EARTHQUAKE READY BURNSIDE BRIDGE

Community Task Force

Join meeting via WebEx link in calendar invite

Department of Community Services
Transportation Division

April 27, 2020

Agenda

1. Welcome, Introductions & Housekeeping
2. Public Comment
3. Project Update
4. Technical Report Findings – Key Differentiators
5. Next Steps & Closing Remarks

Introductions and Roll Call

- **Art Graves**, Multnomah County Bike and Pedestrian Citizen Advisory Committee
- **Cameron Hunt**, Portland Spirit
- **Dan Lenzen**, Old Town Community Association
- **Ed Wortman**, Community Member
- **Frederick Cooper**, Laurelhurst Neighborhood Emergency Team
- **Gabe Rahe**, Burnside Skate Park
- **Howie Bierbaum**, Portland Saturday Market
- **Jackie Tate**, Community Member
- **Paul Leitman**, Oregon Walks
- **Jennifer Stein**, Central City Concern
- **Robert McDonald**, American Medical Response
- **Marie Dodds**, AAA of Oregon
- **Kiley Wilson**, Portland Business Alliance
- **Neil Jensen**, Gresham Area Chamber of Commerce
- **Peter Finley Fry**, Central Eastside Industrial Council
- **Sharon Wood Wortman**, Community Member
- **Stella Funk Butler**, Coalition of Gresham Neighborhood Associations
- **Susan Lindsay**, Buckman Community Association
- **Tesia Eisenberg**, Mercy Corps
- **Timothy Desper**, Portland Rescue Mission
- **William Burgel**, Portland Freight Advisory Committee

Public Comment

Project Update

EARTHQUAKE READY BURNSIDE BRIDGE

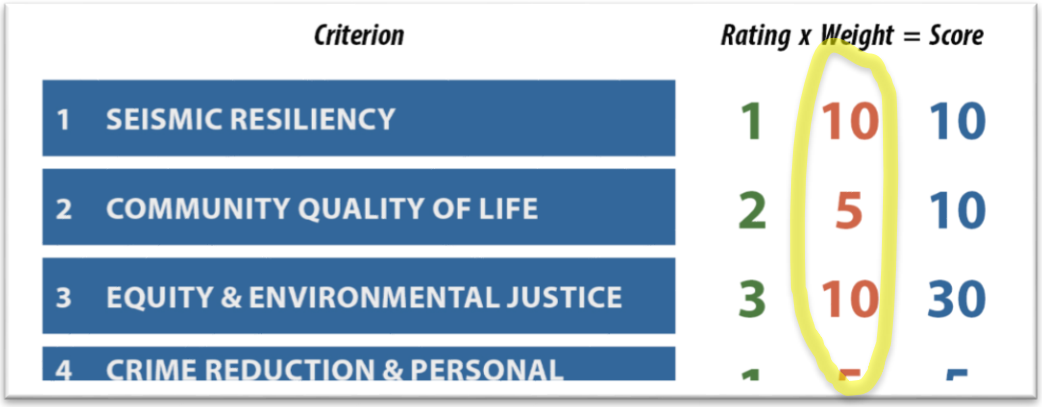
Timeline and Process

Legend:

PA	Preferred Alternative
DEIS	Draft Environmental Impact Statement
CTF	Community Task Force
SASG	Senior Agency Staff Group
PG	Policy Group
TAC	Technical Advisory Committee

Alternatives Evaluation Process

- Developed **criteria** to represent stakeholder values
- Developed **measures** to rate the performance of an alternative in delivering on those values
- Developed **value weights** to each of the criteria to reflect their relative importance
- Next step: calculate a score for each alternative based on **performance rating** developed by technical staff and **value weights** developed by CTF



Criterion	Rating	x Weight	= Score
1 SEISMIC RESILIENCY	1	10	10
2 COMMUNITY QUALITY OF LIFE	2	5	10
3 EQUITY & ENVIRONMENTAL JUSTICE	3	10	30
4 CRIME REDUCTION & PERSONAL	1	5	5

Alternatives Evaluation Process

EARTHQUAKE READY BURNSIDE BRIDGE

Exploring key differentiators among alternatives

KEY DIFFERENTIATORS: BRIDGE ALTERNATIVES	Enhanced Seismic Retrofit	Replacement: Short Span	Replacement: Long Span	Replacement: Couch Extension
SEISMIC RESILIENCY	More (8) supports in Geotechnical Hazard Zone (GHZ) = highest risk from soil movement during an earthquake	More (5) supports in GHZ = risk from soil movement during an earthquake	Fewest supports (1) in GHZ = least risk from soil movement during an earthquake	•Most (9) supports in GHZ = risk from soil movement during an earthquake •Highest potential for damage to bridge from adjacent falling structures
COMMUNITY QUALITY OF LIFE	Most supports (5) in Waterfront Park = least light, space and opportunity for activities under the bridge	More supports (2) in Waterfront Park = less light, space, and opportunity for activities under bridge	Fewest supports (1) in Waterfront Park = most light, space, and opportunity for activities under bridge	More supports (2) in Waterfront Park = less light, space, and opportunity for activities under bridge
EQUITY & ENVIRONMENTAL JUSTICE	•Requires 2-3 month closure of existing accessways to Portland Rescue Mission (PRM) •Longer closures of Skidmore MAX station during construction	•Maintains all existing accessways to PRM throughout construction •Shorter closures of Skidmore MAX station during construction	•Maintains all existing accessways to PRM throughout construction •Shorter closures of Skidmore MAX station during construction	•Maintains all existing accessways to PRM throughout construction •Shorter closures of Skidmore MAX station during construction
CRIME REDUCTION & PERSONAL SAFETY	Most supports = limited open space, visibility & sightlines	More supports = limited open space, visibility & sightlines	Fewest supports = increased open space, visibility and sightlines	More supports = limited open space, visibility & sightlines
BUSINESS & ECONOMICS	Shortest construction duration = shorter duration of disruption to business access via river crossing		Shortest duration closure/relocation of Saturday Market = shortest disruption of events and related revenue	•Displaces one additional business compared to the short or long span replacement bridges •Permanent access impacts from changes in sidewalk and street elevations on 3rd Avenue
PARKS & RECREATION	•Most supports (5) in Waterfront Park = least light, space and opportunity for activities under the bridge •Demolishes the Burnside Skatepark, disrupting physical activity in the short term and reducing social cohesion-related health benefits in the long term.	More supports (2) in Waterfront Park = less light, space, and opportunity for activities under bridge	•Fewest supports (1) in Waterfront Park = most light, space, and opportunity for activities under bridge •Shortest duration closure of Waterfront Park, Skatepark and Esplanade	More supports (2) in Waterfront Park = less light, space, and opportunity for activities under bridge
HISTORICAL RESOURCES	Preserves limited portions of historic Burnside Bridge Demolishes historic Burnside Skatepark and part of Harbor Seawall	Preserves historic Burnside Skatepark and Harbor Seawall Demolishes historic Burnside Bridge	Preserves historic Burnside Skatepark and Harbor Seawall Demolishes historic Burnside Bridge	Preserves historic Burnside Skatepark and Harbor Seawall Demolishes historic Burnside Bridge
VISUAL & AESTHETICS	Maintains existing views	Maintains existing views	Maximum impact to existing views Greatest opportunities for new visual experience above and below deck	Maintains existing views
NATURAL RESOURCES, CLIMATE CHANGE & SUSTAINABILITY	Largest footprint in river = greatest potential impact to water quality, fish, floodplain. Generates lower GHG emissions due to shorter construction and use of fewer new construction materials	Medium footprint in river = medium potential impact to water quality, fish, floodplain.	Smallest footprint in river = smallest potential impact to water quality, fish, floodplain.	Medium footprint in river = medium potential impact to water quality, fish, floodplain.
PEDESTRIANS, BICYCLISTS & PEOPLE WITH DISABILITIES	Least opportunity for improved bike/ped facilities	•Wider bike/ped facilities •Increased safety with crash barrier •Lower exposure to air pollution for people walking & biking	•Wider bike/ped facilities •Increased safety with crash barrier •Lower exposure to air pollution for people walking & biking	•Wider bike/ped facilities •Increased safety with crash barrier •Lower exposure to air pollution for people walking & biking More out-of-direction travel to Esplanade disincentivizes physical activity and make travel more difficult for people with disabilities.
MOTOR VEHICLES, FREIGHT & [illegible]				Smoother access for large westbound trucks and vehicles Improves operations for potential future streetcar Improves visibility and eliminates potential vulnerability for transit collisions through Couch "S" curve.
COST			Lowest construction cost due to minimizing geotechnical hazard mitigation, utility relocation, and foundation work	•Highest construction cost due to greater material needs, geotechnical hazard mitigation, and ROW acquisition •Highest long term maintenance cost due to increased bridge area, structural members, and difficult access

Technical Report Findings

EARTHQUAKE READY BURNSIDE BRIDGE

Bridge Alternatives – Key Differentiators

Enhanced Seismic Retrofit

Replacement:
Short Span

Replacement:
Long Span

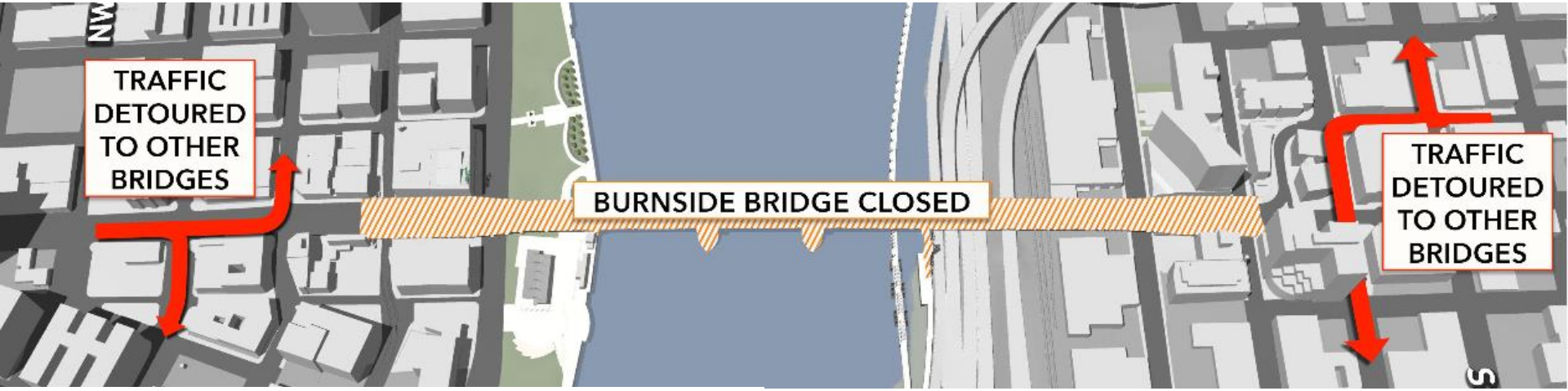
Replacement:
Couch Extension

Technical Report Findings

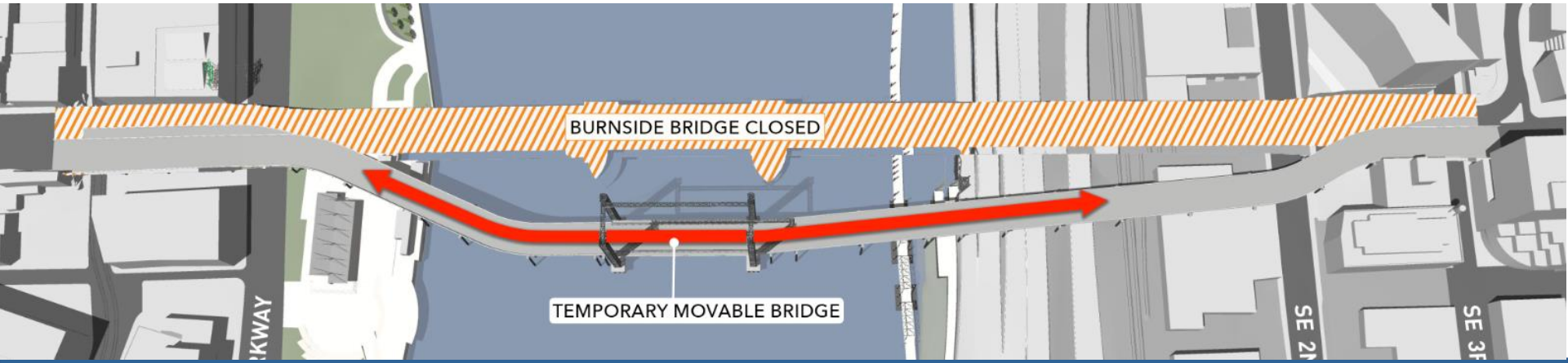
EARTHQUAKE READY BURNSIDE BRIDGE

Traffic Options During Construction – Key Differentiators

Full Bridge Closure



Temporary Bridge

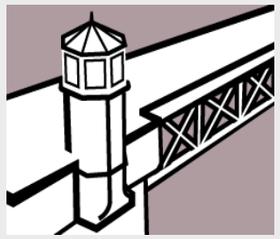


Bridge Alternatives

Key Differentiators

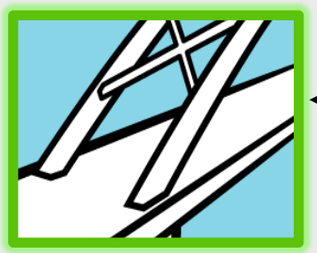
Section 1: Bridge Alternatives

ALTERNATIVES:

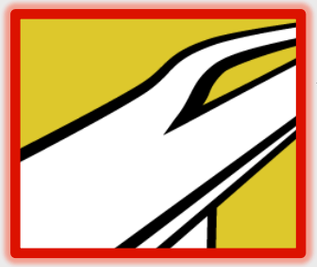


RETROFIT

SHORT SPAN



LONG SPAN



COUCH EXTENSION

KEY

The icons at left represent the four bridge alternatives being studied.

Green callout boxes show positive key differentiators

Red callout boxes show negative key differentiators

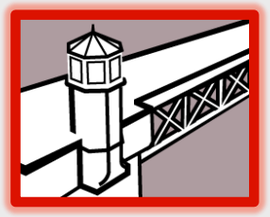
A green highlight around a bridge alternative indicates a positive differentiator for that bridge.

A red highlight around a bridge alternative indicates a negative differentiator for that bridge.

Bridge graphic concepts are examples only.

Seismic Resiliency

ALTERNATIVES:



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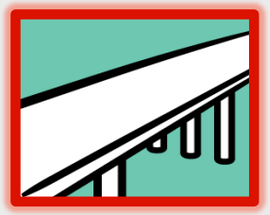

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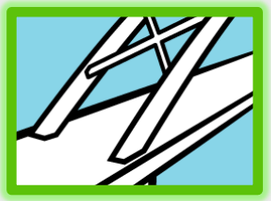
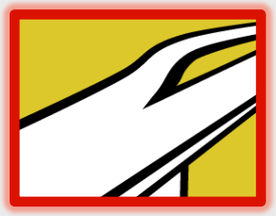
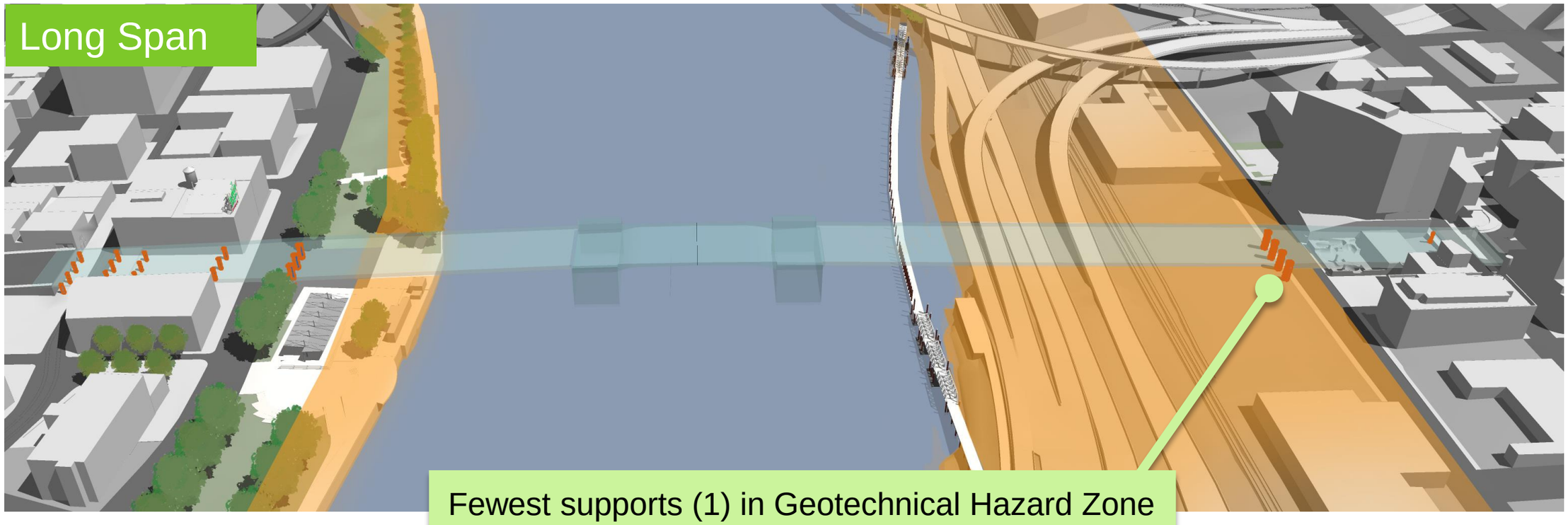


LONG SPAN



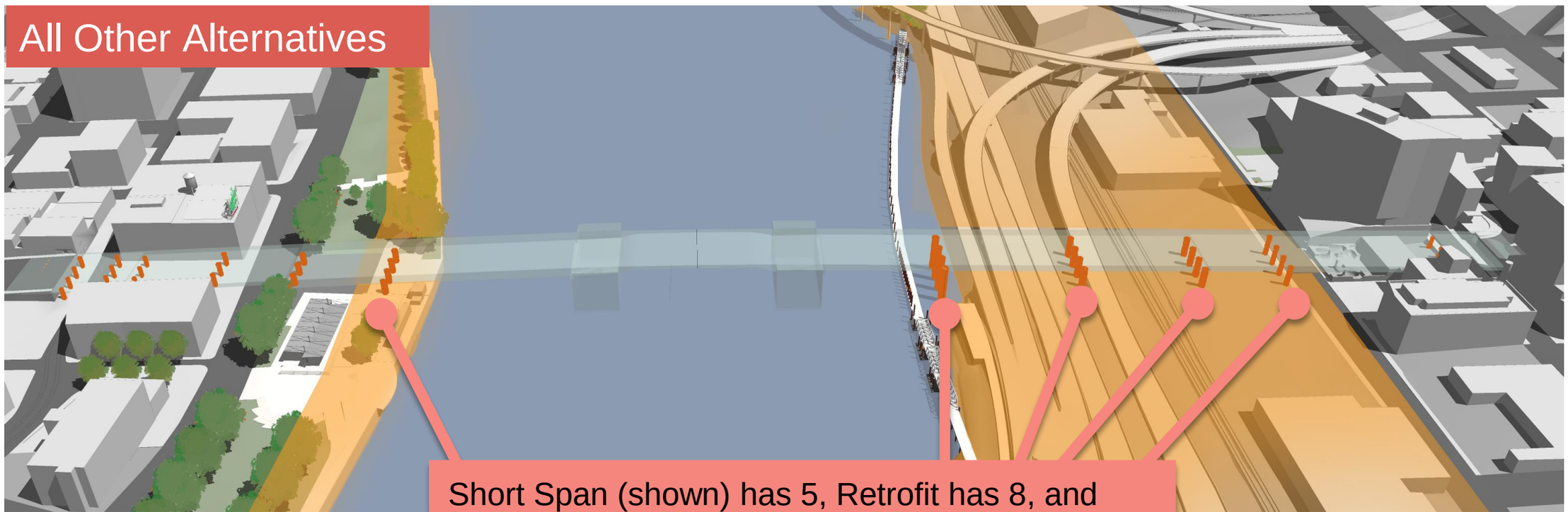
COUCH EXTENSION

Long Span



Fewest supports (1) in Geotechnical Hazard Zone (GHZ) = least risk from soil movement during an earthquake

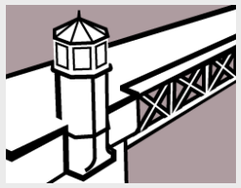
All Other Alternatives



Short Span (shown) has 5, Retrofit has 8, and Couch Extension has 9 supports in GHZ

Community Quality Of Life

ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN

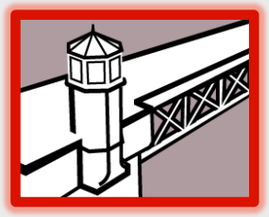
COUCH EXTENSION

Waterfront Park

Existing View

Community Quality Of Life

ALTERNATIVES:



RETROFIT

SHORT SPAN

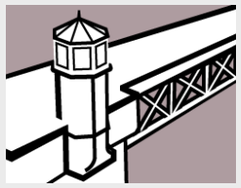
LONG SPAN

COUCH EXTENSION

Retrofit has most supports (5) in Waterfront Park = least light, space and opportunity for activities under the bridge

Community Quality Of Life

ALTERNATIVES:



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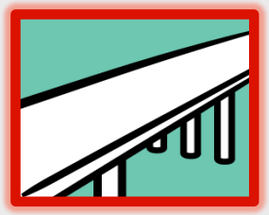
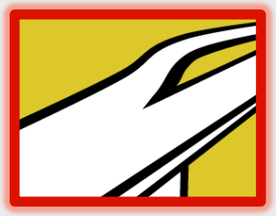


SHORT SPAN

LONG SPAN

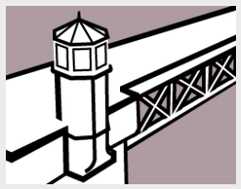


COUCH EXTENSION

Short Span and Couch Extension have more supports (2) in Waterfront Park = less light, space, and opportunity for activities under bridge

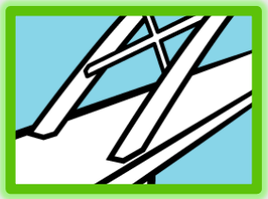
Community Quality Of Life

ALTERNATIVES:



RETROFIT

SHORT SPAN



LONG SPAN

COUCH EXTENSION

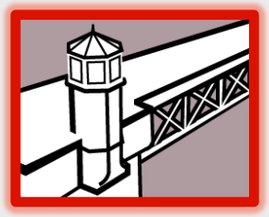
Long Span has fewest supports (1) in Waterfront Park = most light, space, and opportunity for activities under bridge

Waterfront Park

Replacement: Long Span

Equity & Environmental Justice

ALTERNATIVES:



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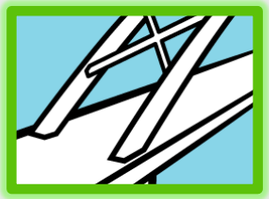


LONG SPAN

COUCH EXTENSION

PORTLAND RESCUE MISSION

Main Exit

Main Entry

ONLY

Retrofit requires 2-3 month closure of existing accessways to Portland Rescue Mission.

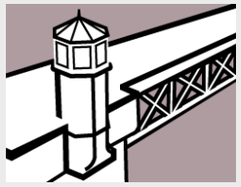
All other alternatives maintain existing accessways to PRM throughout construction.

W 1st Ave & Burnside

Existing View

Crime Reduction & Personal Safety

ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN

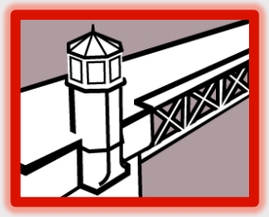
COUCH EXTENSION

Naito Parkway

Existing View

Crime Reduction & Personal Safety

ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN

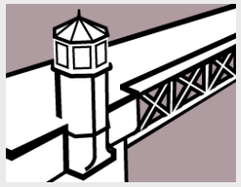
COUCH EXTENSION

Most supports = limited open space, visibility and sightlines

Naito Parkway

Retrofit

ALTERNATIVES:



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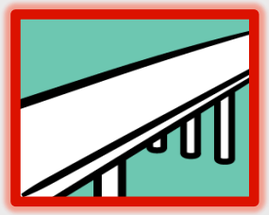
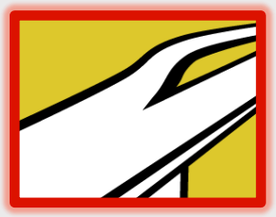


SHORT SPAN

LONG SPAN



COUCH EXTENSION

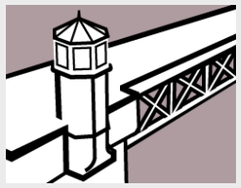
More supports = limited open space, visibility and sightlines

Naito Parkway

Short Span Replacement and Couch Extension

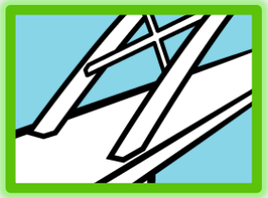
Crime Reduction & Personal Safety

ALTERNATIVES:



RETROFIT

SHORT SPAN



LONG SPAN

COUCH EXTENSION

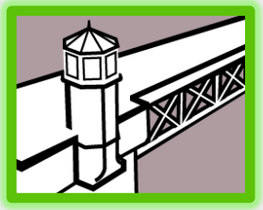
Fewest supports = increased open space, visibility and sightlines

Naito Parkway

Long Span

Business & Economics

ALTERNATIVES:



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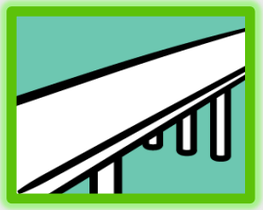

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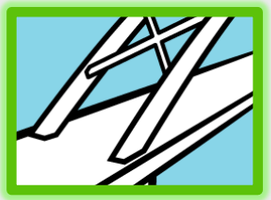


LONG SPAN

COUCH EXTENSION

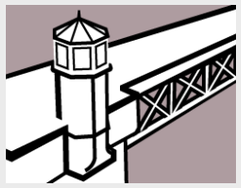
Shorter construction duration for Retrofit = shorter duration of disruption to business access via river crossing

Short Span minimizes business displacement

Long Span minimizes business displacement and requires shortest duration closure / relocation of Saturday Market = shortest disruption of events and related revenue

Business & Economics

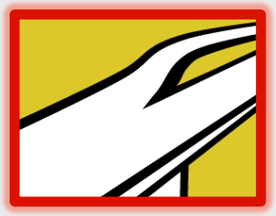
ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN



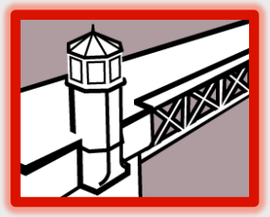
COUCH EXTENSION

NE 3rd Ave

Couch Extension displaces one additional business compared to Short or Long Span, and has permanent access impacts from changes in sidewalk and street elevations on 3rd Avenue

Parks & Recreation

ALTERNATIVES:



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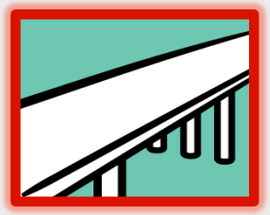

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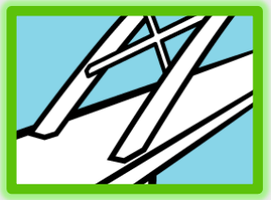
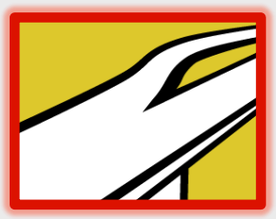


LONG SPAN



COUCH EXTENSION

Long Span has fewest supports (1) in Waterfront Park = most light, space, and opportunity for activities under bridge.

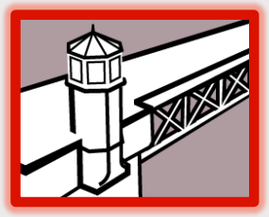
Long Span also has shortest duration of closure of Waterfront Park, Skatepark and Esplanade

Short Span (2), Couch Extension and Retrofit (5) have more supports = less light, space, and opportunity for activities under bridge.

These options would also require longer park closure.

Parks & Recreation

ALTERNATIVES:



RETROFIT

SHORT SPAN

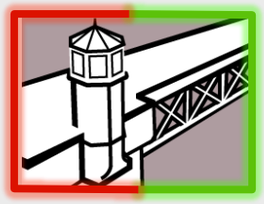
LONG SPAN

COUCH EXTENSION

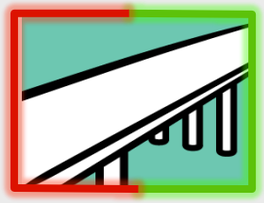
Retrofit demolishes the Burnside Skatepark, disrupting physical activity in the short term and reducing social cohesion-related health benefits in the long term.

Historic Resources

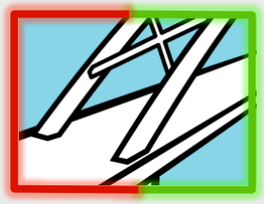
ALTERNATIVES:



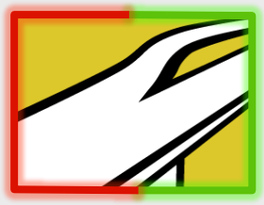
RETROFIT



SHORT SPAN



LONG SPAN



COUCH EXTENSION

Photo: Multnomah County

Retrofit preserves limited portions of the historic Burnside Bridge.

Replacement options demolish the historic Burnside Bridge.

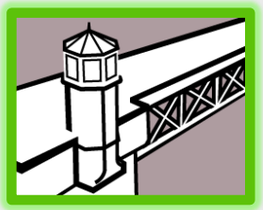
Photo: Wikipedia user Bentzleyc

Retrofit demolishes Burnside Skatepark (shown) and part of harbor seawall (not shown).

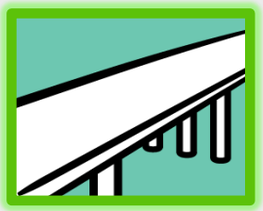
Replacement options preserve the harbor seawall and the historic Burnside Skatepark

Visual & Aesthetics

ALTERNATIVES:



RETROFIT



SHORT SPAN

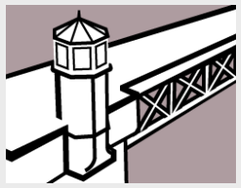
LONG SPAN

COUCH EXTENSION

Short Span, Couch Extension and Retrofit maintain existing views for the most part.

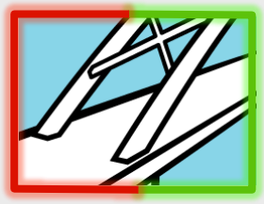
Visual & Aesthetics

ALTERNATIVES:



RETROFIT

SHORT SPAN



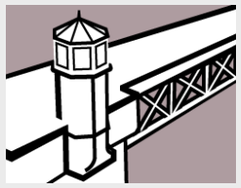
LONG SPAN

COUCH EXTENSION

Long Span has greatest opportunities for new visual experiences above and below deck

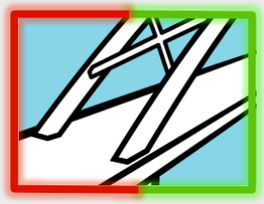
Visual & Aesthetics

ALTERNATIVES:



RETROFIT

SHORT SPAN



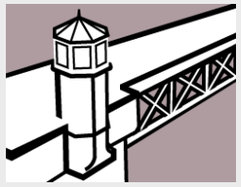
LONG SPAN

COUCH EXTENSION

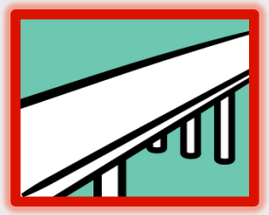
However, Long Span also has a maximum impact to existing views

Natural Resources

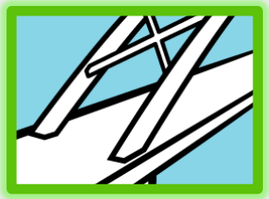
ALTERNATIVES:



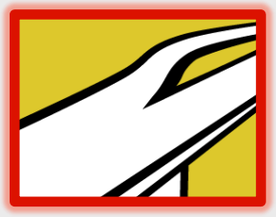
RETROFIT



SHORT SPAN

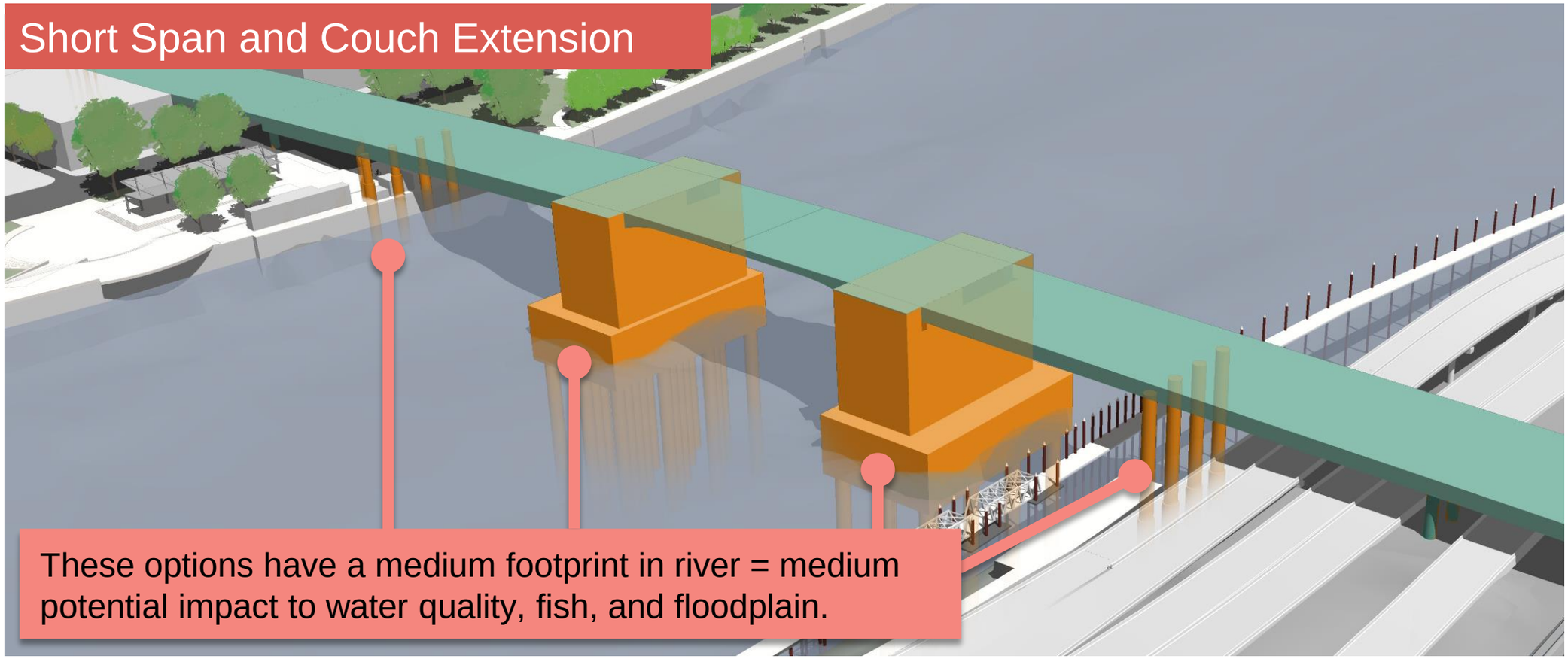


LONG SPAN



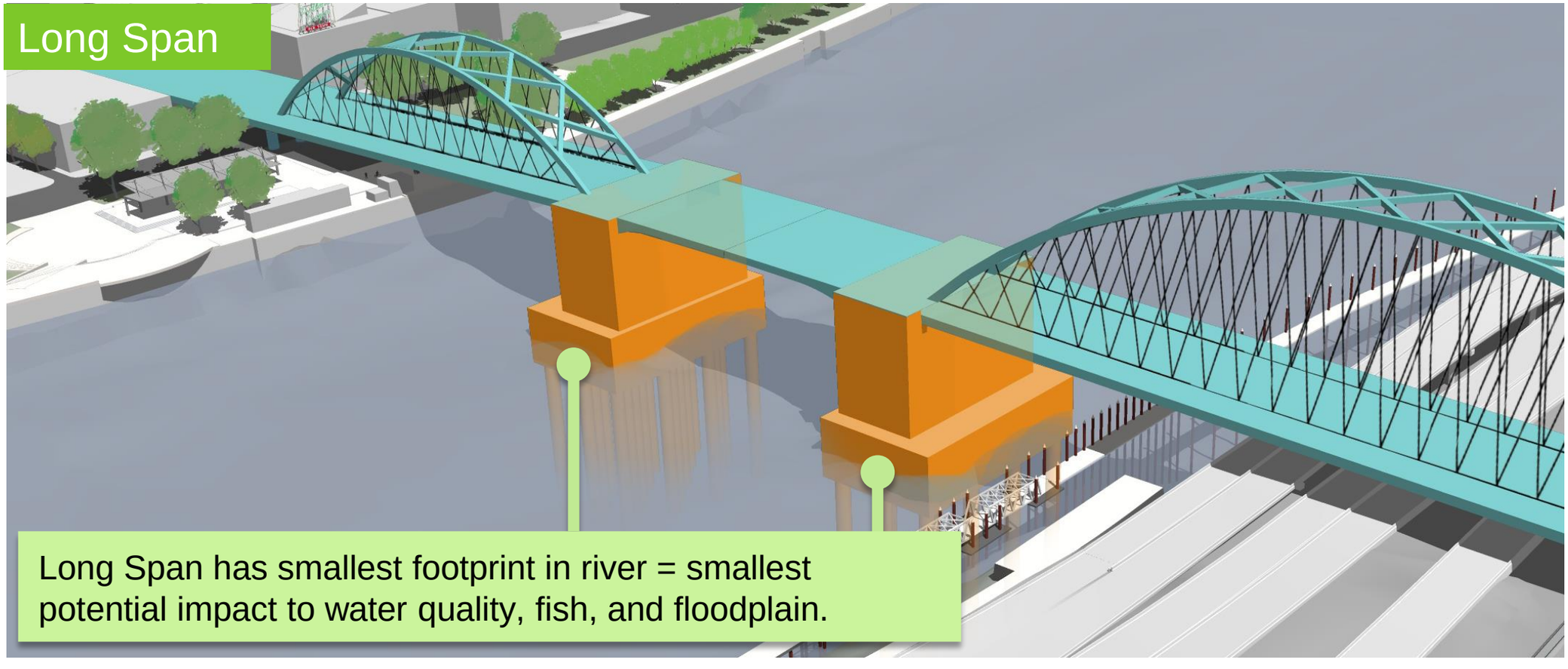
COUCH EXTENSION

Short Span and Couch Extension



These options have a medium footprint in river = medium potential impact to water quality, fish, and floodplain.

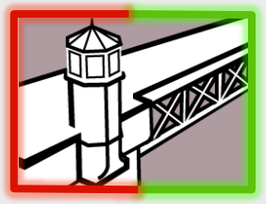
Long Span



Long Span has smallest footprint in river = smallest potential impact to water quality, fish, and floodplain.

Natural Resources

ALTERNATIVES:

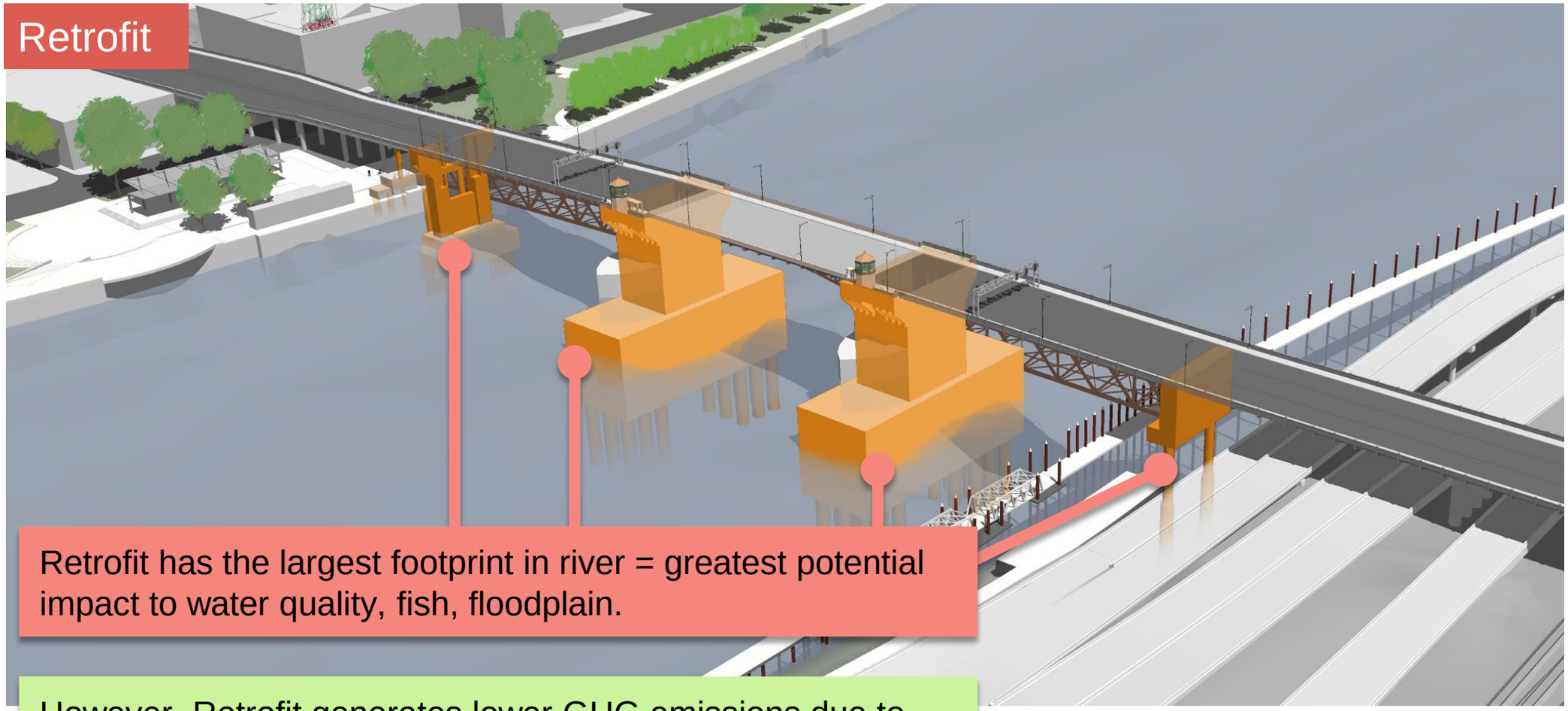


RETROFIT

SHORT SPAN

LONG SPAN

COUCH EXTENSION

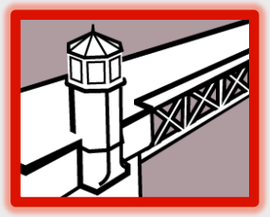


Retrofit has the largest footprint in river = greatest potential impact to water quality, fish, floodplain.

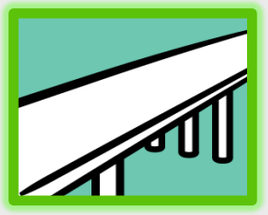
However, Retrofit generates lower GHG emissions due to shorter construction and use of fewer new construction materials.

Pedestrians, Bicyclists & People With Disabilities

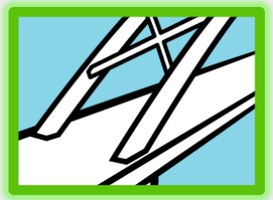
ALTERNATIVES:



RETROFIT



SHORT SPAN

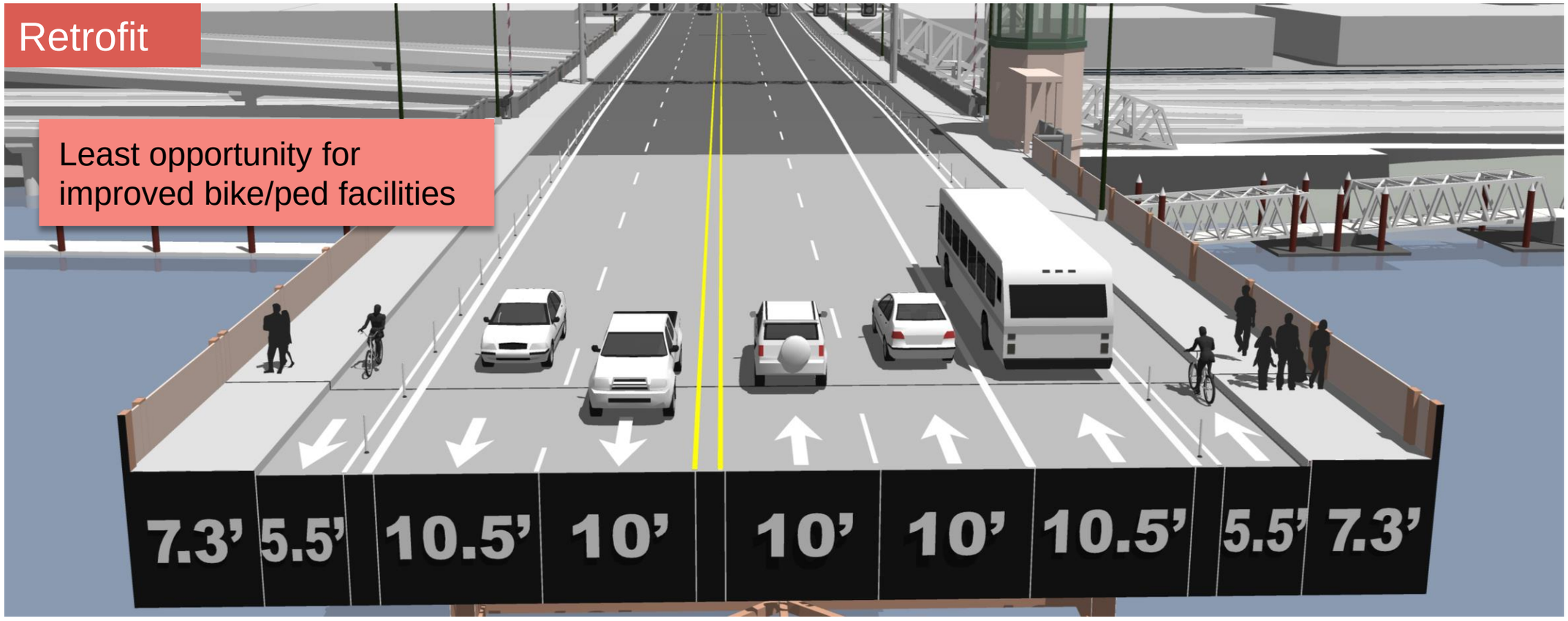


LONG SPAN

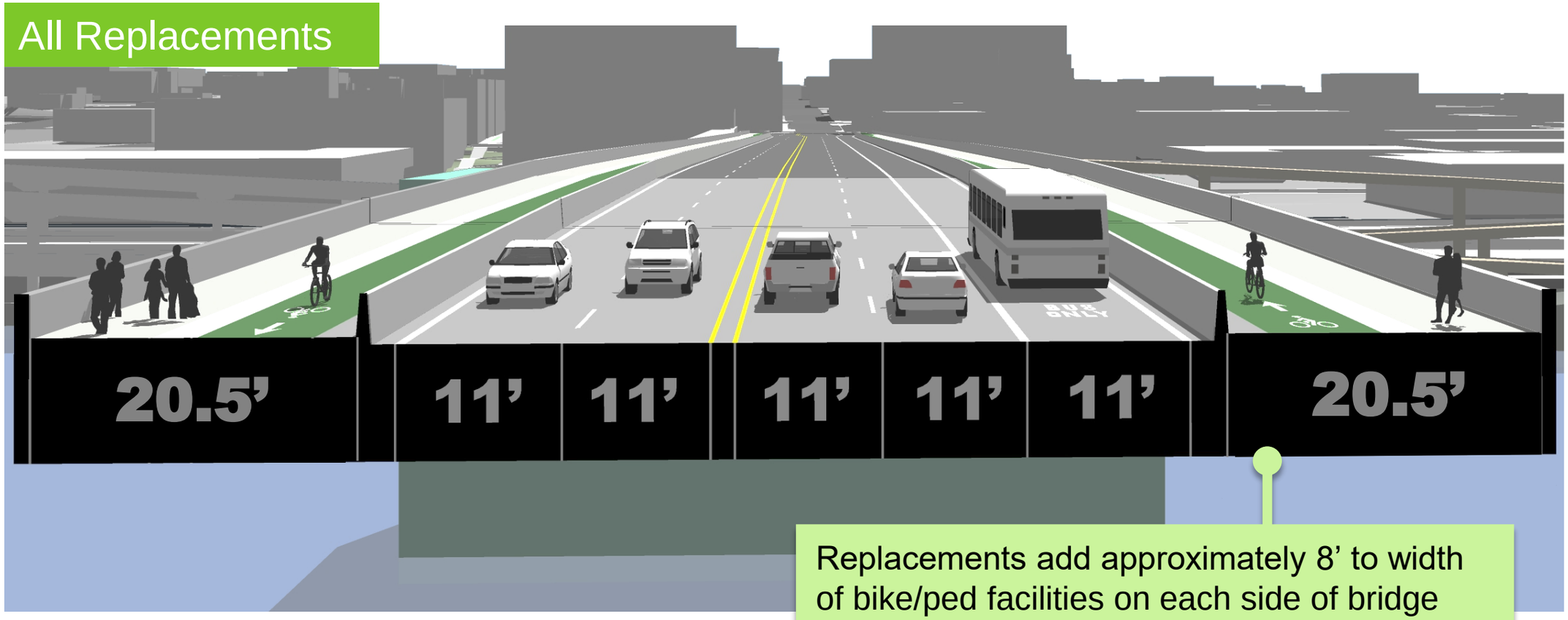
COUCH EXTENSION

Retrofit

Least opportunity for improved bike/ped facilities



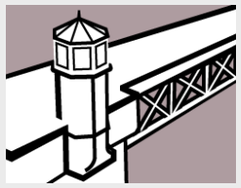
All Replacements



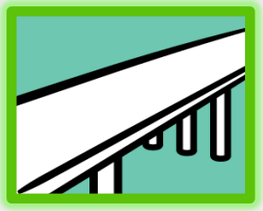
Replacements add approximately 8’ to width of bike/ped facilities on each side of bridge

Pedestrians, Bicyclists & People With Disabilities

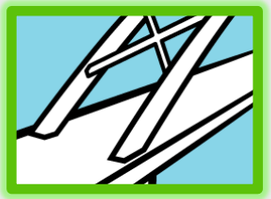
ALTERNATIVES:



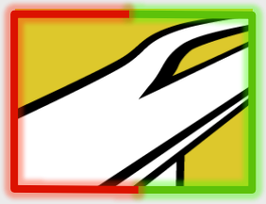
RETROFIT



SHORT SPAN



LONG SPAN



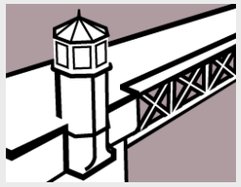
COUCH EXTENSION

All Replacement options have increased safety with crash barrier, and lower exposure to air pollution

Couch Extension includes more out-of-direction travel to Eastbank Esplanade that could disincentivize physical activity and make travel more difficult for people with disabilities.

Motor Vehicles, Freight & Emergency Vehicles

ALTERNATIVES:



RETROFIT

SHORT SPAN

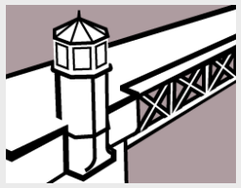
LONG SPAN

COUCH EXTENSION

Smoother access for large westbound trucks and vehicles.

Transit

ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN

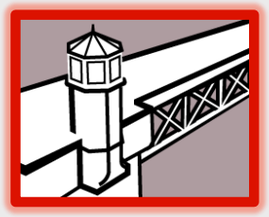
COUCH EXTENSION

Improves operations for potential future streetcar.

Improves visibility and eliminates potential vulnerability for transit collisions through the Couch “S” curve.

Fiscal Responsibility

ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN

COUCH EXTENSION

PROJECT COST (Million USD)

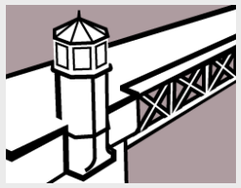
= Add'l cost for Temporary Bridge During Construction
Numbers shown represent high end of range for Temp bridge options

Retrofit construction cost comparable to Short Span Replacement due to extensive retrofit work to meet seismic standards.

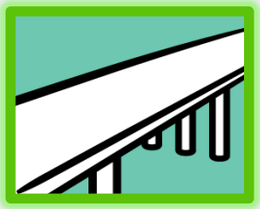
Highest maintenance cost due to age of bridge.

Fiscal Responsibility

ALTERNATIVES:



RETROFIT



SHORT SPAN

LONG SPAN

COUCH EXTENSION

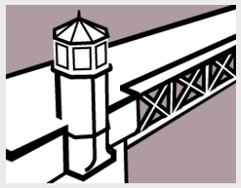
PROJECT COST (Million USD)

= Add'l cost for Temporary Bridge During Construction
Numbers shown represent high end of range for Temp bridge options

Short Span replacement has least long term maintenance cost.

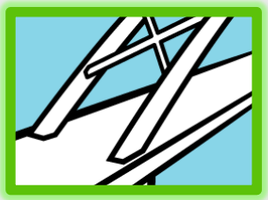
Fiscal Responsibility

ALTERNATIVES:



RETROFIT

SHORT SPAN



LONG SPAN

COUCH EXTENSION

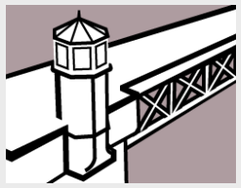
PROJECT COST (Million USD)

= Add'l cost for Temporary Bridge During Construction
Numbers shown represent high end of range for Temp bridge options

Long Span replacement has lowest construction cost due to minimizing geotechnical hazard mitigation, utility relocation, and foundation work

Fiscal Responsibility

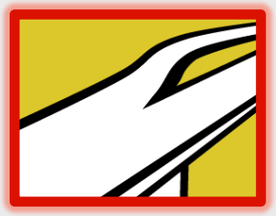
ALTERNATIVES:



RETROFIT

SHORT SPAN

LONG SPAN



COUCH EXTENSION

PROJECT COST (Million USD)

= Add'l cost for Temporary Bridge During Construction
Numbers shown represent high end of range for Temp bridge options

Couch Extension has highest construction cost due to greater material needs, geotechnical hazard mitigation, and ROW acquisition.

Also has highest long-term maintenance cost of the replacement options due to increased bridge area, structural members, and difficult access.

Traffic Options During Construction

Key Differentiators

Section 2: Traffic During Construction Options

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

KEY

The icons at left represent the traffic options being studied.

Green callout boxes show positive key differentiators

Red callout boxes show negative key differentiators

A green or red highlight around a traffic option indicates a positive or negative differentiator for that option.

Where applicable, these icons differentiate between the three types of temporary bridges reviewed:

ALL MODE TEMP BRIDGE

BUS / PED / BIKE ONLY

PED / BIKE ONLY

Bridge graphic concepts are examples only.

Seismic Resiliency

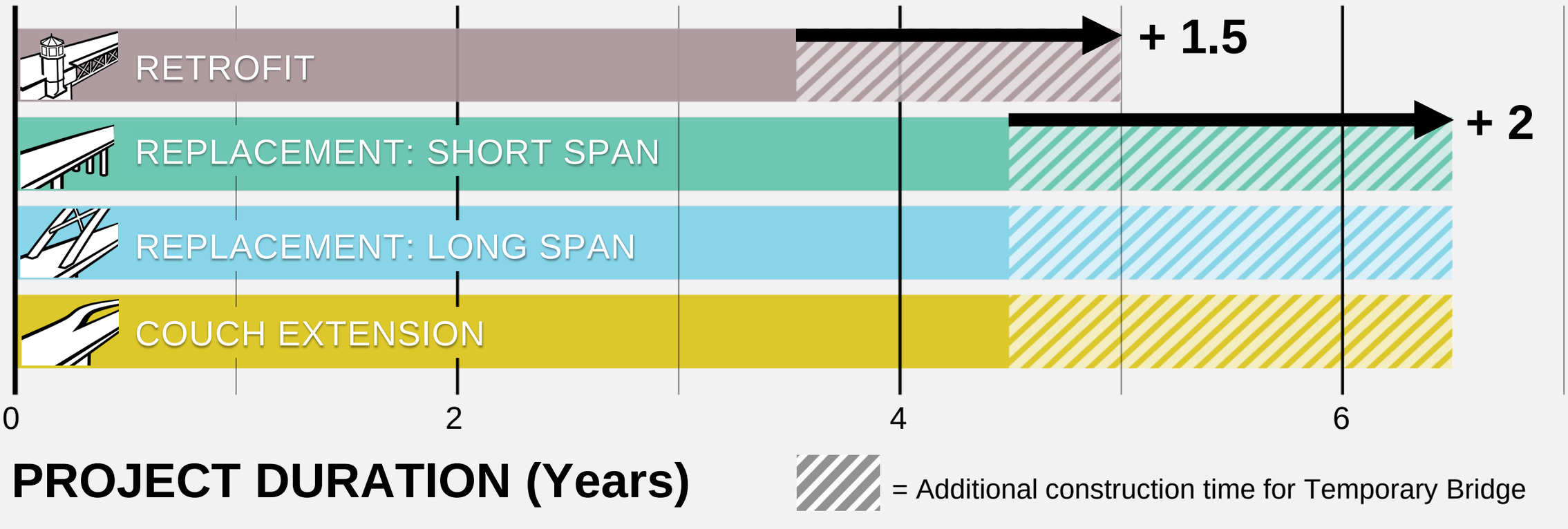
TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Full Closure has shorter construction time for implemented seismic resiliency

Temp Bridge has 1.5 – 2 years longer construction time for implemented seismic resiliency



Community Quality Of Life

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Full Closure options have shorter construction = shorter closure of community events and facilities, also minimizes noise impacts.

Temporary Bridge options have longer construction = longer closure / relocation of community events and facilities.

PROJECT DURATION (Years)

= Additional construction time for Temporary Bridge

Equity & Environmental Justice

TRAFFIC DURING CONSTRUCTION:

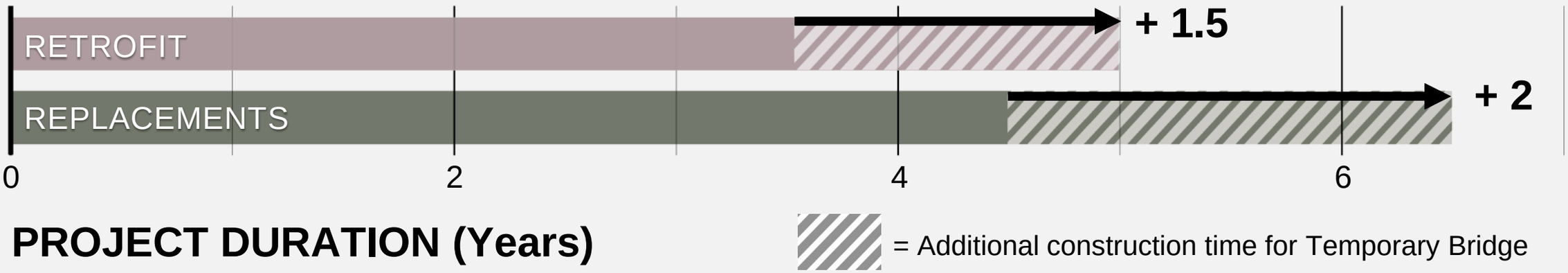
FULL CLOSURE

TEMP. BRIDGE

Full Closure option has shorter duration closures of Skidmore MAX station and shorter limits on cross-river access to social service providers.

Temporary Bridge options provides better cross-river access during construction, including people with disabilities and those accessing social services by foot, bus or bike.

However, longer construction = longer duration of limited cross-river access to social service providers



Business & Economics

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Full Closure has shorter construction = shorter disruption to businesses.

Reduced cross-river access to businesses.

Temp Bridge has longer construction = longer disruption to businesses.

However, cross-river access to certain businesses is somewhat improved during construction.

Parks & Recreation

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Shorter construction = reduced duration of park closures, less impact to Parks revenue from event permits, less displacement of recreational physical activity on the esplanade, minimizing adverse impacts on chronic disease.

Longer construction = increased duration of park closures, higher impact to Parks revenue from event permits.

Historic Resources

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Avoids physical impacts to skatepark and reduces duration of skatepark closure

Temp Bridge requires destruction of a portion of the skatepark and has longest duration skatepark closure

Visual & Aesthetics

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Temp Bridge adds more visual clutter during construction.

Natural Resources

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Full closure has least construction in the river = lowest potential impacts to water quality, fish and flooding

Temp Bridge has most construction in the river = highest potential impacts to water quality, fish and flooding

Pedestrians, Bicyclists & People With Disabilities

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

Full Closure = no access for bike/ped during construction (5-12 min. delay for bikes, 10-18 min. delay for peds)

However, shorter construction = shorter disruptions and closures

Temp Bridge has longer construction = longer disruptions and closures

However, access for bike/ped is improved

Motor Vehicles, Freight And Emergency Vehicles

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

- ALL MODES
- BUS / PED / BIKE
- PED / BIKE

Full Closure = no access for vehicles during construction (2-4 minute delay compared with all-mode temp bridge)

Temp Bridge has longer construction = longer disruptions and closures

All-Mode Temp Bridge provides increased access (1 lane each way) for motor vehicles during construction.

However, shorter construction = shorter disruptions and closures

Transit

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

ALL MODES

BUS / PED / BIKE

PED / BIKE

Full Closure = no access for buses during construction (5 minute delay compared with all-mode temp bridge)

However, shorter construction = shorter disruptions and closures

Temp Bridge has longer construction = longer disruptions and closures

12 19 20

All-Mode and Transit-Only Temp Bridge provide bus access (1 lane each way) during construction. All-Mode has a 1-2 minute delay compared to existing. Transit-Only is about 1 minute faster and increases ridership 0.5%.

Fiscal Responsibility

TRAFFIC DURING CONSTRUCTION:

FULL CLOSURE

TEMP. BRIDGE

PROJECT COST (Million USD)

= Add'l cost for Temporary Bridge During Construction
Numbers shown represent high end of range for Temp bridge options

Full closure is least expensive option.

Temp Bridge adds:
$60M for bike/ped option
$90M for full-width options.

Next Steps

Upcoming Meetings

- May 18, alternatives evaluation results
- June 15, recommendation on Preferred Alternative
- June – SASG
- August – Public Outreach on recommended PA
- October – Policy Group

Next Steps and Closing Remarks

EARTHQUAKE READY BURNSIDE BRIDGE

Thank you!