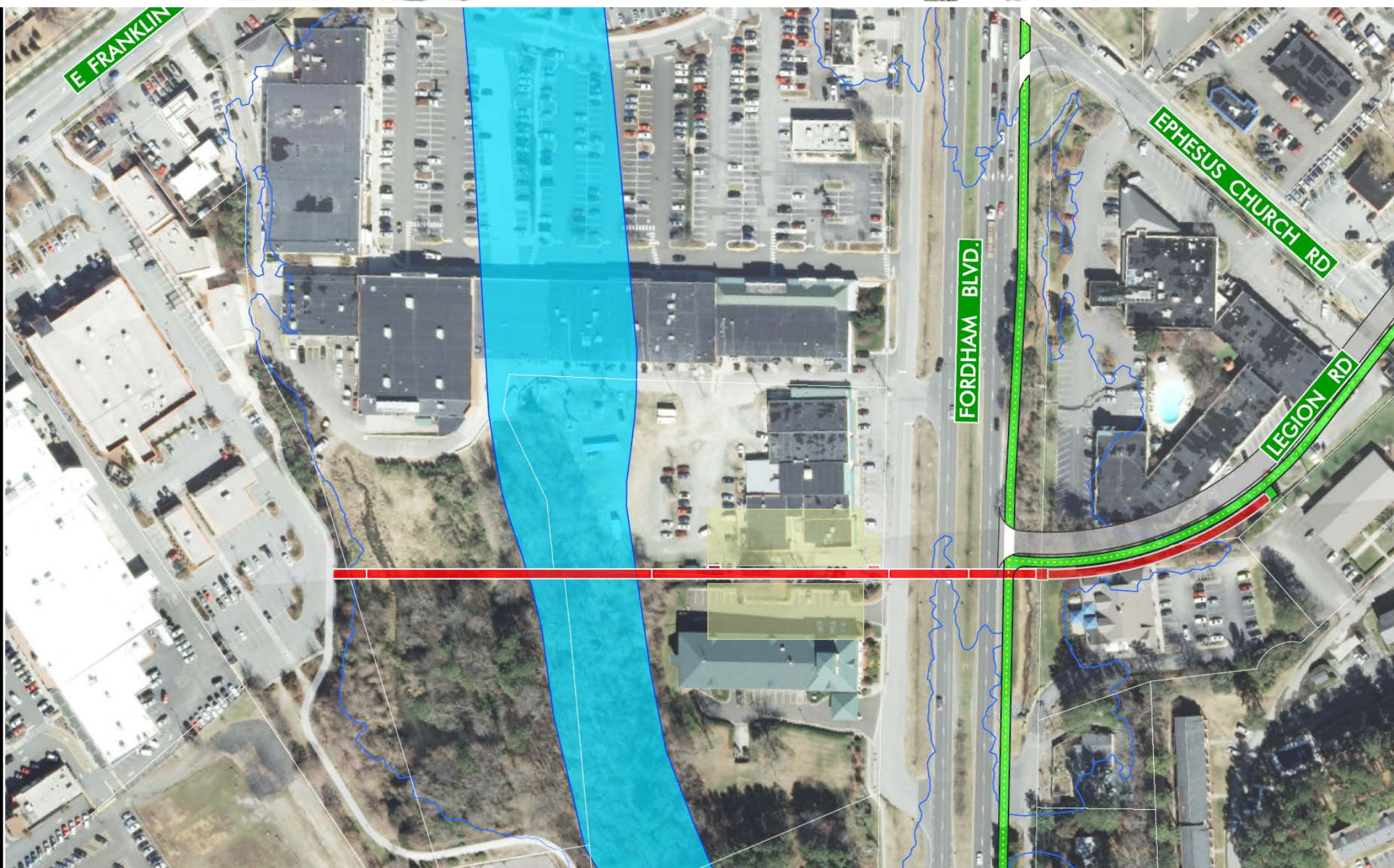
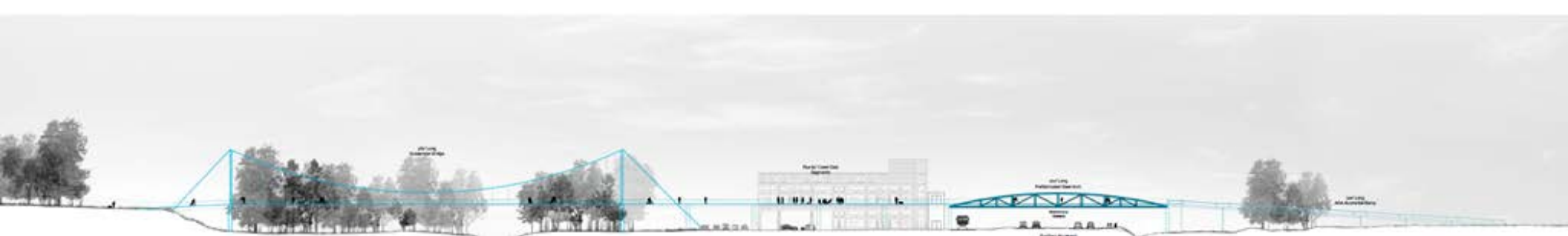
- Requires 17.5' Vertical Clearance
- Spans 200 Feet
- Ramp on East
- ~\$550K

## Transit Zone

- Elevator to ped level
- Bike storage
- ~\$80K

**Roughly \$2.7M**





# All Options

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