

**SYRACUSE UNIVERSITY
DEPARTMENT OF ECONOMICS**

Economics 741, Urban Economics
Professor Yinger

Fall 2008

Midterm Exam

This is an open-book, take-home exam. You may not work with any other students. You have one week to work on this exam. In other words, it must be turned in to the professor by the beginning of class on Tuesday, October 21.

This exam consists of three questions. The first question is on the next page.

The other two questions come from the “Exercises” at the end of chapter 1.3 in the e-book, *Housing and Commuting*, which is on the professor’s website. Your assignment is to complete one question from Part III and one question from Part IV of those exercises.

1. Comparative Statics (answer both parts)

- a. Suppose households in one of the metropolitan areas hit hardest by the foreclosure crisis decide to minimize their risk by cutting back on the share of their incomes they devote to housing. This area is called Subprime. Assume this is a long-term effect and that people in other areas do not respond in this way. Use comparative statics analysis to derive the impact of this response on the physical size of Subprime. Keep it simple. Assume Subprime is a monocentric city with one income-taste class and with Cobb-Douglas utility and housing-production functions. [Hint: recall that d/dx of a^x is $a^x \ln(x)$.]
- b. Suppose that, over time, the commuting speeds in Drivealot decline because the popularity of non-work trips goes up, even during rush hour. Use comparative statics analysis (and the simplifying assumptions from part a) to derive the impact of this response on the physical size of Drivealot and on the height of the bid function, $P\{u\}$.