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Rising water worries prompt cruise boat to seek higher bridge clearance

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The Portland Spirit glides under the Morrison Bridge in July, when the Willamette River is so low the bridge doesn't need to open to make way. The boat's owners fear it will have a more difficult time with passage below a new bridge planned for downtown if global warming produces higher winter river levels.

The big season for Willamette River cruises on the popular **Portland Spirit** is December, when holiday lights make the city sparkle at night.

But the big season for heavy rain starts around that time, and the Portland Spirit now worries the rains will be so sudden and so great -- courtesy of global warming -- that the river will rise to levels that make it impossible for the boat to find clearance under bridges.

Why the concern now? **TriMet** wants to build a new light-rail bridge across the river between the Oregon Museum of Science and Industry and the emerging South Waterfront area, and the Portland Spirit says it won't be high enough to guarantee passage. The Spirit's owners demand a higher bridge now to protect their cruise interests later.

Welcome to Business Planning 101 in the new warmer day.

High winter waters already keep the Portland Spirit from passing below **Sellwood Bridge** several times a year, says Dan Yates, president of the cruise company. And plans call for a replacement Sellwood Bridge to be built at the same level as the cracked 1925 bridge it will replace.

The new TriMet light-rail bridge, however, may be built at about the same height as the Sellwood, potentially cutting off the Portland Spirit from the waterfront landing where it boards passengers. Or so says the Portland Spirit, which also eyes an industry trend to install wind turbines atop the ship -- a feature that would only make the ship taller and require more clearance.

"This is pretty much the life or death of the company," Yates says. "It's just going to be a long-term death."

TriMet, for its part, says the bridge should be 58 feet above the water in December's worst conditions -- optimal height for the Spirit and other river users. Anything higher could require that train approaches on either side of the bridge be raised as much as 10 feet above ground, forcing an awkward design for a station planned at the Oregon Health & Science University campus in South Waterfront. That alone could cost millions of dollars.

Concern by a small cruise line about the effects of global warming may sound far-fetched. But the issue of clearance for navigation has legal standing and has already played into decisions that will cost taxpayers tens of millions of dollars.

TriMet confirms that Portland Spirit's concerns already have in part shaped TriMet's planning of the \$110 million light-rail bridge. And Yates has shown a willingness to sue to defend his interests from the city and other local agencies.

TriMet planners this week said it's important to include potential effects of climate change in planning the agency's new bridge -- and their studies show the bridge can accommodate Portland Spirit even with a 3.5-foot rise in river level.

"This is all a very reasonable and a good check on all of our engineering decisions at a very critical point in the project," says Neil McFarlane, TriMet's executive director of capital projects.

There's no doubt that Portland Spirit has a legal right to clear passage through the Willamette, says Austin Pratt, bridge administrator for the **13th Coast Guard District**, based in Seattle. The General Bridge Act of 1946 requires bridge builders to accommodate the "reasonable" needs of navigation -- both present needs and future needs, Pratt says.

Requiring a bridge in Portland to be tall enough to allow passage for a 200-foot-tall oceangoing container ship would probably not be reasonable, Pratt says. But building an obstruction to frequent commercial users of the river -- even a marina that houses tall sailboats or a cruise line with a handful of boats -- would also be unreasonable.

Though the Coast Guard didn't require it, TriMet planners hired a local consulting firm to help study potential climate change-induced river level rise. The firm, Parametrix, found a potential river level rise of 1.9 to 3.5 feet.

TriMet initially expected its bridge would need to rise 43 to 53 feet above the water during average periods. The bridge needs to be as low to the river as possible, to provide a gentle slope for light-rail trains, streetcars and pedestrians to cross.

TriMet says its forecasts show the Portland Spirit should be able to fit below its bridge year round. Even the taller Columbia Gorge Sternwheeler, which is operated by the same company that owns the Portland Spirit, should make it through year-round, says Rob Barnard, TriMet's director for the light-rail project.

But if the Portland Spirit adds a 10-foot-tall mast and 10-foot-tall wind turbines, as Yates says it may soon, then the boat might be too high to pass a handful of times in the rainiest winter months, Barnard says.

That's not good enough, Yates contends. The cruise line's lifeblood is the booking of weddings and other private events years in advance. A last-minute rush of water from a warmer climate's erratic storms could lead to disastrous last-minute cancellations.

"I need certainty, this is why it's so important to me," Yates says.

Climate change means a world of uncertain, erratic events, and TriMet and other large institutions are right to try to plan for it, says Bob Doppelt, director of the Climate Leadership Initiative at the University of Oregon.

"This historic planning for infrastructure really is no longer relevant for climate change -- that's the biggest issue," he says. "You've got to say look forward rather than backward and say, 'What are the most likely scenarios?' and plan for them."

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