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Stimulating high technology and science

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PROVIDENCE — As state transportation officials rush to prepare bridge and highway projects to take advantage of the national economic stimulus package, the state's leading scientists are quietly plotting their own strategies for netting federal aid.

Researchers at companies, hospitals and universities have been drawing up plans for projects that could qualify for the billions of dollars the federal government is expected to spend on alternative-energy and life-sciences initiatives.

"It's staggering dollars," said Fred S. Hashway Jr., the government affairs director at the state Economic Development Corporation.

Unlike construction and manufacturing, state officials say, science and technology projects would generate high-wage jobs that would survive a sharp dip in financing after an economic recovery.

In recent years, the state has invested in joint projects by researchers at universities, companies and hospitals, hoping to speed the creation of technologies that could be marketed by new, homegrown businesses.

Yesterday, the Science and Technology Advisory Council gave out \$1.5 million for seven such projects, including improved technology for prosthetic legs and an electricity generator powered by ocean waves. This is the third year the council has distributed the Collaborative Research Awards, providing \$3 million to 17 research teams since 2007 and "spawning entire new industries."

That state spending has helped Rhode Island qualify for \$6.75 million in National Science Foundation grants. This spring, the state will learn if it has received an additional five-year, \$20-million grant from the NSF.

The potential stimulus funds would dwarf existing programs if the total allocation for Rhode Island comes even close to recent estimates of \$3 billion. Not clear, however, is how federal agencies will distribute that money or how much will be available for science and technology.

Not known, for example, is whether individual technology companies will be eligible for federal grants, or what research areas will be favored in the scramble for funds.

Disputes over permits for alternative-energy projects promise to slow the use of major public investments, making them less attractive to lawmakers hoping to quickly repair the country's sickly economy.

By contrast, the process for financing transportation initiatives is widely understood, one reason that projects involving jackhammers and concrete mixers have received more attention than those requiring centrifuges and petri dishes.

"They are all big question marks right now," Governor Carcieri said in an interview yesterday, discussing the challenges of publicly financing research into science and technology. "How do you make sure that is being done well?"

The typically slow pace of research has also raised questions about whether there will be significant federal spending for the type of cutting-edge life-sciences companies Rhode Island has sought to grow. In the biopharmaceutical industry, for example, a new drug takes an average of 15 years to reach the market.

The stimulus plan is "all about job stimulation," said Kimball Hall, a vice president at Amgen Inc., one of the world's largest biopharmaceutical companies. Scientific research, she said, "does not always create jobs immediately."

Still, promoters of increased research in Rhode Island expect President Obama to make good on promises to use the stimulus package for more than traditional public-works projects.

"A bridge does not keep generating revenue," said Jeffrey R. Seemann, dean of the College of Environment and Life Sciences at the University of Rhode Island and a co-chairman of the three-year-old Science and Technology Advisory Council. "It's just as critical that we make investments that will pay off in the long run."

J. Michael Saul, acting head of the EDC, says he is spending 20 hours per week reviewing innovative projects that might be eligible for stimulus money.

There is no database comparable to the "shovel-ready" lists drawn up by transportation officials across the country. But preliminary reviews have apparently begun analyzing the potential for building gargantuan biomedical research complexes in the Jewelry District in Providence and on land made available by the relocation of Route 195.

Other possible pitches for the state's congressional delegation — including plans previously shelved for lack of financial backing — include transmission lines for potential offshore wind farms, training programs to provide staff to Amgen and other large life-sciences employers and a pilot biopharmaceutical production facility for educating workers and aiding start-ups.

"This is the chance," Seemann said yesterday. "As this evolves, we will show more and more what our

bridges look like.”

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