



Sellwood Bridge Project Range of Alternatives

This memorandum identifies concepts that will be developed into alternatives and advanced for further consideration as adopted by the Policy Advisory Group (PAG) on May 21, 2007. The next step in the process will screen the alternatives against the criteria and the performance measures included in the Evaluation Framework adopted previously by the PAG. The screening exercise will lead to the selection of a few alternatives for consideration in the draft environmental impact statement (Draft EIS).

Concept Development Process

Following adoption of the Evaluation Framework at the end of January 2007, the project team developed a set of alignment, interchange, and cross-section concepts. The team then conducted a public outreach effort designed to obtain comments on the concepts, ideas about how the concepts could be improved, and ideas for additional concepts that should be considered. The concepts were presented at a meeting held specifically for the potentially affected property owners on March 15, were considered by the Community Task Force (CTF) on March 19, and were communicated to an audience of 330 people at a public workshop on April 4. Additional one-on-one meetings with potentially affected property owners were conducted over the next few weeks.

In mid-March, a newsletter was mailed announcing the workshop and describing the concepts to the project mailing list and over 20,000 households in the project area. A banner across the Sellwood Bridge reading "Help Decide the Future of This Bridge" and including a Web site address was mounted between March 19 and April 12. An online survey posing questions related to the concepts was available during the same period. The project team received more than 1,800 responses to the online survey from residents throughout the metropolitan area. In addition, several hundred comments were received directly from the project Web site. Summaries of the public workshop and online survey results are attached as Appendixes A and B.

Concepts suggested by the public were developed by the project team for consideration at the April 23 CTF meeting. Additional discussion at the May 7 CTF meeting resulted in a recommendation for a Range of Alternatives to be advanced for further evaluation. Concepts eliminated by the CTF were deemed to be clearly inferior to those advanced. At its May 21 meeting, the PAG considered the CTF recommendations and public input, and adopted the following Range of Alternatives.

Alignment Concepts

The alignment concepts are designated by color. Twelve general alignments were considered, including three variations of the existing bridge alignment (Yellow). Seven were developed by the project team, and five additional alignments were suggested by the public. All alignments have a starting point on Tacoma Street on the east side of the Willamette River, but the location of the bridge connection to Highway 43 on the west bank varies by alignment. Primary considerations for choices among alignments included consistency with the project Purpose and Need, relative bridge costs, number of residential units requiring relocation, cost of residential acquisition, impacts to businesses, cost of commercial acquisition, maintenance of traffic during interchange construction, and potential impacts to protected historic and recreation resources.

Alignment Concepts Advanced

The following alignments, shown on Figure 1, will be advanced:

- **Purple** – south of the existing bridge alignment with west bank landing south of the existing interchange.
- **Yellow (South)** – existing bridge alignment and area immediately adjacent to the south side, with west bank landing at approximately the same location as the existing interchange.
- **Yellow (Middle)** – existing bridge alignment with west bank landing at approximately the same location as the existing interchange.
- **Blue** – just north of the existing bridge alignment with west bank landing at approximately the same location as the existing interchange.
- **Pink** – swings north of existing alignment on the east side to avoid right-of-way impacts to residential properties. The west bank landing is just north of the existing bridge.
- **Teal** – swings north of the existing bridge alignment on both the east and west sides of the river, on the east side to avoid impacts to residential and commercial properties, on the west side to avoid impacts to park properties. The west bank landing is north of the existing bridge.

These alignments were recommended for advancement by the CTF. The Teal and Pink alignments were suggested by the public.

Alignment Concepts Eliminated

The following alignments, shown on Figure 2, have been eliminated from further consideration.

- **Gold** – significantly longer than all other alignments leading to a significantly higher cost. The alignment runs along Sellwood Riverfront Park and as a result, has greater impacts on this park than any other alignment. The alignment provides a direct connection between Taylor’s Ferry Road and Tacoma Street, encouraging an undesirable increase in traffic to the corridor.
- **Green** – similar to the Teal alignment, but with higher residential and commercial impacts.
- **Orange** – similar to the Pink alignment, but with higher residential impacts.

- **Yellow (North)** – similar to the Blue alignment with no net advantage.
- **Burgundy** – spares some right-of-way impacts while increasing others with no net advantage. The alignment creates out-of-direction travel for the dominant traffic movement and is somewhat higher in cost because of its longer length.
- **Highway 224 to Highway 43** – does not meet the project Purpose and Need because the alignment does not serve existing and projected future travel markets. It bypasses most of the Sellwood neighborhood, and changes emergency accessibility, transit service, and freight movements. Transit markets between the end points require longer routing, resulting in increased travel times.

These alignments were recommended for elimination by the CTF. The Gold, Burgundy, and Highway 224 to Highway 43 alignments were suggested by the public.

Alignment Concepts to be Considered Later in the Process

- **Signal at 7th and Tacoma** – placement of this signal is an operational issue that will be considered in more detail during refinement of the alternatives to be evaluated in the Draft EIS. At that time, more detailed consideration will also be given to a loop concept on the east side intended to eliminate the need for left turns near the bridge head.
- **Bridge rehabilitation schemes to ensure movement of traffic during construction** – one concept initiates use of a bus ferry during construction, in place of a detour bridge. Other concepts incorporate specific phasing schemes for the bridge rehabilitation itself. These concepts will be considered in more detail during refinement of the alternatives to be evaluated in the Draft EIS.

These concepts were suggested by the public.

Interchange/Intersection Concepts

Ten interchange/intersection concepts were developed by the project team for connection of the west end of the bridge with Macadam Avenue, State Highway 43. These included a mix of at-grade, two-level, and three-level configurations, as well as a mix of signalized and unsignalized interchange forms.

Based on an analysis of expected traffic operational performance under Year 2030 peak hour conditions, the concepts were narrowed to two two-level interchanges – a single point (signalized) and a trumpet (unsignalized). These concepts performed better than at-grade concepts and the other two-level concepts. Although the three-level concept also performed well, it was considered to be oversized for the travel demand and for the project context, and was therefore eliminated by the CTF.

More detailed evaluation was conducted on the single point and the trumpet concepts, including work sessions with ODOT, City of Portland, TriMet, and County staff, as well as meetings with the Bicycle/Pedestrian Working Group. The primary considerations regarding the choice between these concepts were bicycle and pedestrian safety, the ability to access the River View Cemetery, flexibility for transit stop locations and connections, cost, and minimizing the impact of the footprint of the interchange – nearly all of the property impacted is in an

environmentally protected classification (Section 4(f) of the Highway Act, aimed at preserving historic and recreation resources). This regulation requires demonstration that there is no prudent or feasible alternative to the use of the protected lands.

Interchange Concepts Advanced

- **Two-level single point (signalized)** – offers the best opportunity for access to the River View Cemetery, works well from a traffic perspective, provides signalized crossings for bicycles and pedestrians, takes into account driver expectations with regard to signal timing, provides for transit stop locations, has a smaller footprint than the trumpet concept, and a lower cost than the trumpet. This concept is shown in Figure 3.
- **Roundabouts** – feasibility of at-grade and two-level roundabout concepts will be evaluated.

The single point concept was recommended for advancement by the CTF. The PAG added consideration of the roundabout concepts.

Interchange Designs Eliminated

- **At-grade signal** – provides inadequate traffic performance and needlessly stops Highway 43 through traffic.
- **At-grade “jughandle”** – provides inadequate traffic performance.
- **Two-level tight diamond** – requires two traffic signals, which is inferior to single traffic signal concepts.
- **Two-level offset single point** – moves the intersection of a traditional single-point interchange to the east so that it is no longer centered over Highway 43. The intent is to minimize impacts on the west bank hillside. However, since the hillside is continuous north and south along the highway, the interchange type still impacts it and therefore loses its advantage over a traditional single point.
- **Two-level directional with signal** – provides no possibility for access to the cemetery, relies on left-handed entrances and exits (drivers expect to enter and exit on the right), and creates long bicycle and pedestrian crossings.
- **Two-level existing trumpet with signals** – does not meet project design criteria for turning radii and other features.
- **Two-level trumpet** – provides no possibility for access to the cemetery, requires the largest footprint of 2-level interchange concepts, and has limited flexibility for transit stop locations. A variation of this concept providing bicycle- and pedestrian-actuated signals was also considered, but was rejected because of safety considerations.
- **Three-level full directional** – provides more traffic capacity than needed to meet demand, provides no possibility for access to the cemetery, largest footprint, highest visual impact, has limited flexibility for transit stop locations, and creates challenges for bicycle and pedestrian crossings.

The CTF recommended elimination of these concepts and the roundabout concepts. Use of the existing interchange with added signals was suggested by the public. All of these concepts are illustrated in Figure 4.

Roadway Cross Section Concepts

The project team developed over 40 possible cross section concepts based on the minimum and desirable design criteria for the various elements – travel/transit lanes, bicycle lanes, sidewalks, and shared use paths. The minimum and desirable design criteria were specified in the threshold criteria adopted by the PAG as part of the Purpose and Need Statement for the project. Input on the cross sections was provided by the Bicycle/Pedestrian Working Group, the Freight Working Group, and the CTF. Twelve cross section configurations were selected as representative of the various width categories – 31 feet, 53 feet, 68 feet, 80 feet, and 92 feet – and considered in more detail. Most of these were applicable to any of the alignments, although a few were proposed primarily for the rehabilitation of the existing bridge. Nine of the concepts are single-level concepts, and three concepts employ a double-level design with the bicycle and pedestrian facilities on the lower level.

Cross sections were recommended for advancement by the CTF because they incorporate comparisons of various configurations of travel/transit lanes, bicycle lanes, sidewalks, and shared use paths. Results of the screening analysis are expected to provide information useful for selection of a preferred cross section to be included in the Draft EIS. Cross sections recommended for advancement are illustrated on Figure 5; those recommended for elimination are shown on Figure 6.

Cross Section Concepts Advanced

- **A** – Single-level bridge rehabilitation with two 14-foot lanes, two 10-foot cantilevered sidewalks (total width of 53 feet).
- **A'** – Single-level bridge replacement with two 14-foot lanes, two 10-foot sidewalks (total width of 53 feet).
- **C** – Single-level bridge replacement with two 12-foot travel lanes, two 6.5-foot bike lanes, and two 12-foot sidewalks (total width of 64 feet).
- **C'** – Single-level bridge replacement with two 12-foot travel lanes, two 6.5-foot bike lanes, one 20-foot shared path, and one 8-foot sidewalk (total width of 68 feet).
- **D** – Single-level bridge replacement with two 12-foot vehicle lanes, two 12-foot transit/shoulder lanes, one 16-foot shared use path, and one 8-foot sidewalk (total width of 75 feet).
- **E** – Single-level bridge replacement with four 12-foot travel lanes, two 5-foot bike lanes, and two 8-foot sidewalks (total width of 77 feet).
- **F** – Single-level bridge replacement with three 12-foot travel lanes, two 6.5-foot bicycle lanes, one 20-foot shared bicycle and pedestrian path, and one 8-foot sidewalk (total width of 80 feet). Three lanes provide little operational benefit compared to two lanes.

- **I**—Double-level bridge rehabilitation with two 14-foot travel lanes on the upper level and a 14-foot shared bicycle and pedestrian path on the lower level (total width of 31 feet).
- **K**—Double-level bridge replacement with four 12-foot travel lanes and 3-foot shoulders on the upper level and a 20-foot shared bicycle and pedestrian path on the lower level (total width of 57 feet).

These cross section concepts were recommended for advancement by the CTF, with the exception of Concept K which was added by the PAG. Concept C' was suggested by the CTF. The two-level replacement concept was suggested by the public.

Cross-Section Concepts Eliminated

- **B**—Single-level bridge replacement with three travel lanes (two 14-foot lanes and one 12-foot lane), 16-foot shared bicycle and pedestrian path, and 8-foot sidewalk (total width of 67 feet). Three lanes provide little operational benefit compared to two lanes.
- **G**—Single-level bridge replacement with four 12-foot travel lanes, two 6.5-foot bicycle lanes, one 20-foot shared bicycle and pedestrian path, and one 12-foot sidewalk (total width of 92 feet). Concept E includes similar functions in a narrower width.
- **H**—Single-level bridge replacement with two 12-foot travel lanes, two 12-foot transit/shoulder lanes, two 6.5-foot bicycle lanes, one 20-foot shared bicycle and pedestrian path, and one 8-foot sidewalk (total width of 92 feet). Concept D includes similar functions in a narrower width.
- **J**—Double-level bridge replacement with two 15-foot travel lanes and two 3-foot shoulders on the upper level, and a 20-foot shared bicycle and pedestrian path on the lower level (total width of 39 feet). Concept I is similar, but is a rehabilitation rather than a replacement.
- **Double-level bridge replacement with one-way traffic on each level for all modes.** The transition from double level traffic on the bridge to single-level traffic on Tacoma Street necessitates the same width at the east side landing as required for a single-level bridge.
- **Double-level bridge replacement with streetcar on lower level.** No streetcar master plan has been developed to validate the additional cost and complexity of building a separate bridge level for streetcar. The future streetcar crossing is accommodated by several of the four-lane cross section concepts recommended for advancement.
- **Reversible lane (three-lane section).** Reversible lanes are primarily used to modify existing roadways (rather than for new construction) when the predominant traffic movement accounts for at least 70 percent of total traffic volume. The existing and forecast traffic split for Sellwood Bridge shows only 60 percent in the predominant direction. Reversible lanes contribute to driver confusion and higher accident potential. A footprint wider than three lanes is needed on the east side to allow a safe transition area, traffic control, and signalization at the reversible lane terminus.
- **One dedicated transit lane (three-lane section).** This is another reversible lane concept with the same drawbacks as outlined above. In addition, its value for transit is limited in that it would not accommodate a streetcar system and may preclude access to some bus stop locations.

The CTF recommended elimination of these concepts and Concept K. All of the double-level replacement concepts and three-lane reversible concepts were suggested by the public.

Other Concepts

Other Concepts Advanced

- Use the existing bridge for bicycle and pedestrian facilities with a replacement bridge for motorized vehicles on a separate alignment.
- Rehabilitate the existing bridge with Phase 2 seismic upgrade to the bridge.
- Rehabilitate the existing bridge using a temporary detour bridge.

These concepts were recommended for advancement by the CTF. The CTF also recommended to include in future regional planning discussions a Clackamas County bridge and better east/west connections between McLoughlin (Hwy 99E) and Ross Island Bridge and from McLoughlin onto US 26 and I-5. Use of the existing bridge for bicycle and pedestrian facilities with a separate bridge for motorized vehicles was suggested by the public.

Other Concepts Eliminated

- **Tunnel** – concept evaluated by the project team based on a two-lane, bored tunnel. Ending points were assumed to be near 17th and Tacoma on the east side and near Macadam and Taylor’s Ferry Road on the west side. The greater length is required for transition from the tunnel’s lower elevation to ground level, and to provide space for the tunnel portals and transition to surface streets. The tunnel alignment and profile are shown in Figures 7 and 8.

The concept was eliminated because it serves primarily through traffic, leaving local traffic with significant out-of-direction travel, particularly for neighborhood destinations. The length and access points also restrict a tunnel’s usefulness for emergency vehicles, which need immediate access to local destinations. In addition, the cost of the tunnel option is significantly greater than the bridge options. Cost estimates derived from construction costs of the Eastside Big Pipe Project (Combined Sewer Overflow Program) suggest tunnel costs at five times of a bridge option of the same capacity. Right-of-way costs are not likely to be less, and the continuing operating costs would be greater. Accommodation of bicycle and pedestrian facilities represents an additional cost, requiring either rehabilitation of the existing bridge and ongoing costs of maintenance, or construction of a new bike and pedestrian facility across the river.

- **Couplet (Spokane/Tacoma, Tacoma/Tenino, or Tacoma/Umatilla)** – requires a change of street designation for Spokane, Tenino, or Umatilla, with impacts to residential land uses. Costs include both rehabilitation of the existing bridge and construction of a new bridge with total costs considerably higher than either a rehabilitation or replacement concept. Providing connections to transit is more difficult with two separate bridges.

These concepts were recommended for elimination by the CTF. Both concepts were suggested by the public.

Figures

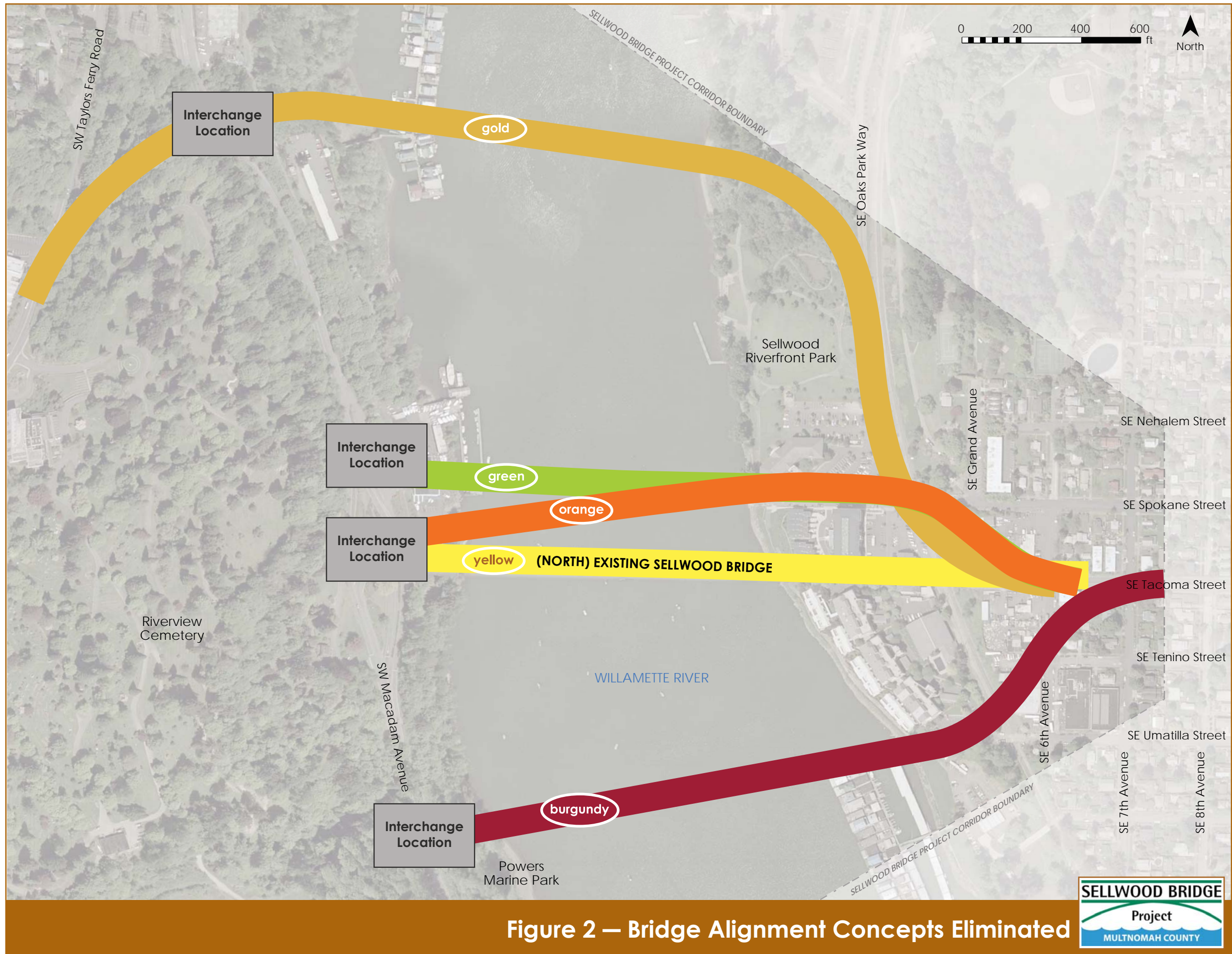
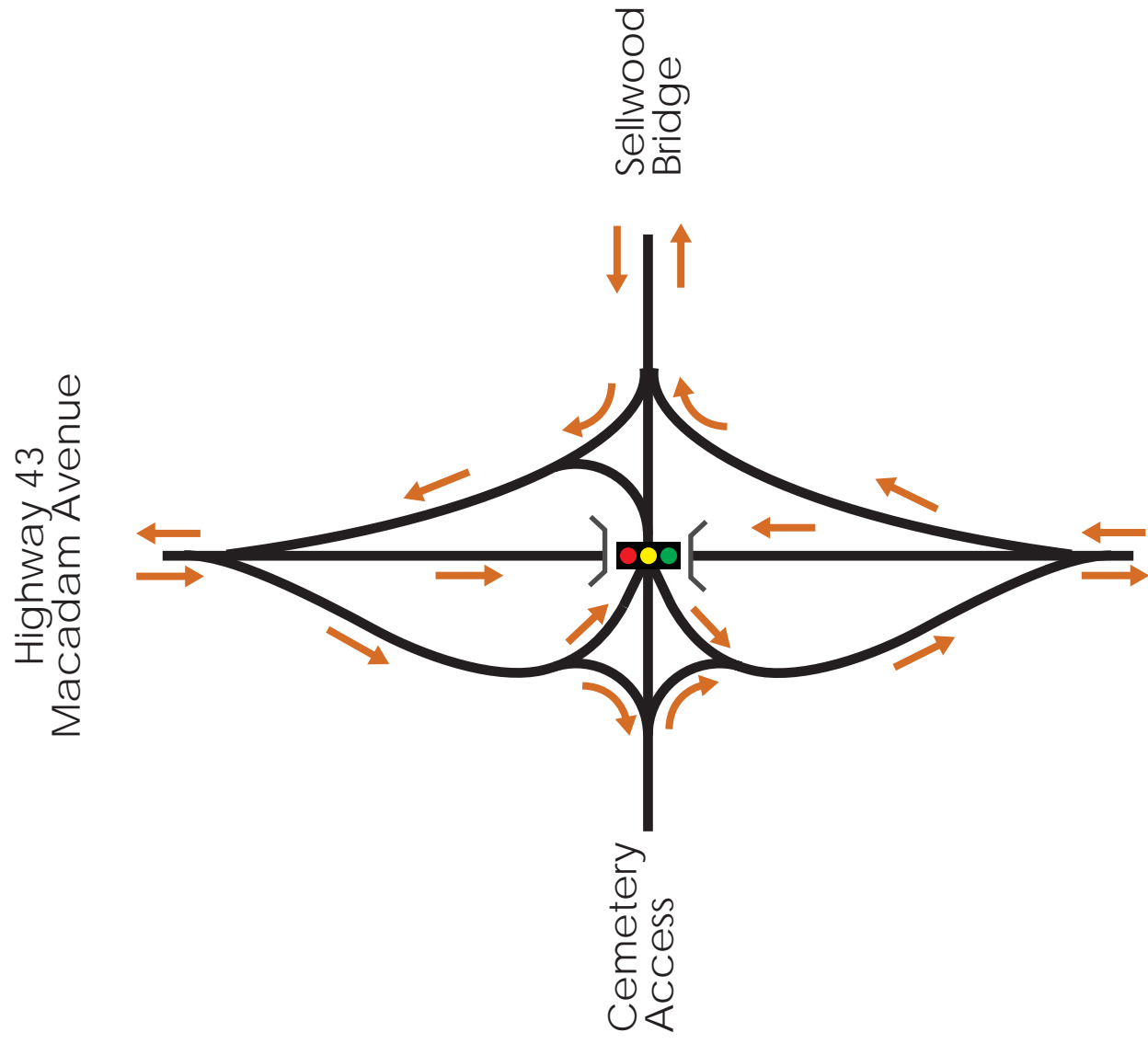
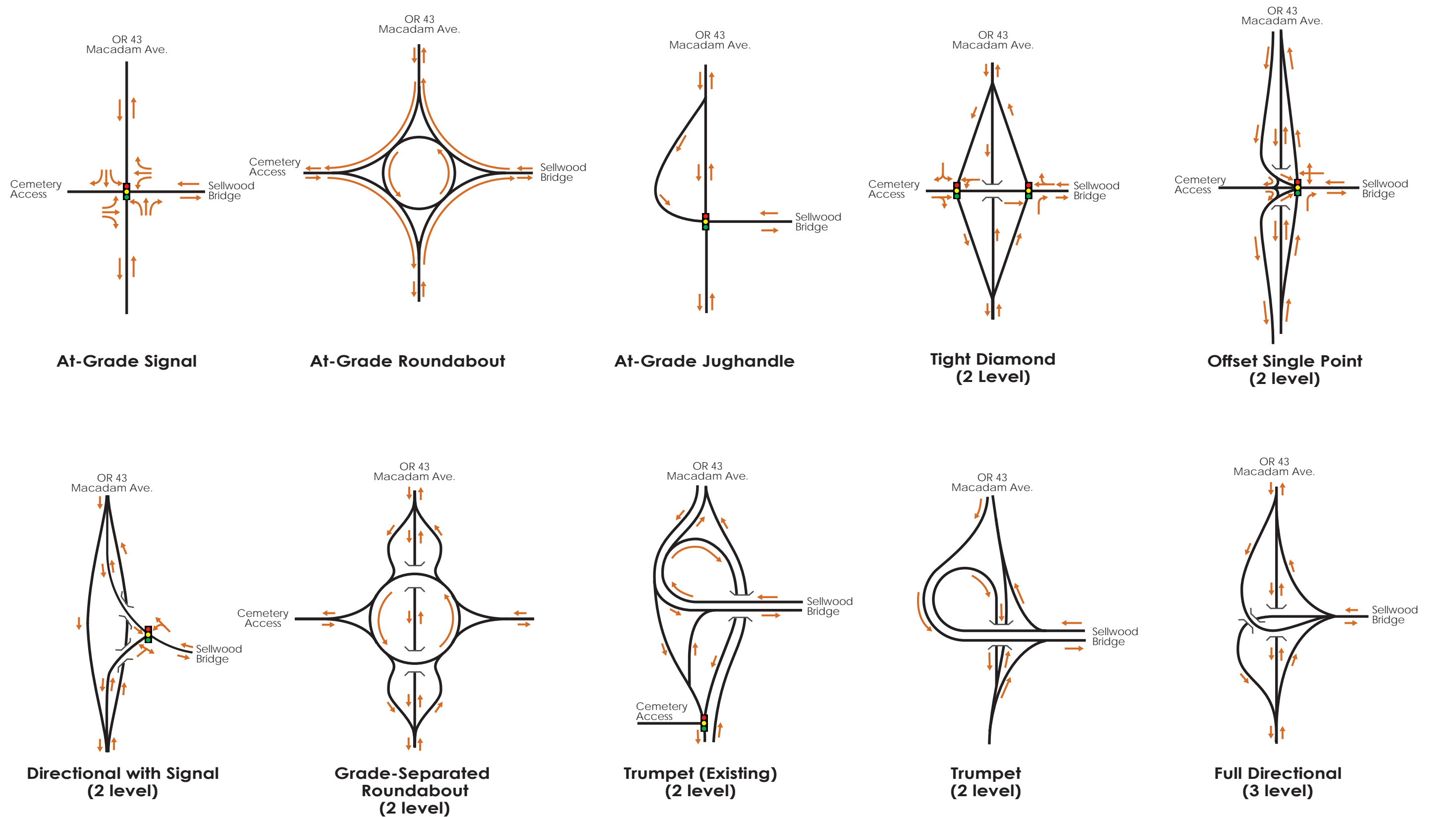


Figure 2 – Bridge Alignment Concepts Eliminated



Single Point (2-Level)

- ▲ North
- 🚦 Signal
- ↔ Grade-Separated Crossing





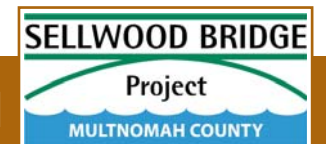
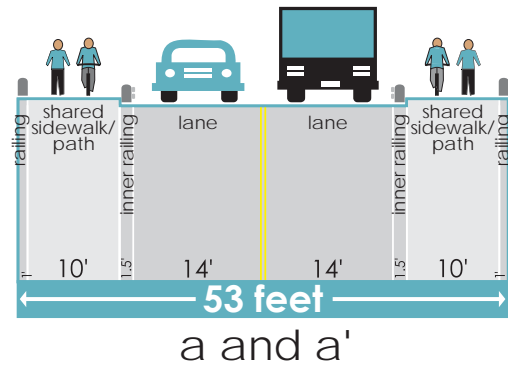
 North
 Signal
 Grade-Separated Crossing

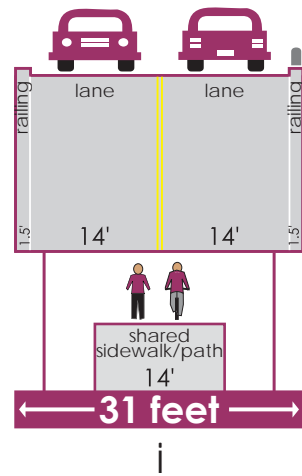
Figure 4 – Interchange/Intersection Types Eliminated



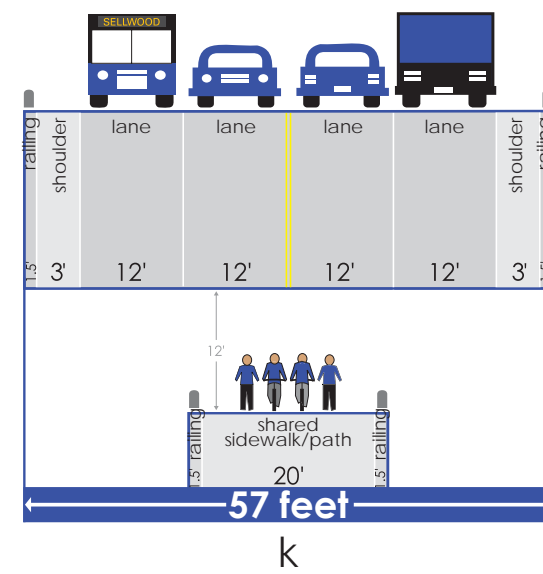
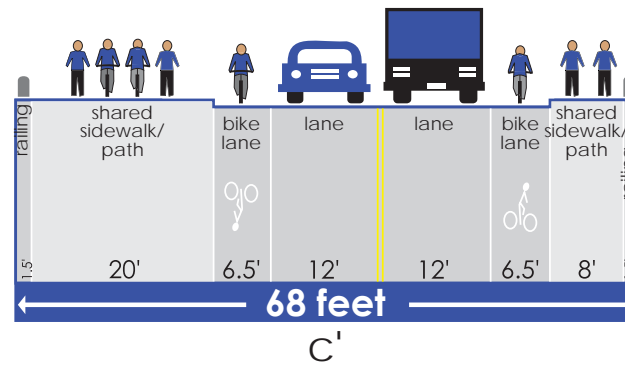
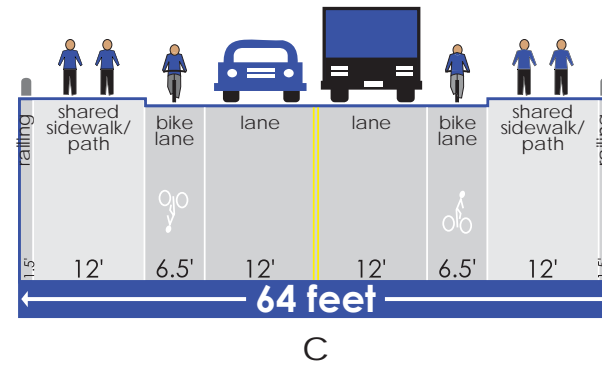
Rehabilitation/Replacement Option



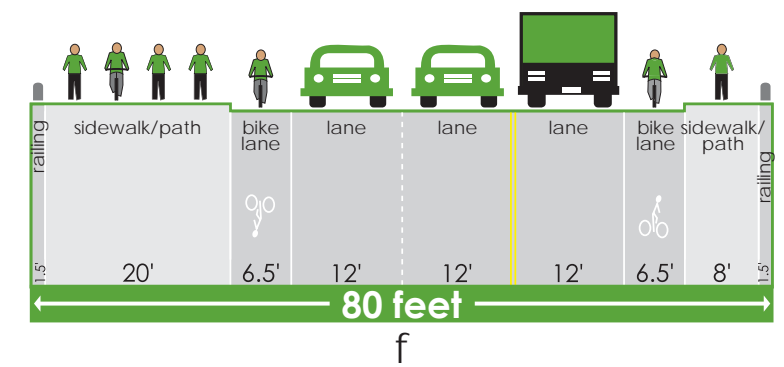
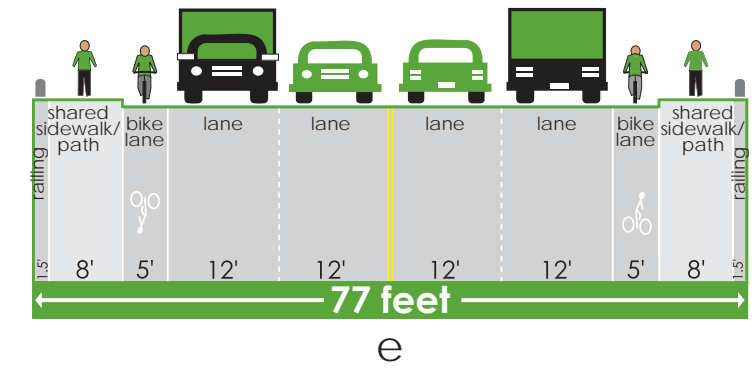
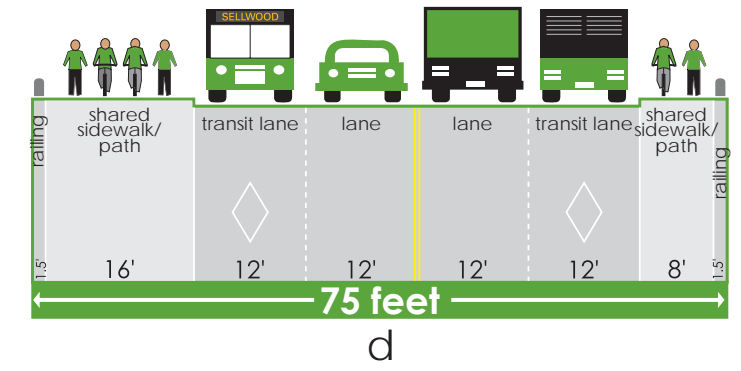
Rehabilitation Option



Replacement Options (~68 feet)

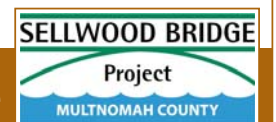


Replacement Options (~80 feet)

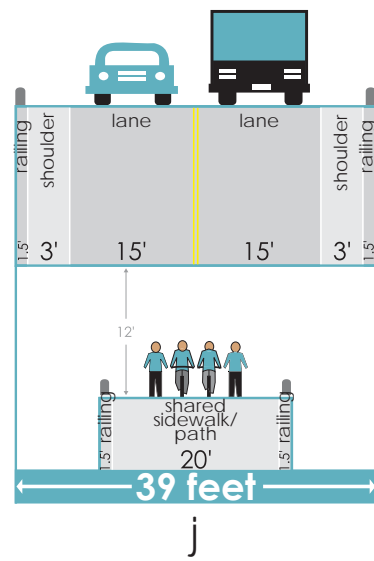


Note: These width colors are not related to the alignment colors.

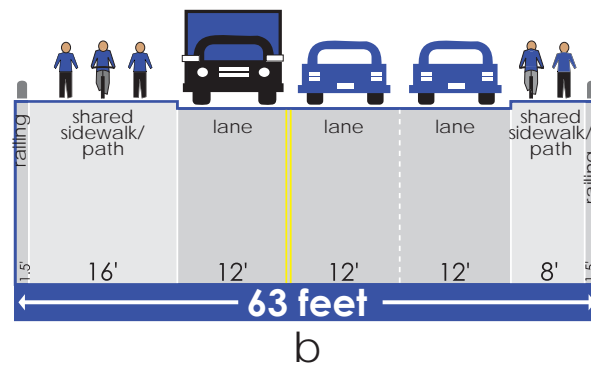
Figure 5 — Representative Cross Sections to Advance



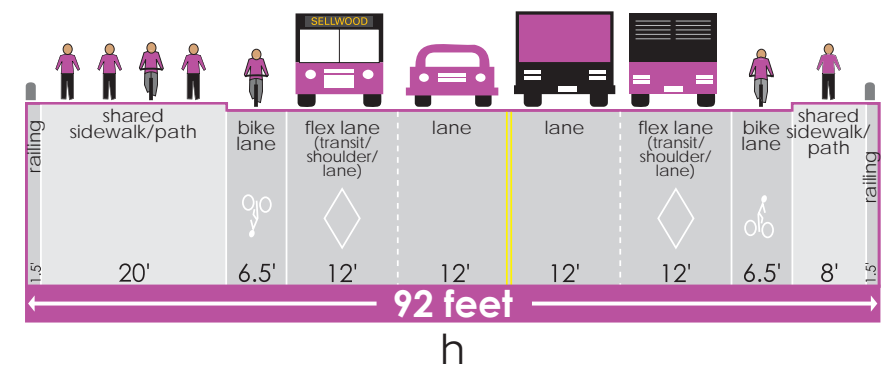
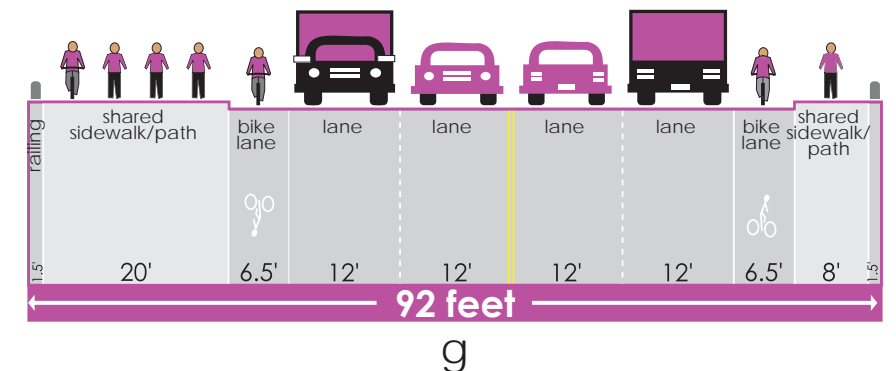
Replacement Option



Replacement Option (~68 feet)



Replacement Options (~92 feet)



Note: These width colors are not related to the alignment colors.

Figure 6 — Representative Cross Sections Eliminated





LEGEND

- Proposed Sellwood Tunnel alignment
- Proposed surface roads/streets
- Direction of traffic
- Grade-separated crossing

0 200 400 600 ft



Figure 7 – Tunnel



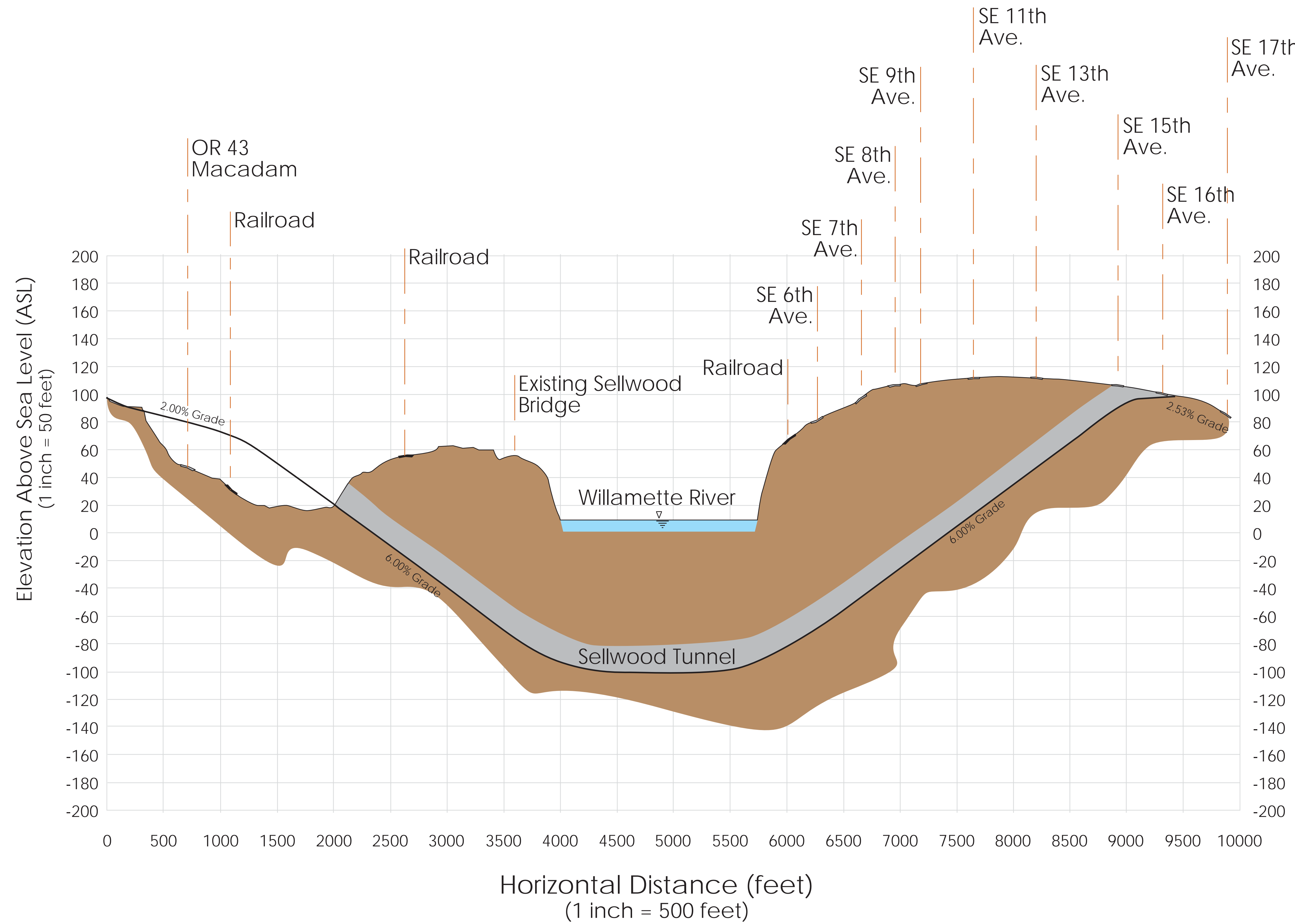
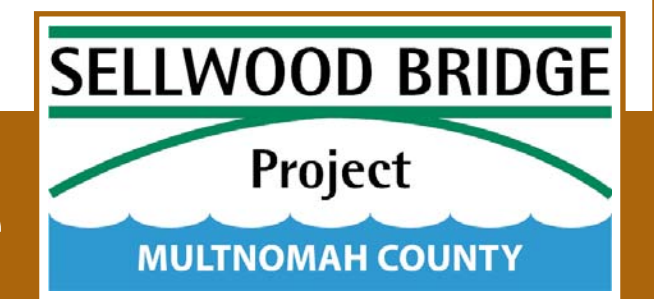


Figure 8 – Tunnel Profile



Public Workshop – Alternatives Development

DATE: April 4, 2007
TIME: 7:00 TO 9:00 P.M.
LOCATION: Sellwood Middle School



The second public forum for the Sellwood Bridge project (a public workshop) was held on Wednesday, April 4, 2007 from 7:00 to 9:00 p.m. at the Sellwood Middle School in the Sellwood neighborhood. The meeting had a structured format featuring a large group presentation followed by three simultaneous, identical breakout sessions. 333 people signed in for the meeting, which had been publicized through a mass mailing to 23,000 households in the project vicinity. The public workshop was also announced through the local media, including newspapers, radio, and television news.

The purpose of the public workshop was to obtain community input on the range of alignment and interchange concepts developed by the project team, to discuss bridge widths and associated impacts, and to obtain other potential concepts and ideas that the project should consider. The meeting was staffed by members of the consulting team and staff members with Multnomah County, Metro, PDOT and ODOT – all of whom wore bright blue t-shirts to be identified easily in the large crowd.

The large group presentation was introduced by Mike Pullen, Multnomah County Public Affairs, and Multnomah County Commissioner Maria Rojo de Steffey, who welcomed the audience before introducing the main speaker, Ian Cannon, Multnomah County Bridge Section. Ian walked the audience through a 45-minute PowerPoint presentation that introduced the alignment options, interchange concepts, and potential bridge widths that were the focus of the night's meeting.

After the presentation, the audience was divided up equally (according to a pre-assigned symbol randomly distributed on the comment forms at the sign-in station) into three groups for concurrent breakout sessions staffed by seven people each. Each breakout room contained five stations for each of the alignment options presented (northerly alignments: orange, blue, and green; existing alignment: yellow; and southerly alignment: purple), as well as a station

featuring a range of potential cross-sections. Flip charts were located at every station and meeting participants were encouraged to record their comments. The comment forms featured the following questions:

- How would you improve any of the concepts presented tonight?
- Are there any other concepts you would like to suggest? (Draw your ideas on the map on the back)
- Anything else you'd like to tell us?

Workshop Overview

The public workshop drew heavily from the Sellwood community. The vast majority of meeting participants signed in with a 97202 mailing address, so the input received largely reflected local neighborhood issues and concerns. Many participants expressed a desire to use the existing alignment or route a new bridge further north away from the river front condos. Most of the map drawings from the back of the comment forms featured variations of a more northerly alignment (*these drawings were forwarded to consultant CH2M HILL to be considered for new, additional alignment concepts*). Keeping the bridge two lanes only was strongly favored. Adding enough width to include future streetcar or light rail, was also mentioned.

Many suggested the County consider a double-deck bridge arrangement with vehicles on one level and non-motorized traffic on another (opinions were mixed about whether cyclists and pedestrians would be better off above or below the deck). Others preferred that bike/pedestrian paths be on the same level as vehicles. The vast majority preferred a non-signalized (trumpet) interchange on the west end for smoother traffic flow.

A common theme throughout the comments was the importance of preserving and enhancing neighborhood livability and concerns about impacts to Tacoma Street, which a wider bridge might bring. Concerns about neighborhood cut-through traffic from Clackamas County and the need for another river crossing to the south were also common.

157 comment forms were turned in or mailed to Multnomah County following the meeting. In general, using the existing alignment or northern alignments that least impact the river front condos on both sides of the bridge were most favored by meeting participants. There was strong support for a new, northerly alignment that was not presented at the meeting – routing a new bridge through or north of the River Park Center office building (or adjacent Sellwood Riverfront Park to the north) and connecting on the westside between Staff Jennings and Taylors Ferry Road.

Bridge Width Comments

- Keep the bridge two lanes only (48 comments)
- Widen the bridge to four lanes (9 comments)
- Add a flex lane or room for emergency services/future transit (15 comments)
- Put a median between oncoming traffic lanes and/or cars and bike/pedestrians (7 comments)
- Widen Tacoma Street (1 comment)

- Make it 53' wide or less (11 comments)
- Make it 64-70' wide (10 comments)
- Make it 70' or wider (6 comments)

Interchange Comments

- Put a non-signalized interchange on the west end of the bridge (30 comments)
- Preference for a signalized interchange in west end (4 comments)
- No eastside interchange (3 comments)

Bike/Pedestrian Comments

- Double-decker bridge with vehicles above, bikes/ pedestrians below (46 comments)
- Keep cyclists and pedestrians at the same level as vehicles (29 comments)
- Retain existing bridge for bike/ pedestrian-only use and build a new bridge to the north (8 comments)
- Use median barriers to separate vehicles/bicycles/ pedestrians (7 comments)
- Cantilever bike/ pedestrian paths below the bridge (6 comments)
- Make connections to Springwater Corridor (5 comments)

Bridge Aesthetic Comments

- Make any new bridge resemble an old one (6 comments)
- Make any new bridge modern (2 comments)
- Light the new bridge like the Morrison (1 comment)
- Add viewpoint areas on any new bridge (1 comment)

Other Comments

- Accommodate future streetcar (19 comments)
- Concerns for neighborhood livability (15 comments)
- Provide an impact analysis of all options showing costs, traffic flows, environmental impacts, right-of-way impacts, property values (13 comments)
- Close the bridge completely to speed construction (9 comments)
- Keep the bridge open throughout any construction (4 comments)
- Build a tunnel (5 comments)
- Add ferry service during construction (5 comments)
- Establish a toll to pay for the bridge (3 comments)
- Add traffic calming in neighborhood streets (2 comments)
- Make Spokane and Tacoma a couplet (2 comments)

Flip Chart Notes

The flip chart comments collected at all three breakout sessions have been combined here and organized by comments generally in favor of each option, concerns about the option, and other (usually non-related) concerns and suggestions. For quicker reading, a paragraph following each heading summarizes the major points made for each option.

Orange Alignment

There were no comments specifically in support of the Orange Alignment. Concerns centered on how this option would negatively impact the Sellwood Riverfront Park (4 comments), concerns about impacts to the River Park Center office building (2 comments) and various other concerns about negative impacts to residences, traffic on Tacoma/side streets, and quality of life. Suggestions were made to move the alignment to the north to avoid the condos and office building on the east side of the river (3 comments).

Supportive

- None

Concerns

- Cuts through Riverfront Park-ruins it
- Bad idea, preserve the tranquility of the park please!
- This idea also implies that the tranquility of the park and wildlife area is unimportant.
- Don't mess with Sellwood Riverfront Park!!!
- This makes the walk across the bridge much longer than it is now.
- Poor west side connection. Needs to be north of Staff Jennings
- This version makes no sense whatsoever. Common sense tells me this will cost more to build and take longer to cross.
- The "further north" solution implies that the waterfront condos are more valuable than the older homes that would be impacted on Spokane and Nehalem. We have improved our homes and value our quality of life as much as you do. Please stop coming in our yard and telling us to "just let development happen". We've been around since 1916 and have as much right to keep our home as you do.
- This plan impacts Spokane St. too much!
- Detracts from quality of life, property value of adjacent condos.
- This alignment would take out the best designed building in the area (the brick office building, River Park Center)
- Avoid impact to River Park Center
- Ok but my friend's house would be on a busy street!

Other Suggestions

- Consider the noise of eastbound trucks and buses negotiating (braking) noisily on the curve leading to the east end of the bridge.
- Please avoid another traffic light - adds to air pollution (ex. cars idling waiting for the light) we don't another Weidler-like corridor
- No rail - too much crime!
- On all options, neighborhood needs renewed attention to traffic calming measures. Many streets are difficult to use for cut through but some still work and that is where people will flow off Tacoma and impact side streets
- Need to look at connection to Tacoma before considering the alignments

- Take bridge through north end of park to avoid impact on all homes, condos and businesses!
- What about a tunnel from 224 to L.O or south of bridge so we can keep/rehab a more modest bridge here.
- Take bridge over/through office complex, use current office property to expand park
- Consider alignment further north at parking lot. Seems reasonable-why wasn't this included tonight?
- Align north of office building over the Riverfront Park parking lot
- Non-signal interchange
- Locate as far north as possible-start north edge of bridge at north property line of Spokane St. office building and work southward! Much less adverse impact to condos on Spokane St! Thanks
- Consider the impact to the tavern at east end of bridge.
- Please don't remove the strip club. I am an exotic dancer and if you tear down the strip club I'll be forced to work at Wal-Mart and I consider that to be more degrading than working as a stripper.

Green Alignment

There were 5 comments in support of the Green Alignment. Concerns again centered on how this option would negatively impact the Sellwood Riverfront Park (3 comments). Suggestions were made to move the alignment to the north over the parking lot to avoid the condos and office building on the east side of the river (4 comments). Questions were also asked about impacts to the old ferry crossing site as well as how well the switchback ramps would work for cyclists (for all of the options).

Supportive

- Yes, north solution provides easy connection to park/bike path
- Yes again
- Like the trumpet for increased flow of traffic. Want to show a more northern alignment option
- I love the green option. They all stink in terms of me staring out of my front window at a bridge, but this one makes sense to me and the metro area needs the bridge
- Progress, safety, option, I'm in favor.

Concerns

- NO! This would ruin the park
- Not through the parking lot or park
- North solutions affect the area between Sellwood Park, Springwater Corridor and Sellwood Waterfront Park.

Other Suggestions

- What about the Tavern-can't you take it? Those who live close see the unfavorable presence on Sellwood

- On all options, are there mobility challenges for switchback configurations? Will it be difficult for heavy bike traffic projected to travel safely through switchbacks?
- No rail-brings too much crime to the neighborhood. Yes, bike path should be more navigable, not less!
- Send green more north, over the park. Avoids homes and businesses, west end more north also. Saves Staff Jennings.
- Orange/green option: start north edge of bridge at north property line of the office building and work back south - less adverse impact on condos?
- What is impact of destroying historic Sellwood Ferry Crossing, possible artifacts there and in water?
- Consider native protective path - under or near existing Sellwood bridge-county needs to research this historic site.
- Consider alternative to “green” option - go further north-alleviate residential impacts-only have to negotiate with owner of industrial park building.
- Sellwood Park starts (by Oaks Park Way) not as shown, area marks “Sellwood Park” is a parking lot...perfect spot for bridge to go. Cars could still park there...covered and no buildings or homes are displaced.

Blue Alignment

There were 5 comments in support of the Blue Alignment, mainly for the reason that it appears to have less impact. Concerns were raised about residential impact to the condos (1) and loss of trees (1).

Supportive

- Preserves the buildings that have been in the neighborhood the longest.
- This looks like the most economical choice, materials-wise, and has the least impact on the old neighborhood.
- Because it's shorter than orange/green
- This plan protects the peacefulness of the park by keeping the bridge noise away from it
- Most common sense

Concerns

- Too much residential relocation/impact
- Poor choice - non functional - would still cause traffic flow problems, cause too much pollution in high density area, 91 trees over 20 feet will be removed.

Other Suggestions

- No slip lanes
- Avoid multiple switchbacks on bike path
- No rail! Brings too much crime!
- Consider access to Powers Marine Park

- Has there been any discussion of a toll for Clackamas County users of the bridge?
- Tunnel is still a worthy option
- Yeah, tunnel! Why does Clackamas County get to say they won't help solve this problem?
- Please take the strip club too!!
- Save the existing bridge for the bikers - not vehicles, vehicles need a new bridge

Yellow Alignment

The Yellow Alignment (keep the existing alignment) appeared to be the most popular choice among meeting participants. There were 8 comments specifically in support of the Yellow Alignment, however there were many other suggestions made for ideas and considerations to go along with the Yellow option (40) which would indicate general support for the alignment itself. Only one concern about this option was mentioned. Top suggestions made included: Making a new or rehab bridge a double-decker option with cars above and bikes/peds below (or vice versa) (10 comments); Keeping the bridge 2-lanes only (5 comments); and other ideas to consider the addition of a tunnel or ferry service.

Supportive

- Yes!
- Yes with more direct bike connection
- Yes, less residential impact
- Yes
- Yes with bike lanes!
- Keep bridge-peds/bikes/tram
- Tear down/close current crossing and rebuild
- Progress, beauty, livability, and bridge option ok, why not take the tavern? What does it do for the neighborhood?

Concerns

- Poor choice - street size does not support size of bridge. Use existing bridge for foot and bicycle traffic. Hwy 2% taxes can maintain bridge.

Other Suggestions

- No rail-increase crime in neighborhoods, poor location-impacts too many residents.
- Switchbacks at west end difficult for cyclists. They add time to trips and make sharing safely with pedestrians much more difficult.
- Maintain only current 2 lanes of traffic on bridge and add ped/bike access only. Open discussion to SMILE residents re: Tacoma issues beyond the bridge that they think bridge changes will cause, including refusing unwanted changes to our community.
- Keep the "footprint" narrow to minimize right of way issues/costs. Use the narrower "stacked" cross section proposed for rehab. Keep it 2 lanes so it's compatible with Tacoma. Minimizes noise/pollution/neighborhood impact.

- On east end improve ramp to Oaks - make a new alignment not existing streets.
- Any widening make it to north - poorer quality housing
- Save Staff Jennings if you can. They provide an essential service...new ramp/gas source nearby? (Boat ramp)
- 2 lane only and lower deck.
- Yellow-how will we get to Lake Oswego for 3 years while it's being built?
- Non signalized does not solve problem of north and south traffic merging onto bridge at rush hour
- Keeping current alignment-signalization will create more backups on 43 headed south and east over to Tacoma into neighborhoods
- No 4 lane bridge
- May not be enough peds to justify a wide shared use path
- Physical barrier between cars and bikes/peds
- No two lanes in one direction for cars
- 2 lane bridge or you will have traffic jams on east end
- Aesthetics/neighborhood/height of bridge kept noise down
- Keep traffic going through construction (*2 checkmarks were beside this*)
- Double decker (new or rehab) (*5 checkmarks were beside this*)
- Double deck
 - Pedestrian/bike and mass transit (top?)
 - Cars (bottom)
 - No loops on east side-only light if waiting to cross; loop west side, ok to close bridge, finish Marquam Bridge exit to 99E to take extra commuter traffic.
- Build over the top of "impact buildings" and turn it into low income housing
- Consider a double decker bridge - peds, bikes, streetcar all below, cars above.
- What are relative costs of light rail, streetcar, and bus? I am assuming bus service is the least costly. So why don't we just have frequent, reliable bus service between Sellwood and downtown, including evenings and weekends, like the old # 40 bus? We would not need an extra lane for bus service! And so we should just have buses going across the new Sellwood Bridge-but they could run every 15 minutes like Light Rail does. (In the meantime we could have small buses across the Sellwood Bridge or regular size buses that go thru Sellwood but over another bridge to downtown. And that way we don't need special lanes on Tacoma or other streets for streetcars...
- # 1 priority: establish frequent cross-town bus service from Clackamas T.C to Washington Square-ferry buses, pedestrians and bicycles across Willamette River on a bridge from foot of Spokane St. to Staff Jennings ramps on west side and vice versa. #2: DO NOT BUILD TEMPORARY BRIDGE, save \$10-15 million! Keep existing bridge.
- Start new bridge at 7th St and build above old bridge. Use new for vehicles and old for peds and bikes. This minimizes impact.
- If rehab is done, cantilever bike paths off bottom sides of Truss.
- Dig tunnel for 2/3 lane vehicle access
- No tunnel
- Ferry access during construction

- Build 4 lane bridge but route 2 lanes to 99E/224 without using neighborhood streets. Maybe bury through lanes under Tacoma Street?
- Clover leaf on east side will increase cut-thru traffic on residential streets
- Add turning lane on Tacoma at 6th instead of up
- Keep bridge for bikes/peds and build new bridge
- New 3-D models or computer stimulation: would give better idea of proposal.
- Rehab with bike/ped below: covered good for commuters: drier and healthier (less exhaust)
- Streetcar/bikes/peds-lower deck, cars/trucks, etc upper deck, all on new bridge
- Consider lower level for bikes/peds on wider bridge concepts (like Steel Bridge)
- Trucks/buses/bikes/peds on one level, cars on separate level
- Consider reversible lane
- Flex lane concept - good

Purple Alignment

There were 5 comments in support of the Purple Alignment. Concerns were raised about residential impact to the condos (5), higher right-of-way costs (2), and the west end landslide hazard (2). Suggestions were made that there should be another bridge further south in Clackamas County (4 comments).

Supportive

- Has least impact on existing buildings and the park
- This option would allow existing bridge to remain open during most of construction
- Allows better development of waterfront area and new business north of bridge
- Go purple! Trumpet interchange and 92 feet width for buses, streetcars, the future.
- Once you have the width, you can use it however you need.

Concerns

- What is benefit of this version over existing bridge? If no improvements, why displace residents?
- Residents that would be affected just went through a \$5 million remodel process in 2005 and have long term condo owners in Sellwood
- No rail!
- Why are there so many north options? We are north and also have gone through extensive remodels - your comments (above) imply that your remodels are more important than ours.
- Don't like this alignment-impacts condos very much, 6 or 7 different buildings.
- Don't take commuting traffic away from downtown...even incrementally
- Jug handle turns off bridge on east side, isolates houses-should acquire them and create a real traffic circle
- Signalized interchange - does not allow traffic flow

- Signals could be dangerous, stops flow, causes rear end collisions
- Bad alignment. Increases “right of way” costs by taking out expensive condos. Move alignment north of office building over Riverfront Park parking area.
- The impact on Tacoma St. and other neighborhood surface streets must be considered.
- Purple west side dumps in most slide-prone area... consider costs and possible future problems!
- Why do we want to invest in brand new bridge that hooks into unstable west-end land? Rehab existing
- Better to have no loop and a signal
- No signals! They simply hold up the flow...
- Bad alignment. High right-of-way costs.
- Do minimum necessary to keep the bridge viable - for next 75 years.
- Add concrete divider

Other Suggestions

- Signals would help regulate traffic on Tacoma
- 2 more transit lanes best.
- Must address regional traffic needs and broader discussion to include other locations (e.g. Sellwood Bridge and additional bridge to south). It is not appropriate to put all needs onto single location (disproportionate impact).
- “No decisions have been made.” So why not discuss a 2nd bridge in Milwaukie? I agree with above comment.
- Must include 4+ turn lanes on Tacoma from Willamette to 99E
- “No decision” consider N connection at McLoughlin and Milwaukie Ave. N (east side connection) and Lower Taylors Ferry Rd. and Macadam (west side connection)
- Keep current Sellwood Bridge size and load and build supplementary bridge in Lake Oswego.
- Consider better access to Powers Marine Park.
- Revisit Willamette River Plan!
- Consider double deck bridge for motor vehicles, cars separate from bikes/peds is great
- Why won’t Clackamas County cooperate and build a bridge or tunnel off HWY 224 so we won’t have traffic cutting through our residential streets? Streets north and south of Tacoma already have rush hour traffic zooming through our side streets to avoid lights at 13th and 17th.
- Check out Riverview Cemetery Measure 37 claims to build homes?
- Move alignment north over Riverfront Park parking lot. Keep bridge 2 lanes. Use stacked concept proposed for rehab with new bridge also to minimize footprint

Interchange Types

Comments for all alignment concepts were almost universally in favor of a non-signalized interchange (trumpet) and against having a traffic signal out of concern that the signal would slow traffic unnecessarily, create backups, and cause safety problems with rear-end collisions.

Cross-Sections

Comments about the bridge cross-section possibilities are summarized in these top categories:

- 1) Don't include streetcar or light rail (20 comments/check marks)
- 2) Keep the bridge 2 lanes only/match Tacoma Street (13 comments)
- 3) Make the bridge narrow, ideally 53' (12 comments)
- 4) If adding a third lane, use it for HOV or transit only (9 comments)
- 5) Consider a double-deck bridge (9 comments)
- 6) Make the bike/ped paths as wide as possible (5 comments)

Comments against rail were also given for all of the alignment options, reflecting a local concern that rail transit or streetcar might bring crime into the neighborhood. There were quite a few comments in support of a double-deck bridge design, but opinions were mixed on whether the bike/ped use should be above or below the deck. Wider bike/ped paths were also requested, with some opinions in favor of mixed use and others in favor of dedicated facilities.

- Re: lane widths: scale needs to match Tacoma and Sellwood Neighborhood. Strive for smaller scale options that will limit traffic increase and thereby preserve walk-ability and peacefulness of neighborhood.
- How about a double decker with mass transit and bike/ped on lower level?
- But you would have to address noise level on lower deck
- Put B/P path under (or on top or share B/P with transit) to reduce bridge width, or double deck for all. Bicyclists up on sidewalks and separated
- No, 4 or 3 lane bridge!
- Keep bridge narrow
- Makes no sense to have 4 lanes on bridge with 2 on Tacoma and Macadam
- Make shared path in first figure (under) wider to avoid ped and bike conflict
- If we have good bus service over the bridge, we don't need an extra lane for a streetcar (*This comment was followed by 20 check marks*)
- Prefer narrower widths-no more than 64'
- Ditto but 53'
- 3rd lane should be reversible HOV/Bus lane (*This comment was followed by 6 check marks*)
- Reduce bridge width (*This comment was followed by 4 check marks*)
- Don't like the idea of B/P under-scary
- I like the bridge under-I walk across everyday and I think people in cars are scarier!
- Need emergency breakdown lanes!!! Bike lanes/breakdown lanes needed
- Keep bridge for B/P, add bridge to north for cars and busses (*This comment was followed by 4 check marks*)
- Don't keep existing bridge, environmentally not sound to keep
- 2 lanes for traffic-2 lanes for rail
- Think widest possible B/P
- Yes, streetcar added to sidewalk/bike area but not to 4 lanes
- 4 lanes will move more traffic into neighborhood
- Make design sensitive to context. Scaled down to neighborhood scale, e.g. St. Johns fits in North Portland but wouldn't fit here, e.g. Hawthorne fits with downtown
- No rail-Brings too much crime

- Why does no width include a light rail crossing? Give an option to leave the car home with a permanent public transportation option to downtown over the bridge and down Macadam.
- Connect B/P lanes to Springwater directly. If Tacoma is going to stay 2 lanes, you don't need 4. Separate bike and ped access on each side of bridge (min 8' wide)
- Great! Best idea yet!
- Stacked option presented as rehab option should be developed for "new bridge" option. Keep it 2 lanes=put ped/bike under to minimize the bridge "footprint"
- Building a significantly wider bridge feeding into 2 lane Tacoma will significantly increase traffic capacity and will significantly impact neighborhood livability.
- Stacked option-covered bike/ped path would become unusable like the underpass beneath the railroad tracks on Powell. It's clogged with vagrants and broken glass. Peds/cyclists avoid this underpass at all costs. Why duplicate the failure?
- Keeping the old bridge, build new bridge over old bridge from Macadam to McLoughlin Blvd for heavy traffic
- Stacked option worked well as a retrofit to similar bridge (Madison St) in Missoula, Mt. Particularly helped with connections to trails at either end.
- As a cyclist, I prefer raised shared paths that are wide (10ft). Equally sized paths on both sides are best (least confusing)
- As a cyclist I find the 10-foot shared sidewalks on the Hawthorne Bridge to be totally inadequate because of the volumes of cyclists, pedestrians and joggers, we need separate on-street lanes for bike commuters and shared multi-use paths for my young kids on their bikes and foot traffic.
- An option with 2 lanes of car traffic, 1 lane for transit/emergency use and separated bike and pedestrian use would be great!
- Why would we build a 4 lane bridge and have it merge into a 2 lane road (Tacoma)?
- 31 ft option would have least adverse impact to integrity of the neighborhood.
- I would like to see a narrower multi-level bridge which would accommodate pedestrians, cyclists and possibly rapid transit on a separate level.
- Concern re: air quality, safety for peds/bikes if lane below cars
- Multiple lanes (more than 2 car lanes) is not good because: not supported on Tacoma (only 2 lanes there), if more lanes go in inevitably some future planner will say "hey we could put 4 lanes on Tacoma", it would be better not to enable drivers to live and work in locations that are far apart. Trying to avoid this effect is a major goal of Metro.
- Bike lane is a no brainer of course do it. Maybe wide enough to allow emergency traffic. Keep bridge in same location (53' option) it's the devil we know.
- Ultimately it must be accepted that the traffic squeeze in this corridor is a fact of life and largely is unsolvable and that's ok, not ideal, but ok.
- 2 or 3 lanes and bikes or bikes underneath
- Consider rehab at 53' (keep it narrow) about 4 lanes but with b/p path under
- Use computer stimulation to demonstrate the options, esp cross-sections and west side interchanges
- 4 lanes makes no sense if Tacoma stays 2 lanes = bottleneck is Tacoma
- Prefer bike lane to be raised like in Copenhagen, or on sidewalk but separated/striped (mark separate b/p areas)
- Consider b/p path on lower elevation like on Steel Bridge

- Streetcar/bikes/peds-lower decks, cars/trucks, etc upper deck
- No 4 lane bridge
- Consider lower level for bikes/peds on wider bridge concepts (like Steel Bridge)
- Trucks/buses/bikes/peds on one level, cars on separate level
- May not be enough peds to justify a wide shared use path
- Consider reversible lane
- Flex lane concept=good
- Physical barrier between cars and bikes/peds
- No two lane in one direction for cars
- Two lane bridge or you'll have traffic jams on east end
- Need to provide for 4 travel lanes to allow potential future bypass around Sellwood
- Ditto that
- If 2 extra lanes, some form of metering/traffic control needed where the 2 lanes neck down to Tacoma
- Bikes on sidewalks/path with peds
- Do 4 travel lanes-otherwise 2 lane bridge is obsolete
- No flex lane
- Rehab option= low cost option
- 2 lane bridge to match Tacoma
- 10' shared use paths and 2 travel lanes
- Separate bikes/peds
- Striped median
- Bike lanes should be 8' wide
- New bridge...no rehab
- 3 lane option no sense
- No switchbacks on bridge access ramps
- No 5' bikes lanes-need wider



Online Survey #2 – Alternatives Development

April 25, 2007

The second survey from the Sellwood Bridge study was posted on the project homepage (www.sellwoodbridge.org) from March 18 to April 13, 2007. The purpose of the survey was to collect public input on various bridge concepts---rehabilitation options, bridge alignments, bridge widths, and bicycle and pedestrian facilities---that will be narrowed down to a preferred alternative in 2008.

The online survey was promoted through a newsletter mailed to 23,000 households, as well as through the local media, including newspapers, radio, and television news. Additionally, the Multnomah County Bridge Section erected a large, highly visible banner over the bridge to promote the web site and online survey to bridge users.

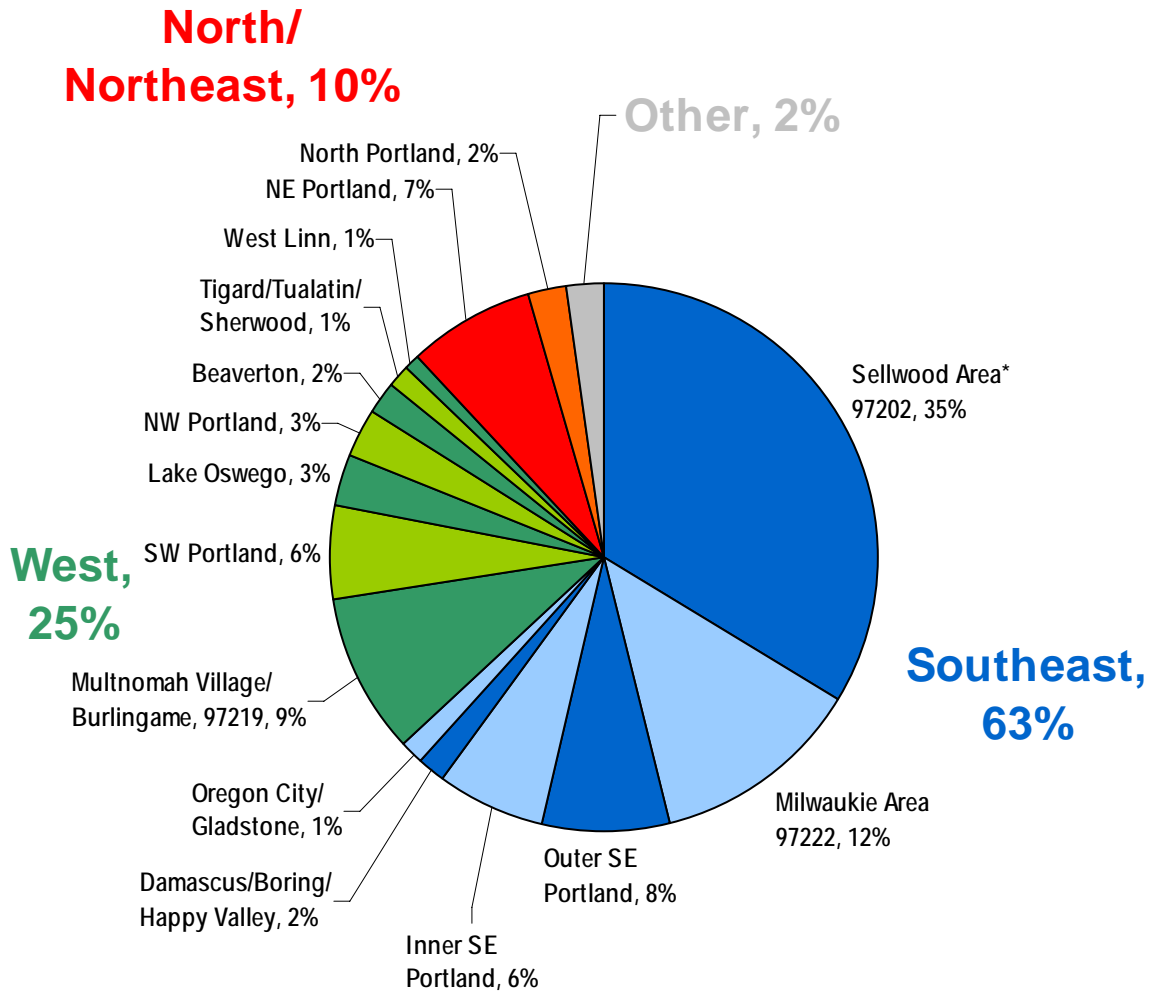


By the end of the survey period, there were 1,855 completed online surveys in addition to 28 hard copy survey forms handed in at the April 4 Public Workshop or mailed to Multnomah County Public Affairs, for a total of 1,883 completed surveys.

This report provides the results of the survey. Additional cross tabulations are included for some of the questions, comparing responses between different stakeholders. For questions 7 and 11-15, comparisons have been made between 97202 ZIP code respondents and those outside of 97202 in order to compare local neighborhood issues with regional perspectives. For questions 16 and 17, comparisons have been made between cyclists and pedestrians.

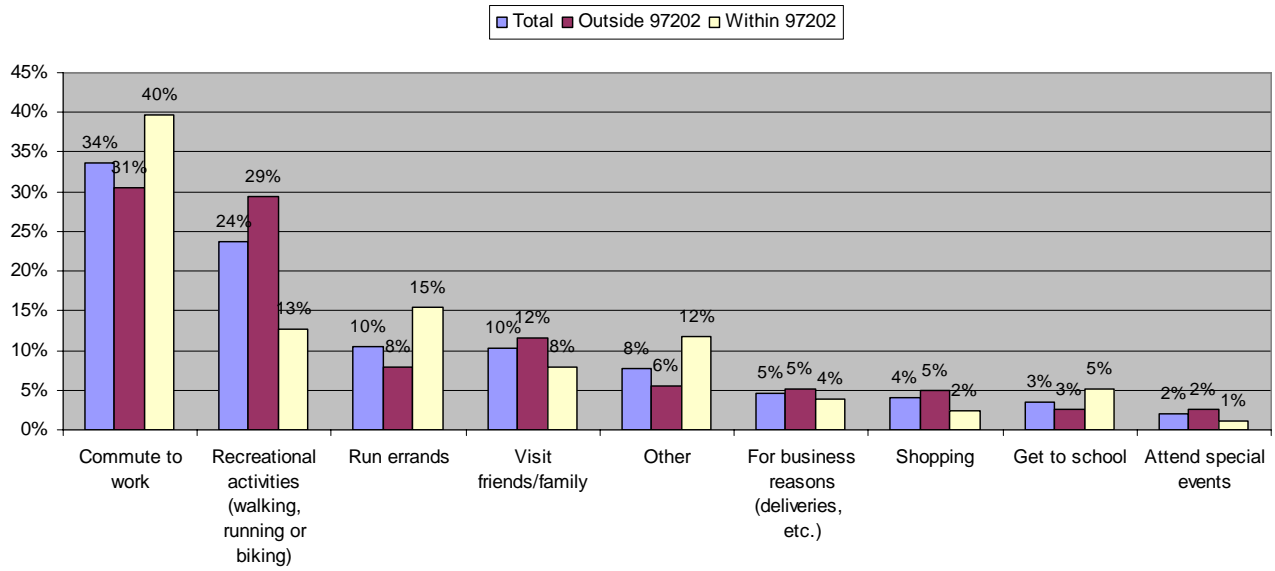
Questions 1-6 asked for the name, address, ZIP code, and email of the respondent and have not been included in this report.

Survey Respondents by ZIP Code



* Zip code includes Sellwood-Moreland, Brooklyn, Eastmoreland, Reed, and Ardenwald neighborhoods.

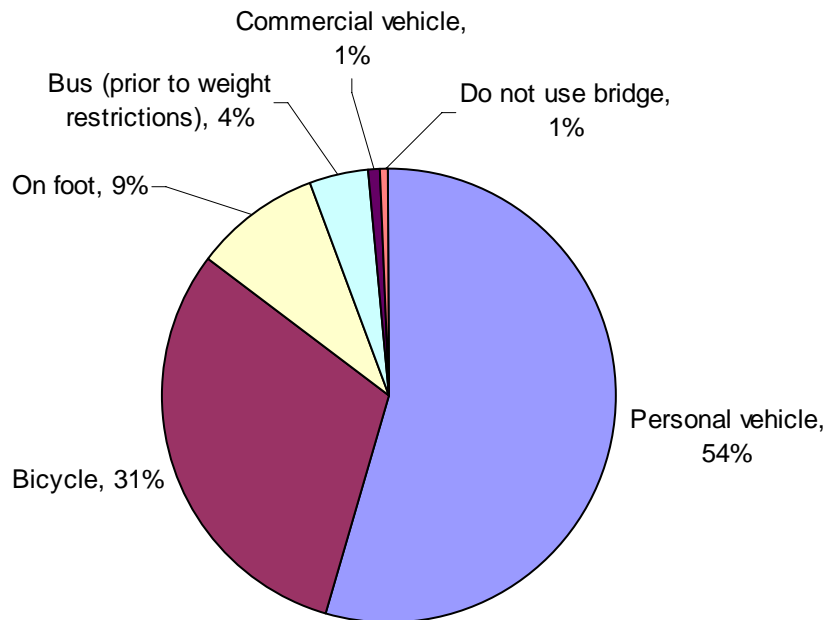
Question 7 - What is the primary reason you use the Sellwood Bridge?



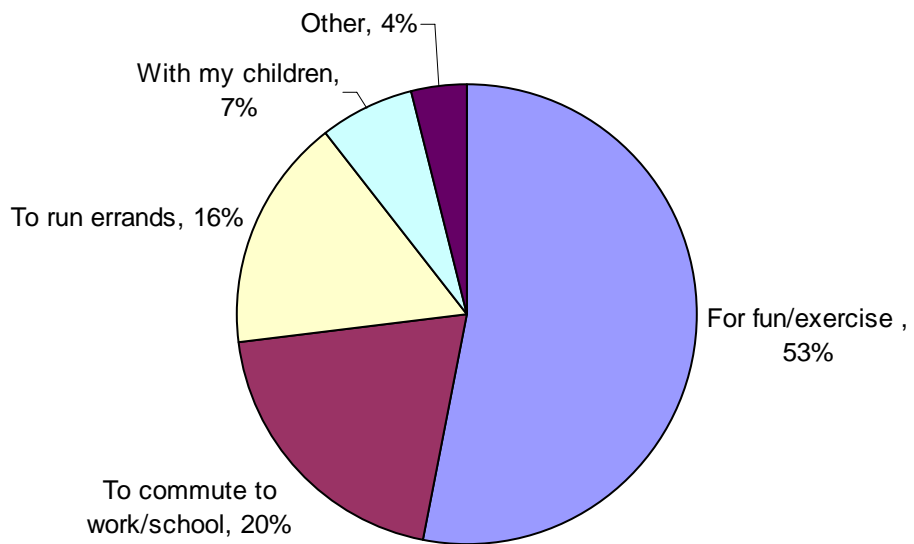
Observations:

- A majority of respondents use the bridge to commute to work and for recreational activities.
- A higher percentage of those outside 97202 ZIP code use the bridge for recreational activities, visiting friends/family, for business reasons and shopping.
- A higher percentage of respondents within 97202 use the bridge for commuting, running errands, "other" and getting to school.

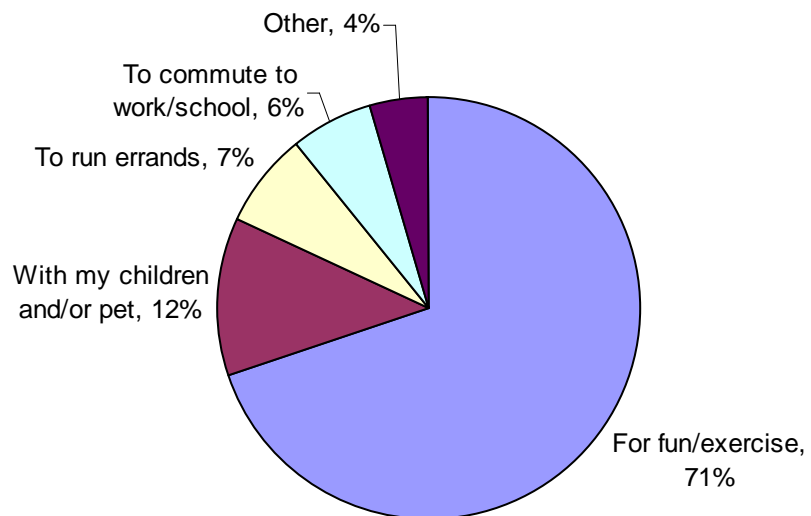
Question 8 - How do you usually travel across the Sellwood Bridge?



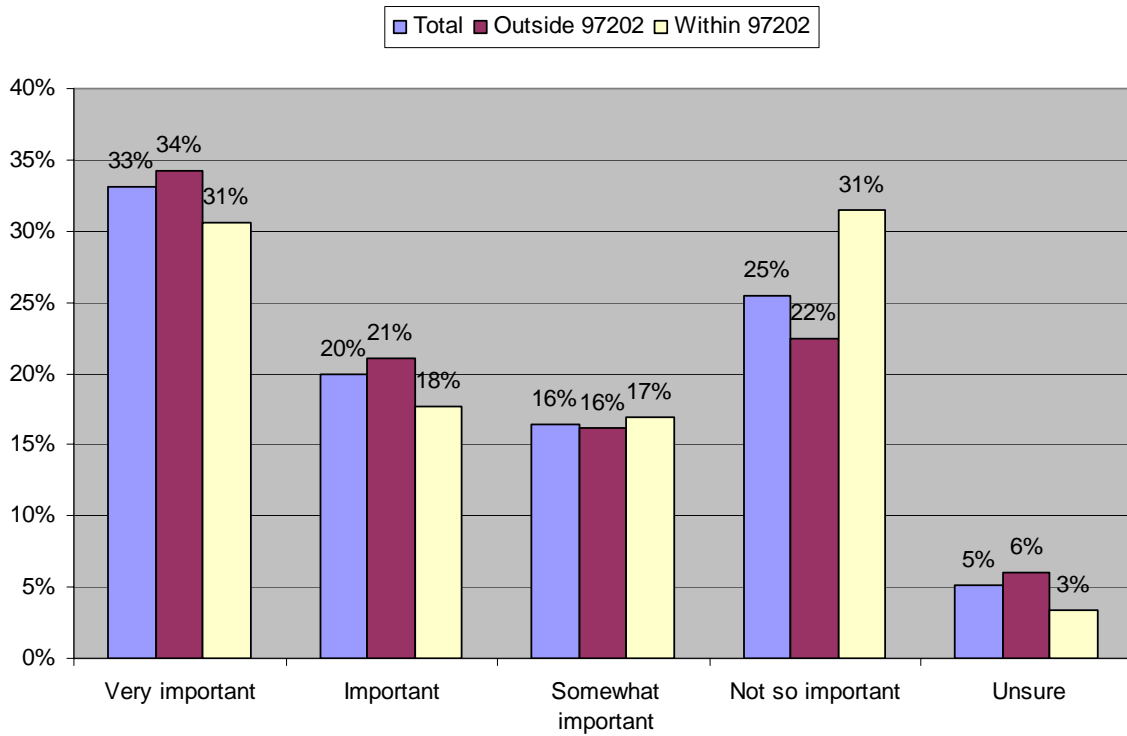
Question 9 - If you ride your bike across the bridge are you bicycling . . . ?



Question 10 - If you travel across the bridge by foot are you walking . . . ?

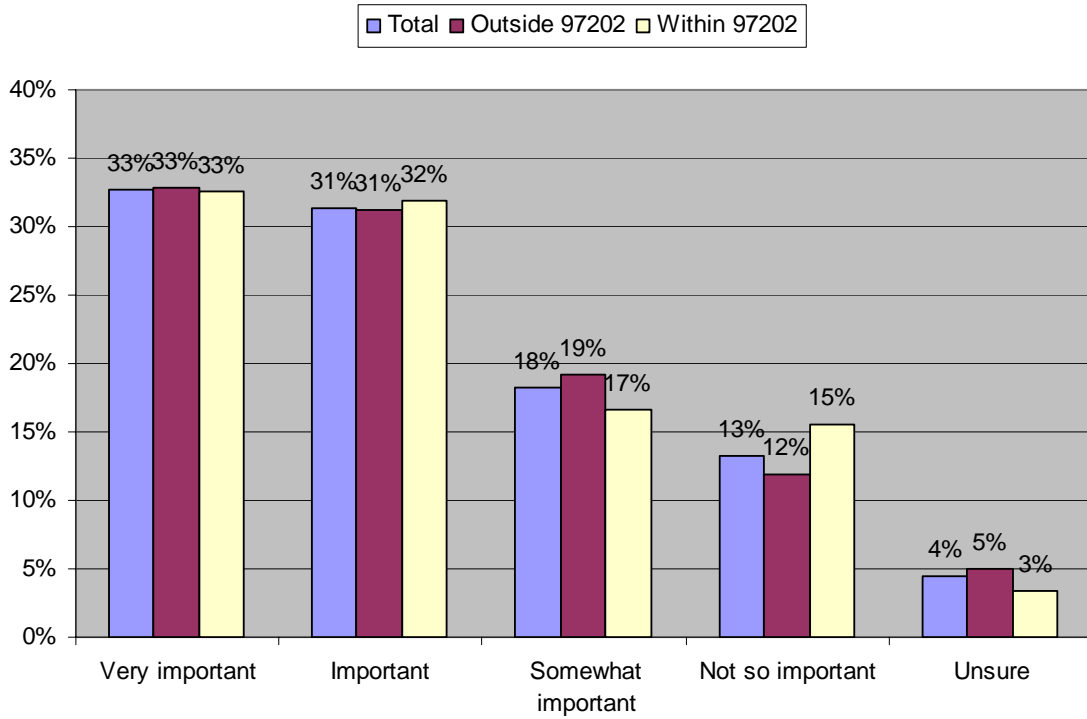


Question 11 - How important is it to consider construction of a temporary detour bridge in the range of options for bridge rehabilitation?



Observation: There is not as much variation between ZIP codes here. A larger percentage of 97202 respondents believe construction of a temporary detour bridge is not as important as those outside of 97202, which likely reflects the view that a temporary bridge closure would also reduce neighborhood traffic impacts.

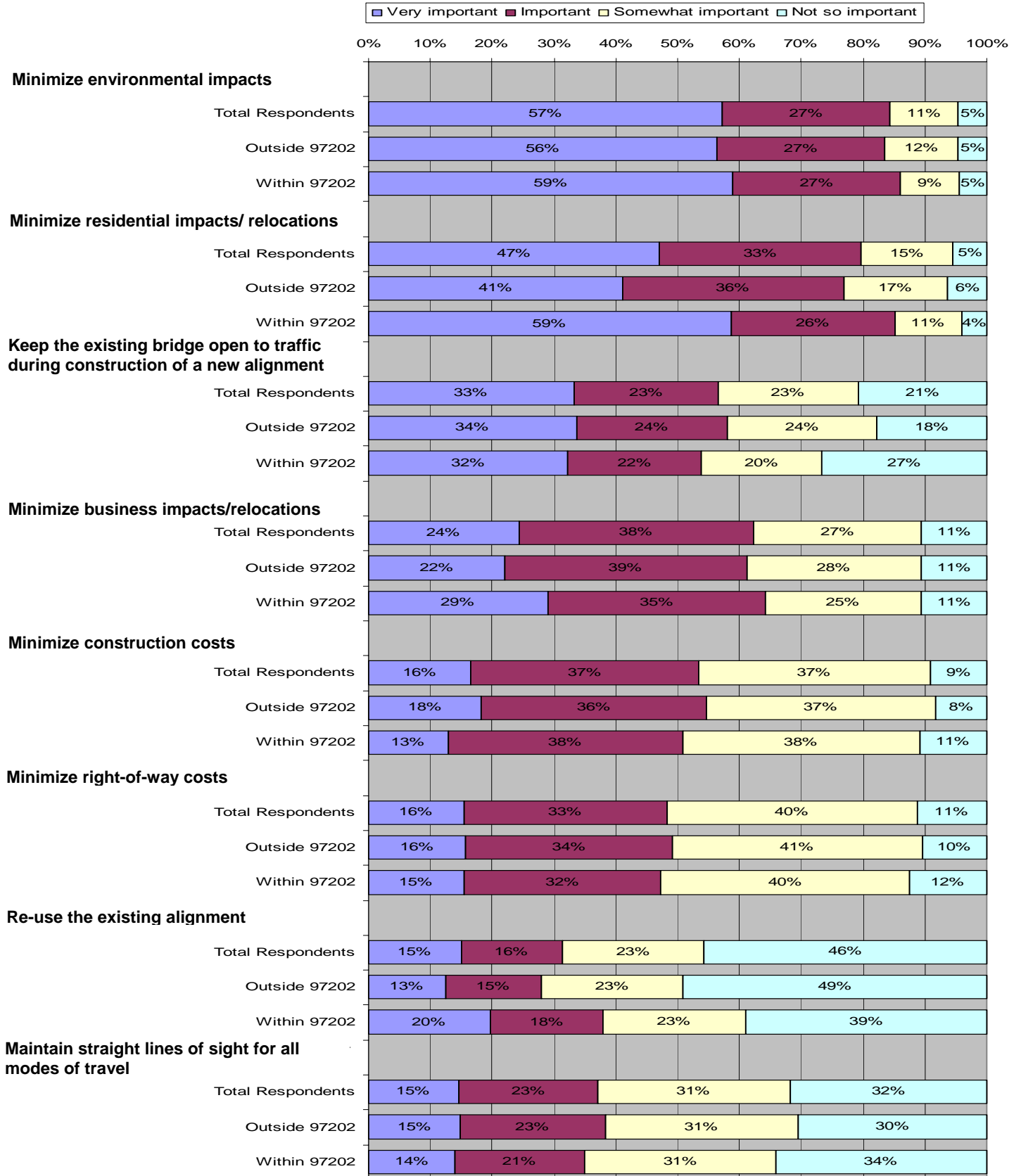
Question 12 - How important is it to include a Phase 2 seismic upgrade option in the range of options for bridge rehabilitation?



Observation:

2/3rd of all respondents feel that the Phase 2 seismic upgrade is an important consideration for the Sellwood Bridge. There is very little variation between ZIP codes.

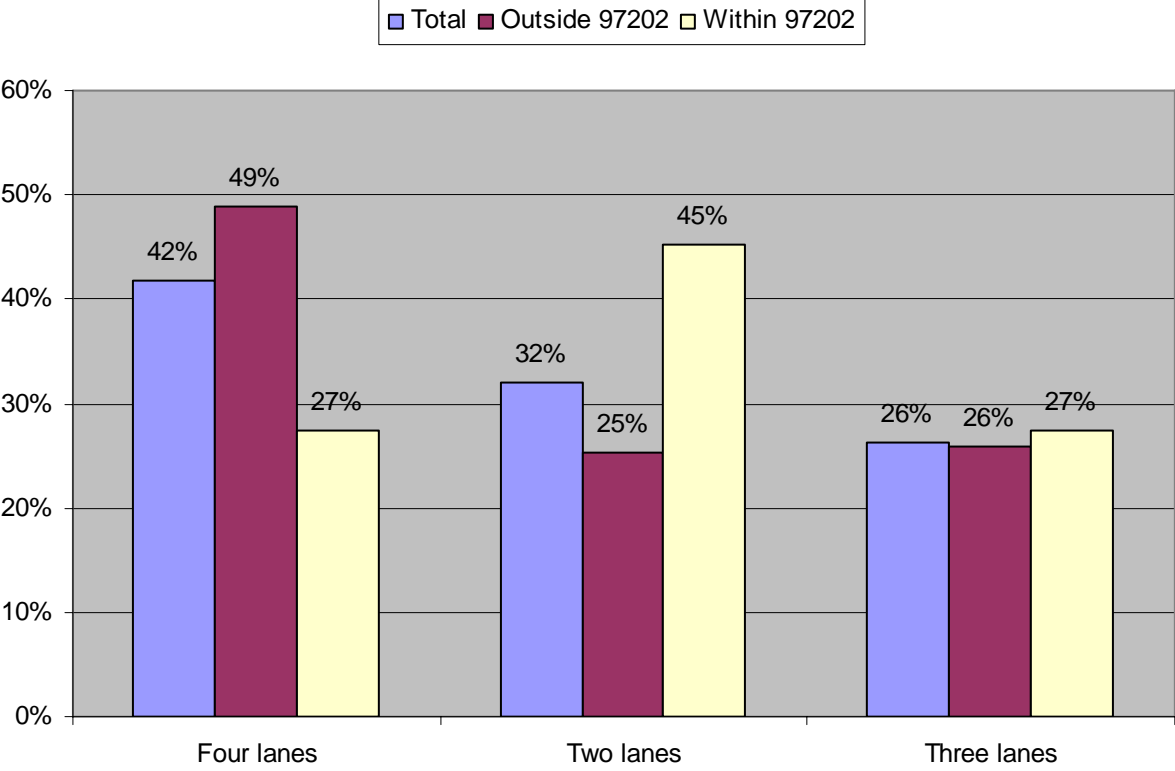
Question 13 - How important are the ideas below when considering the five color alignments shown?



Observations for Question 13:

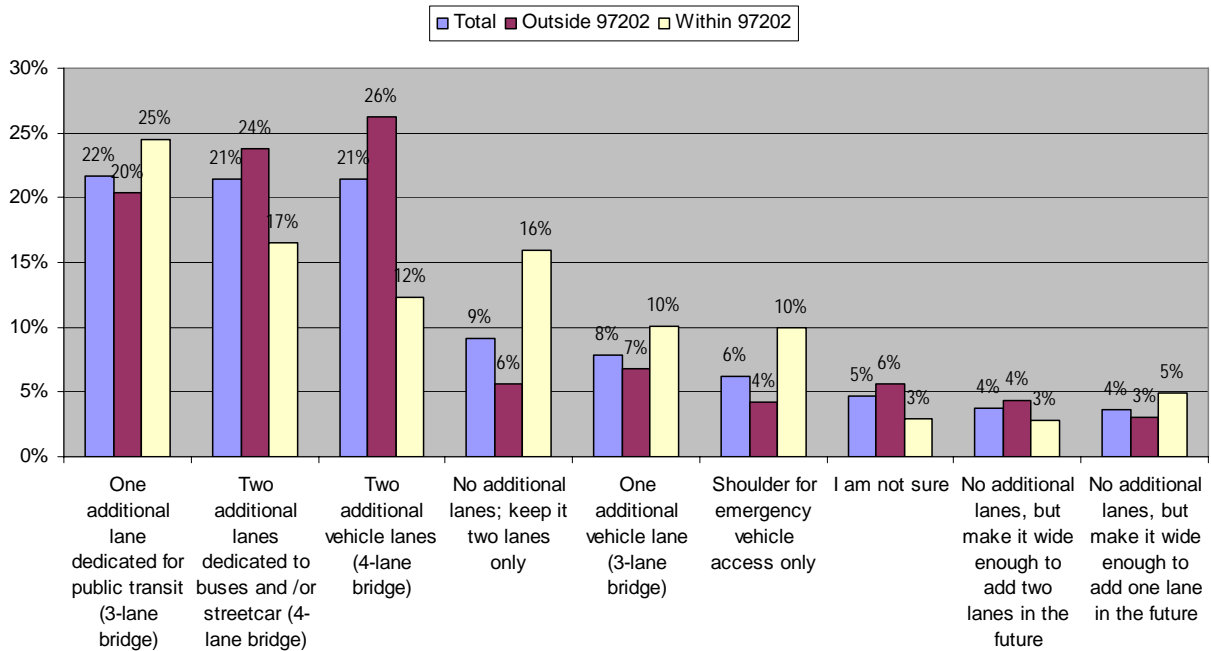
There was a higher interest overall to minimize environmental, residential and business impacts. Minimizing residential impacts was especially pronounced for the 97202 respondents (who also had a slightly higher interest in re-using the existing alignment).

Question 14 - In your opinion how many lanes are needed?



Observation: A higher percentage of respondents outside ZIP code 97202 (burgundy) see a need for 4-lanes. Those wanting to keep the bridge 2-lanes, were predominately located within ZIP code 97202 (yellow), but more than half of the total 97202 respondents favored a 3- or 4-lane bridge. There is very little variation between ZIP codes for the 3-lane option.

Question 15 - If the bridge is wider than two lanes what should the extra width be used for?



Observations:

A higher percentage of those outside 97202 ZIP code prefer:

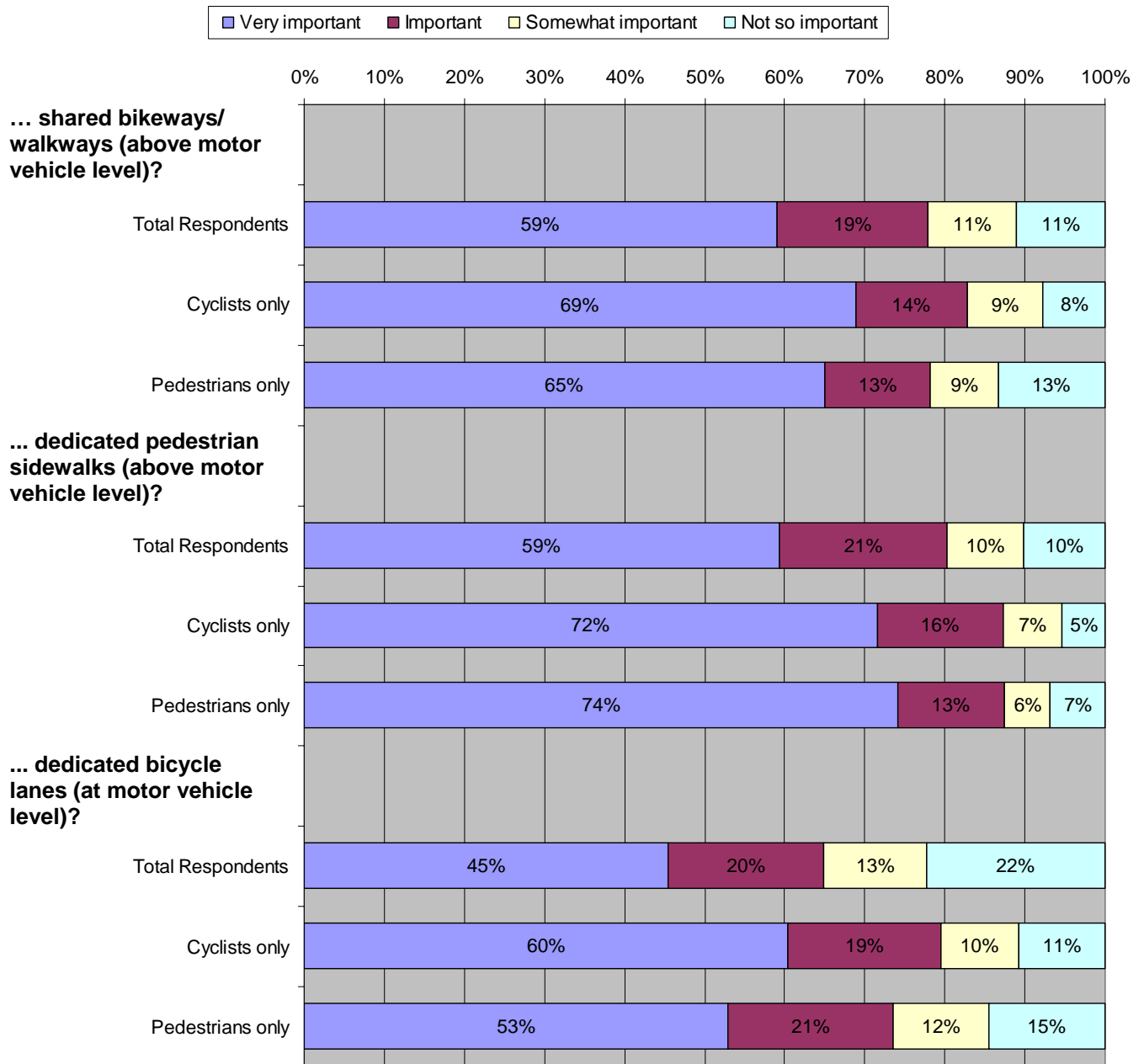
- 4-lane bridge (extra lanes for transit only)
- 4-lane bridge (extra lanes for vehicles)

A higher percentage of 97202 ZIP code respondents prefer:

- 3-lane bridge (extra lane for transit only)
- 3-lane bridge (extra vehicle lane)
- Keep it 2-lanes only
- Shoulder for emergency vehicle access

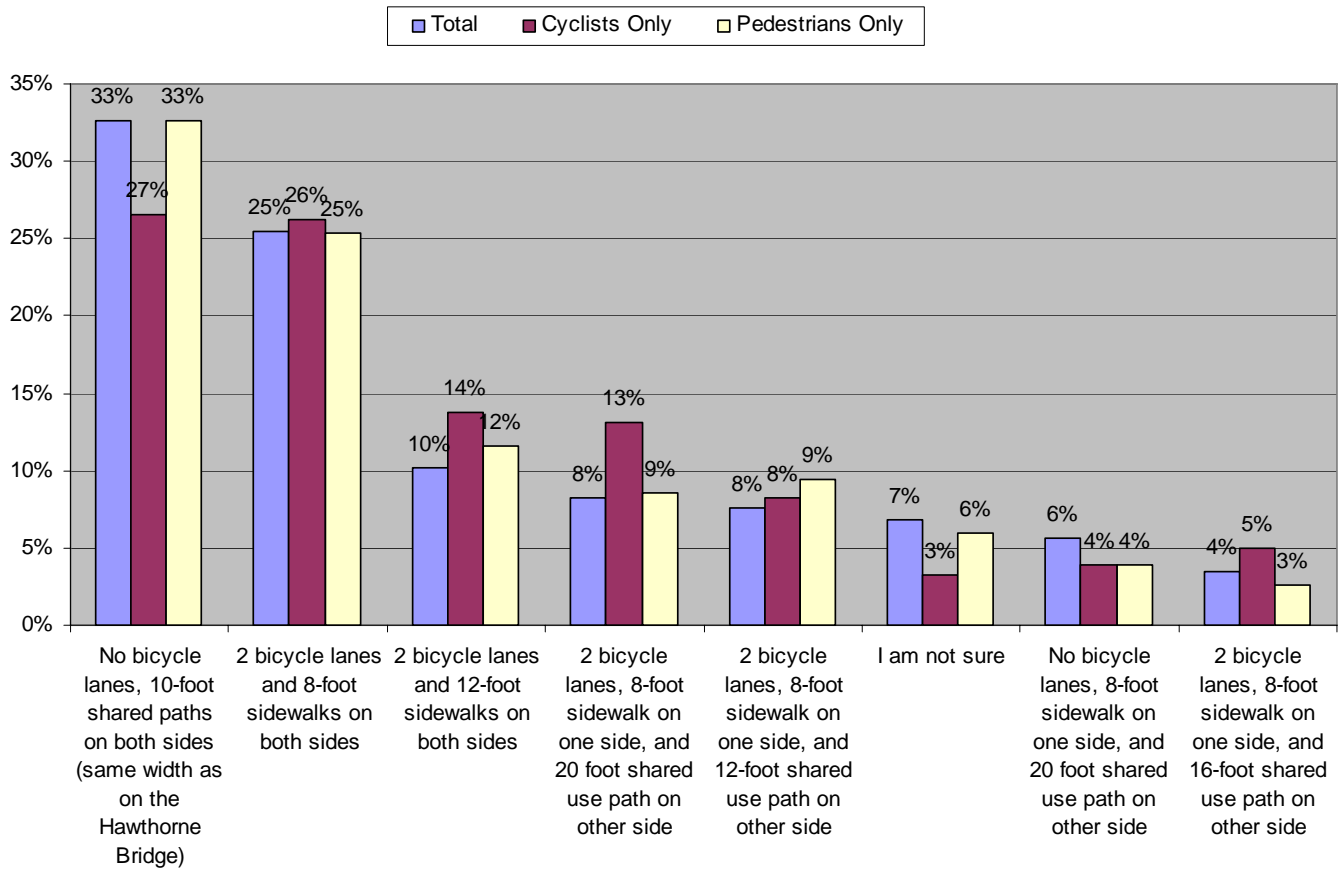
There was less interest overall in adding width for future capacity without adding lane(s) now, but these results do indicate support for a wider bridge of some sort.

Question 16 - How important is it to have . . .



Observation: The responses here would seem to indicate that cyclists and pedestrians tend to agree that dedicated facilities for each are preferable, but there was still a strong consideration for a shared use path. Many of the open-ended comments indicated “anything is better than the present situation” which is probably reflected in these results.

Question 17 - What combination of dedicated bicycle lanes (at motor vehicle level) dedicated pedestrian sidewalks (above motor vehicle level) and shared bikeways/walkways (above motor vehicle levels) should be provided?



Observation: Overall, there is not much variation between the responses for cyclists and pedestrians. Cyclists appear to be evenly divided on whether dedicated bike lanes or shared use paths are preferable, which was also reflected in the open-ended comments. The Hawthorne Bridge example may be affecting the results for the first option, since it was the only comparison provided for any of these options and people are more easily able to relate to what they know. Many open-ended responses indicated people thought these last two questions were confusing. Again, the notion that “anything is better than the present situation” is probably reflected in these results also.