

What is a long span bridge?

A type of bridge that requires fewer support columns, allowing for longer spacing, or spans, between columns. A vertical support structure above the deck of the bridge is needed to accomplish the longer spans. A variety of vertical structures can be considered for this project, including tied arch, truss, and cable stayed options (see examples on back page).

Why are we considering it?

The long span alternative allows for fewer columns in the Geotechnical Hazard Zones on each side of the river, reducing project risks and costs.

Decisions Regarding Long Span Alternative

Environmental Phase Decisions

Choosing a Preferred Alternative at this stage of the process means deciding on a class of bridge that considers high level variables including:

- Retrofit or replacement
- Alignment
- Width
- Number and approximate location of columns
- Approximate span lengths

Future Phase Decisions

Type Selection Phase Decisions (TS)

- Bridge superstructure type
- Column sizes and locations
- Movable bridge type

Specific to Cable Stayed option:

- Tower location

Final Design Phase Decisions (FD)

- Column shape
- Bridge lighting, railings, color and texture

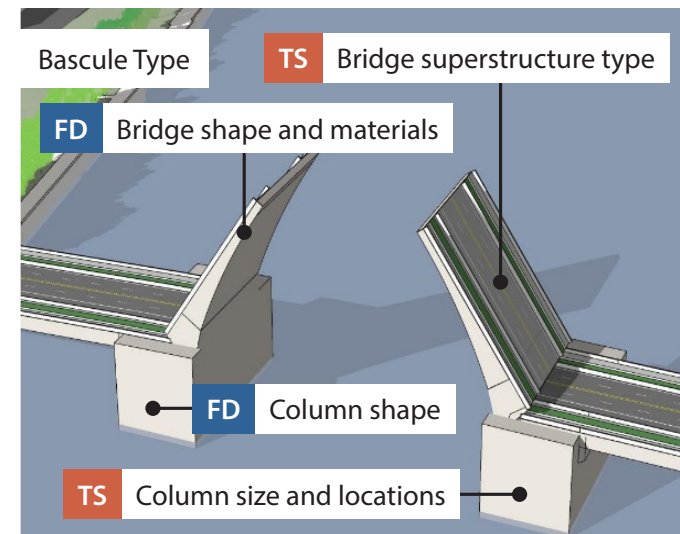
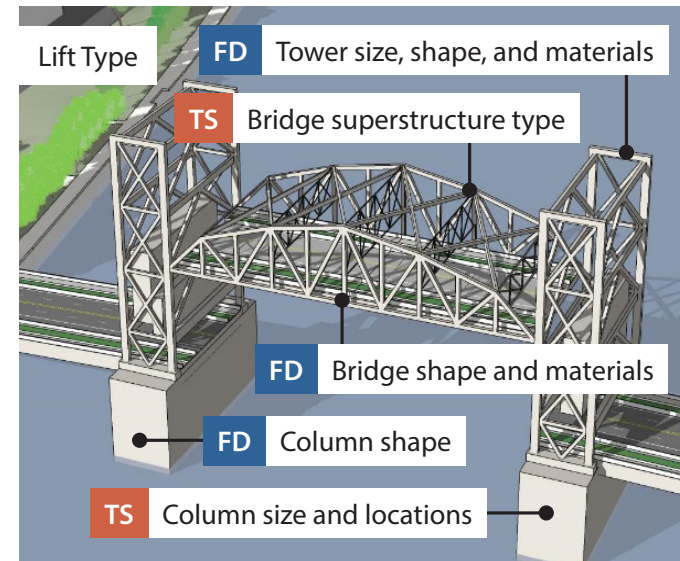
Specific to Tied Arch option:

- Arch height
- Arch rib materials, size, curvature, and shape
- Cross-frame size and shape
- Cable size and pattern

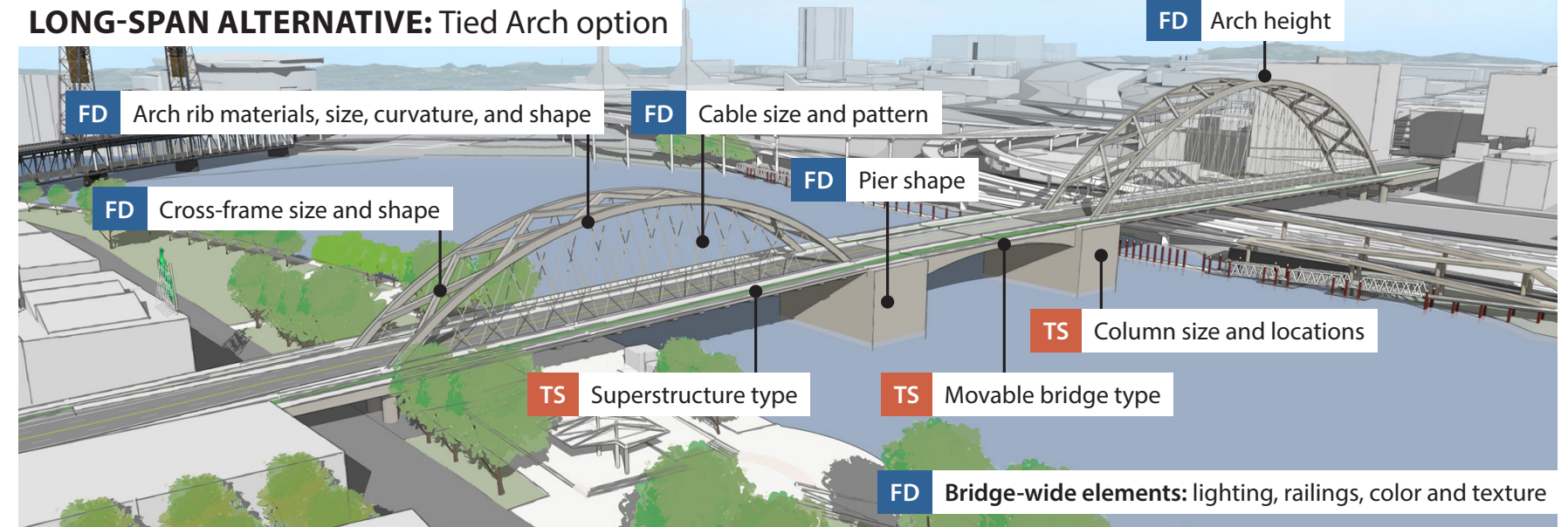
Specific to Cable Stayed option:

- Tower height, size, shape, and materials
- Cable size and pattern

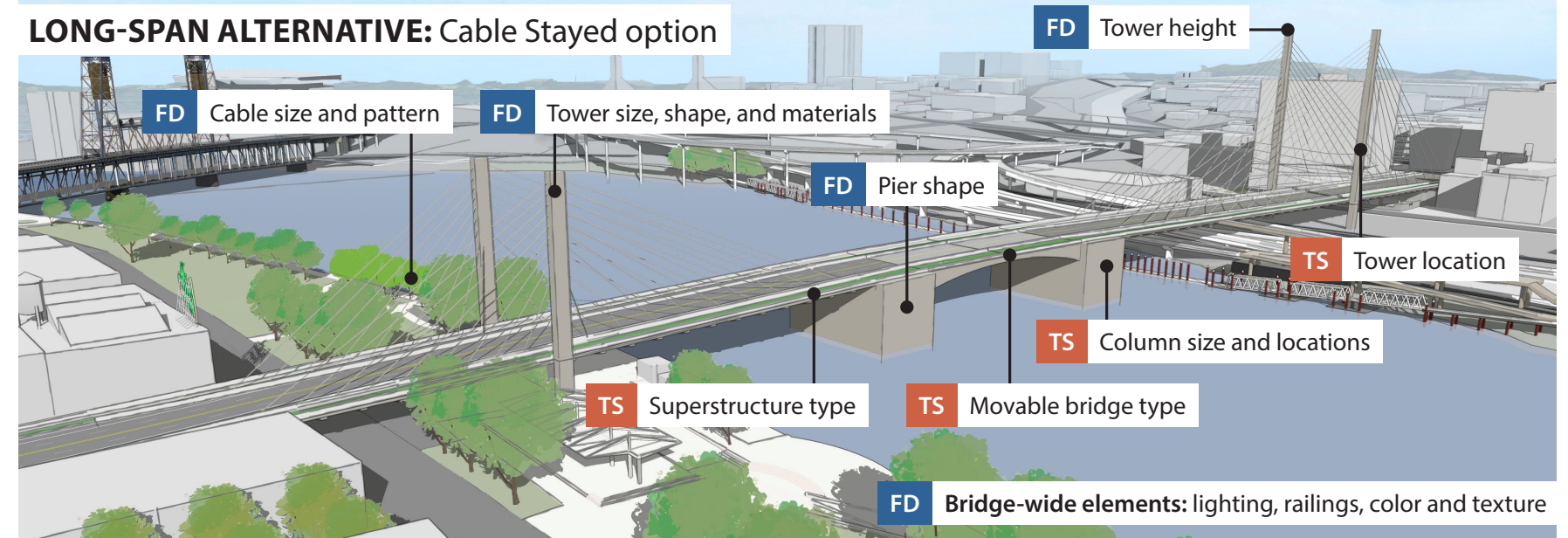
Movable Span Type: variables for consideration



LONG-SPAN ALTERNATIVE: Tied Arch option



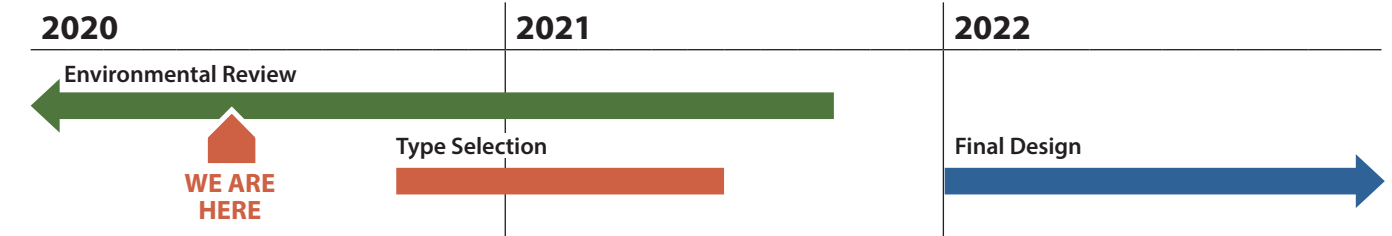
LONG-SPAN ALTERNATIVE: Cable Stayed option



LEGEND:

- TS Type Selection Phase
- FD Final Design Phase

Schedule



Bridge Type Examples

BRIDGE TYPE OPTION: Tied Arch examples



Hastings Bridge, Minnesota



Torikai Ohas Bridge, Japan



Siuslaw River Bridge, Oregon



Tacony-Palmyra Bridge, Pennsylvania



Gateway Bridge, Michigan

BRIDGE TYPE OPTION: Cable Stayed examples



Indian River Inlet Bridge, Delaware



Chongqing Expressway Bridge



Copper River Bridge



Tilikum Crossing Bridge, Oregon

BRIDGE TYPE OPTION: Through Truss examples



Main Street Bridge, Florida



Triboro (Harlem River) Bridge



Tower Bridge, CA

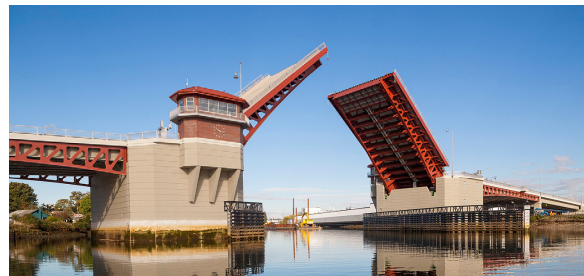


Broadway Bridge



Hawthorn Bridge

MOVABLE SPAN: Bascule examples



South Park Bridge



Harbor Bridge, Spain



New Johnson St. Bridge, Canada



Woodrow Wilson Bridge

MOVABLE SPAN: Vertical Lift examples



Teregganu Bridge



Fore River Bridge



Pont Jacques Chaban - Delmas



Manchester Millenium Bridge, England

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