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MID TERM EXAM
[1 1/2 hours, answer all questions, **weights are indicated**]

1). (40 points) You have purchased the land and lifts of an older ski resort. You are upgrading the lifts and are master planning the real estate development of the ski resort. After studying other resorts you come up with the following (back of the envelope) regression for the sales price per square foot of residential real estate in similar resorts:

$$P = 300 - 100d - 20F$$

Where d is distance in miles to the lifts and F is FAR.

You ascertain that construction costs will be 140 per square foot regardless of FAR.

a). What does your "optimal" density or FAR gradient look like?

b). How far should you extend development?

c). What is land worth along this gradient?

2). (20 points) It now seems likely that in the future travel costs are likely to undergo long term increases – rather than the decreases of the last century. Oil prices and limited ability to expand highway capacity will all generate rising travel costs. What will be the impact on urban land use?

a). In a Monocentric model, what happens to land prices, employment, and residential density as travel costs increase?

b). In a polycentric model, what happens to land prices, employment, and residential density as travel costs increase?

Carefully explain you answer to each.

3). (20 points) As retail developer you have acquired land next to an existing shopping center and are seeking financing for a second Center. Your lender is *very* skeptical, but you argue that the existence of a center at a location does not mean that this site is a poor choice for developing an (additional) new center.

Using retail market concepts, carefully explain, generally, when doubling the square footage of retail space at a particular location should lead to (more than/less than) a doubling of retail sales in the area?

As a lender what would you propose that the developer do in the way of gathering data to prove his case, configuring the center and insuring its success?

4). (20 points) The department of transportation is planning a major expansion of capacity (adding 1-2 lanes each way) on a region's primary circumferential highway. You are evaluating two investment opportunities.

a). At one intersection there has been lots of office development, the congestion is horrible, and there is some land left for further development in response to the highway expansion.

b). At another intersection, there exists a zoning cap on commercial development, and as a consequence current congestion is very modest.

Evaluate these opportunities – in terms of how rents and hence prices are likely to react to the new highway expansion.