

# Framework for transportation agencies to improve ramp control strategies

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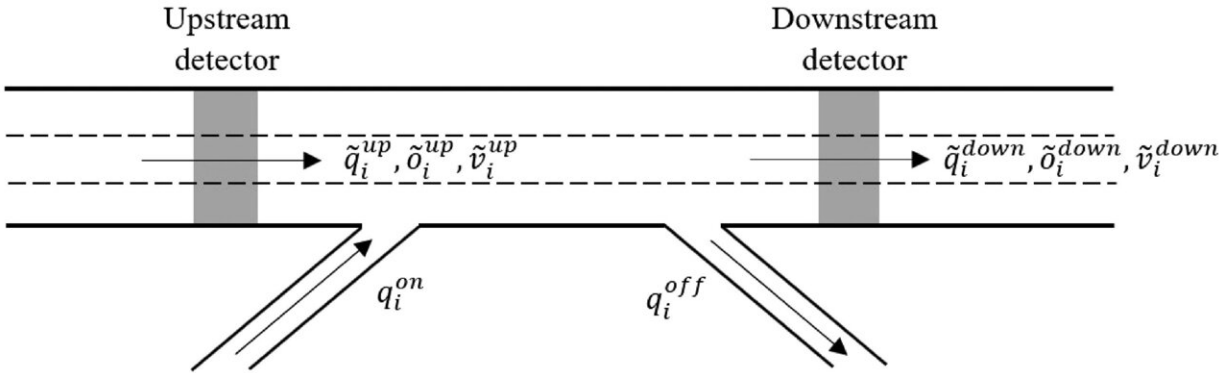


Illustration of a qualitative freeway stretch. Credit: *Journal of Intelligent Transportation Systems* (2024). DOI: 10.1080/15472450.2023.2301696

New research [published](#) in the *Journal of Intelligent Transportation Systems* titled "Data-driven transfer learning framework for estimating on-ramp and off-ramp traffic flows" introduces a data-driven framework using transfer learning to estimate freeway ramp flows accurately from mainline loop detector data.

SUNY Polytechnic Institute Assistant Professor of Transportation Engineering, Dr. Abolfazl Karimpour, and peers from the University of Arizona were involved in the study.

To develop the most appropriate control strategy and monitor, maintain,

and evaluate the traffic performance of the freeway weaving areas, Departments of Transportation need access to [traffic](#) flows at each pair of on-ramp and off-ramp, Karimpour explains. However, ramp flows are not always available to transportation agencies.

The estimated ramp flows based on the newly proposed [framework](#) by Karimpour and peers, can help transportation agencies enhance the operations of their ramp control strategies for locations where physical sensors are not installed.

**More information:** Xiaobo Ma et al, Data-driven transfer learning framework for estimating on-ramp and off-ramp traffic flows, *Journal of Intelligent Transportation Systems* (2024). [DOI: 10.1080/15472450.2023.2301696](#)

Provided by Suny Polytechnic Institute

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