APPENDIX C
Alternatives Feasible Combinations
### Evaluation of Alternatives for Longwood Road

#### Description of Alternative

- **A1a**: Conventional intersection of Aberdeen/Longwood with existing six-lane weighted active transportation infrastructure
- **A1b**: Conventional intersection of Aberdeen/Longwood with existing six-lane weighted active transportation infrastructure
- **A2a**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **A2b**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **A3a**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **B1**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **B2**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **C1**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **C2**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure
- **C3**: Roundabout at Aberdeen/Longwood with multi-modal weighted active transportation infrastructure

#### Impact on Existing Land Use and Access

- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on southbound Longwood Road**
- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on northbound Longwood Road**
- **South entrance of Aberdeen/Longwood with possible truck movements**
- **North entrance of Aberdeen/Longwood with possible truck movements**
- **Possible truck movements on Aberdeen/Longwood to accommodate right turn lanes on southbound Longwood Road**
- **Possible truck movements on Aberdeen/Longwood to accommodate right turn lanes on northbound Longwood Road**
- **Possible truck movements on Aberdeen/Longwood to accommodate right turn lanes on southbound Longwood Road**
- **Possible truck movements on Aberdeen/Longwood to accommodate right turn lanes on northbound Longwood Road**

#### Impact on Future Land Use and Access

- **Some property required for corner intersections, and additional access lanes within the intersection**
- **Some property required for roundabout, approach lanes, and exit lanes**
- **Some property required for roundabout, approach lanes, and exit lanes**
- **Some property required for roundabout, approach lanes, and exit lanes**
- **Some property required for roundabout, approach lanes, and exit lanes**

#### Impact on the Social Environment, including Impact on Natural Environment, including

- **Minimal impact, as the four general purpose lanes would be in the same location as at present**
- **Significant impact on size of commercial property in the SW quadrant**
- **Significant impact on size of commercial property in the SW quadrant**
- **Significant impact on size of commercial property in the SW quadrant**
- **Significant impact on size of commercial property in the SW quadrant**

#### Impact on the Geospatial Environment, including Noise and Vibration, and aesthetics on pedestrians and cyclists

- **Cyclists subject to interaction with SB vehicles destined to Hwy 403 crossing bike lane**
- **Cyclists subject to interaction with SB vehicles destined to Hwy 403 crossing bike lane**
- **Cyclists subject to interaction with SB vehicles destined to Hwy 403 crossing bike lane**
- **Cyclists subject to interaction with SB vehicles destined to Hwy 403 crossing bike lane**

#### Stormwater Quality

- **Storm water quality will be addressed during detail design**
- **Storm water quality will be addressed during detail design**
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- **Storm water quality will be addressed during detail design**

#### Cultural, Historic, or Archaeological Resources

- **There would be no material impact on cultural, historic, or archaeological resources**
- **There would be no material impact on cultural, historic, or archaeological resources**
- **There would be no material impact on cultural, historic, or archaeological resources**
- **There would be no material impact on cultural, historic, or archaeological resources**

#### Infrastructure

- **The infrastructure provided for all modes - motorized vehicles, cyclists, and pedestrians - would be adequate**
- **The infrastructure provided for all modes - motorized vehicles, cyclists, and pedestrians - would be adequate**
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#### Summary

- **Property required for CP lands and commercial property in the SW quadrant, but access to the commercial property may be limited to right-of-way uses**
- **There would be no material impact on cultural, historic, or archaeological resources**
- **There would be no material impact on cultural, historic, or archaeological resources**
- **There would be no material impact on cultural, historic, or archaeological resources**

### Section A - Including Aberdeen/Longwood area, connections to Hwy 403, and Aberdeen to the TH&B bridge

- **Pedestrian基础设施 would be provided at the north and east legs of the roundabout to accommodate limited pedestrian demand**
- **Pedestrian crossings would be provided at the north and east legs of the roundabout**
- **Pedestrian crossings would be provided at the north and east legs of the roundabout**
- **Pedestrian crossings would be provided at the north and east legs of the roundabout**

### Section C - Longwood Road bridge over Hwy 403 plus Main/Longwood intersection

- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on southbound Longwood Road**
- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on northbound Longwood Road**
- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on northbound Longwood Road**
- **Potential impact on SE corner and east side of existing warehouse building to accommodate right turn lanes on southbound Longwood Road**

### Section B - Including Longwood Road between Aberdeen/Longwood area and the Hwy 403 bridge

- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**

### Section D - Including Longwood Road over Hwy 403 plus Main/Longwood intersection

- **Pedestrian crossings/dismounts would be necessary**
- **Pedestrian crossings/dismounts would be necessary**
- **Pedestrian crossings/dismounts would be necessary**
- **Pedestrian crossings/dismounts would be necessary**

### Section E - Including Longwood Road between Aberdeen/Langwood area and the TH&B bridge

- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**
- **Pedestrian crossings would be provided in the SW quadrant**
### Evaluation of Alternatives for Longwood Road

<table>
<thead>
<tr>
<th>Alternative</th>
<th>A1a</th>
<th>A1b</th>
<th>A2a</th>
<th>A2b</th>
<th>B1</th>
<th>B2</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Alternative</td>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure</td>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure</td>
<td>Roundabout of Aberdeen/Longwood with distributed active transportation infrastructure</td>
<td>Roundabout of Aberdeen/Longwood with distributed active transportation infrastructure</td>
<td>Four lanes with turn lanes at necessary, with sidewalks and bike lanes on both sides</td>
<td>Four lanes with turn lanes at necessary, with sidewalks and bike lanes on both sides</td>
<td>Roundabout at Aberdeen/Longwood with distributed active transportation infrastructure</td>
<td>Roundabout at Aberdeen/Longwood with east/north side-weighted active transportation infrastructure</td>
<td>Roundabout at Aberdeen/Longwood with east/north side-weighted active transportation infrastructure</td>
</tr>
<tr>
<td>Transportation, including existing and future travel demand, capacity and levels of service, intersection operations, accommodation for pedestrians, cyclists, and transit</td>
<td>Double EB left turn and SB right turn lanes will result in acceptable levels of service, although SB queues may reach Frid Street in the afternoon peak hour.</td>
<td>Double EB left turn and SB right turn lanes will result in acceptable levels of service, although SB queues may reach Frid Street in the afternoon peak hour.</td>
<td>Double SB left turn and EB right turn lanes will result in acceptable levels of service, although SB queues may reach Frid Street in the afternoon peak hour.</td>
<td>Double SB left turn and EB right turn lanes will result in acceptable levels of service, although SB queues may reach Frid Street in the afternoon peak hour.</td>
<td>Separate yield control slip lanes - two SB and one WB - will result in acceptable levels of service, although SB queues may result in SB queues in the afternoon peak hour.</td>
<td>Separate yield control slip lanes - two SB and one WB - will result in acceptable levels of service, although SB queues may result in SB queues in the afternoon peak hour.</td>
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<td>Separate yield control slip lanes - two SB and one WB - will result in acceptable levels of service, although SB queues may result in SB queues in the afternoon peak hour.</td>
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<tr>
<td>Estimated Construction Cost</td>
<td>$1,238,000</td>
<td>$1,363,000</td>
<td>$2,406,000</td>
<td>$2,406,000</td>
<td>$1,494,000</td>
<td>$1,543,000</td>
<td>$0</td>
<td>$19,375,000</td>
<td>$2,579,000</td>
</tr>
<tr>
<td>Combination of Alternatives</td>
<td>Description of Combination of Alternatives</td>
<td>Impact on Existing Land Use and Access</td>
<td>Impact on Future Land Use and Access</td>
<td>Impact on Social Environment, including noise and vibration, and effects on pedestrians and cyclists</td>
<td>Impact on Economic and Cultural Environment, including business and institutional, historical and archaeological resources</td>
<td>Impact on Natural Environment, including vegetation, wildlife, storm water, landscape features, aquatic resources</td>
<td>Transportation, including existing and future travel demand, capacity and levels of service, intersection operations, access from Hwy 403, accommodation for pedestrians, cyclists, and transit</td>
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<tr>
<td>A1a - B1 - C1</td>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure within the intersection and along Longwood Road, and retained use of existing bridge over Highway 403</td>
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<tr>
<td>A2a - B1 - C1</td>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure within the intersection and along Longwood Road, and replacement wider bridge over Highway 403</td>
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<tr>
<td>A1b - B2 - C1</td>
<td>Roundabout at Aberdeen/Longwood with distributed active transportation infrastructure around the roundabout and along Longwood Road, and retained use of the pedestrian signal south of the bridge</td>
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<tr>
<td>A1b - B2 - C2</td>
<td>Conventional intersection of Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the intersection only, east-side-loaded active transportation infrastructure along Longwood Road, and retained use of the existing bridge over Highway 403, requiring cyclists to cross Longwood at the pedestrian signal south of the bridge</td>
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<tr>
<td>A2b - B2 - C2</td>
<td>Conventional intersection of Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the intersection only, east-side-loaded active transportation infrastructure along Longwood Road, and replacement wider bridge over Highway 403</td>
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<tr>
<td>A1b - B2 - C3</td>
<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and retained use of the existing bridge over Highway 403</td>
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<tr>
<td>A2b - B2 - C3</td>
<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and replacement wider bridge over Highway 403</td>
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</tbody>
</table>

**Evaluation of Alternatives for Longwood Road**
Evaluation of Alternatives for Longwood Road

<table>
<thead>
<tr>
<th>Combination of Alternatives</th>
<th>Estimated Construction Cost</th>
<th>Overall Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure within the intersection and along Longwood Road, and retained use of existing bridge over Highway 403</td>
<td>$2,832,000</td>
<td>Less Preferred / Less Beneficial / Less Desirable</td>
</tr>
<tr>
<td>Conventional intersection of Aberdeen/Longwood with distributed active transportation infrastructure within the intersection and along Longwood Road, and replacement wider bridge over Highway 403</td>
<td>$22,207,000</td>
<td>More Preferred / More Beneficial / More Desirable</td>
</tr>
<tr>
<td>Roundabout at Aberdeen/Longwood with distributed active transportation infrastructure around the roundabout and along Longwood Road, and retained use of existing bridge over Highway 403</td>
<td>$3,553,000</td>
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<tr>
<td>Roundabout at Aberdeen/Longwood with distributed active transportation infrastructure around the roundabout and along Longwood Road, and replacement wider bridge over Highway 403</td>
<td>$22,928,000</td>
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<tr>
<td>Conventional intersection of Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the intersection only, east-side-loaded active transportation infrastructure along Longwood Road, and retained use of existing bridge over Highway 403</td>
<td>$2,906,000</td>
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</tr>
<tr>
<td>Conventional intersection of Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the intersection only, east-side-loaded active transportation infrastructure along Longwood Road, and new second bridge over Highway 403 for active transportation</td>
<td>$22,281,000</td>
<td></td>
</tr>
<tr>
<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and retained use of existing bridge over Highway 403</td>
<td>$5,485,000</td>
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<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and new second bridge over Highway 403 for active transportation</td>
<td>$3,612,000</td>
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<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and new second bridge over Highway 403 for active transportation</td>
<td>$22,987,000</td>
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<tr>
<td>Roundabout at Aberdeen/Longwood with pedestrian crosswalks across the east and north legs of the roundabout only, east-side-loaded active transportation infrastructure along Longwood Road, and new second bridge over Highway 403 for active transportation</td>
<td>$6,191,000</td>
<td></td>
</tr>
</tbody>
</table>

Key:
- Less Preferred / Less Beneficial / Less Desirable
- More Preferred / More Beneficial / More Desirable