

STATICS

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jpcise@austincc.edu & New York Times, August 30, 2019 by Azi Paybarah & Nate Schweber

The City's Most Hated Bridge Gets a Nearly \$1 Billion Makeover

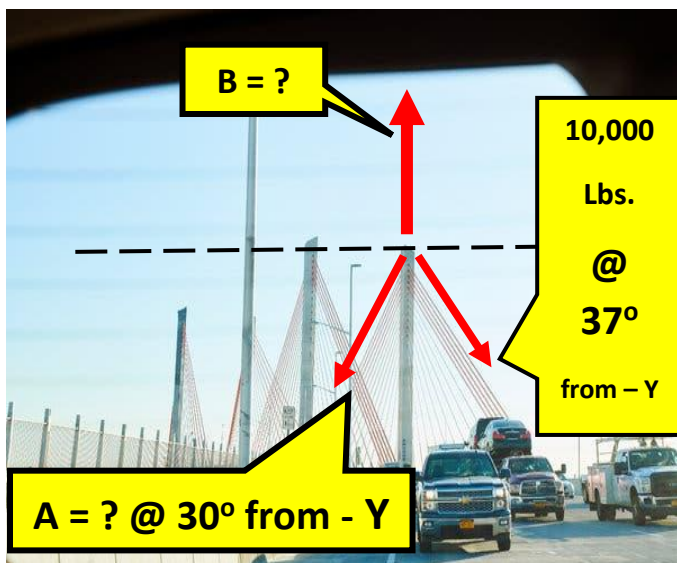
Motorists, cyclists and pedestrians marveled at the opening of the second span of the Kosciuszko Bridge, which connects Brooklyn and Queens.



The second span of the Kosciuszko Bridge opened to pedestrians and cyclists on Wednesday, and motorists on Thursday. A drive over the Kosciuszko Bridge, once known for traffic jams that could provoke the most sedate motorists

into [shouting expletives](#), prompted a different reaction from drivers and cyclists on The second span of the **cable-stayed Kosciuszko Bridge**

(arguably pronounced ko-SHCH-OO-SH-ko), which **connects Brooklyn and Queens over Newtown Creek**, opened to vehicles on Thursday as part of an \$873 million project. The first span opened in 2017. Both spans replaced the crumbling bridge that opened in 1939 and became a despised crossing because of its choking traffic. The bridge also has a **20-foot-wide protected lane for cyclists and pedestrians**, who got to first experience it, and its views of Manhattan, on Wednesday.



INTRODUCTION: To be in static equilibrium: $\Sigma F_x = \Sigma F_y = 0$
Thus, two equations can be set up to solve for two unknowns.

QUESTIONS: (a) Set up two static equations with two unknowns using concept in introduction?, (b) Solve for Forces A & B?

HINTS: Point at top of concrete pillar is in static equilibrium. Thus, sum of forces on that point MUST add up to zero in both the X & Y direction. Two equations can be set up to solve for two unknowns.

ANSWERS: (a)

(b) A = 12,000 lbs.
B = 18,392 lbs.