

# Estimates of price elasticity of demand for urban freeway use with high-frequency control variables: the case of Santiago, Chile

[Louis de Grange](#)<sup>a\*</sup>, [Felipe González](#)<sup>a</sup> & [Rodrigo Troncoso](#)

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## **Abstract**

Estimates are presented of toll and fuel price elasticities of demand for urban freeway use in Santiago, Chile. High-frequency toll and vehicle data were collected from four urban freeways for different route segments and times of day. Estimation was performed using log-linear regression models whose explanatory variables were tolls, fuel prices, city traffic levels and sets of dichotomous variables to control for daily, weekly and monthly seasonality. City traffic is a high frequency control of the activity level of the city. The elasticities to changes in tolls and fuel were all low in absolute value. The toll elasticities were below 0.05 for two freeways and 0.16 for the third, while for the fourth, which had more alternative routes, it was 0.47. The fuel price elasticities were also heterogeneous, with values of approximately 0.45 for two freeways and 0.21 for the third whereas for the fourth, which had the fewest alternatives, it was 0.07.

## **Keywords**

- [elasticity](#),
- [urban freeway](#),
- [tolls](#),
- [fuel price](#),
- [control variables](#),

- [seasonality](#),
- [endogeneity](#),
- [R41](#),
- [L91](#),
- [C21](#)