

MAGNOLIA BRIDGE PLANNING STUDY

Fulfilling a Levy to Move Seattle commitment, in 2017 we launched a planning study to identify route alternatives for the 90-year-old Magnolia Bridge that meet the needs of the community, update the bridge replacement cost estimate, and create an emergency transportation plan for unexpected closures.

The study area included the Magnolia Bridge and W. Dravus Street and alternative transportation scenarios, weighing factors such as environmental impact, ease of mobility and access, cost, construction duration and impact.



ALTERNATIVE 1: NEW ARMORY WAY BRIDGE & WEST UPLANDS PERIMETER ROAD



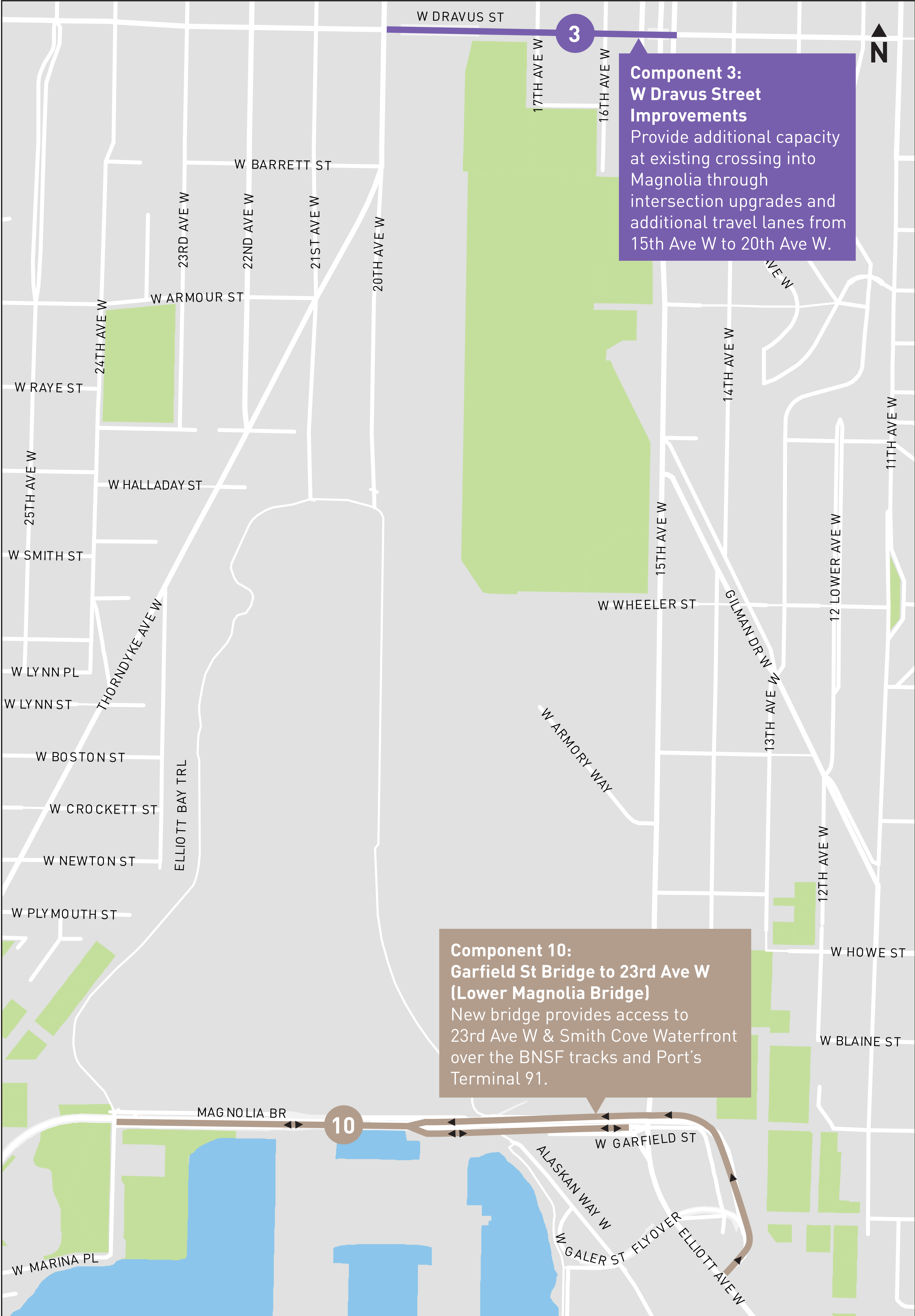
2018 Total Cost: \$200M-\$350M

ALTERNATIVE 2: DRAWAVUS ST IMPROVEMENTS & WEST UPLANDS PERIMETER ROAD



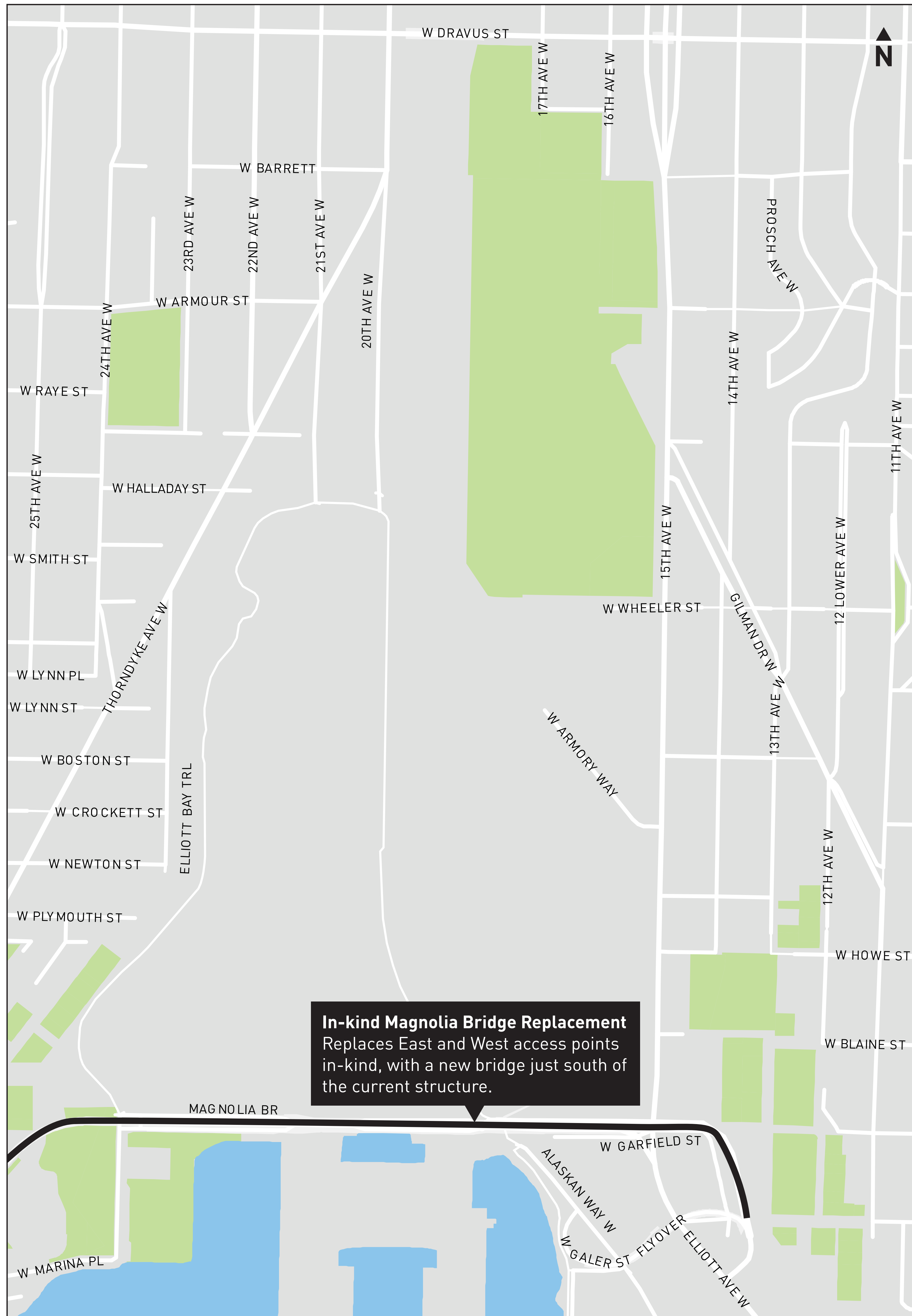
2018 Total Cost: \$190M-\$310M

ALTERNATIVE 3: DRAVUS ST IMPROVEMENTS & NEW GARFIELD ST BRIDGE



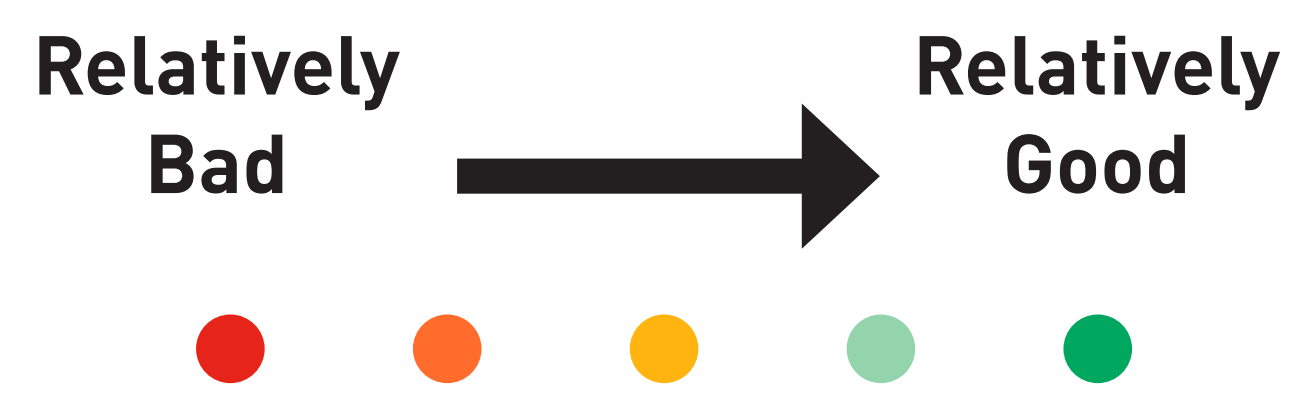
2018 Total Cost: \$210M-\$360M

ALTERNATIVE 4: REPLACE MAGNOLIA BRIDGE (2006 RECOMMENDATION)



2018 Total Cost: \$340M-\$420M

ALTERNATIVES ANALYSIS RESULTS



	ALTERNATIVE 1 Armory Way Bridge	ALTERNATIVE 2 Dravus Street Upgrade	ALTERNATIVE 3 Lower Magnolia Bridge	ALTERNATIVE 4 2006 Recommended Bridge Replacement
COST				
Estimated Cost (2018\$)	\$200M-\$350M	\$190M-\$310M	\$210M-\$360M	\$340M-\$420M
MOBILITY AND CONNECTIVITY				
Access to and from Magnolia Village	●	●	●	●
Access between Smith Cove/Elliott Bay Marina and Elliot Bay/Ballard	●	●	●	●
Access between Smith Cove/Elliott Bay Marina and Magnolia Village	●	●	●	●
Access to and from T-91/Expedia	●	●	●	●
Along 15th Ave W	●	●	●	●
Pedestrian and Bicycle Connectivity	●	●	●	●
Freight Access	●	●	●	●
Transit Access	●	●	●	●
COMMUNITY INPUT				
Public Input	●	●	●	●
Agency Input	●	●	●	●
ENVIRONMENTAL IMPACTS				
Adjacent Land Use	●	●	●	●
Sensitive Areas	●	●	●	●
Natural Hazards	●	●	●	●
IMPLEMENTATION CHARACTERISTICS				
Construction Duration	●	●	●	●
Construction Impacts	●	●	●	●
Construction Phasing	●	●	●	●

MAGNOLIA NEIGHBORHOOD - EMERGENCY BRIDGE CLOSURE TRANSPORTATION PLAN

PURPOSE	<p>This plan will guide the movement of people and goods between the Magnolia neighborhood and 15th Avenue W corridor following a catastrophic event damaging one or all the bridges serving Magnolia. Safety priorities in order of importance are life safety, incident stabilization, reuniting families, and property/environmental conservation. This plan will be implemented by the Seattle Department of Transportation (SDOT) with actions in order of priority based on the magnitude of the event. SDOT is prepared to partner with the Seattle Fire Department, Port of Seattle, BNSF, King County Metro and Seattle Public Schools to implement these actions as deemed necessary.</p>				
GOALS/PRIORITY	1 IMMEDIATE	2 IMMEDIATE	3A ONCE STABILIZED	3B ONCE STABILIZED	4 ONCE STABILIZED
ACTIONS	<p>ASSESS AND COMMUNICATE VIABLE ROUTES -</p> <ul style="list-style-type: none"> Assess infrastructure damage Identify safe travel routes Communicate available routes to others. 	<p>PROVIDE REDUNDANT EMERGENCY VEHICLE ACCESS ROUTES – Provide temporary surface route(s) across BNSF railroad tracks for emergency vehicle access.</p>	<p>PROVIDE SYSTEM REDUNDANCY FOR MAGNOLIA RESIDENTS - Identify route options for residents to return to Magnolia by vehicle, bicycle and/or by foot.</p>	<p>PROVIDE TRANSPORTATION HUBS AND TRANSIT CONNECTIONS - Identify transportation hub locations with connections to public transit, school buses and/or ad-hoc shuttle services.</p>	<p>PROVIDE FOR GOODS DELIVERY - Provide route(s) for critical services including delivery of food, water, and medicine.</p>
	<ul style="list-style-type: none"> Seattle Fire Department to perform windshield survey to assess damage (See Figure A on back). SDOT dispatches personnel to inspect the three bridge connections to the Magnolia neighborhood. Close affected bridge(s) and implement detour route(s) accordingly (see Figure A). Use communication protocols (see Table A on back) to relay roadway status (e.g., downed power lines or broken water mains). Key groups include: <ul style="list-style-type: none"> Neighborhood emergency preparedness team (feedback about route blockages). Port of Seattle (available routes to/from Terminal 91) Seattle Public Schools BNSF Elliott Bay Marina Use existing dynamic messaging signs on 15th Ave W (near W Garfield St and NW 61st St) to inform the public about traffic conditions and detour routes. 	<ul style="list-style-type: none"> Work with BNSF to provide one or more surface crossings of tracks for emergency use only. The following potential surface access routes for emergency vehicles could be created by laying temporary gravel or mats over the tracks, and are shown on Figure A: <ol style="list-style-type: none"> Galer Street south of Magnolia Bridge (open the sliding gates). Through National Guard Armory N/O Magnolia Bridge (break through the BNSF fence). Via Armory Way (break through the BNSF fence). N/O Balmer Yard between Emerson Street and Gilman Blvd. W Ewing Street from east of 15th Ave W and under Ballard Bridge. 	<ul style="list-style-type: none"> If all three bridges are damaged, direct residents returning by vehicle to park near Interbay Golf Course or Interbay Stadium and walk to an emergency transportation hubs (described at right). Guide people to one or more foot access routes across the tracks (see Figure B). Clear surface rubble to evacuate Elliott Bay Marina through Terminal 91. Implement ad hoc ferry passengers from downtown Seattle to Elliott Bay Marina and/or from Lake Union/Ship Canal to Fisherman’s Terminal. If W Dravus Street is a functional access route to Magnolia, have a temporary flagger posted at the W Dravus Street / 15th Avenue W when needed to allow double left-turns from northbound ramps (unless intersection has already been upgraded so that signal provides the dual left). Reroute traffic on 15th Avenue W southbound off-ramp to W Bertona Street (instead of W Dravus Street). 	<ul style="list-style-type: none"> Open one or more transportation/communication hubs east and west of the railroad tracks at locations coordinated with MiQA volunteers. Potential locations are shown on Figure B: <p><u>Interbay (East of Tracks)</u></p> <ol style="list-style-type: none"> Interbay Stadium & Playfield Interbay Golf Course Fisherman’s Terminal West Wall <p><u>Magnolia (West of Tracks)</u></p> <ol style="list-style-type: none"> Magnolia Community Center / Catherine Blaine K-8 School Magnolia Manor Park Magnolia Metropolitan Market Our Lady of Fatima Church Communicate with King County Metro Transit and Seattle Public Schools about status of hub locations and routes available on 15th Ave W corridor. If needed, have volunteers shuttle people to and from the pick-up/drop-off hubs west of the bridges. Encourage residents to walk and bicycle to hubs. 	<ul style="list-style-type: none"> Use one of the established emergency response routes (described to left) for other critical services including food, medicine, and water. Coordinate with key Magnolia retailers (e.g. Albertson’s, Metropolitan Market, Bartell Drugs) and service providers (e.g. medical and veterinary care providers) to ensure delivery of needed goods and supplies. If needed, use portable dynamic message signs to direct traffic to and from Queen Anne to use routes other than W Dravus St.

EMERGENCY ROUTES






Potential Surface Routes for Emergency Responders



Potential Transportation Hubs and Foot Routes

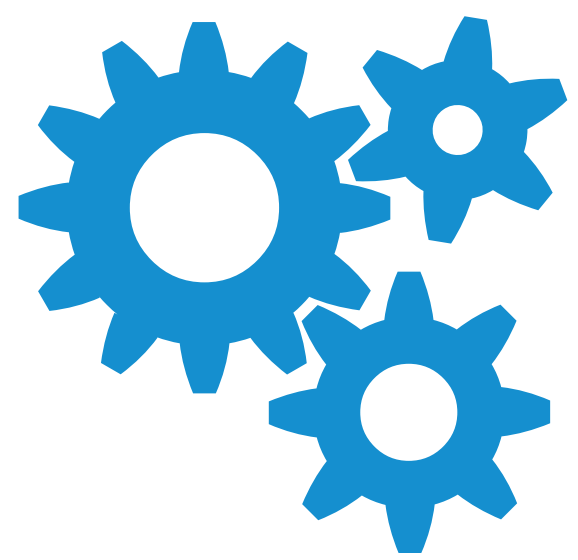


X = Railroad crossing that will need temporary surface to allow a vehicle to cross.

-  = Communication and Transportation Hub
-  = Fire Station
-  = Potential Ferry Landing
-  = Potential foot access route
-  = Transit stops on the 15th Ave W corridor

NEXT STEPS

With cost estimates spanning from \$190M to \$420M, bridge replacement and alternative options considered in the study exceed available local funds without significant outside investment from our State or Federal partners. In the meantime, here are our plans:



Ongoing maintenance and inspections of the Magnolia Bridge. We perform regular maintenance, frequent inspections and 24/hour monitoring to ensure safe use.



Levy to Move Seattle funds a ten-bridge study to help assess and manage roadway structure maintenance needs and maximize future investments. The Magnolia Planning Study was the first of ten. We're launching the Ballard Bridge Planning Study soon.



Continue working with the community and elected officials to be creative in examining funding opportunities. We'll also launch the Ballard-Interbay Regional Transportation system study pending confirmation of state funding.