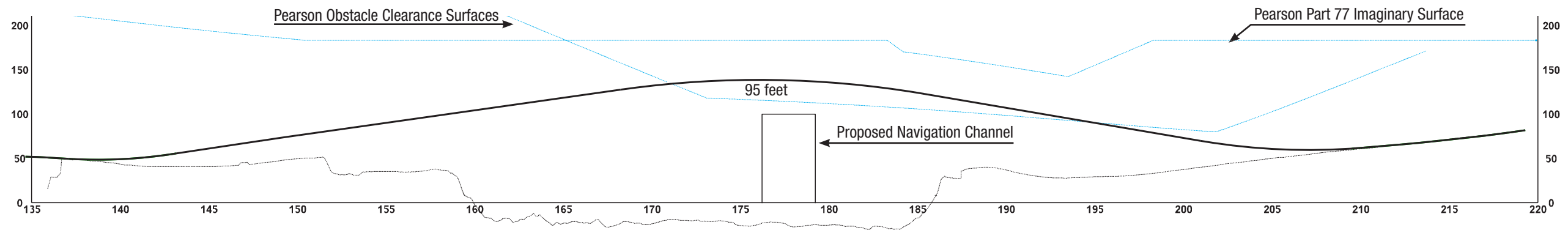
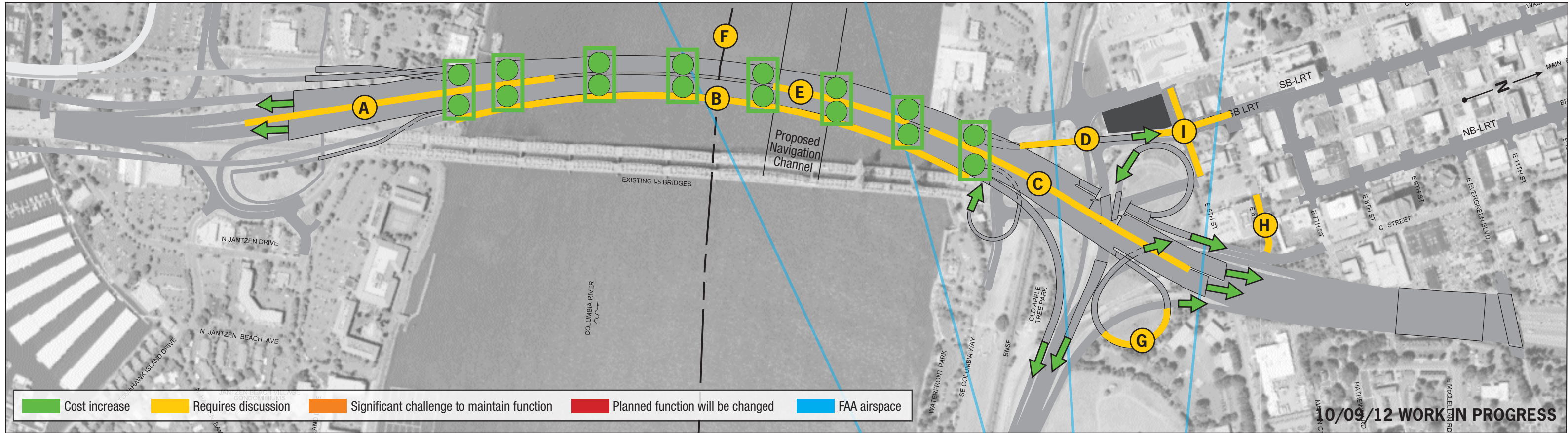


Columbia River **CROSSING** Vertical clearance - affected areas

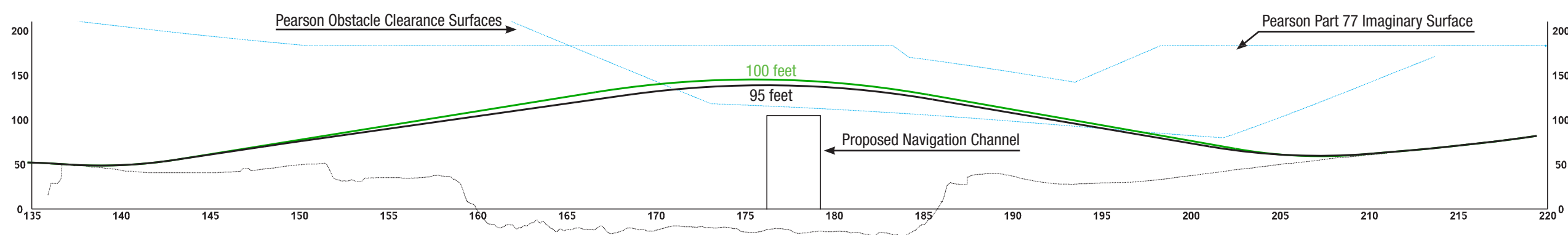
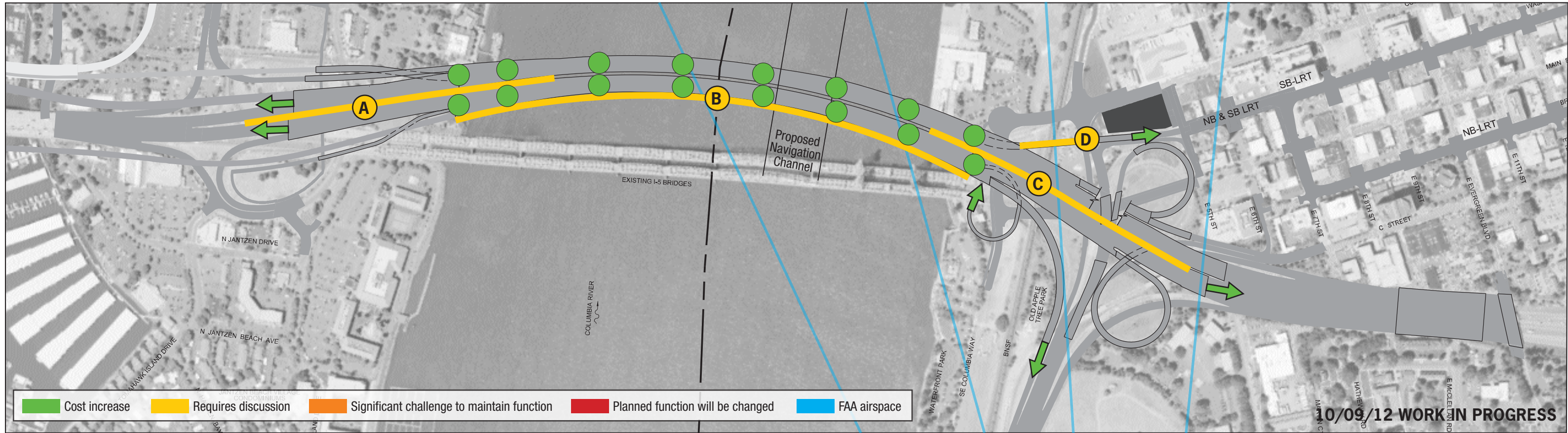


- A** Mainline grade
- B** Traffic performance
- C** Mainline grade
- D** Transit grade
- E** FAA airspace
- F** Foundation sizes
- G** FAA airspace
- H** 6th Street - I-5 South
- I** Transit alignment and stations



# Columbia River CROSSING Vertical clearance - 100 feet

43 vessels/users potentially impacted\*



\* Potential impacts at 16 ft river stage and 10 ft air gap. Some of the vessels would pass at a lower river stage and/or with a smaller air gap. For this illustration each fabricator was represented by 1 vessel.

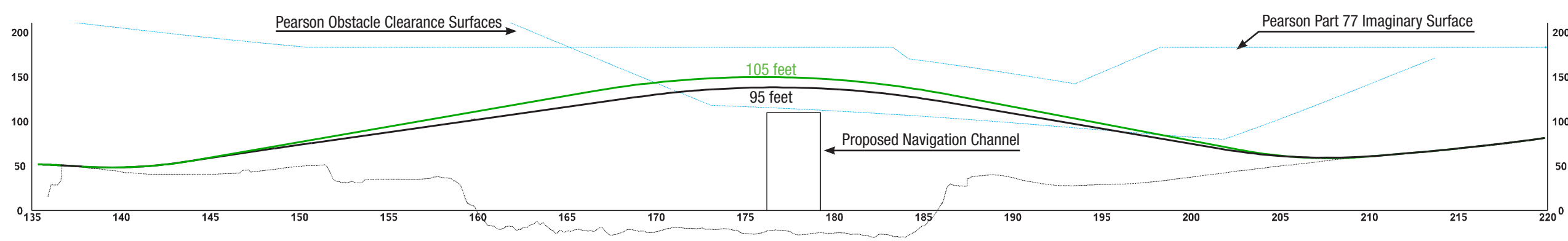
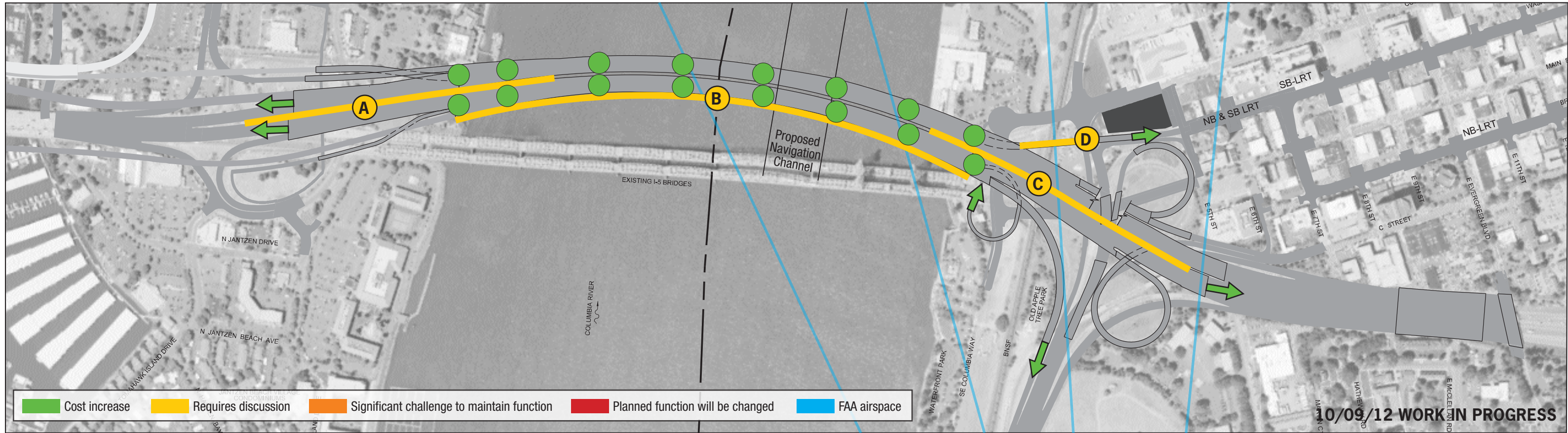
		Hayden Island	Main Crossing	Vancouver	Totals
<b>Cost Increase over 95 feet (\$ millions)*</b>	<b>60%</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>13</b>
<b>Highway/Transit</b>		<p><b>A</b> In Oregon the mainline grade increases to 3.16% from 2.83%. This would need a design exception for a grade above 3%.</p>	<p><b>B</b> More traffic analysis needed to address changes to traffic operations due to increased grades.</p>	<p><b>C</b> In Washington the mainline grade increases to 3.61% from 3.40%.</p> <p><b>D</b> Transit grade on Washington approach is 6% for an additional 120 feet.</p>	

\*Based on 2011 CEVP, does not include mitigation costs.



Columbia River **CROSSING** Vertical clearance - 105 feet

27 vessels/users potentially impacted\*



\* Potential impacts at 16 ft river stage and 10 ft air gap. Some of the vessels would pass at a lower river stage and/or with a smaller air gap. For this illustration each fabricator was represented by 1 vessel.

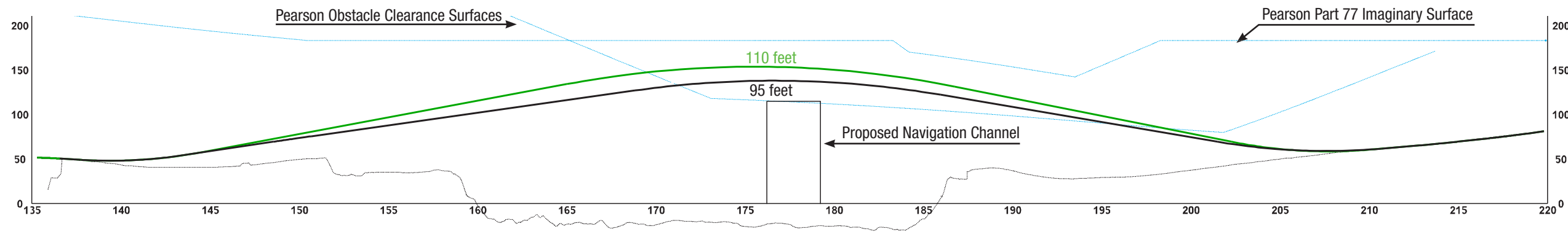
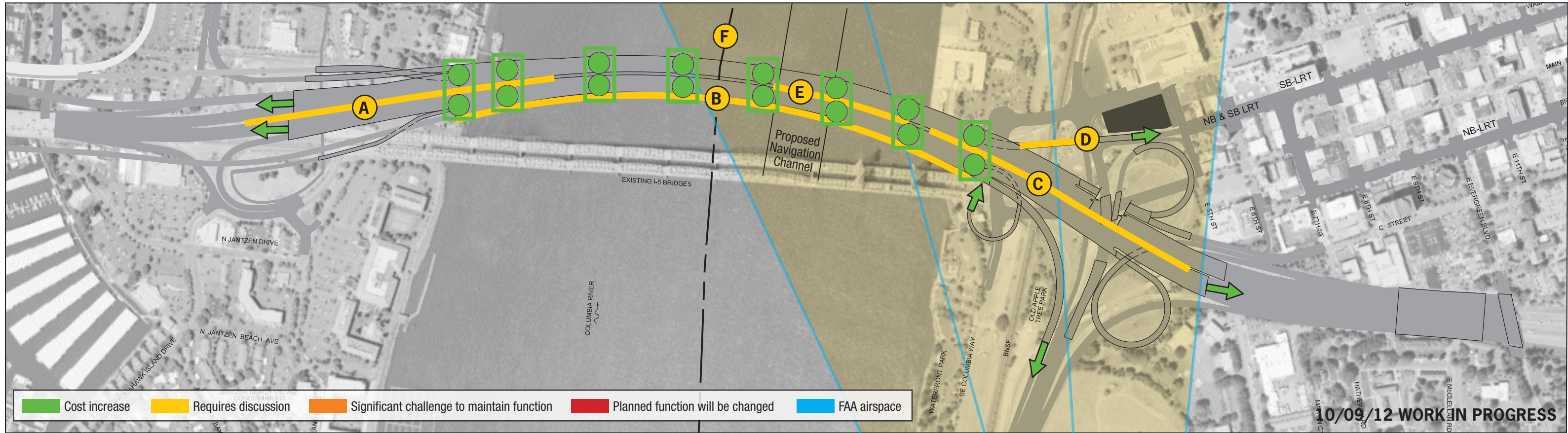
		Hayden Island	Main Crossing	Vancouver	Totals
<b>Cost Increase over 95 feet (\$ millions)*</b>	<b>60%</b>	<b>9</b>	<b>3</b>	<b>10</b>	<b>22</b>
<b>Highway/Transit</b>		<p><b>A</b> In Oregon the mainline grade increases to 3.48% from 2.83%. This would need a design exception for a grade above 3%.</p>	<p><b>B</b> More traffic analysis needed to address changes to traffic operations due to increased grades.</p>	<p><b>C</b> In Washington the mainline grade increases to 3.81% from 3.40%.</p> <p><b>D</b> Transit grade on Washington approach is 6% for an additional 120 feet.</p>	

\*Based on 2011 CEVP, does not include mitigation costs.



# Columbia River CROSSING Vertical clearance - 110 feet

20 vessels/users potentially impacted\*



\* Potential impacts at 16 ft river stage and 10 ft air gap. Some of the vessels would pass at a lower river stage and/or with a smaller air gap. For this illustration each fabricator was represented by 1 vessel.

		Hayden Island	Main Crossing	Vancouver	Totals
<b>Cost Increase over 95 feet (\$ millions)*</b>	<b>60%</b>	<b>9</b>	<b>17</b>	<b>10</b>	<b>36</b>
<b>Highway/Transit</b>		<p><b>A</b> In Oregon the mainline grade increases to 3.73% from 2.83%. This would need a design exception for a grade above 3%.</p>	<p><b>B</b> More traffic analysis needed to address changes to traffic operations due to increased grades.</p> <p><b>E</b> Top of roadway deck at centerline is 29' below FAA surface.</p> <p><b>F</b> Foundation sizes may increase, however, they are still consistent with FEIS.</p>	<p><b>C</b> In Washington the mainline grade increases to 3.99% from 3.40%.</p> <p><b>D</b> Transit grade on Washington approach is 6% for an additional 130 feet.</p>	

\*Based on 2011 CEVP, does not include mitigation costs.