Johnson Trolley Missing Link Feasibility Study

Public Information Center

May 28, 2014

PARSONS BRINCKERHOFF

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

Agenda

- Introductions
- Background
- Existing Conditions and Constraints
- Proposed Alternatives
- Evaluation Criteria
- Next Steps

Background

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dvrpc DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Existing Conditions and Constraints

- Multiple jurisdictions
- Right-of-way
- Utilities
  - Street level power lines
  - Communication equipment
  - High tension power lines
  - Underground water line
  - Wetlands

SITECONSTRAINTS

Proposed Alternatives

Existing Condition

Missing Link Alternatives

- Non-Structural Alternative
  - No Bridge/West Long Drive
- Existing Alignment
- Offset Alignment
  - 2 Alternative Designs

Existing Condition:
U.S. Route 206 - Eggert Crossing Road

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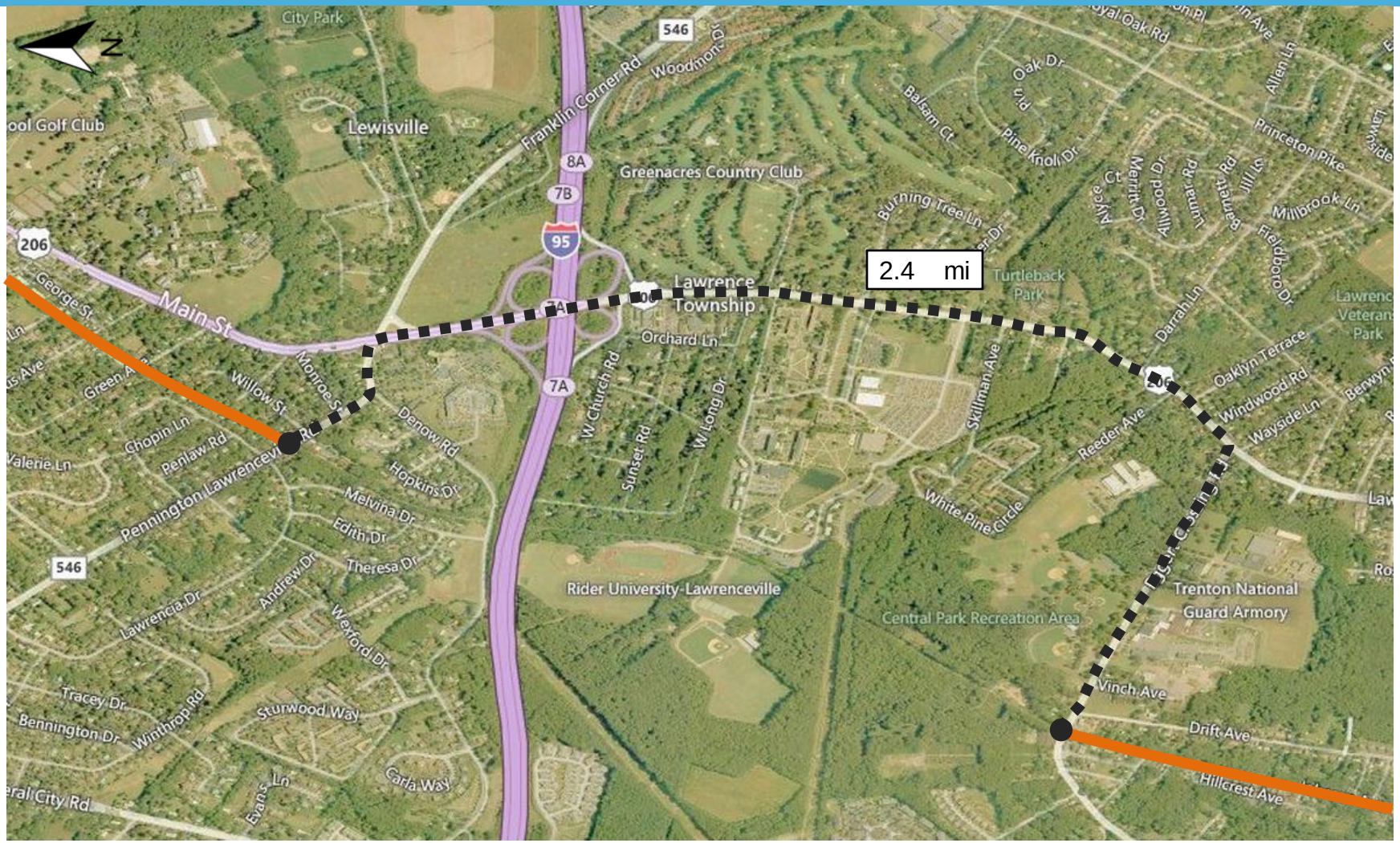

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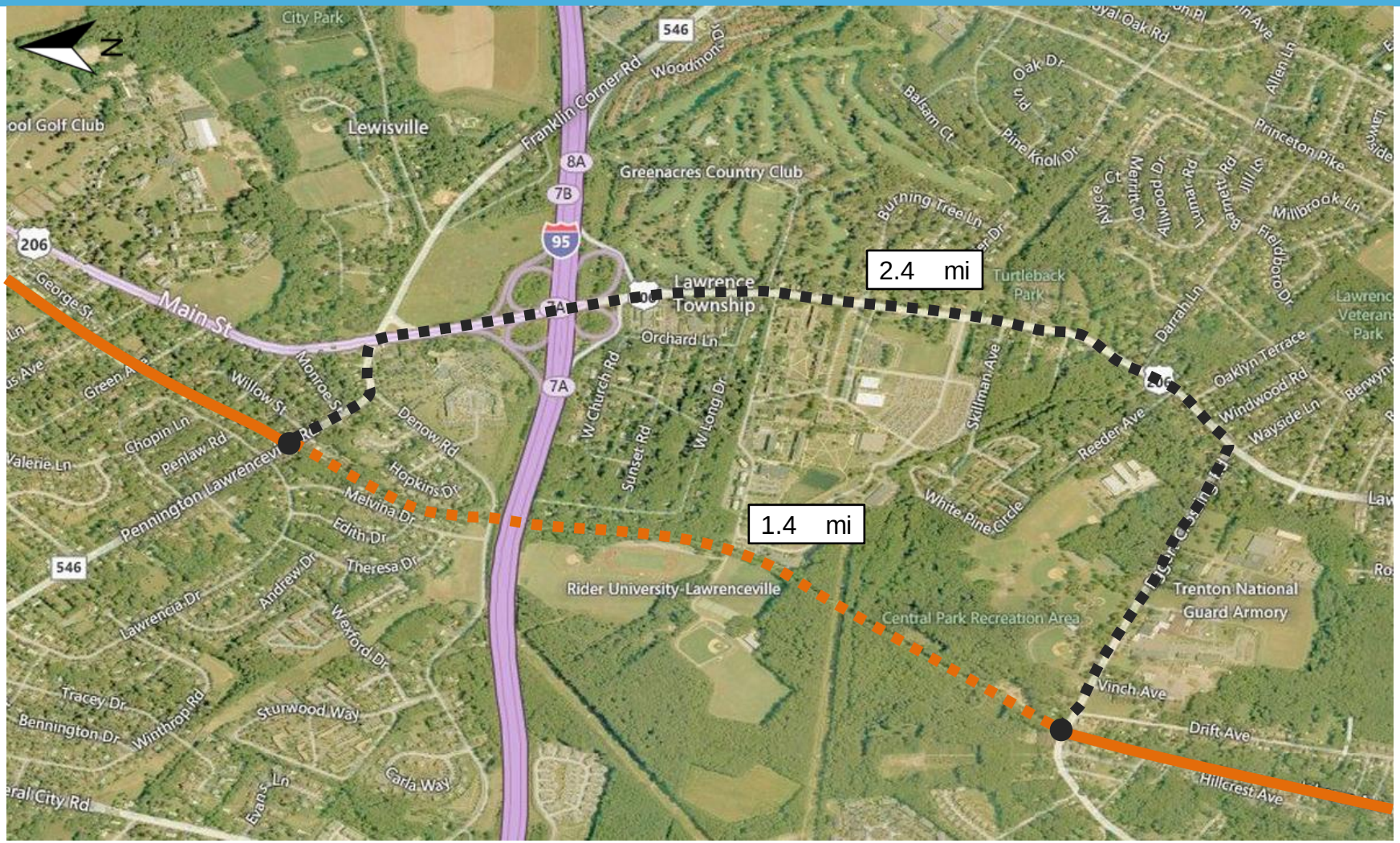
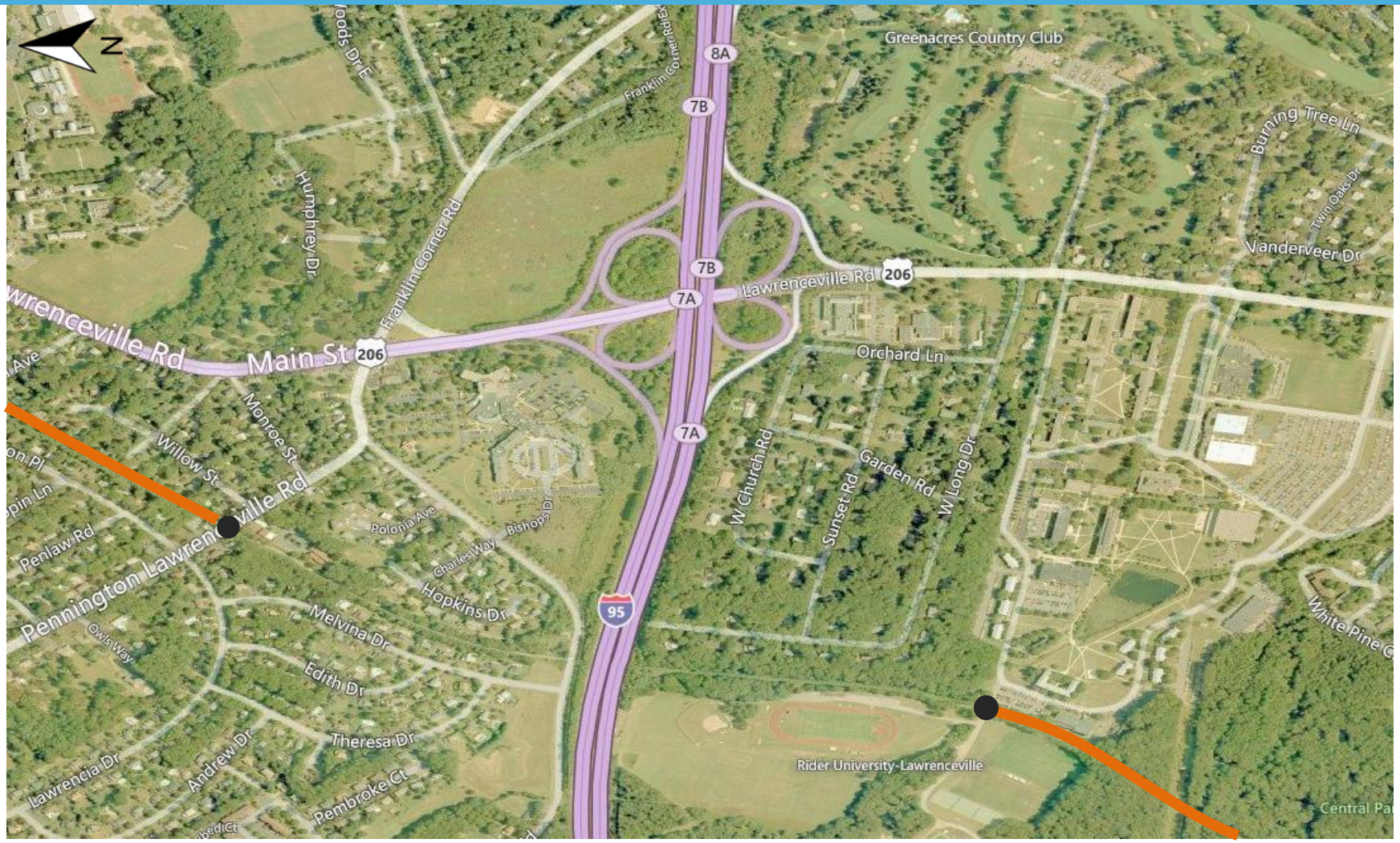


Option 1: Non-Structural Alternative
West Long Drive to Existing Rail Bed



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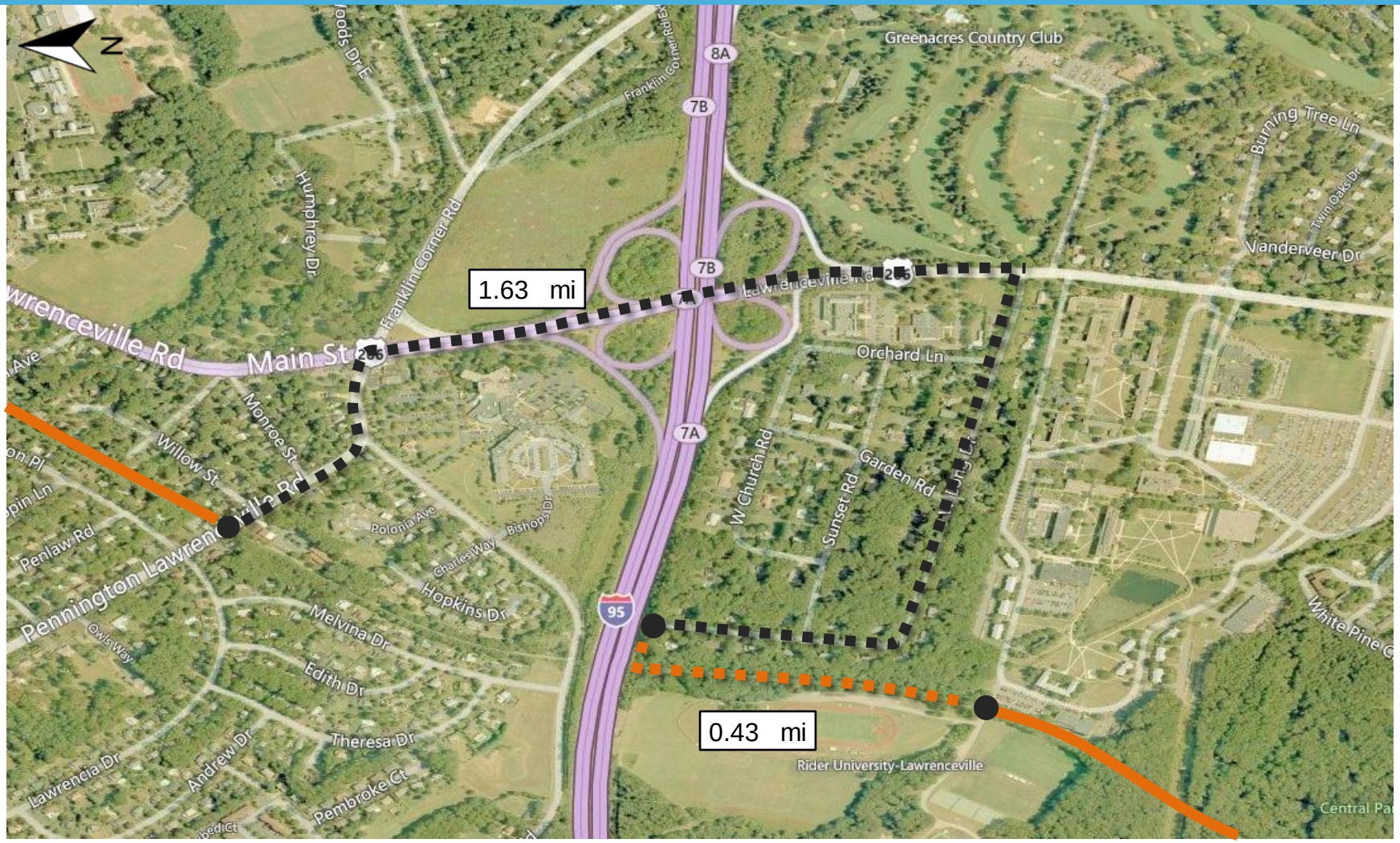
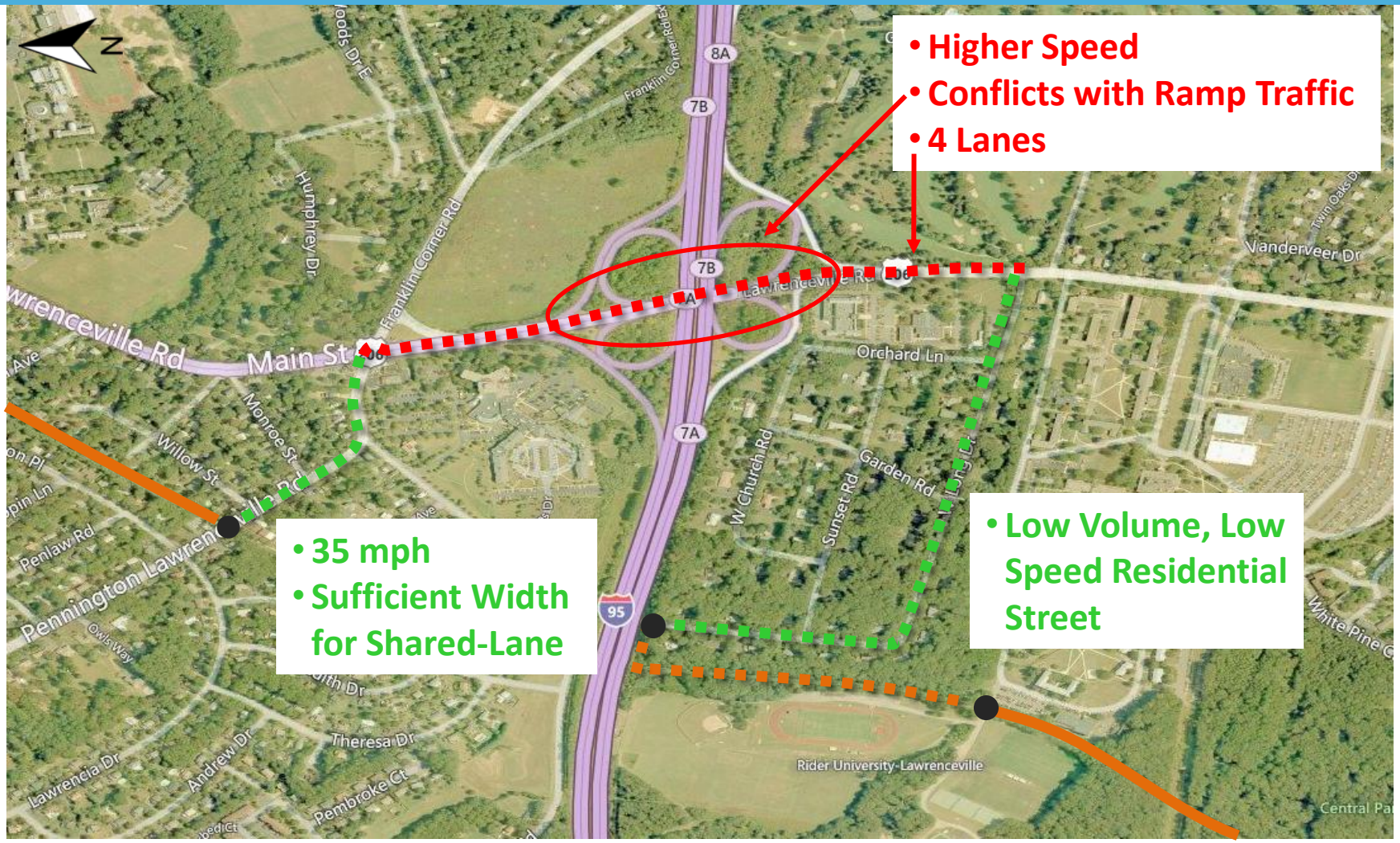
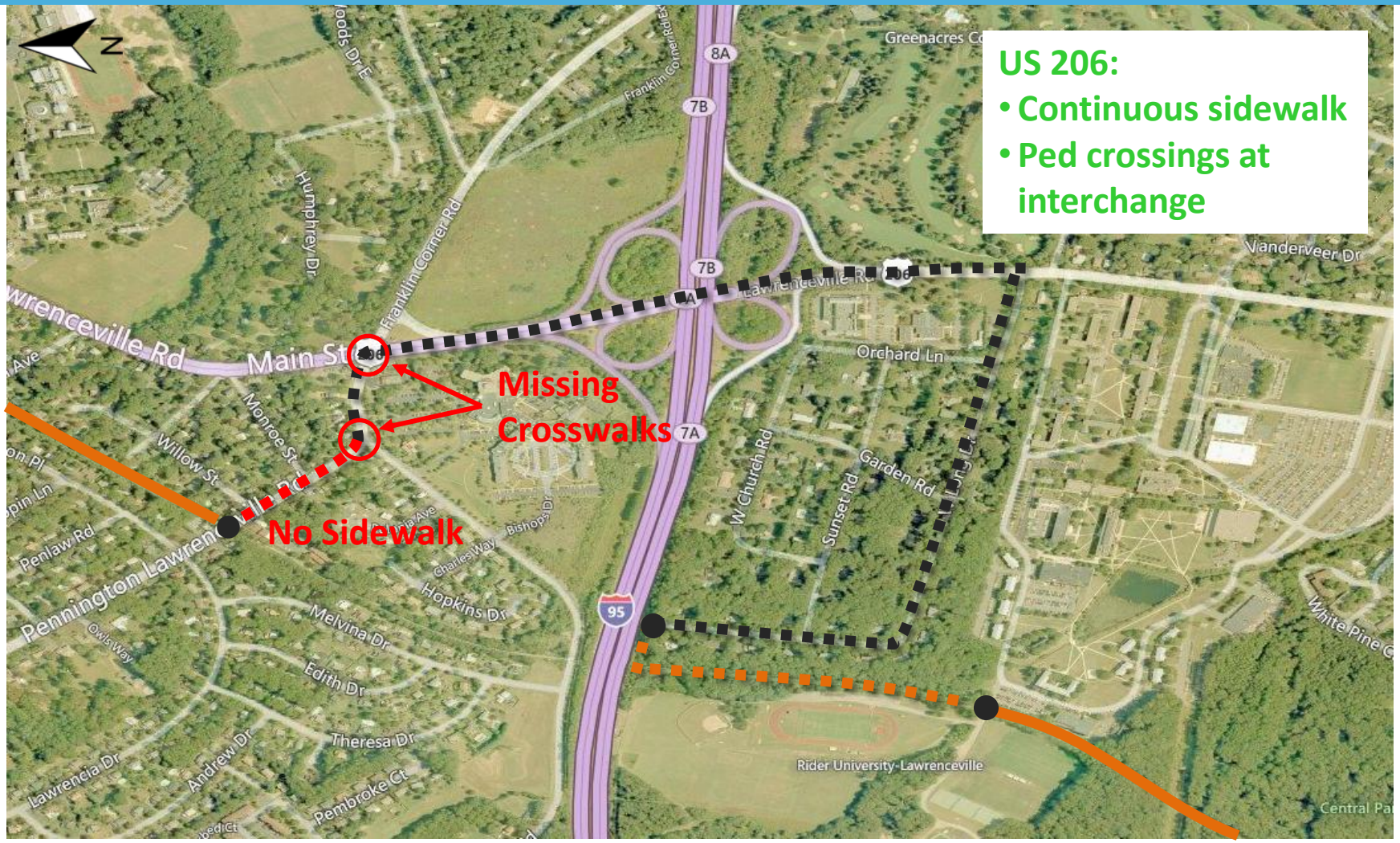


Option 1: Bicycle Compatibility



Option 1: Pedestrian Accommodations



Option 1: Non-Structural Alternative
West Long Drive to Existing Rail Bed

Strengths

- Extends off-road portion of trail system
- Utilizes low volume roadway for new section
- Improves trail approach for potential future bridge improvements

Weaknesses

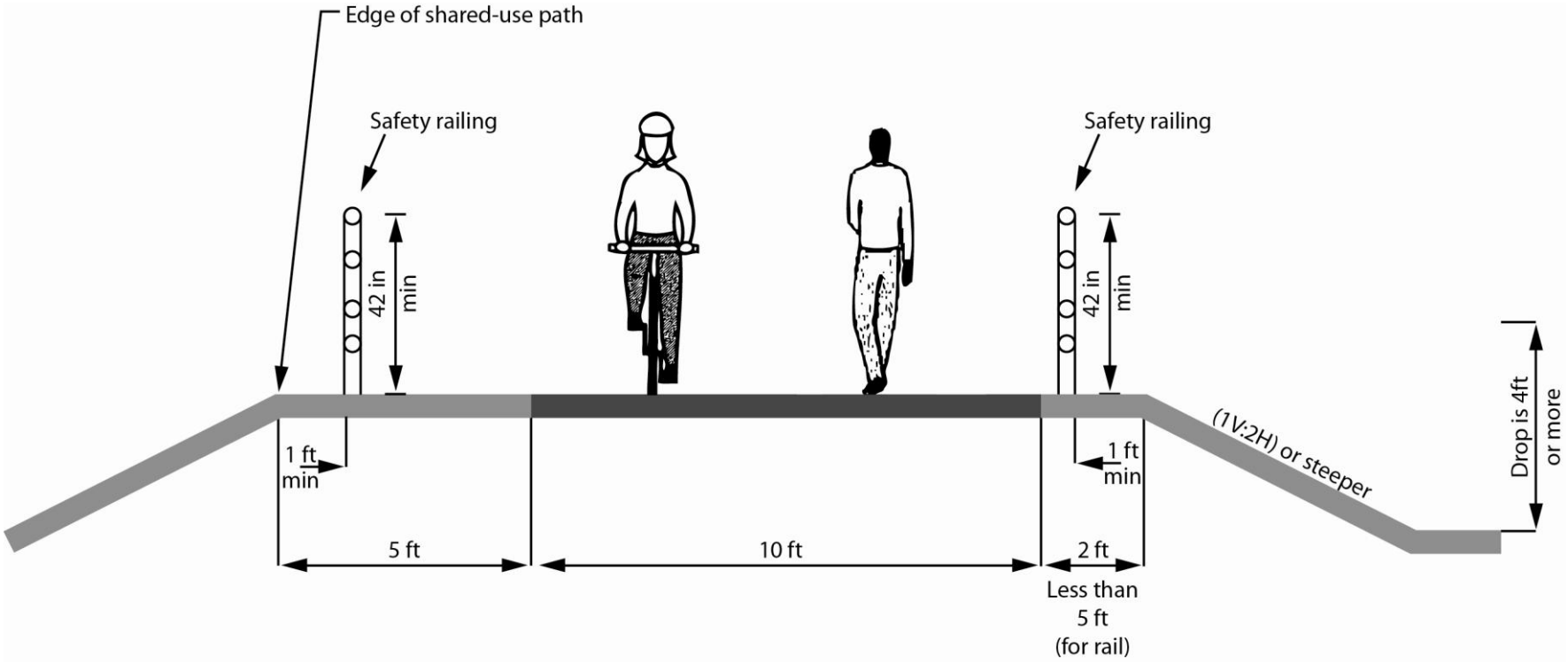
- Circuitous route – increases total trip distance by 0.2 miles
- Inadequate bicycle and pedestrian accommodations
- Does not resolve exposure to U.S. 206 traffic
- Requires 2 small structures

Cost

Structural		Trail / Grading		Utility Impacts		Mobilization, Contingencies, & Construction Engineering		Other*		Total** (incl. escalation)
$	(%)	$	(%)	$	(%)	$	(%)	$	(%)	
$174,000	(14%)	$535,000	(42%)	$0	(0%)	$421,000	(33%)	$134,000	(11%)	**$1,264,000**

*Other includes: MPT, construction layout, clearing site, etc
**Includes escalation (2 years, 2.0% per year)

Trail Cross Section



Option 2: Existing Alignment
Straight Line Ramps

Option 2: Existing Alignment Straight Line Ramps

Strengths

- Reduces total trip distance by 1.0 mile
- Simple structural design
- Shortest path

Weaknesses

- Significant utility impacts both north and south of I-95
- Extends construction timeline, increases required utility coordination

Cost

Structural		Trail / Grading		Utility Impacts		Mobilization, Contingencies, & Construction Engineering		Other*		Total** (incl. escalation)
$	(%)	$	(%)	$	(%)	$	(%)	$	(%)	
$2,917,000	(36%)	$539,000	(7%)	$1,240,000	(15%)	$2,635,000	(32%)	$778,000	(10%)	**$8,109,000**

*Other includes: MPT, construction layout, clearing site, etc
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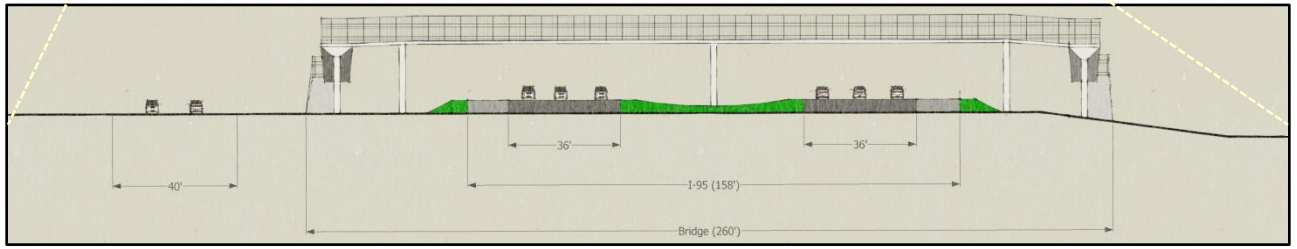
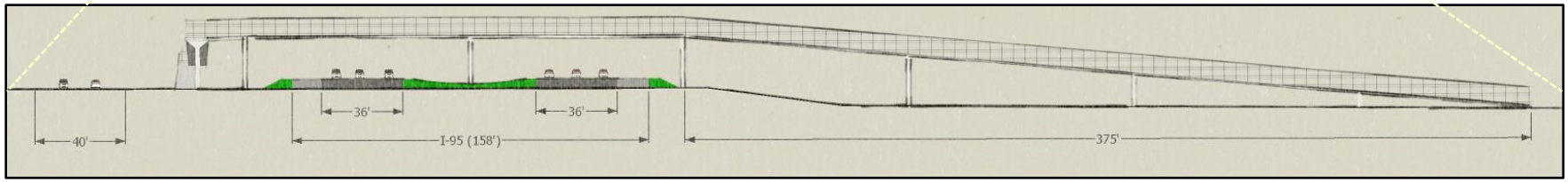
Existing Alignment – Switchback Ramps



Existing Alignment – Hybrid




OVERSIZE LOAD

Example Bridge Design

Source: Google Street View

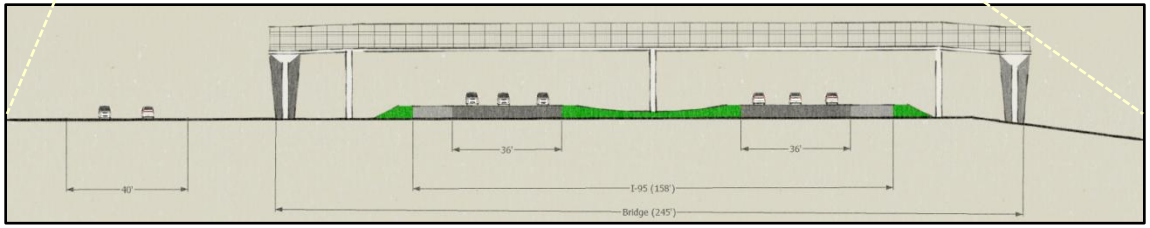
Example Bridge Design

Source: panoramio.com

Example Bridge Design

Source: panoramio.com

Option 3: Offset Alignment
Straight Ramps



Option 3: Offset Alignment
Straight Ramps

Strengths

- Reduces total trip distance by 0.9 mile
- Simple structural design
- Reduced utility impacts

Weaknesses

- Larger footprint in I-95 ROW
- Requires at-grade crossing of Denow Road

Cost

Structural		Trail / Grading		Utility Impacts		Mobilization, Contingencies, & Construction Engineering		Other*		Total** (incl. escalation)
$	(%)	$	(%)	$	(%)	$	(%)	$	(%)	
$2,778,000	(40%)	$797,000	(12%)	$370,000	(5%)	$2,268,000	(33%)	$677,000	(10%)	**$6,890,000**

*Other includes: MPT, construction layout, clearing site, etc
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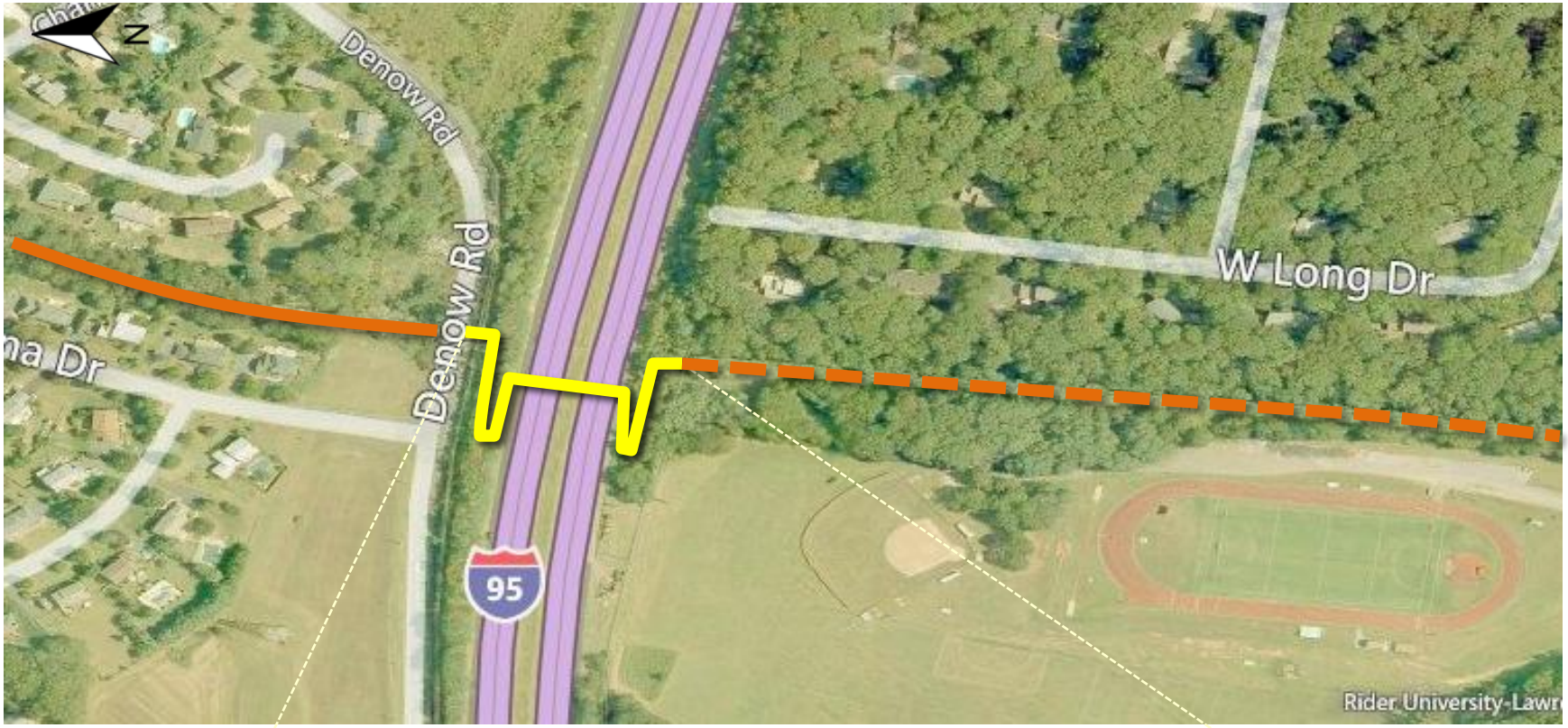
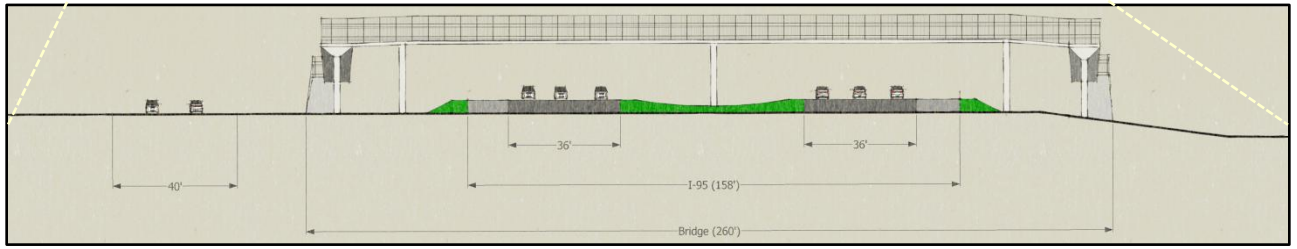
Option 4: Offset Alignment Switchback Ramps





Option 4: Offset Alignment Switchback Ramps

Strengths

- Reduces total trip distance by 0.9 mile
- Switchbacks reduce footprint
- Mitigate utility conflicts

Weaknesses

- Slightly increased complexity due to switchbacks
- Potential conflict between ramp structure and utilities clear zone
- Requires at-grade crossing of Denow Road

Cost

Structural		Trail / Grading		Utility Impacts		Mobilization, Contingencies, & Construction Engineering		Other*		Total** (incl. escalation)
$	(%)	$	(%)	$	(%)	$	(%)	$	(%)	
$2,718,000	(41%)	$791,000	(12%)	$280,000	(4%)	$2,190,000	(33%)	$656,000	(10%)	**$6,635,000**

*Other includes: MPT, construction layout, clearing site, etc
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Alternatives Comparison

Alternative	Structural	Trail / Grading	Utility Impacts	Mobilization, Contingencies, & Construction Engineering	Other*	Total** (incl. escalation)
Option 1: Non-Structural	$174,000	$535,000	$0	$421,000	$134,000	**$1,264,000**
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Option 3: Offset U	$2,778,000	$797,000	$370,000	$2,268,000	$677,000	**$6,890,000**
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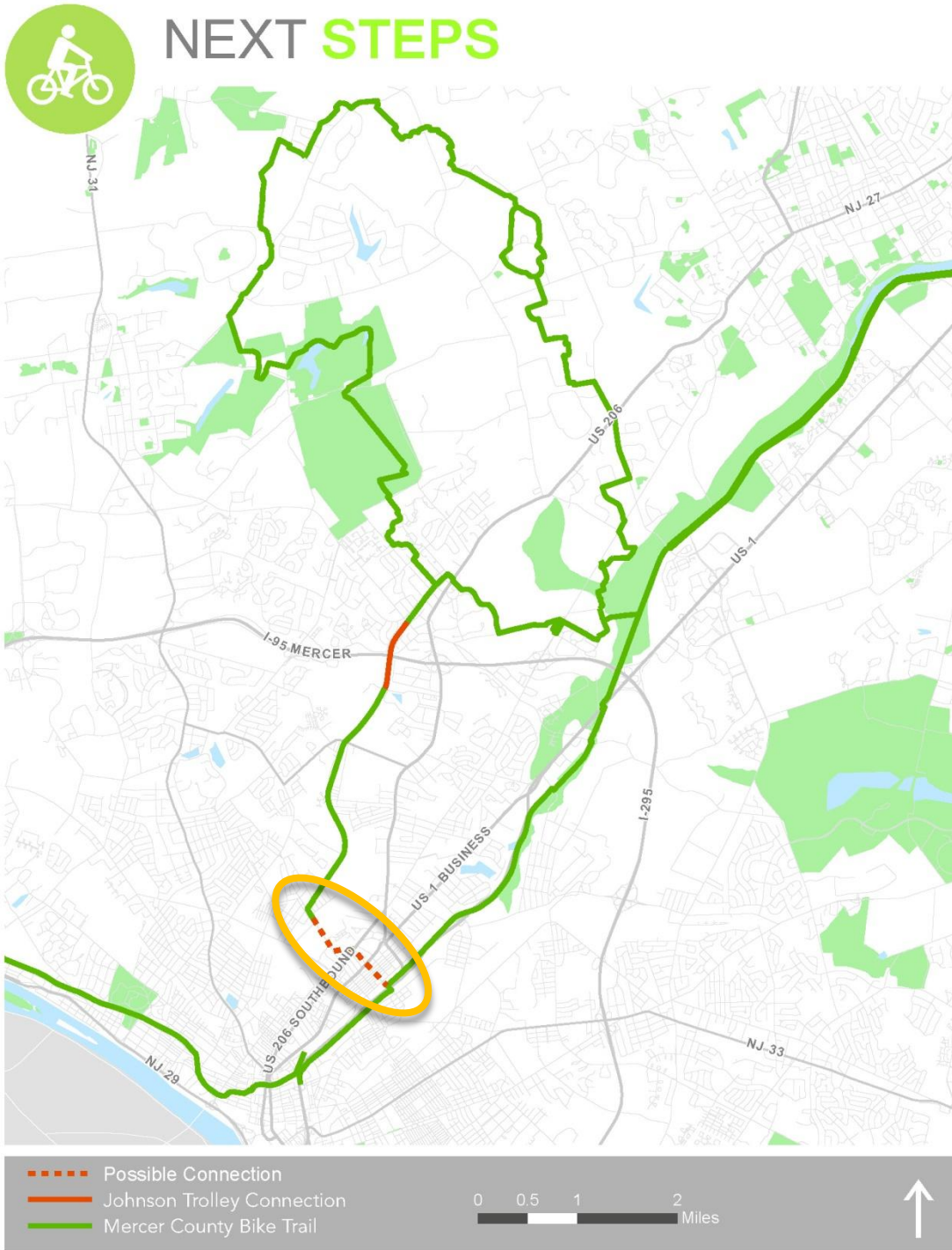
Evaluation Criteria

- Integration with *The Circuit*
- Safety of bicycle/pedestrian users
- Construction cost
- Constructability
  - Traffic impacts
  - Utility relocations
  - Construction staging
- Maintenance/operating cost
- Good neighbor

Next Steps

- Deliver Technical Memoranda
- Public Meeting
- Final Report
- Future Connections

Next Steps



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