

## **New Highway 520 Floating Bridge 2016**

Distance markers, Overhead traffic sign arches and openings

### **The Best way to Time your Boat**

Fortunately the State put 4 perfectly aligned extension lines which are the 4 Traffic sign structures (see below and photos), and I believe they are the best way for timing your boat.

The distance between the overhead sign structures moving east to west:

- Span 1 . between the first and second sign: 2,700 feet. 0.4444 nm
- Span 2 . between second and third sign: 1, 440 feet. 0.2370 nm
- Span 3 . between third and fourth sign: 1,080 feet. 0.1777 nm
- Total = 0.8591 nm
- **Divide (0.8591 times 3600 = ) 3093 by your run time in seconds to get boat speed in Knots**

This works well on both sides of the bridge; the Sign Structures are easily seen; it is the best way. (We also are using some of the Sign Structures in the 2017 First of the Season Race.)

### **Backup and Discussion**

This is from a series of emails and other data we have gathered.

**Subject: RE: Planned distance markers on new SR 520 bridge**

**2016 email from DOT:**

I am happy to let you know that the distance markers on the new bridge are already in place! You should be able to see the markers on the north side of the bridge along the pontoons. The markers on the south side have also been installed, so you will be able to see them as the pontoons for the old bridge are removed from Lake Washington.

**2014 email:**

We are pleased to note that the new bridge will have course markers every 500 meters on the north side and at the nautical mile and half-mile on the south side. The attached graphic shows the approximate mounting locations and course marker designs. The vertical signage (green and white) will designate interval markings. The circular signage (red and white or green and white) will mark the outside edges. first and last markers.

**2016 email about Traffic signs and other dimensions:**

Thanks for your follow-up question regarding the mile markers and distances between structures on the new SR 520 floating bridge. I have attached a graphic that shows the distances between each structure. The attached graphic shows the distances only for approximately half of the floating bridge but the spaces on the western side of the bridge mirror those on the eastern side.

In addition to the graphic, here is additional information about distances between structures on the floating bridge:

- All the lateral pontoons (those that are perpendicular to the direction of the bridge) are 98 feet long, with the exception of the first and last lateral pontoons, which are 75 feet long.
- The space between lateral pontoons moving east to west:
  - The first and last and spaces are 41 feet wide.
  - The smaller spaces on the wings of the bridge are 82 feet wide.
  - The larger spaces in the middle of the bridge are 262 feet wide.
- The distance between the overhead sign structures (shown in attached picture and graphic) moving east to west:
  - Span 1 . between the first and second sign: 2,700 feet.
  - Span 2 . between second and third sign: 1, 440 feet.
  - Span 3 . between third and fourth sign: 1,080 feet.

(see attached photos)

### **Traffic Sign Structures and east bridge opening:**

All of the distances are measured from the each face of the pontoon at east end opening (vessel passage). From Coastal Explorer \$BING airphotos the location of the pontoon east face is from the N corner at 47°38.330'N 122°14.614'W to the S corner at 47°38.291'N 122°14.625'W. As more satellite data is available on \$bing we will get better location data.

Using the DOT pontoon dimensions, the East Traffic sign Structure is at 47°38.353'N 122°14.817'W which is also approximately the north side of the roadway. The next (2<sup>nd</sup> heading west) Sign Structure is at 47°38.450'N 122°15.459'W. The 3<sup>rd</sup> is at 47°38.502'N 122°15.804'W. The west Sign is at 47°38.541'N 122°16.061'W. I suggest that you lay out R/B lines perpendicular to the bridge (I used 12.6/192.6 degrees True). These appear to be correct when traversing the area and setting event marks.

### **Distance Markers**

The distance markers on the bridge itself are easy enough to see if you are close. If you are a distance off; which power boats need to be at cruise speed; they are more difficult to see as the bridge face is uneven (see photos) because the pontoons protrude. Also, the markers are in between column lines so that there is not a clear extension, making it difficult to call the mark. That is why the overhead traffic sign arches are the best way to time your boat.

Thanks

Bob Lindal 11/29/16 [BOBL@LINDAL.COM](mailto:BOBL@LINDAL.COM) 206-919-1045