

## Earthquake Ready Burnside Bridge Better. Safer. Connected.

Alt Grouping	Elevation	Name	Alternative or DO? (Alt / DO)	Alignment	Ultimate West Connection Point	Ultimate East Connection Point	Main Span Bridge Type	Construction Method
1. Preserve (Rehabilitate)	Low	1a.1a Rehabilitate (100 yr Design Life) Burnside Bridge	Alt	Existing	Burnside	Burnside	Existing bascule	Staged Construction
	Low	1b.1a Rehabilitate Burnside Bridge + Deployable Floating Bridge (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule Plus	Traffic Detoured to Another Bridge
	Low	1b.1b Rehabilitate Burnside Bridge + Deployable Floating Bridge (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule Plus	Staged Construction
	Low	1b.2a Rehabilitate Burnside Bridge + Deployable Floating Bridge (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule Plus	Traffic Detoured to Another Bridge
	Low	1b.2b Rehabilitate Burnside Bridge + Deployable Floating Bridge (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule Plus	Staged Construction
	Low	1c.1a Rehabilitate Burnside Bridge + Water Taxi (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule Plus	Traffic Detoured to Another Bridge
	Low	1c.1b Rehabilitate Burnside Bridge + Water Taxi (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule Plus	Staged Construction
	Low	1c.2a Rehabilitate Burnside Bridge + Water Taxi (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule Plus	Traffic Detoured to Another Bridge
	Low	1c.2b Rehabilitate Burnside Bridge + Water Taxi (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule Plus	Staged Construction
	High	1d.1a Rehabilitate Burnside Bridge + Aerial Tram (Unwidened) (Traffic Detoured)	Alt	Existing	South of Burnside Bridge	South of Burnside Burnside	Aerial tram	Traffic Detoured to Another Bridge
	High	1d.1b Rehabilitate Burnside Bridge + Aerial Tram (Unwidened) (Staged Const)	DO	Existing	South of Burnside Bridge	South of Burnside Burnside	Aerial tram	Staged Construction
	High	1d.2a Rehabilitate Burnside Bridge + Aerial Tram (Widened) (Traffic Detoured)	Alt	Existing	South of Burnside Bridge	South of Burnside Burnside	Aerial tram	Traffic Detoured to Another Bridge
	High	1d.2b Rehabilitate Burnside Bridge + Aerial Tram (Widened) (Staged Const)	DO	Existing	South of Burnside Bridge	South of Burnside Burnside	Aerial tram	Staged Construction
	Low	2a.1a Phase 1 Seismic Retrofit (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule	Traffic Detoured to Another Bridge
	Low	2a.1b Phase 1 Seismic Retrofit (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule	Staged Construction
	Low	2a.2a Phase 1 Seismic Retrofit (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule	Traffic Detoured to Another Bridge
2. Preserve + Seismic	Low	2a.2b Phase 1 Seismic Retrofit (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule	Staged Construction
Resiliency	Low	2b.1a Phase 1 & 2 Seismic Retrofit (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule	Traffic Detoured to Another Bridge
	Low	2b.1b Phase 1 & 2 Seismic Retrofit (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule	Staged Construction
	Low	2b.2a Phase 1 & 2 Seismic Retrofit (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Existing bascule	Traffic Detoured to Another Bridge
	Low	2b.2b Phase 1 & 2 Seismic Retrofit (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Existing bascule	Staged Construction
	Low	3a.1a Existing Alignment (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	3a.1b Existing Alignment (Staged Construction)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	3a.1c Existing Alignment (North-side Temp Bridge)	DO	Existing	Burnside	Burnside	Movable	Temporary Bridge to North
	Low	3a.1d Existing Alignment (South-side Temp Bridge)	DO	Existing	Burnside	Burnside	Movable	Temporary Bridge to South
	Low	3a.2a Offset North Kinked Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.2b Offset North Kinked Alignment (Staged Construction)	DO	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.2c Offset North Double-S Alignment (Traffic Detoured)	DO	Double "S" Curve	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.2d Offset North Double-S Alignment (Staged Construction)	DO	Double "S" Curve	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.3a Offset South Kinked Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Movable	New / Traffic Detoured to Another Bridge
3. Replacement	Low	3a.3b Offset South Kinked Alignment (Staged Construction)	DO	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.3c Offset South Double-S Alignment (Traffic Detoured)	DO	Double "S" Curve	Burnside (WB) / Ankeny (EB)	Couch (WB) / Burnside (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.3d Offset South Double-S Alignment (Staged Construction)	DO	Double "S" Curve	Burnside (WB) / Ankeny (EB)	Couch (WB) / Burnside (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.4a Offset North Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.4b Offset North Kinked Twin Multi-modal Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.4c Offset North Parallel Twin Multi-modal Bridge (Traffic Detoured)	DO	Tangent	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.4d Offset North Parallel Twin Multi-modal Bridge (Staged Construction)	DO	Tangent	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.5a Offset North Kinked Twin Mode-Separated Bridge Alignment (Traffic Detoured)	Alt	Tangent	Burnside (All Modes)	Couch (Bike/Ped) / Burnside (Vehicular)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.5b Offset North Kinked Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Burnside (All Modes)	Couch (Bike/Ped) / Burnside (Vehicular)	Movable	New / Staged Construction at Transitions
	Low	3a.5c Offset North Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured)	DO	Tangent	Couch (Bike/Ped) / Burnside (Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.5d Offset North Parallel Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Couch (Bike/Ped) / Burnside (Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Movable	New / Staged Construction at Transitions





## Earthquake Ready Burnside Bridge Better. Safer. Connected.

Alt Grouping	Elevation	Name	Alternative or DO? (Alt / DO)	Alignment	Ultimate West Connection Point	Ultimate East Connection Point	Main Span Bridge Type	Construction Method
	Low	3a.6a Offset South Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.6b Offset South Kinked Twin Multi-modal Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.6c Offset South Parallel Twin Multi-modal Bridge (Traffic Detoured)	DO	Tangent	Burnside (WB) / Ankeny (EB)	Burnside (WB) / Ankeny (EB)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.6d Offset South Parallel Twin Multi-modal Bridge (Staged Construction)	DO	Tangent	Burnside (WB) / Ankeny (EB)	Burnside (WB) / Ankeny (EB)	Movable	New / Staged Construction at Transitions
	Low	3a.7a Offset South Kinked Twin Mode-Separated Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside (Bike / Ped / Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.7b Offset South Kinked Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside (Bike / Ped / Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Movable	New / Staged Construction at Transitions
	Low	3a.7c Offset South Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured)	DO	Tangent	Ankeny (Bike/Ped) / Burnside (Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Movable	New / Traffic Detoured to Another Bridge
	Low	3a.7d Offset South Parallel Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Ankeny (Bike/Ped) / Burnside (Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Movable	New / Staged Construction at Transitions
	High	3b.1a Existing Alignment (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Fixed	Traffic Detoured off Bridge
	High	3b.1b Existing Alignment (Staged Construction)	DO	Existing	Burnside	Burnside	Fixed	Staged Construction
	High	3b.1c Existing Alignment (N Temp Br)	DO	Existing	Burnside	Burnside	Fixed	Temporary Low Bridge to North
	High	3b.1d Existing Alignment (S Temp Br)	DO	Existing	Burnside	Burnside	Fixed	Temporary Low Bridge to South
	High	3b.2a Offset North Kinked Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.2b Offset North Kinked Alignment (Staged Construction)	DO	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.2c Offset North Double-S Alignment (Traffic Detoured)	DO	Double "S" Curve	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.2d Offset North Double-S Alignment (Staged Construction)	DO	Double "S" Curve	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.3a Offset South Kinked Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.3b Offset South Kinked Alignment (Staged Construction)	DO	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.3c Offset South Double-S Alignment (Traffic Detoured)	DO	Double "S" Curve	Burnside (WB) / Ankeny (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Traffic Detoured to Another Bridge
8. Replacement	High	3b.3d Offset South Double-S Alignment (Staged Construction)	DO	Double "S" Curve	Burnside (WB) / Ankeny (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.4a Offset North Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.4b Offset North Kinked Twin Multi-modal Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside	Couch (WB) / Burnside (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.4c Offset North Parallel Twin Multi-modal Bridge (Traffic Detoured)	DO	Tangent	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.4d Offset North Parallel Twin Multi-modal Bridge (Staged Construction)	DO	Tangent	Couch (WB) / Burnside (EB)	Couch (WB) / Burnside (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.5a Offset North Kinked Twin Mode-Separated Bridge Alignment (Traffic Detoured)	Alt	Tangent	Burnside (Bike / Ped / Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.5b Offset North Kinked Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Burnside (Bike / Ped / Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Staged Construction at Transitions
	High	3b.5c Offset North Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured)	DO	Tangent	Couch (Bike/Ped) / Burnside (Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.5d Offset North Parallel Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Couch (Bike/Ped) / Burnside (Vehicular)	Couch (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Staged Construction at Transitions
	High	3b.6a Offset South Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.6b Offset South Kinked Twin Multi-modal Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside	Burnside (WB) / Ankeny (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.6c Offset South Parallel Twin Multi-modal Bridge (Traffic Detoured)	DO	Tangent	Burnside (WB) / Ankeny (EB)	Burnside (WB) / Ankeny (EB)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.6d Offset South Parallel Twin Multi-modal Bridge (Staged Construction)	DO	Tangent	Burnside (WB) / Ankeny (EB)	Burnside (WB) / Ankeny (EB)	Fixed	New / Staged Construction at Transitions
	High	3b.7a Offset South Kinked Twin Mode-Separated Bridge Alignment (Traffic Detoured)	Alt	"S" Curve	Burnside (Bike / Ped / Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.7b Offset South Kinked Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	"S" Curve	Burnside (Bike / Ped / Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Staged Construction at Transitions
	High	3b.7c Offset South Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured)	DO	Tangent	Ankeny (Bike/Ped) / Burnside (Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Traffic Detoured to Another Bridge
	High	3b.7d Offset South Parallel Twin Mode-Separated Bridge Alignment (Staged Construction)	DO	Tangent	Ankeny (Bike/Ped) / Burnside (Vehicular)	Ankeny (Bike/Ped) / Burnside (Vehicular)	Fixed	New / Staged Construction at Transitions
	Tunnel	3c.1a Existing Alignment	Alt	Tangent	Burnside	Burnside	Tunnel	Detoured to Another Bridge
	Tunnel	3c.2a Offset North Alignment	DO	"S" Curve	Burnside	TBD	Tunnel	Traffic Detoured off Bridge
	Tunnel	3c.3a Offset South Alignment	DO	"S" Curve	Burnside	ТВО	Tunnel	Traffic Detoured off Bridge





## Earthquake Ready Burnside Bridge Better. Safer. Connected.

Alt Grouping	Elevation	Name	Alternative or DO (Alt / DO)	Alignment	Ultimate West Connection Point	Ultimate East Connection Point	Main Span Bridge Type	Construction Method
	Low	4a.1a Replace Freeway Spans (20 + 21) / Seismic Retrofit All Others (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4a.1b Replace Freeway Spans (20 + 21) / Seismic Retrofit All Others (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4a.2a Replace Freeway Spans (20 + 21) / Seismic Retrofit All Others (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4a.2b Replace Freeway Spans (20 + 21) / Seismic Retrofit All Others (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4b.1a Replace All Freeway Spans (20 to 22) / Seismic Retrofit All Others (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4b.1b Replace All Freeway Spans (20 to 22) / Seismic Retrofit All Others (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4b.2a Replace All Freeway Spans (20 to 22) / Seismic Retrofit All Others (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
4. Hybrid (Preserve + Seismic	Low	4b.2b Replace All Freeway Spans (20 to 22) / Seismic Retrofit All Others (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
+ Partial Replacement)	Low	4c.1a Replace East Approach Spans (20 to 27) / Seismic Retrofit All Others (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4c.1b Replace East Approach Spans (20 to 27) / Seismic Retrofit All Others (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4c.2a Replace East Approach Spans (20 to 27) / Seismic Retrofit All Others (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4c.2b Replace East Approach Spans (20 to 27) / Seismic Retrofit All Others (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4d.1a Replace River + East Approach Spans (17 to 27) / Seismic Retrofit All Others (Unwidened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4d.1b Replace River + East Approach Spans (14 to 27) / Seismic Retrofit All Others (Unwidened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Low	4d.2a Replace River + East Approach Spans (17 to 27) / Seismic Retrofit All Others (Widened) (Traffic Detoured)	Alt	Existing	Burnside	Burnside	Movable	Traffic Detoured to Another Bridge
	Low	4d.2b Replace River + East Approach Spans (14 to 27) / Seismic Retrofit All Others (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	Fixed	5a.1a Fremont Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
5. Enhance Another Bridge	Movable	5b.1a Broadway Bridge	Alt	Existing	Burnside	Burnside	Movable	N/A
	Movable	Sc.1a Steel Bridge	Alt	Existing	Burnside	Burnside	Movable	N/A
	Movable	5d.1a Morrison Bridge	Alt	Existing	Burnside	Burnside	Movable	N/A
	Movable	Se.1a Hawthorne Bridge	Alt	Existing	Burnside	Burnside	Movable	N/A
	Fixed	Sf.1a Marquam Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	Fixed	Sg.1a Tilikum Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	Fixed	5h.1a Ross Island Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	Fixed	5i.1a Sellwood Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A

No. of "Alternatives" =

43 62

No. of "Design Options" =

No. of Total Potential Solutions Considered = 105

