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JAPA Article Calls on Planners to Help End Inaccuracies in Public Project Revenue Forecasting

CHICAGO — A new study on the inaccuracies of road and rail project revenue forecasts was published in the Spring 2005 edition of the *Journal of the American Planning Association (JAPA)*, the scholarly journal for the American Planning Association (APA).

"How (In)accurate Are Demand Forecasts in Public Works Projects?" examines 183 road and 27 rail projects in 14 countries on five continents, including in the U.S. It found that rail passenger forecasts were overestimated by 106 percent on average, resulting in an actual ridership of less than half of that predicted. For 9 of 10 rail projects, estimates were high, according to the study. One project in eight overshot estimates by more than 400 percent. The study also noted that forecasts are no more accurate now than they were 10, 20, and 30 years ago.

The article was written by Bent Flyvbjerg, planning professor at Denmark's Aalborg University; Mette K. Skamris Holm, former planning professor; and Soren L. Buhl, associate professor of mathematics at Aalborg University.

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"My team and I were shocked by our findings. For professional forecasters to be wrong by more than 100 percent and to make no improvement for decades is unheard of. Simple forecasting errors cannot explain this," Flyvbjerg said. "By routinely overestimating benefits and underestimating costs, promoters make their projects look good on paper, which helps get them approved and built. The only ones to pay are the taxpayers."

The study also covers road investments. For road projects studied, half of all traffic forecasts were found to be wrong by more than 20 percent. This is better than for rail forecasts. But for roads, too, there has been no improvement in the accuracy of forecasts for 30 years, despite millions of dollars spent on improving forecasting models.

"It is the responsibility of the journal to share international research and encourage conversations throughout the world that can lead to improvements and enhancements of our current planning practices, including in the U.S.," said David Sawicki, editor of *JAPA*. "The paper provides a cautionary tale for all projects, including those in the U.S. A report by the Federal Transit Administration, due out soon for U.S. projects, should speak more directly to the American situation."

The authors call on planners to take an active role in helping generate more accurate forecasts for public projects, including road and rail projects. They recommend that planners use the reference class forecasting method to reduce inaccuracy and bias in forecasts. The method requires taking an "outside view" on the project being forecasted by examining similar projects, creating a distribution of outcomes for the reference class, and then positioning the project within that distribution. Reference class forecasting typically produces more accurate results because it does not focus on the specifics of a project nor on the potential outcomes that could unduly influence it.

APA encourages planners to use reference class forecasting in addition to traditional methods as a way to improve accuracy. The reference class forecasting method is beneficial for non-routine projects such as stadiums, museums, exhibit centers, and other local one-off projects. Planners should never rely solely on civil engineering technology as a way to generate project forecasts.

Additionally, the authors encourage greater public participation and transparency for all public projects, not just those for roads and rail. Planning and building communities of lasting value cannot be achieved in isolation. *JAPA* published this study to help initiate dialogue among planners, business leaders, elected officials, and citizens

about forecasts for public projects.

JAPA and its predecessor publications date back to 1915. It has been published under the current name since 1979, when the American Institute of Planners and American Society of Planning Officials were consolidated as the American Planning Association. In 2003, *JAPA* was recognized with a bronze award for general excellence from the Society of National Association Publications.

A copy of the article is available by contacting Roberta Rewers at 312-786-6395 or at rrewers@planning.org.

Facts About the Study

- Focuses on inaccuracy in rail and road travel demand forecasting.
- Includes 210 large rail and road projects located in 14 countries on five continents.
- Rail passenger forecasts were found to be overestimated by 106 percent on average, resulting in an actual ridership of less than half of that predicted.
- Half of all road traffic forecasts were wrong by more than 20 percent.
- The project portfolio is worth US\$59 billion.
- The project types are urban rail, high-speed rail, conventional rail, and various types of road.
- The study is the largest of its kind, allowing, for the first time, statistically significant conclusions about the accuracy of traffic forecasts.

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