



### **What is the Southwest Corridor Light Rail Project?**

The project is a proposed 12-mile MAX line connecting downtown Portland to Tigard and Tualatin.

After several years of early planning, the project is now undergoing environmental review.

### **What is the purpose of the decision briefing books?**

Several project decisions remain, including options for alignments, stations, maintenance facilities and station access improvements.

Through fall 2017, individual decision briefing books will be released to inform conversations about the key considerations for each major decision. Because the environmental impact analysis is ongoing, briefing books will be updated as new information becomes available.

### **When will the decisions be made?**

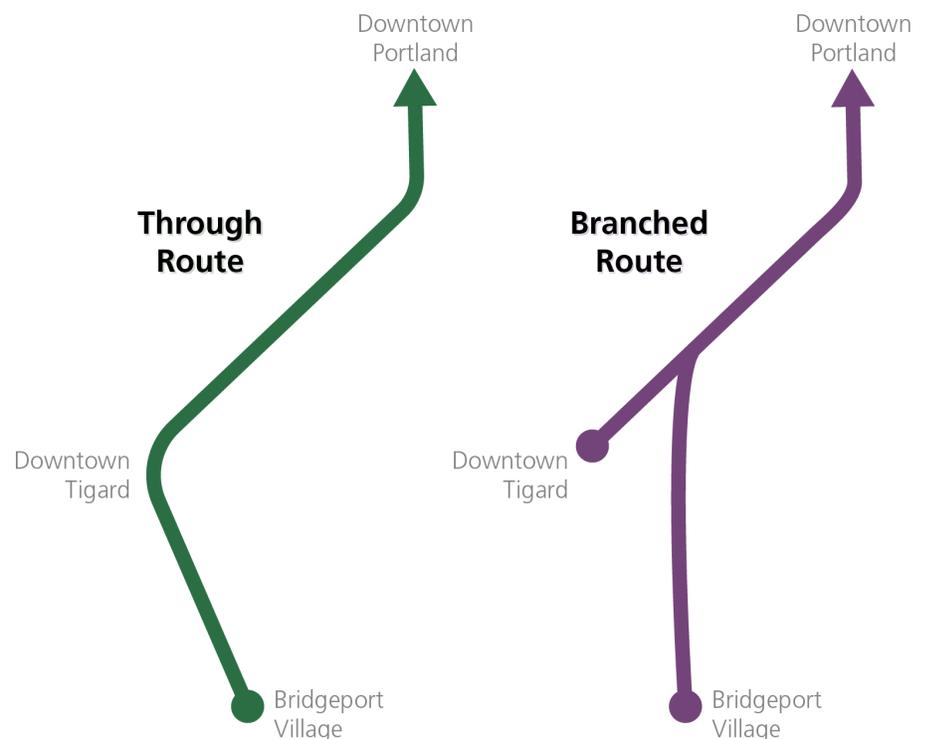
The steering committee is anticipated to narrow down the remaining options to a "Preferred Alternative" in early 2018.

Further outreach, design and environmental analysis will occur before a final decision on what to construct.

## **Decision Overview**

The Southwest Corridor Light Rail Project could be constructed to operate in two different ways:

- **through route:** a single line connecting downtown Portland to Bridgeport Village via downtown Tigard
- **branched route:** two overlapping lines that split east of Highway 217 to serve downtown Tigard and Bridgeport Village separately.



The branched route option emerged in 2014 as a strategy for providing faster travel times between Portland and Tualatin while also connecting to downtown Tigard.

### **CONNECT**

[www.swcorridorplan.org](http://www.swcorridorplan.org)

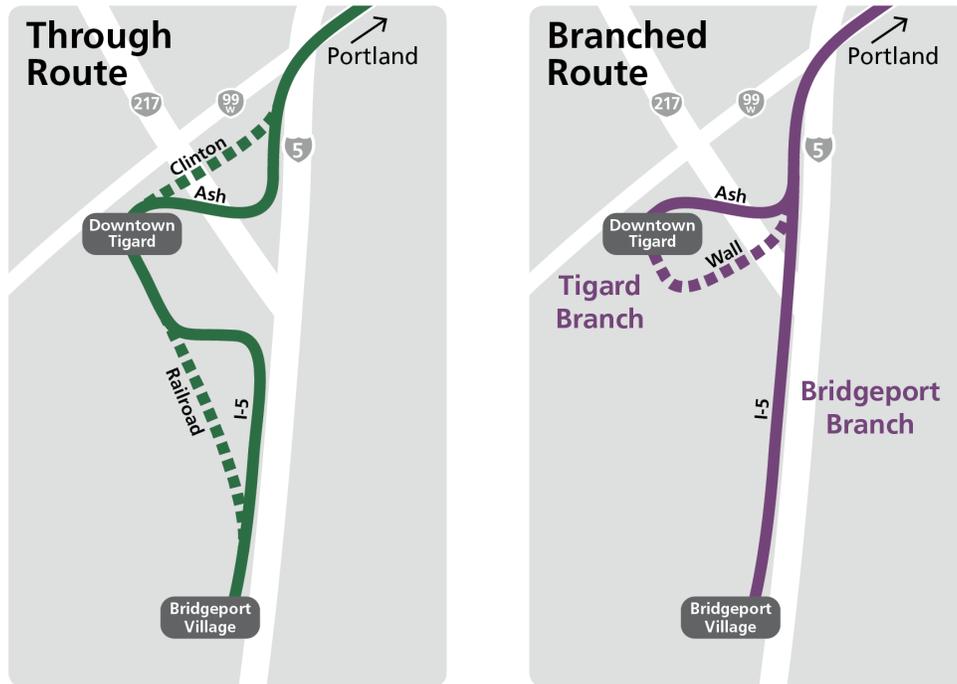
[swcorridorplan@oregonmetro.gov](mailto:swcorridorplan@oregonmetro.gov)

[@SWCorridor](https://twitter.com/SWCorridor)

503-813-7535

## Related Alignment Alternatives

The branched and through routes include various alignment alternatives in Tigard and Tualatin (also called Segment C), which are illustrated in the maps below.



For ease of comparison, most information in this document assumes both options use the *Ash* and *I-5* alignments. Additional information is provided where the *Clinton*, *Railroad* or *Wall* alignments would affect the trade-offs between route configuration options. The Segment C alignment alternatives will also be discussed in more detail in separate decision briefing books.

For more information on the full range of alternatives under consideration, see the *Light Rail Alternatives for Environmental Review* document, available on the project website: [www.swcorridorplan.org](http://www.swcorridorplan.org).

## Key Considerations

Based on currently available information, the key considerations in the decision between a through or branched route include travel time, connectivity, service frequency, ridership and operating cost. These considerations are examined individually on the following pages. A summary table is provided on the back page of this document. This document may be updated to include new relevant information resulting from the ongoing environmental analysis or updates to travel forecasts or cost estimates.

### Travel time

A branched route would **save up to 4 minutes** between the Beveland and Bonita stations.

**Through route variation:**

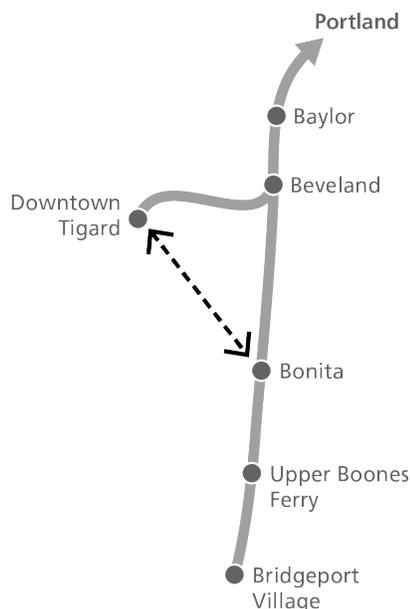
*The Clinton and Railroad through route alignments would provide a faster travel time than the Ash to I-5 route assumed for comparison.*



### Connectivity

A branched route **would not directly connect** downtown Tigard with southeast Tigard and Bridgeport Village.

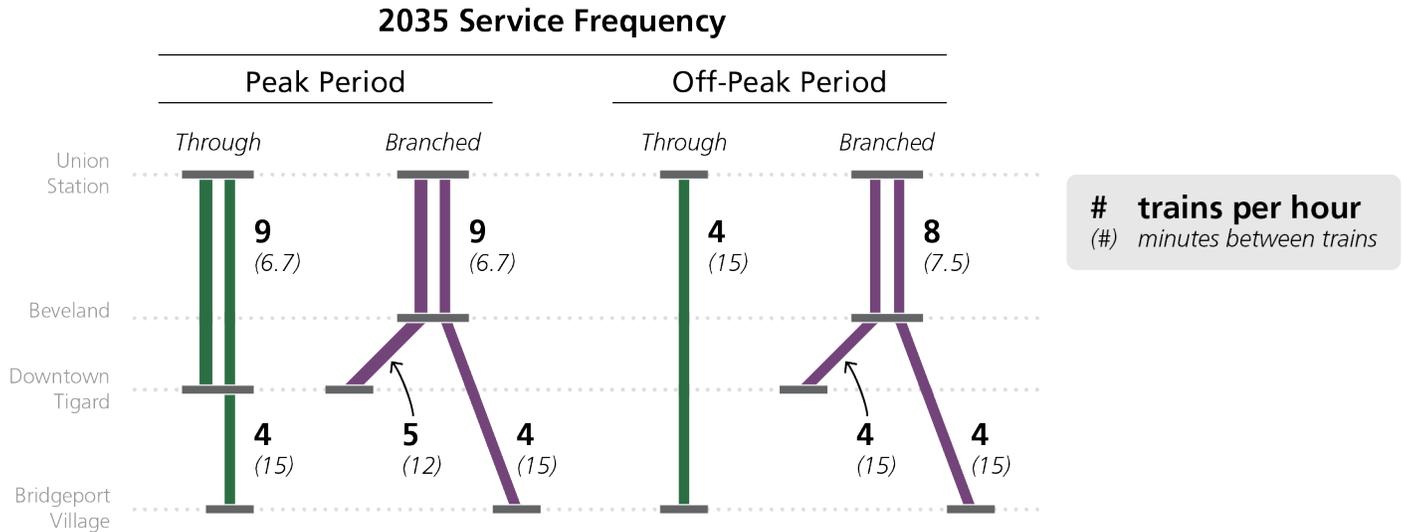
To make that connection, riders would need to transfer at the Beveland station or take a bus instead.



## Service frequency

TriMet's policy is to operate MAX lines at a minimum frequency of 15 minutes all day, or four trains per hour. The through and branched routes would both meet that policy, and additional service would be added during the *peak period*, or rush hour, to serve the ridership demand. Because the branched route would include two partially overlapping MAX lines, each line would run at 15-minute service or better all day.

The diagram below illustrates the service frequencies assumed for 2035 for the branched and through routes.



### Differences during the peak period (rush hour):

The branched route would have **less frequent peak period service in downtown Tigard** than the through route. All through route trains would stop in downtown Tigard, resulting in nine trains per hour during the peak period in 2035. With the branched route, four of those trains would serve the Bridgeport Village branch, leaving five trains per hour serving downtown Tigard. The result is longer waiting times for riders using the downtown Tigard station with the branched route.

### Differences during the off-peak period (the rest of the day):

The branched route would have **more frequent off-peak service in Portland and the Tigard Triangle** (the triangle-shaped area bounded by I-5, Highway 217 and 99W). The TriMet policy minimum of four trains per hour would be sufficient for the off-peak ridership demand at the busiest point on the line (just south of downtown Portland). However, each branch line would need to meet the policy minimum, so the stations north of downtown Tigard would be served by a combined eight trains per hour. This extra service would reduce waiting times at those stations, but would also add operating costs that could otherwise be used to improve service elsewhere in the TriMet system.

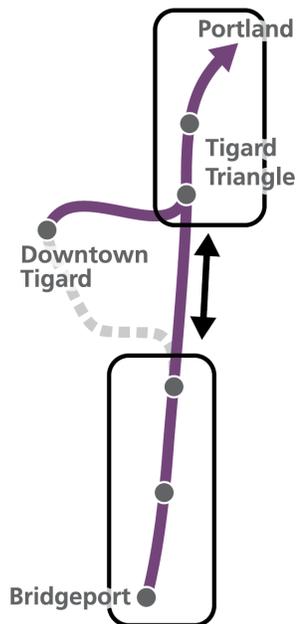
## Ridership

Travel time, connectivity and service frequency differences between the through and branched routes described on the previous two pages would all affect ridership. The graphic below explains the isolated and net effect of these differences on the project line ridership.

### Effects of changes from the through route to the branched route:

#### Faster travel time

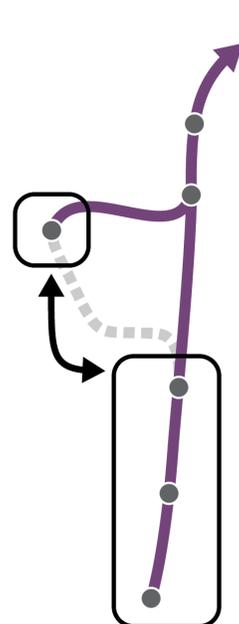
for riders traveling between stations north of downtown Tigard and stations south of downtown Tigard



+ 1,400  
daily line riders

#### Reduced connectivity

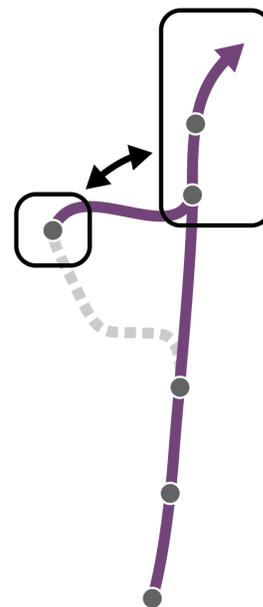
for riders traveling between downtown Tigard and stations to the south



- 1,400  
daily line riders

#### Less frequent peak service

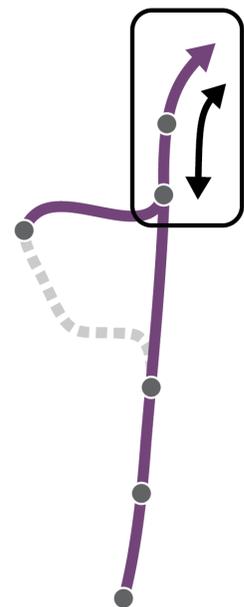
for riders traveling between downtown Tigard and stations to the north



- 2,400  
daily line riders

#### More frequent off-peak service

for riders not traveling south of the Tigard Triangle



+ 4,000  
daily line riders



### Net change in daily line ridership:

- The branched route would attract **1,600 more line riders** than the through route, or a **4 percent increase**.
- Most of the branched route's ridership gains result from more frequent off-peak service (which could also be implemented with a through route).

### Station usage:

- Most stations would have slightly more usage with a branched route than with a through route.
- The **downtown Tigard station would have 3,800 fewer ons and offs** (a 34 percent decrease) with a branched route because of the reduced connectivity and less frequent peak service. Some of these trips could be captured elsewhere on the line, while others would shift to other modes such as buses or driving.

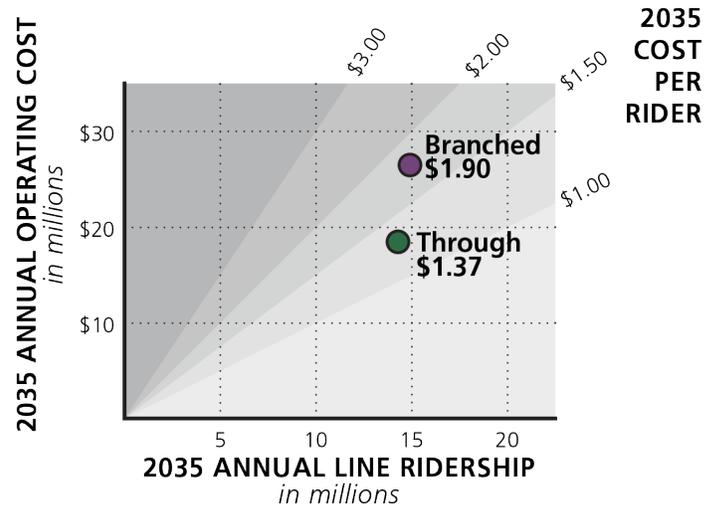
## Operating cost

The branched route would cost \$8.1 million more to operate annually than the through route at 2035 service levels. For comparison, today it costs \$16.7 million each year to operate the MAX Green Line and \$4.9 million for the Line 44 bus.

This 44 percent increase in operating cost for the branched route over the through route would attract 4 percent more line riders, resulting in a **39 percent higher cost per rider**.

**Through route variation:** The faster travel times of the Clinton and Railroad alignments would reduce operating costs.

**Branched route variation:** The slower travel time of the Wall alignment to downtown Tigard would increase operating costs.



## Operational complexity

A branched route would introduce **operational complexities that could impact on-time performance** of the Southwest Corridor line and other MAX lines.

A through route would have service frequencies that generally match those of the Green Line, allowing the two lines to be "interlined" as the Yellow Line and Orange Line are today.

North of where the two branches converge, a branched route would have more frequent service than the Green Line in the off-peak. As a result, four Southwest Corridor trains per hour would need to turn around at Union Station instead of becoming outbound Green line trains. The trains that turn around would need to merge with inbound Green Line and Yellow Line trains, which could disrupt the spacing of trains for all three lines and affect on-time performance.

---

## Pending information

Some information that may be relevant to the decision between a branched and through route is still being developed, including capital costs and environmental impact analysis. The environmental analysis will consider impacts to both the natural and built environment, such as impacts to wetlands and displacement of residents and businesses.

An updated version of this briefing book will be released when new information becomes available.

## Summary Table

The following summary table will be updated as new information becomes available. The ongoing environmental impact analysis could reveal significant impacts associated with either the through or branched route options.

	Through Route	Branched Route
<b>Transit Performance (Full Corridor)</b>		
<b>New system transit trips</b> <i>2035 average weekday</i>	17,800 <i>range TBD</i>	18,700 <i>range TBD</i>
<b>Line ridership</b> <i>2035 average weekday</i>	41,600 <i>range TBD</i>	43,200 <i>range TBD</i>
<b>Travel time: PSU to Downtown Tigard</b> <i>2035 average weekday, peak period</i>	26.1 minutes <i>24.9 to 26.1</i>	26.1 minutes <i>26.1 to 27.9</i>
<b>Travel time: PSU to Bridgeport Village</b> <i>2035 average weekday, peak period</i>	32.9 minutes <i>31.1 to 32.9</i>	28.9 minutes <i>28.9</i>
<b>Service frequency</b>	More frequent peak service connecting downtown Tigard to the north	More frequent off-peak service in Portland and the Tigard Triangle
<b>Operational considerations</b>		Operational complexity could impact off-peak on-time performance
<b>Finance (Full Corridor)</b>		
<b>Capital cost</b>	TBD <i>(likely lower)</i>	TBD <i>(likely higher)</i>
<b>Operating cost</b> <i>based on 2035 operator hours</i>	\$18.4 million <i>range TBD</i>	\$26.5 million <i>range TBD</i>
<b>New Starts rating</b>	TBD <i>(likely higher)</i>	TBD <i>(likely lower)</i>
<b>Access and Development (Segment C only)</b>		
<b>Specific measures TBD</b>	TBD	TBD
<b>Communities and Built Environment (Segment C only)</b>		
<b>Specific relevant impacts TBD</b>	TBD	TBD
<b>Natural Environment (Segment C only)</b>		
<b>Specific relevant impacts TBD</b>	TBD	TBD

For Ash and I-5 alignment

Full range for all Segment C through or branched alignments

### Assumptions

The primary information in the summary table is based on the Ash and I-5 alignments in Segment C (alternatives C1 and C5). Ranges are also provided to encompass the full range of Segment C alternatives for the through and branched route configurations. For full-corridor information, Alternative A1 (Barbur) is assumed for Segment A and Alternative B2 (I-5 Barbur Transit Center to 60th) is assumed for Segment B.

For more information on the range of alignment alternatives under consideration, see the *Light Rail Project Alternatives for Environmental Review* document, available on the project website: [www.swcorridorplan.org](http://www.swcorridorplan.org).