Graphical interpretation of shock jump condition:

***** slope of secant line in ρ -q=q(ρ) diagram. *****

Again: as shock jump vanishes, this becomes characteristic speed. It is ALL in the Fundamental Diagram:

- characteristic velocity = slope of tangents.
- car velocity = slope of secant through origin.
- shock speed = slope of secant line.

Point out:

Shocks have discontinuity "backwards" in traffic flow. Back to "NOTE" in #023 --- consistent with steepening! What do you expect for river flows? Does it match observations?

MIT OpenCourseWare http://ocw.mit.edu

18.311 Principles of Applied Mathematics Spring 2014

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.