

Reflection Questions

Please consider the following questions before class begins:

- What differentiates real estate from other financial products?
- Why might the **transaction value** of a property differ from its **market value**?
- What market level factors will drive the value of property?



Valuation of real estate – Market research

HADM 4200, Spring 2024

Professor Lauri Kytömaa

Today's class

- Introducing process of commercial real estate valuation
- Connecting urban considerations to valuation process
- Conducting market analysis

Learning objective: Understanding the role of market analysis in valuation

Readings

- *Chapters 7 & 8* of Real Estate Principles: A Value Approach, Ling and Archer.
- *Chapter 10* of Real Estate Finance and Investments, Brueggeman and Fisher.

Upcoming assignments

- PS1 is due today (February 1st) @ 6:00PM
- PS2 will be posted on Tuesday February 6th
- First case study assigned on Thursday February 15th

When do we need to value real estate?

For all sorts of transactions!

- Acquisitions or sales
- Renovation, abandonment, demolition
- Site development
- Property used as collateral for a loan
- Property taxes

Who is going to use appraisal information?

- Buyers & Sellers
- Corporate acquisitions, mergers or dissolutions
- Courts
 - Divorces, eminent domain cases, settlements of estates, and bankruptcy
- Mortgage lenders
- Local government

Differentiating value concepts

Market value

- Most probable selling price under “normal” market conditions

Investment value

- Property value to a *particular* investor – willingness to pay
- Buyer investment value vs seller investment value

Transaction price

- Actual price observe on a sold property

Real estate interests

Fee simple

- Complete and total ownership of a piece of land and its properties
- Most common type of homeownership

Leased Fee

- Land and property held by a landlord/owner when they grant access to a tenant

Leasehold

- Rights held by the tenant or lessee to use or occupy a property for a stated term under the lease agreement

Why do we have estimate market value?

- Real estate assets are all unique and it is not always possible to compare them to each other
 - Physical property, land, location, future expectations
- Large investment which is much more *illiquid* than other financial products
- “**Search costs**” of identifying a property and understanding its valuation can be quite high

Stock market versus real estate assets



Stock market

- Many active buyers and sellers
- Numerous transactions of same asset
- Each stock for a given company is *exactly* the same



Real estate market

- Unique property attributes
- Location differences
- Infrequent transactions with few buyers
- Cannot be moved – future dynamics may also play a key role

Uniform Standard of Professional Appraisal Practice (USPAP)

- U.S. Appraisal Foundation maintains ethical obligations and appraisal standards dictated by USPAP
- All 50-states require real estate appraisers to be licensed or certified and Appraisals Standards Board sets minimum state rules for licensing and certification
- Standard process for completing an appraisal

Valuations process under USPAP

1. Identify the
Appraisal Problem

2. Determine the
Required Scope of
Work

3. Collect Data and
Describe Property

4. Perform Data
Analysis

5. Determine Land
Value

6. Apply Three
Approaches to
Valuation

7. Reconcile
Indicated Values from
Valuation

8. Report Final Value
Estimate

Client, Use, Dates, Rights, Type of value

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Outlining time and personal
requirements

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Market area data (region, city and neighborhood), property data, comparable property data

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Supply & Demand analysis, use
alternatives, outcomes if vacant, outcomes if
improved

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Crucial to have separate land value from the
physical property itself

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- 1) Sales comparison approach,
- 2) Cost approach, 3) income approach

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Weight reliability of the three approaches

Valuations process under USPAP

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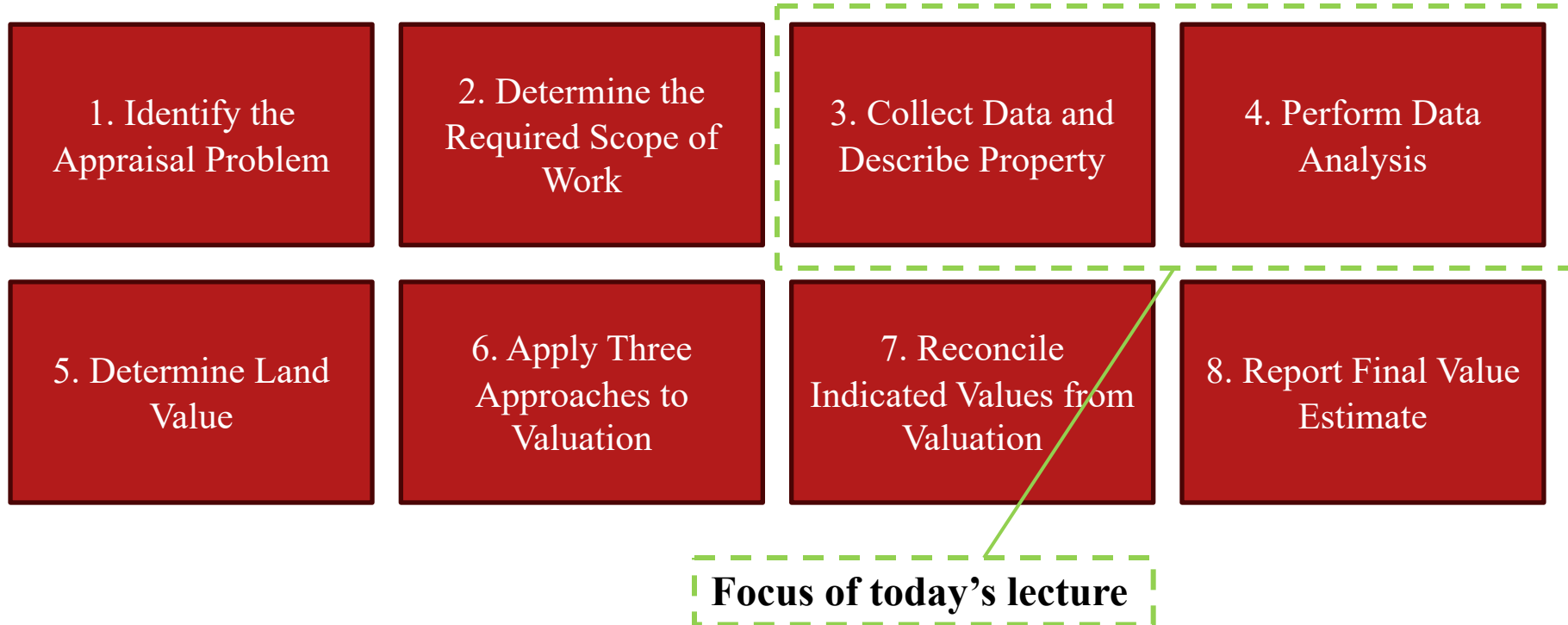
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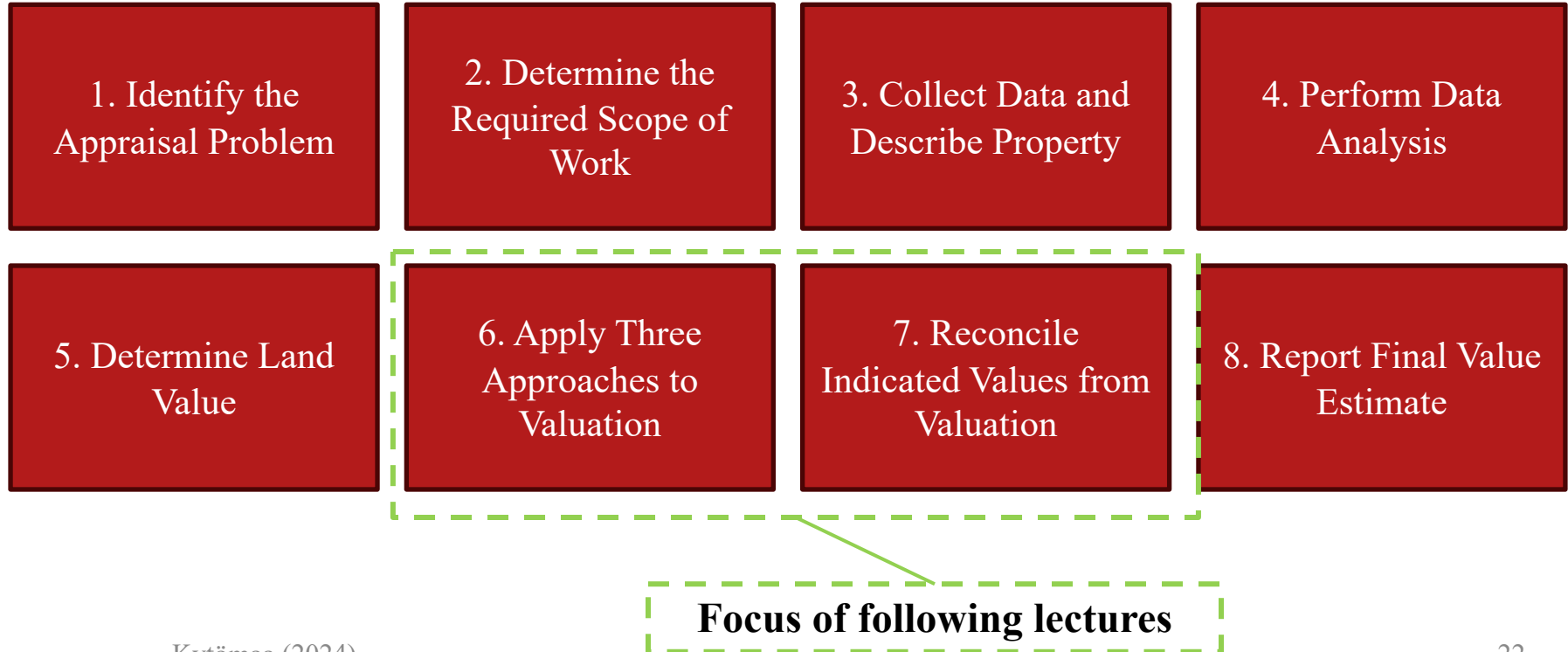
8. Report Final Value
Estimate

Crucial to bring together all the analysis in a
formal appraisal report

Valuations process under USPAP



Valuations process under USPAP



Market research: Numerous competing factors

- Need to access to work, amenities, transportation networks
 - Location!
- Non-location factors depends on our asset
 - *Housing: Style, floorplan, size, financing available*
 - *Retail: **Tenant mix**, parking facilities, visibility, store dimensions*
 - *Offices: Visibility, design, amenities and services, communications services*

Connecting it to our urban theory

- *Scale economies*
- *Agglomeration economies*
- *Retail agglomeration*
- *Transportation costs*
- *Bid-rent model*
- *Urban form*



Residential



Retail



Office

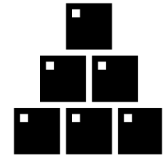


Hospitality

Market segmentation

1. What is the product space?

- Defining features of buildings, location, services



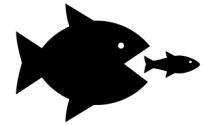
2. Who are our customers?

- Differences in income, tastes, time



3. Who is our competition?

- Comparables, customer substitution patterns



Broad concepts that must be tailored to the relevant market

Market segmentation

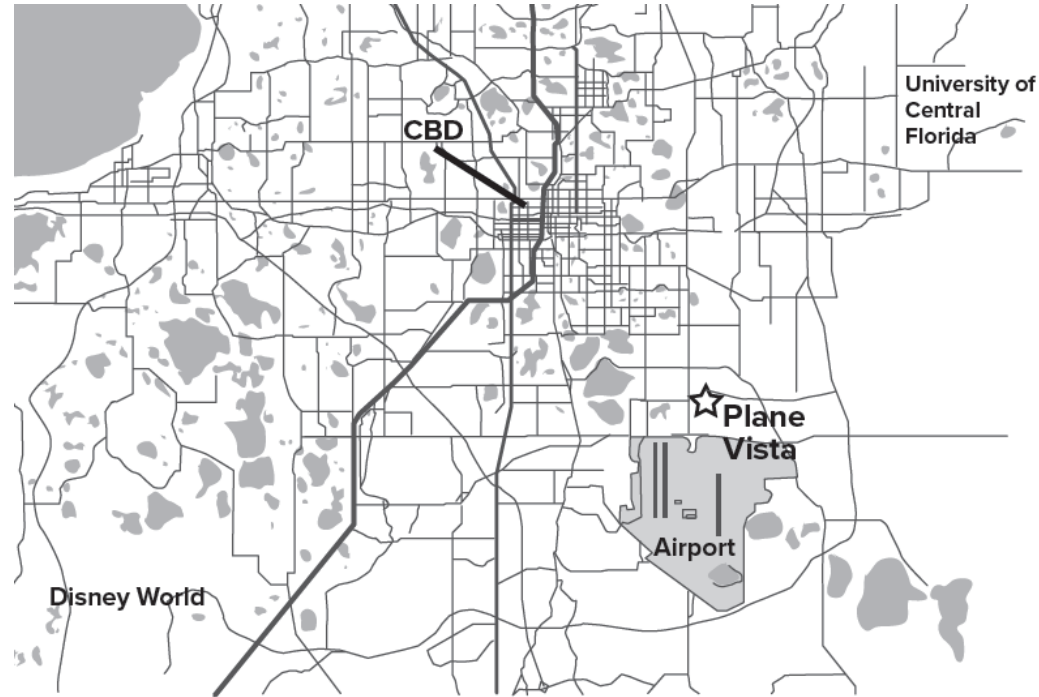
With a definition for the specific market, move to a more quantitative analysis on both the demand and supply-side:

1. **Prices:** Rental rates (apartments), revenue per room (hotels)
2. **Quantities:** Existing capacity in the market
3. **Measures of demand:** Airport arrivals, event attendance, foot traffic, parking usage
4. **Assumptions on future usage:** How will market change? How well will your property fare?
5. **Cost of construction/entry:** How much is a hotel license? Where can we acquire a property? Will it be a new build or a renovation?

Case: Plane Vista Apartments

- Proposed project: Expand apartments from 500 to 900
- Existing project:
 - Four years old
 - High quality, wide variety of floor plans
 - Indoor gymnasium with large weight room
 - Diverse mix of tenants
 - Location: Immediately north of Orlando airport
 - Weakness: Edge of city (at the time); no special amenities

Location of Plane Vista in Orlando



Market analysis for Plane Vista

What is the product?

- Standard design, broad appeal; high-quality “market rate” apartments

Who are the customers?

- Assume a broad spectrum of working rental households
- Upper third of rental household income distribution

Market analysis for Plane Vista

Where are the customers?

- Initial assumption: Persons employed throughout east, south and central Orlando
- Influenced by commuting distance to work

What do customers like about Plane Vista?

- Should be well known from existing project
- Easily determined by asking tenants

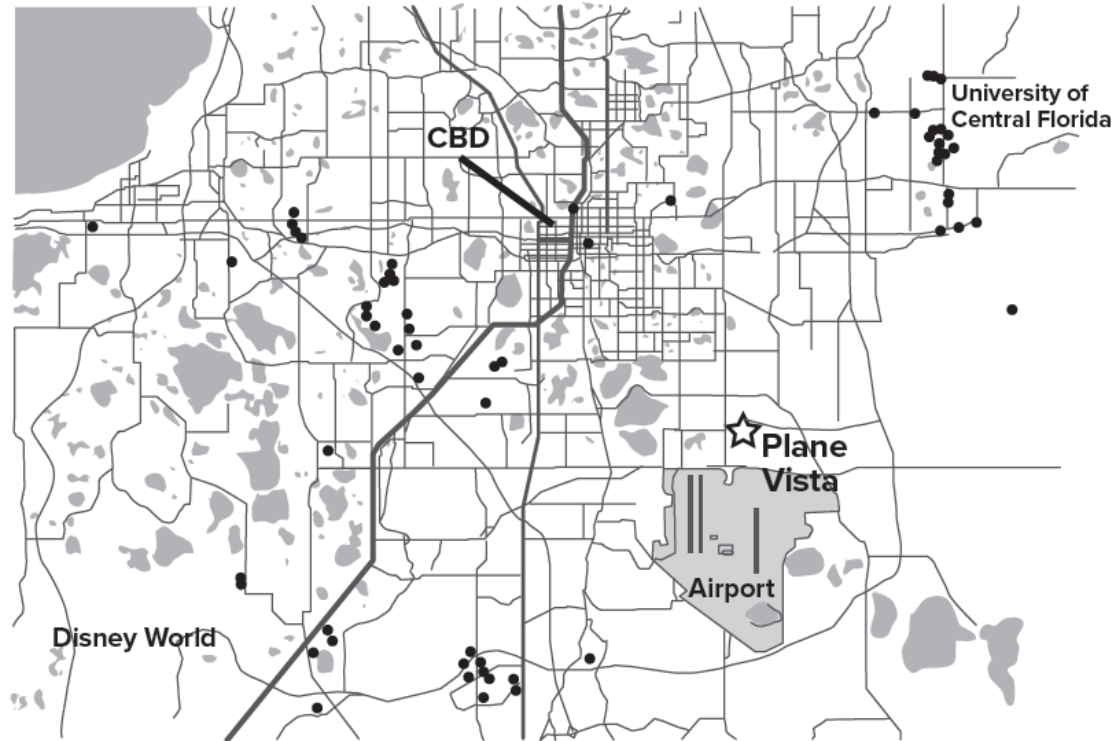
Data collection for Plane Vista

Key question: How does Plane Vista compare to other apartment projects for job commuting?

Must examine:

- Locations of new, high-quality apartments
 - Obtained apartment locations from real estate data firm
- Where jobs are concentrated
 - No simple information on job locations

Locations of recently built apartments



Constructing Estimates of Job Locations

- Available job-related data:
 - Property appraiser's database on 43,000 business and government properties
 - Square footage of structures
 - Location by geographic coordinates
 - Classified by over 200 land use categories
 - **U.S. Bureau of Labor Statistics website:**
 - County employment by NAICS detailed category

Where People Work in Orlando



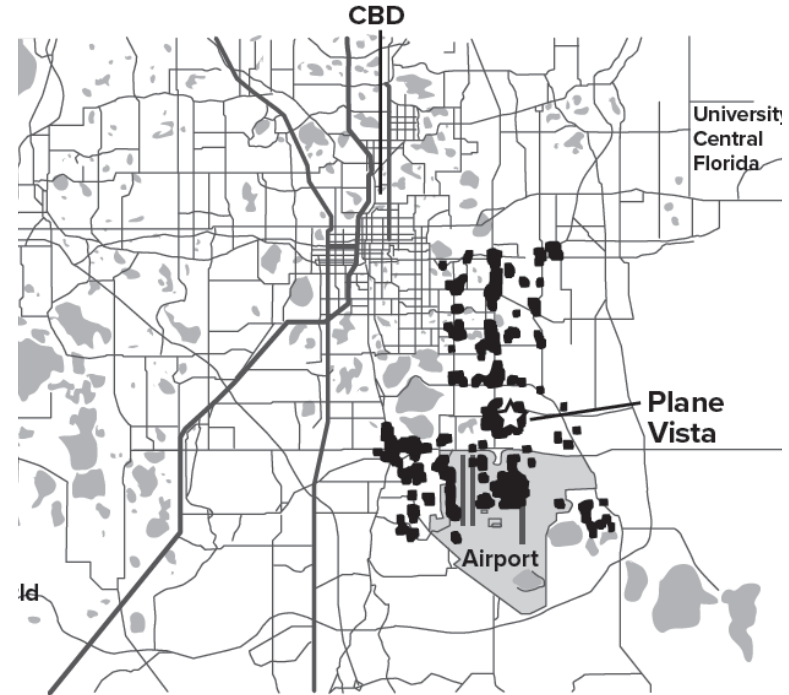
Initial market analysis

- Pattern of new apartments is a surprise:
 - Most new apartments are distant from Plane Vista
 - Plane Vista seems isolated from larger Orlando
- Jobs map shows a similar clustering:
 - Jobs concentrated at airport and directly north
 - Jobs scarce in immediate south, west, and east

Revising strategy – Airport Island

New Assumption:
75% of Plane Vista
occupants work on “airport
island.”

Future of Plane Vista market
depends on
“airport island”



Data collection for Airport Island

New job research for airport island:

- Total of jobs on airport island is 25,000
- Airport expects to add 750 per year
- New firms will add 550 jobs in next year
- Summary: Near-term job growth at 5.2% per year
- Compares favorably to Orlando job growth of 2.5%

New apartment research for airport island

- Construction permits for other apartments are zero
- Competitive units total about 3,500 with 90% occupancy
- Market appears able to “absorb” 5.2% (175) growth in competitive units per year over next 3 years

Key assumptions

- All else equal, apartment rental rates grow at the rate of inflation
- Job growth drives apartment demand on airport island
- No other new apartments for two years

Projections of Critical Parameters for Plane Vista

	(Projection Date: January, Year 1)				
	Year 1	Year 2	Year 3*	Year 4	Year 5
Total units	500	500	900	900	900
Occupancy	90%	91-93%	90-93%	91-95%	92-95% [†]
Rental rate growth	0%	1-2%	2-3%	2-4%	2-4% [‡]

*Initial Year of Phase II.

[†]Occupancy projections assume that demand growth is 150 to 300 units per year, with an initial base demand of 3,500 units in the relevant market segments.

[‡]It is assumed that continued strong growth of employment will bring a new supply of apartments into the market, limiting further occupancy and rental rate gains.

Some Final Observations on the Plane Vista Analysis

A market analysis is always a story

- No market analysis is purely numbers
- Goal: Put together as much objective evidence as possible before making final judgments
- Articulate the key assumptions as clearly as possible (Example: Airport growth was crucial to the Plane Vista story)

Final step: Translating assumptions and data into an estimate of value/future rental income

Questions about the Plane Vista Analysis

- Which of the key assumptions seems most vulnerable to error?
- What could be done to reduce its riskiness?
- Does the projection of job growth on “Airport Island” seem safe?

Getting the data



<https://www.costar.com/products/market-analytics>



<https://str.com/>

MSCI Real Capital Analytics

<https://app.rcanalytics.com/>

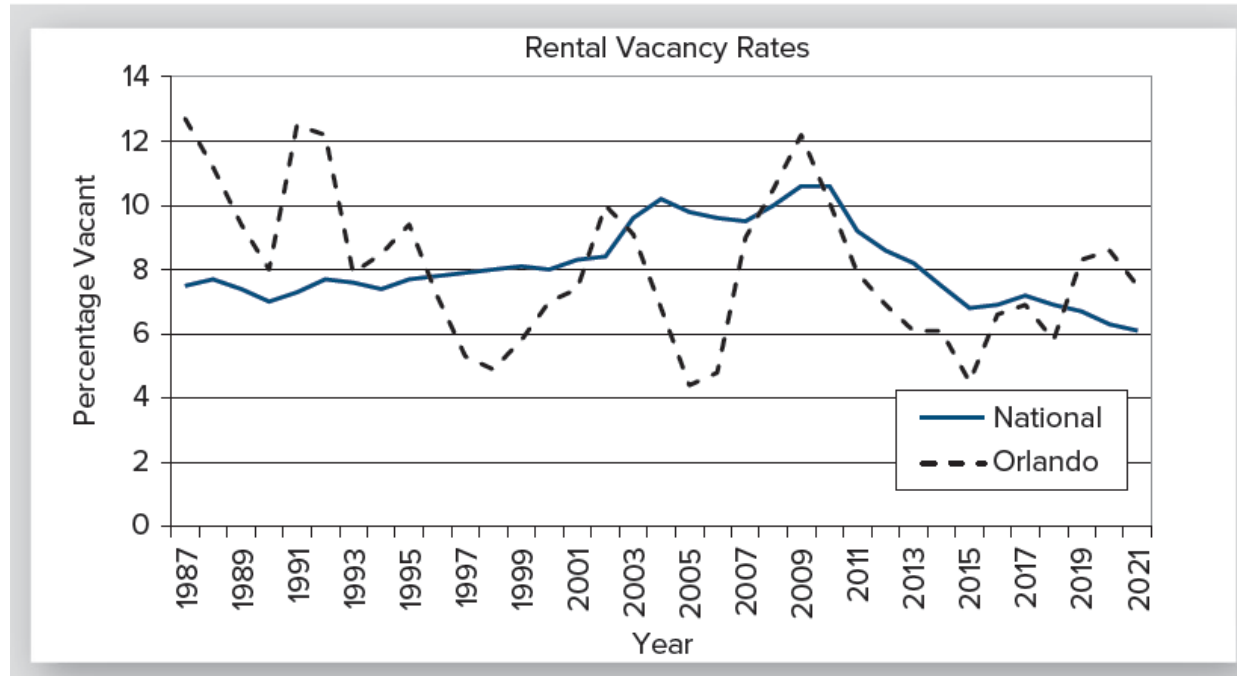


<https://www.esri.com/en-us/arcgis/about-arcgis/overview>

Real Estate Market Cycles

- Real estate markets differ in cyclicality
 - Office demand follow business cycles, and is very cyclical
 - Apartments are less so - households must live somewhere
 - Buildings with long leases can be the least cyclical
- Longer construction lead time means more cyclicality
- Poorer market information means more cyclicality

Apartment Vacancy Rates



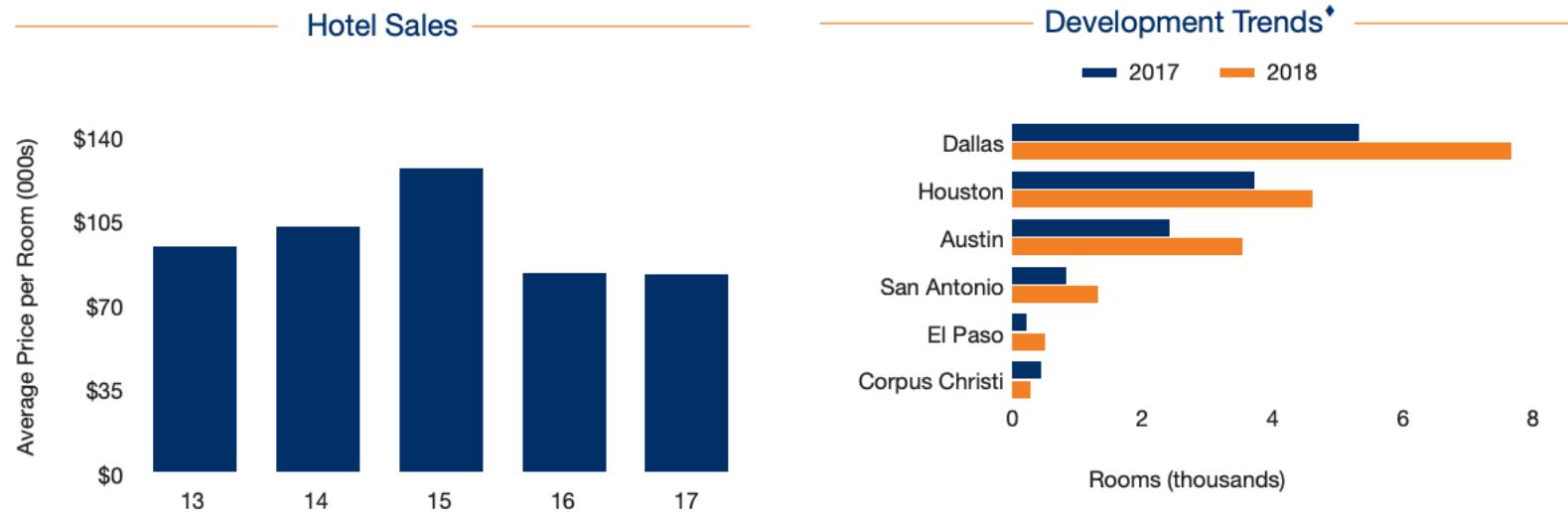
Market research summary

- **Every market analysis is somewhat unique**
 - Unique character and circumstances
 - Unique perceptions and assumptions of the analyst
 - Involves knowledge, skill and inspiration
- **Ways to improve your capacity**
 - Observe and analyze successes **and failures**
 - Compare notes with other observers
 - Go to the site in question; observe it and the activity around it

Building a hotel in Texas (w. slightly dated numbers)



Building a hotel in Texas

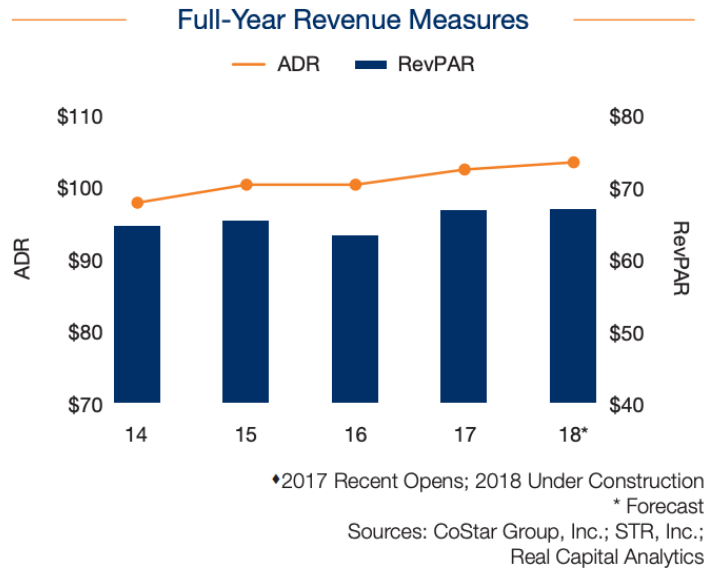


Sources: CoStar Group, Inc.; STR, Inc.;
Real Capital Analytics

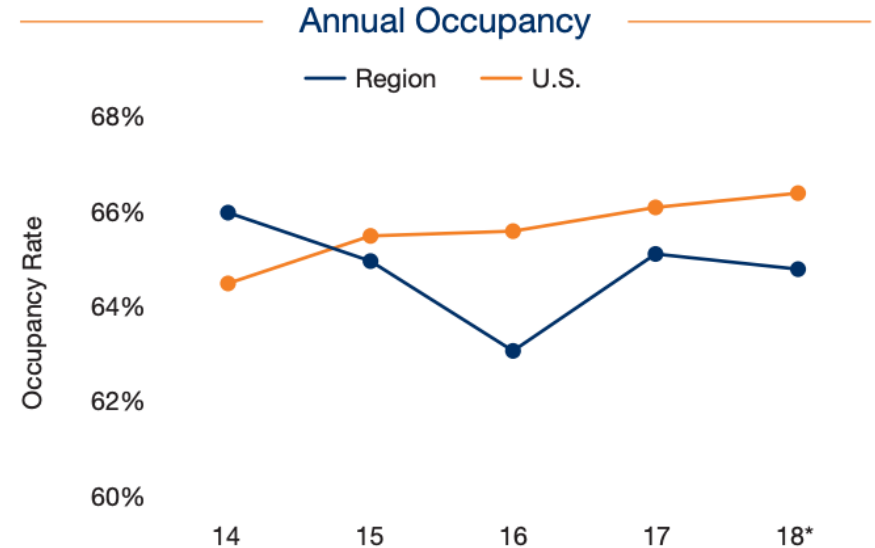
Prices

Quantities

Building a hotel in Texas

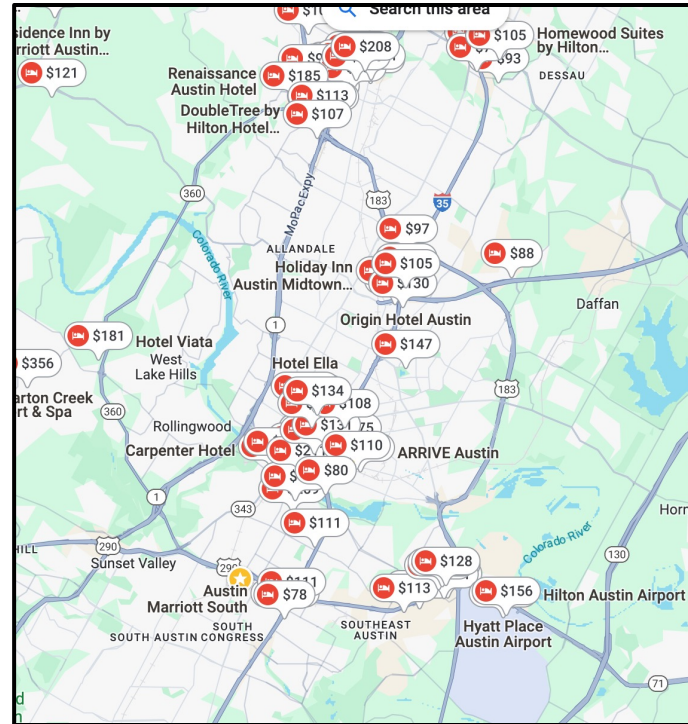


Further profitability measures



Occupancy Trends

Building a hotel in Austin, Texas



Building a hotel in Austin, Texas

Table 1: Hotels and Their Room Counts by Class, September 2016

Class	Guest Rooms	Hotels	Rooms per Hotel
Luxury Class	2,285	11	208
Upper Upscale Class	6,188	20	309
Upscale Class	6,144	39	158
Upper Midscale Class	4,723	41	115
Midscale Class	2,245	22	102
Economy Class	5,612	61	92
All of Travis County	27,197	194	140

Source: Smith Travel Research

EconNorthwest (2017) Feasibility Lab Implementation (Task 3.3C) – Hotel Evaluation

Building a hotel in Austin, Texas

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Source: Smith Travel Research

Table 2: Hotels Under Construction by Class, September 2016

Class	Guest Rooms	Hotels	Rooms per Hotel
Luxury Class	1,048	1	1,048
Upper Upscale Class	-	-	-
Upscale Class	709	5	142
Upper Midscale Class	204	2	102
Midscale Class	-	-	-
Economy Class	120	1	120
All of Travis County	2,081	9	231

Source: Smith Travel Research

EconNorthwest (2017) Feasibility Lab Implementation (Task
3.3C) – Hotel Evaluation

Building a hotel in Austin, Texas

Table 3: Hotel Closures by Class, 1987-2016

Class	Hotels
Luxury Class	-
Upper Upscale Class	-
Upscale Class	1
Upper Midscale Class	-
Midscale Class	7
Economy Class	21
All of Travis County	29

Source: Smith Travel Research

Table 4: Travis County Hotel Market Conditions,

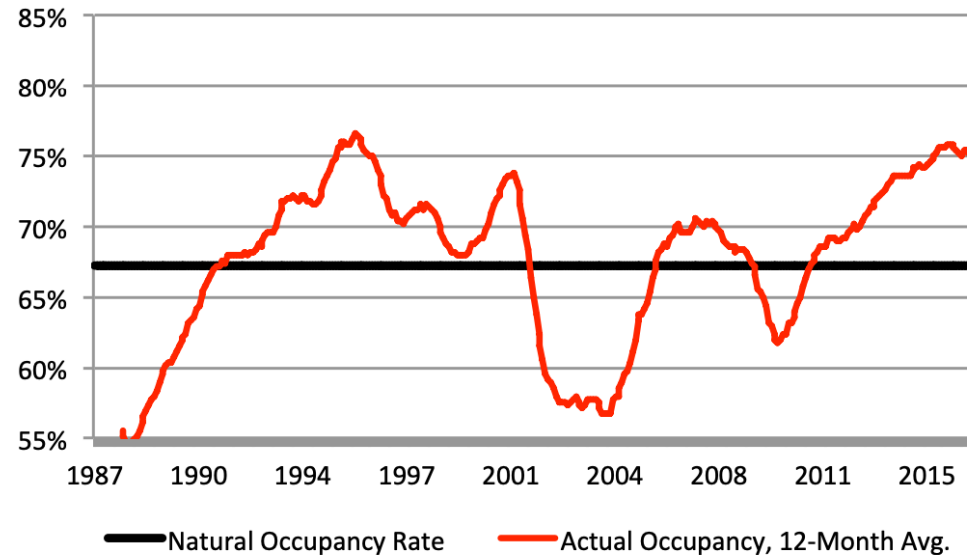
Statistic	Oct. 2015 - Sept. 2016
Room nights available	9,665,035
Room nights sold	7,191,413
Room revenue	\$1,060,878,961
ADR	\$147.52
Occupancy rate	74.4%

Source: Smith Travel Research

EconNorthwest (2017) Feasibility Lab Implementation (Task
3.3C) – Hotel Evaluation

Building a hotel in Austin, Texas

Figure 2: Travis County Hotel Occupancy Rates, 12-Month Moving Average and the Natural Occupancy Rate Since 1987

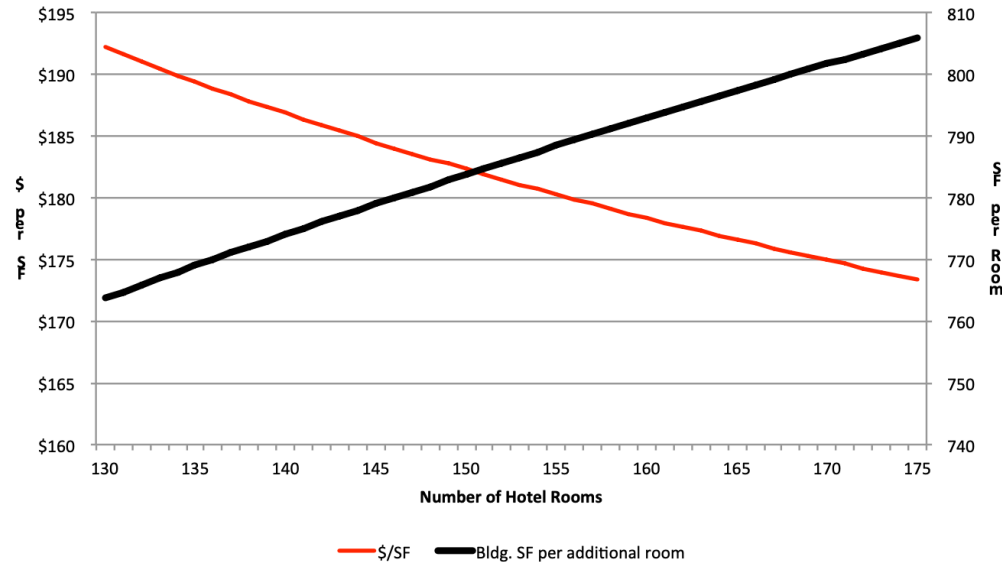


Source: Smith Travel Research

EconNorthwest (2017) Feasibility Lab Implementation (Task 3.3C) – Hotel Evaluation

Building a hotel in Austin, Texas

Figure 4: Cost per Square Foot for Constructing a 10-Story Hotel in Travis County Compared to the Extra Square Feet of Building Needed for Each Additional Hotel Guestroom, 3rd Quarter 2016



Source: RS Means and ECONorthwest

EconNorthwest (2017) Feasibility Lab Implementation (Task 3.3C) – Hotel Evaluation

Actually getting the data

- STR, formerly Smith Travel Research, is the leading provider of hotel data in. Nolan has access to this, but focused on academic use <https://str.com/>
- Texas Comptroller offers incredibly detailed public data on hotels based on hotel occupancy tax collection <https://comptroller.texas.gov/taxes/hotel/>
- Cost estimates for construction is available from various providers, RA Means is one example: <https://www.rsmeans.com/model-pages>