

MOBILITY

As Downtown Boston and the South Boston Waterfront continue to grow, the Trusswalk will be a key connection between the two neighborhoods for pedestrians and cyclists, along with facilitating water transit into the Fort Point Channel. The bridge has two phases: summer, where the bridge is open, and winter, where the bridge is closed. The transition from open to closed phase is mechanically driven using a one-point bearing and guided bearing rail system driven by two additional motors to assist the central motor at the pivoting point of the bridge; accompanied with safety locking mechanism for additional stability and safety. There are two levels to the bridge, glass enclosed bottom level and outdoor exposed top level. When in the winter phase, the bottom level provides a straight walkway and a bike path for pedestrians to escape the harsh Boston winters. When in the summer phase, stairs, and ramps provide easy passage between the bottom and top levels to enjoy the airy breeze of Boston's Harbor. The bridge can be in summer phase throughout all seasons except for winter and others seasons with harsh weather where only the bottom level will be accessible to pedestrians.

HISTORY

The Trusswalk will keep the original profile of the Northern Avenue Bridge in order to preserve the rich history from Boston's industrial age and maritime trade. The design will entail a restoration of the existing exterior Pratt truss with the new structural system being disguised within the interior of the bridge and replacing the lower deck steel. New structural elements will be hidden inside existing steel or they will be fabricated to match existing members that are past the point of restoration. The Trusswalk design will blend the rich history of the city of Boston with its rapid growth of modern architecture throughout the downtown and seaport area.

DESTINATION

The Trusswalk provides a space that is inviting and vibrant for a twenty-first century community. Both levels of the bridge have space that provides a platform for the community to use in innovative ways. The bottom level consists of a stage space for performances/concerts/movies, tables for chess, a bike lane, a walking lane, and space for retail and restaurants. The top level consists of a skylight to provide natural light to the bottom level, patio deck with tables where visitors can relax and enjoy the waterfront view, natural vegetation along the board walk, and an urban green space where interactive artwork can be displayed.

TRUSSWALK accommodates pedestrian and bicycle traffic, maintains the functionality and aesthetic of the original bridge, and creates an urban destination for locals and tourists alike.

DOWNTOWN

FORT POINT CHANNEL

SEAPORT

THE NORTHERN AVE BRIDGE REIMAGINED AS TRUSSWALK

ELEVATION

TOP (DECK) PLAN

BOTTOM (TUNNEL) PLAN

SUMMER

TRANSITION

WINTER

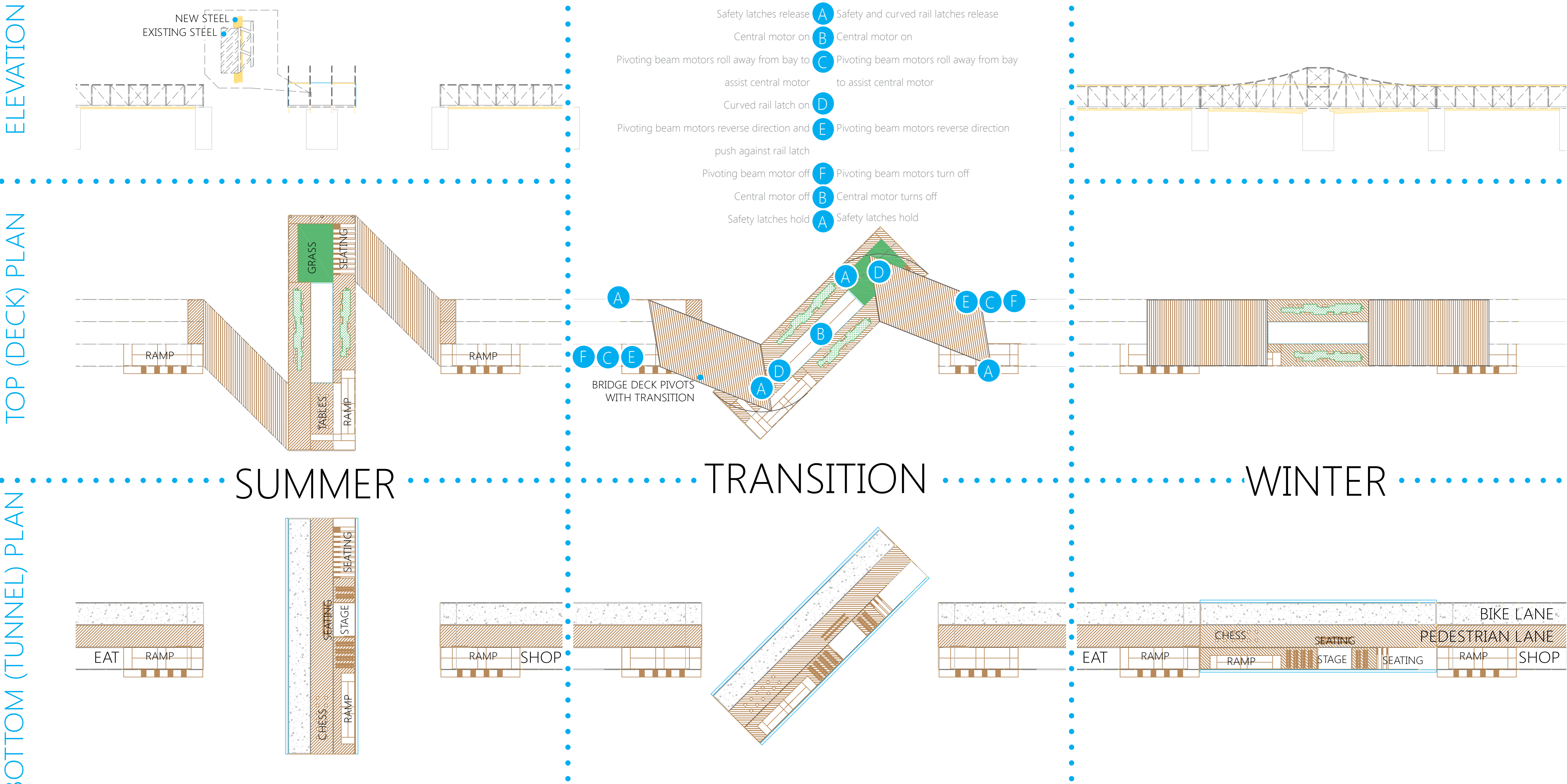
Opening Sequence

- Safety latches release
- Central motor on
- Pivoting beam motors roll away from bay to assist central motor
- Curved rail latch on
- Pivoting beam motors reverse direction and push against rail latch
- Pivoting beam motor off
- Central motor off
- Safety latches hold

Closing Sequence

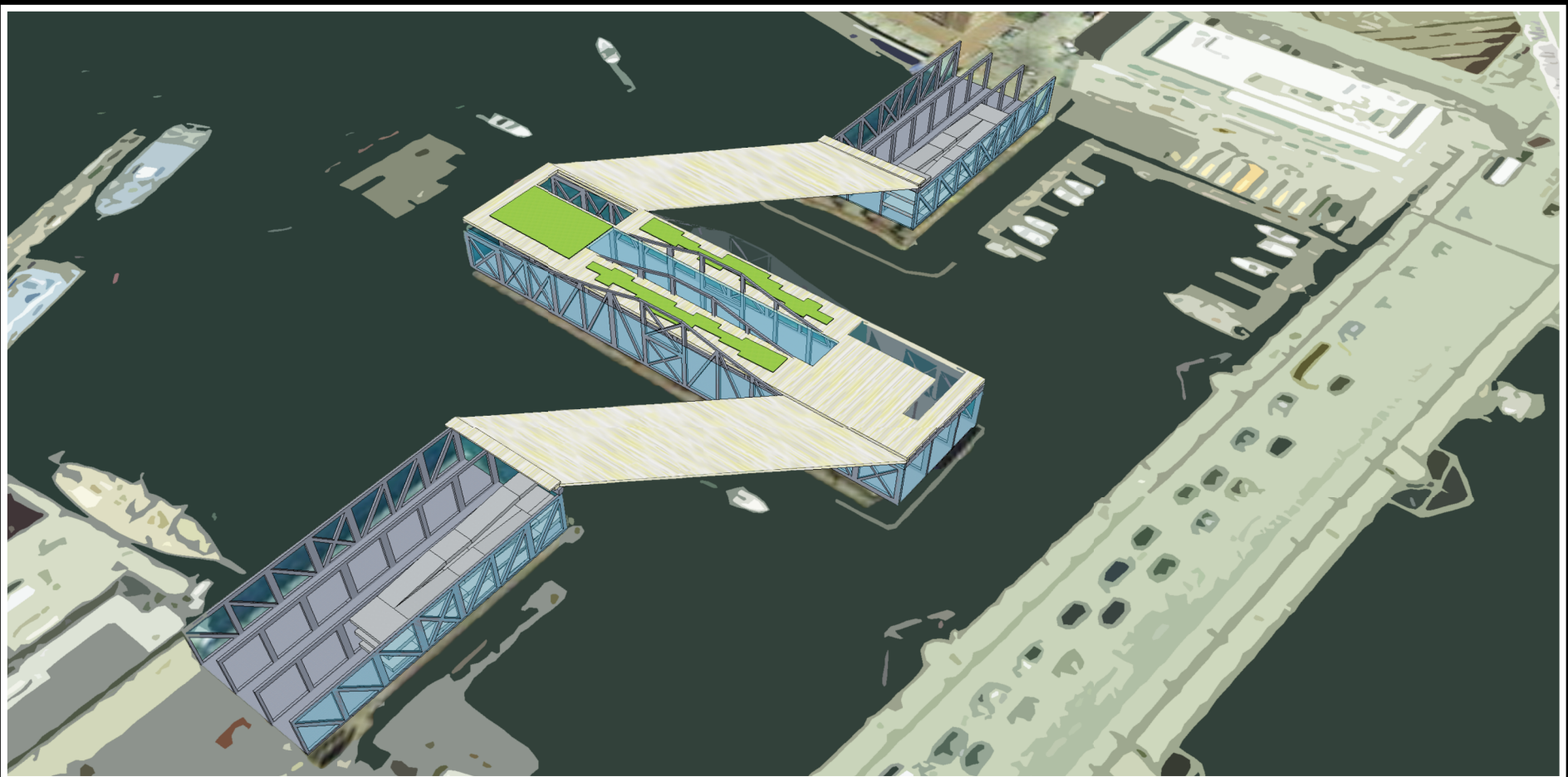
- Safety and curved rail latches release
- Central motor on
- Pivoting beam motors roll away from bay to assist central motor
- Pivoting beam motors reverse direction
- Pivoting beam motors turn off
- Central motor turns off
- Safety latches hold

BRIDGE DECK PIVOTS WITH TRANSITION



PERSPECTIVE

SUMMER DAY



WINTER NIGHT

