



# Keystone Citizen Advisory Group

## Keystone Harbor Safety Issues and Concerns

VESSEL OPTIONS	HARBOR OPTIONS					
	1. Existing Conditions	2. Existing Slip with Jetty Extension	3. Harbor Mouth Slip East State Park Terminal	4. In Harbor Slip- State Park Terminal	5. West State Park Slip and Terminal	6. Existing Slip with Line Dolphins
Maintain Steel Electrics (59 cars)	<b>SE-1</b> 1,3,5,6	<b>SE-2</b> 1,5,6	<b>SE-3</b> 1,2,6,7	<b>SE-4</b> 1,5	<b>SE-5</b> 1,2,7	<b>SE-6</b> 1,4,5,6
New/ Existing Issaquah 130 Class (133 cars)		<b>130-2</b> 5,7	<b>130-3</b> 2,7	<b>130-4</b> 5,7	<b>130-5</b> 2,7	<b>130-6</b> 4,5,7
Evergreen State or Sealth (Issaquah 100 Class - 87/90 cars)		<b>100-2</b> 5,7	<b>100-3</b> 2,7	<b>100-4</b> 5,7	<b>100-5</b> 2,7	<b>100-6</b> 4,5,7
"Keystone Special" (68 cars)	<b>KS-1</b> 1,3,5	<b>KS-2</b> 1,3,5	<b>KS-3</b> 1,2	<b>KS-4</b> 1,3	<b>KS-5</b> 1,2	<b>KS-6</b> 1,3,5
"Out-of-the-Box" - 100 Special (100 cars)	<b>NP-1</b> 1,3,5	<b>NP-2</b> 1,3,5	<b>NP-3</b> 1,2	<b>NP-4</b> 1,3	<b>NP-5</b> 1,2	<b>NP-6</b> 1,3,5

### Legend

**1. Sea State/Current Exposure During Crossing:** Vessel is expected to be adversely exposed to wind & current during crossing and/or on initial approach to Keystone Harbor.

**2. In Dock Sea-State/Current Exposure:** Vessel is expected to be adversely exposed to wind & current while at the terminal during unloading/loading operations.

**3. Landing Limitations:** Increased draft limitations during low tidal operations.

**4. Adverse Rebound Risk:** Location of dolphins is expected to cause an increased risk of grounding.

**5. Restricted Visibility Approach Limitations:** Location of dock and/or difficult approach dynamics is expected to continue the closing of route during foggy conditions.

**6. Sea State/Current Exposure:** Vessel is expected to be adversely affected by sea state and current on the approach to Keystone Harbor.

**7. Maneuvering Limitations:** Stopping distance of vessel insufficient for expected approach.

## ISSUES AND CONCERNS

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- Based on the age of the Steel Electrics, it is not advisable to rely on their riveted steel hulls. The Steel Electric hulls are unlikely to meet the required U.S. Coast Guard limits through the 30-year project lifecycle.
- The small boat launch in Keystone Harbor and the dive park in the Keystone Conservation Area are of additional concern. Once a ferry approaches the harbor it is not possible to stop or avoid boats or persons in the water because of the limited stopping distance.
- The areas of greatest concern are:
  - The vessel's exposure to wind and current while in the slip
  - The risk of the vessel rebounding off dolphins and grounding