

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
3. Replacement	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
	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



Alternative or DO Alt Grouping Alignment **Ultimate West Connection Point Ultimate East Connection Point** Main Span Bridge Type **Construction Method** (Alt / DO) Ba.6a Offset South Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured) 'S" Curve Burnside (WB) / Ankeny (EB) Movable New / Traffic Detoured to Another Bridge Movable Ba.6b Offset South Kinked Twin Multi-modal Bridge Alignment (Staged Construction) DO 'S" Curve Burnside (WB) / Ankeny (EB) New / Staged Construction at Transitions Ba.6c Offset South Parallel Twin Multi-modal Bridge (Traffic Detoured) Burnside (WB) / Ankeny (EB) Burnside (WB) / Ankeny (EB) Movable New / Traffic Detoured to Another Bridge DO Γangent Ba.6d Offset South Parallel Twin Multi-modal Bridge (Staged Construction) DO urnside (WB) / Ankeny (EB) Burnside (WB) / Ankeny (EB) Movable New / Staged Construction at Transitions angent 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 3a.7b Offset South Kinked Twin Mode-Separated Bridge Alignment (Staged Construction) DO 'S" Curve urnside (Bike / Ped / Vehicular) Ankeny (Bike/Ped) / Burnside (Vehicular) Movable New / Staged Construction at Transitions 3a.7c Offset South Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured) DO Ankeny (Bike/Ped) / Burnside (Vehicular) Ankeny (Bike/Ped) / Burnside (Vehicular) Movable New / Traffic Detoured to Another Bridge angent 3a.7d Offset South Parallel Twin Mode-Separated Bridge Alignment (Staged Construction) DO Ankeny (Bike/Ped) / Burnside (Vehicular) Ankeny (Bike/Ped) / Burnside (Vehicular) Movable New / Staged Construction at Transitions 3b.1a Existing Alignment (Traffic Detoured) Alt existing Burnside ixed Traffic Detoured off Bridge 3b.1b Existing Alignment (Staged Construction) DO xisting Burnside Burnside ixed Staged Construction 3b.1c Existing Alignment (N Temp Br) DO existing Burnside Rurnside Fixed Temporary Low Bridge to North 3b.1d Existing Alignment (S Temp Br) DO Temporary Low Bridge to South existing Burnside Burnside Fixed 3b.2a Offset North Kinked Alignment (Traffic Detoured) Alt "S" Curve Burnside Couch (WB) / Burnside (EB) Fixed New / Traffic Detoured to Another Bridge 3b.2b Offset North Kinked Alignment (Staged Construction) DO "S" Curve Burnside Couch (WB) / Burnside (EB) Fixed New / Staged Construction at Transitions DO 3b.2c Offset North Double-S Alignment (Traffic Detoured) Double "S" Curve Couch (WB) / Burnside (EB) Couch (WB) / Burnside (EB) Fixed New / Traffic Detoured to Another Bridge DO Double "S" Curve Couch (WB) / Burnside (EB) 3b.2d Offset North Double-S Alignment (Staged Construction) Couch (WB) / Burnside (EB) Fixed New / Staged Construction at Transitions 3b.3a Offset South Kinked Alignment (Traffic Detoured) Alt "S" Curve Burnside (WB) / Ankeny (EB) Fixed New / Traffic Detoured to Another Bridge Burnside 3b.3b Offset South Kinked Alignment (Staged Construction) DO "S" Curve Burnside Burnside (WB) / Ankeny (EB) Fixed New / Staged Construction at Transitions 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 Replacement 3b.3d Offset South Double-S Alignment (Staged Construction) DO Double "S" Curve Burnside (WB) / Ankeny (EB) Couch (WB) / Burnside (EB) New / Staged Construction at Transitions Fixed High 3b.4a Offset North Kinked Twin Multi-modal Bridge Alignment (Traffic Detoured) Alt "S" Curve Couch (WB) / Burnside (EB) Fixed New / Traffic Detoured to Another Bridge 3b.4b Offset North Kinked Twin Multi-modal Bridge Alignment (Staged Construction) DO "S" Curve Couch (WB) / Burnside (EB) Fixed New / Staged Construction at Transitions 3b.4c Offset North Parallel Twin Multi-modal Bridge (Traffic Detoured) DO Couch (WB) / Burnside (EB) Couch (WB) / Burnside (EB) New / Traffic Detoured to Another Bridge Γangent Fixed 3b.4d Offset North Parallel Twin Multi-modal Bridge (Staged Construction) DO Couch (WB) / Burnside (EB) Couch (WB) / Burnside (EB) New / Staged Construction at Transitions **Fangent** 3b.5a Offset North Kinked Twin Mode-Separated Bridge Alignment (Traffic Detoured) Alt Burnside (Bike / Ped / Vehicular) New / Traffic Detoured to Another Bridge Γangent Couch (Bike/Ped) / Burnside (Vehicular) 3b.5b Offset North Kinked Twin Mode-Separated Bridge Alignment (Staged Construction) DO Burnside (Bike / Ped / Vehicular) Couch (Bike/Ped) / Burnside (Vehicular) New / Staged Construction at Transitions **Fangent** 3b.5c Offset North Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured) DO **Fangent** Couch (Bike/Ped) / Burnside (Vehicular) Couch (Bike/Ped) / Burnside (Vehicular) ixed New / Traffic Detoured to Another Bridge 3b.5d Offset North Parallel Twin Mode-Separated Bridge Alignment (Staged Construction) DO Couch (Bike/Ped) / Burnside (Vehicular) Couch (Bike/Ped) / Burnside (Vehicular) Fixed New / Staged Construction at Transitions **Fangent** 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 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 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 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 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 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 3b.7c Offset South Parallel Twin Mode-Separated Bridge Alignment (Traffic Detoured) DO Ankeny (Bike/Ped) / Burnside (Vehicular) New / Traffic Detoured to Another Bridge Tangent Ankeny (Bike/Ped) / Burnside (Vehicular) Fixed DO New / Staged Construction at Transitions 3b.7d Offset South Parallel Twin Mode-Separated Bridge Alignment (Staged Construction) Ankeny (Bike/Ped) / Burnside (Vehicular) Ankeny (Bike/Ped) / Burnside (Vehicular) Fixed Tangent 3c.1a Existing Alignment Alt Burnside Burnside Tunnel Detoured to Another Bridge Funnel **Fangent** TBD 3c.2a Offset North Alignment DO 'S" Curve Burnside Tunnel Traffic Detoured off Bridge Tunnel 3c.3a Offset South Alignment DO 'S" Curve Burnside TBD 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
4. Hybrid (Preserve + Seismic + Partial Replacement)	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
	Low	4b.2b Replace All Freeway Spans (20 to 22) / Seismic Retrofit All Others (Widened) (Staged Const)	DO	Existing	Burnside	Burnside	Movable	Staged Construction
	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
5. Enhance Another Bridge	Fixed	Sa.1a Fremont Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	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	5e.1a Hawthorne Bridge	Alt	Existing	Burnside	Burnside	Movable	N/A
	Fixed	Sf.1a Marquam Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	Fixed	5g.1a Tilikum Bridge	Alt	Existing	Burnside	Burnside	Fixed	N/A
	Fixed	Sh.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