Shady trail essay

Real Estate Finance and Investment Shady Trail case Datum: 31-1-2012 Taco van der Hoest303450 Dave Tettero291138 Executive Summary This report provides an analysis and evaluation of the current and prospective profitability of the Shady Trails property. Methods of analysis include trend, horizontal and vertical analysis as well as calculations such as Return on Assets, Return on Equity, Loan-to-Value ratio and the Gross Rent Multiplier. All calculations are found in the appendices. Original Setup

Using the original assumptions our initial results regarding the desired profitability of the Shady trail are positive: * Net Operating Income (NOI), Cash Flow from Operations (CFO) and Cash Flow after Financing (CFAF) are all positive. * A Loan-to-Value Ratio of 70% is acceptable for a small industrial property. * Gross Rent Multiplier (GRM) of 113 means the property has good market value. * Return on Assets (ROA) of 8. 74% and Return on Equity (ROE) of 12. 4% is positive. * Internal Rate of Return (IRR) is 19% and exceeds the investors’ expectations.

Results of the initial data analysis shows that all financial calculations and ratios are positive. The high ROE and ROA ratios and most importantly the high IRR ratio of 19% leads us to our initial conclusion: we believe that the Shady Trail property is a good investment opportunity for Mr. Lunsford and his investors. After revising the initial assumptions, our consultants have suggested several changes to the original Shady Trail setup: Base rent The base rent of $3. 90 per square foot for Shady Trail is not conform the current market rents. * We advise to adjust the base rent to a more fair priced rate of $3. 5 per square foot. Vacancy The 5% vacancy rate does not reflect the industry and local avg. of 9. 6% and 7. 6% respectively. * As the future

growth rates are mildly positive we suggest a vacancy rate of 7%. Structural reserve Structural reserves on average equal to 1-2% of the property value or 10-20% of the NOI. * The current structural reserve for Shady Trail is undervalued and we recommend to increase the reserve to $60. 000, which reflects a balance between the amount of risk taken and the amount of cash flow reserved for capital improvement expenditures. Management fee

The fee for managing a small property like Shady Trail ranges from $28. 000 to $56. 000 p. a. * We advise to either increase the fee to at least the accepted minimum if our client takes up the job or hire a professional proprietary manager to do the work for our client. Revised Setup After reassessing the Shady Trail property based on our new assumptions our expectations regarding profitability have been moderated, yet we remain positive: * Even though Net Operating Income (NOI), Cash Flow from Operations (CFO) and Cash Flow after Financing (CFAF) have decreased by as much as 30%, these figures are all still written in green numbers. Return on Assets (ROA) of 7. 33% and Return on Equity (ROE) of 7. 66% are less than in the original calculations, but still positive. * The Internal Rate of Return (IRR) has dropped to 11% and thereby performed less than the investors had expected. However, 11% is still a very positive IRR percentage and lies near the 12. 5% IRR desired by the investors. Be it the case that there are no other investment opportunities at hand that yield a higher return, we would advise to invest in the Shady Trail property. Original assessment of the Shady Trail property

Analysis: Using the original assumptions our initial results regarding the desired profitability of the Shady trail are positive: Net Operating Income

(NOI), Cash Flow from Operations (CFO) and Cash Flow after Financing (CFAF) are all positive numbers. Using the Gross Rent Multiplier (GRM) we can roughly estimate the value of the income producing property. For Shady trail the GRM is 113 (Table A3), which means it takes less than 10 years for the property to earn its cost back, which is good considering the depreciable life of the property is almost 40 years.

The Loan-to-Value Ratio (LTV) is the ratio between the balance of loans and the value of the property. It shows the amount of debt used to finance the property and can provide the lender with useful information: a high LTV ratio means a large part of the property is financed through a loan, which makes the owner of the loan more likely to default and thus increasing the risk for the lender. Shady Trails LTV ratio however is 70% (Table A4), which is considered acceptable for a small industrial property. Return on Assets (ROA) of 8. 74% and Return on Equity (ROE) of 12. % are both positive. The ROE (cap-rate) is defined as the cash-flow from operations divided by the market value before financing with any debt. This is a simple approach which assumes that cash flows are equal over various periods. Of course in a more realistic approach these cash-flows are more varying over time. A cap of 8. 74% is reasonable due to the fact that the property is fully occupied by 2 tenants for the next 5 years. So despites this there is the guarantee that the building will be fully occupied, and so the risk of vacancy is relatively low.

If the carrying cost for the ROA is lower than the cap-rate, we can say that this mortgage will lead to for higher returns, also called positive leverages, and this also counts for the other way around, so negative leverage can occur. Our debt service is 7. 19%, which is lower than our cap-rate of 8. 74%,

our financial debt is increasing our returns. Internal Rate of Return (IRR) is 19% and exceeds the investors' expectations of 12. 5%. Results of the initial data analysis shows that all financial calculations and ratios are positive.

The high ROE and ROA ratios and most importantly the high IRR ratio of 19% leads us to our initial conclusion: we believe that the Shady Trail property is a good investment opportunity for Mr. Lunsford and his investors. Revision of assumptions: Base rent Lunsford calculated Shady Trails base rent income based on the fact that both current tenants are willing to extend their leases at the current market rent. Here he makes two assumptions: one, he will not be able to find new tenants that are willing to pay a price that exceeds the cost of bringing in new tenants and two, the current market rent is still $3. per square foot (PSF). We think that he should at least investigate the option of bringing in new tenants and we would definitely change the base rent as the current average base rent PSF for competitive properties is as low as $3. 30 PSF (Table D). One note we would like to add is the fact that we disregarded the high average asking rate of $3. 91 PSF in the Stemmons sub- market (Exhibit 6) since both the exact price buildup and the comparability of the properties is unknown to us. Vacancy The vacancy rate of 5% used in Lunsfords calculation seems too optimistic in our opinion.

As the industry average in Dallas equaled 9. 6% with a 7. 6% vacancy rate for the Stemmons sub-market (Exhibit 6) where Shady Trail was located, we would certainly change this number more towards the 6-11% range depending on the economic situation. As the future growth rates are mildly positive, we would lean towards a vacancy rate between 6-8%. Structural reserve Adding a structural reserve is a must, as capital intensive

expenditures such as the replacement of a roof cannot be passed on to the tenants and must be paid by the owner of the property.

The average capital improvement expenditure equals to 1-2% of the property value or 10-20% or the NOI, which in the case of the Shady Trail property result in ranges from $40. 000-$80. 000 when calculated using the property value or $42. 400-$84. 800 when you look at the property value using the NOI. This leads us to conclude that Lunsford has undervalued the structural reserve by at least $25. 000. We would argue that the structural reserve for Shady Trail should be increased at least to the minimum of $40. 000 where a reserve of $60. 000 is more ppropriate, based on the average of both the property value and NOI percentages. In this case, there is a balance between the amount of risk taken and the amount of cash flow reserved for capital improvement expenditures. Management fee The management fee of $13. 000 Lunsford proposed is too low in our opinion: in general, management costs for small properties range in the 5-10% of the effective gross income (EGI) per year. Shady Trail is defined as a small property and has an EGI of $557. 000 (Table B1) which based on the mentioned percentages would allow the managerial cost to range from roughly $28. 00 to $56. 000 per year. We see the management fee as an opportunity cost as it absorbs the time and energy of Mr. Lunsford. Instead if another manager could do the job for $13. 000, Mr. Lunsford would certainly hire this manager, so he could earn more money with looking for other jobs/properties. We therefore advise Mr. Lunsford to either raise his fee to a minimum of $28. 000 per year if he decides to perform the job or hire an external manager to

do the job for him. Reassessment of the Shady Trail property based on new assumptions Back of the envelope analysis:

The back of the envelope analysis gives a “ quick and rough” review using easily available information and allows one to get a quick overview of the important financial ratios in order to get a basic understanding of the property value. It follows a step-by-step approach: The first step of the analysis involves a review of the basic facts of the property, such as location, age and condition of the building. The Shady Trail property possesses the following characteristics: + Good location, with easy acces to the freeway system + Relatively new, 5 year old and up to modern standards warehouse + Building is in good condition Environmentally clean – Limited truck turnaround and truck storage space Overall the pros outweigh the cons, so we continue with step 2.. Step 2 of the approach involves comparing the replacement cost of the property with its acquisition cost. Our analysis of table B2 and B3 in Appendix B is summarized as followed: * The price per square foot (PSF) for the Shady Trail warehouse is relatively high compared to the PSFs of other properties. * However, this does not take into account other variables such as ceiling height and year of construction. When these factors are taken into account and Shady Trails’ PSF is compared to properties with similar ceiling heights and years of construction the PSF is on par with the PSF of similar properties . Shady Trail is not vulnerable to competition from new development as the PSF is the going rate for similar properties in the area, which takes us to step 3.. Step 3 involves the actual number crunching setup and encompasses a basic snapshot of the

property’s financial performance at a given point in time, which focusses entirely on cash flows.

After comparing original setup calculations (see Appendix A, B & C) with the setup for the property based on the adjusted assumptions we can provide the following conclusions: Both the NOI and the CFO numbers are significantly lower compared to the original setup, from $349. 600 to $293. 390 resulting from a decrease in the base rent and increase in capital reserves. This also resulted in a lower CFAF: from $148. 152 to $91. 942. These effects also in calculating the ROA and ROE: the ROA decreased from 8. 74% to 7. 3% (Table B3), which isn’t a significant change and still a positive value, but the ROE did change from 12. 4% to 7. 66%, which is more than a third of its initial percentage. The after tax internal rate of return (IRR) of 12. 5% desired by the investors also cannot be achieved after the adjusted assumptions are calculated: the new IRR is only 11% compared to the original IRR of 19%. Even though this is a sharp decrease, Shady Trail is still a profitable investment to make, just not that profitable as the investors would have liked to see.

Depending on whether there are other investments available that yield a higher return, we would still advise to invest in the Shady Trail property as it still generates a positive return and the difference between the expected IRR of 12, 5% and the actual IRR of 11% is minimal. Reevaluating the property value Following our calculation of the IRR, we can use this formula to calculate the property value in order to achieve an IRR of 12. 5% over our equity investment of $1. 200. 000. Solving this, we find that x = $70. 291.

This amount cannot be added to the sale price, because this is based on the market value of the property and is fixed.

Therefore we have to deduct the $70. 291 from out purchase price of $4. 000. 000, which leads to a purchase price of $3. 929. 709. Appendix A Table A1 Cap Rate (ROE) Cap Rate = Annual net operating incomeCost (or Value)= 293. 3904. 000. 000 = 7. 33% Cap Rate =
Annual net operating incomeCost (or Value)= 293. 3904. 000. 000 = 7. 33% Table A2 Cash on Cash (ROE) Cash on Cash=
Cash flow after FinancingEquity= 223. 0001. 200. 000 = 18. 58%
Cash on Cash= Cash flow after FinancingEquity= 223. 0001. 200. 000 = 18. 58% GRM= Sales PriceMonthly Potential Gross Income= 4. 000. 000424. 000/12 = 113 GRM= Sales PriceMonthly Potential Gross Income= 4. 00. 000424. 000/12 = 113 Table A3 Gross Rent Multiplier LTV= Balance of LoansMarket Value x 100= 2. 800. 0004. 000. 000 = 70% LTV= Balance of LoansMarket Value x 100= 2. 800. 0004. 000. 000 = 70% Table A4 Loan-to-Value Ratio Appendix B: Table B1 Effective Gross Income EGI = Gross income – Vacancy rate = $586. 000 – $29. 000 = $557. 000. 5-10% of $557. 000 equals $27. 850-$55. 700. Table B2 Sales Summary Chart Nr. | Sales Price ($)| Square foot| Price per SF ($) | Ceiling Height (ft.)| Year Built| 1| 5. 280. 000| 220. 000| 24| 24| 1996| 2| 10. 200. 000| 300. 000| 34| 28| 1997| 3| 2. 640. 000| 80. 000| 33| 22| 1988| | 2. 640. 000| 62. 000| 21| 18| 1971| 5| 1. 302. 000| 62. 000| 28| 24| 1992| ST| 4. 000. 000| 120. 000| 33| 24| 1993| Shady trail price per square foot = Building priceTotal building erea = 4. 000. 000120. 000= $33. 33 Table B3 Capitalization Rate (ROA) Cap Rate =
Annual net operating incomeCost (or Value)= 293. 3904. 000. 000 = 7. 33%

Cap Rate = Annual net operating incomeCost (or Value)= 293. 3904. 000. 000 = 7. 33% Table B4 Cash on Cash (ROE) Cash on Cash= Cash flow after FinancingEquity= 91. 9421. 200. 000 = 7. 66%

Cash on Cash= Cash flow after FinancingEquity= 91. 9421. 200. 000 = 7. 66% Table B5 Gross Rent Multiplier

GRM= Sales PriceMonthly potential gross income= 4. 000. 00032. 500 ? 123

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LTV Ratio= Balance of LoansMarket Value*100 = 2. 800. 0004. 000. 000 = 70% LTV Ratio= Balance of LoansMarket Value*100 = 2. 800. 0004. 000. 000 = 70% Table B6 Loan-to-Value Ratio Appendix C: Table C1 Cash Flow before Financing | | | | | | | | | | | | | | | In $| | Base Rent ($3. 25 PSF x 120. 000 SF)| 390. 000| +| Expense Reimbursements| | 133. 000| =| Gross Income| | | 523. 000| -| Vacancy Rate @ 7%| | 36. 610| =| Adjusted gross income| | 486. 390| -| General expenses| | | 27. 000| | Real estate taxes| | | 66. 000| -| Insurance| | | | 12. 000| -| Management fee| | | 28. 000| -| Capital reserves| | | 60. 000| =| Cash flow from Operations| | 293. 390| -| Tenant Improvements| | 0| -| Leasing Commissions| | 0| =| Cash flow before Financing | | 293. 390| | | | | | | Table C2 Cash Flow after Financing | | | | | | | | | | In $| | Cash Flow before Financing| | 293. 390| -| Debt Service| | | 201. 448| =| Cash Flow after Financing (CFAF)| 91. 942| | | | | | Table C3 Taxable Income | | | | | | | | | | | | | Cash flow before Financing| | 293. 390| -| Depreciation| | | 87. 179| -| Interest| | | | 167. 64| +| Principal| | | | 34. 384| +| Capital reserve| | | 60. 000| =| Taxable Income| | | 133. 531| | Tax rate @ 35%| | | 46. 736| | | | | | | Table C4 After tax Cash Flow | | | | | | | | | | | Cash flow after Financing (CFAF)| 91. 942| -| Taxes| | | | 46. 739| | After-Tax Cash flow| | 45.

206| | | | | | | Table C5 Book value | | | | | | | | | | | | | Purchase Price| | | 4. 000. 000| +| Capital Expenditures| | 300. 000| -| Depreciation| | | 435. 895| =| Net book value| | | 3. 864. 105| | | | | | | Table C6 Net Sales Price | | | | | | | | | | | | | | Base rent*? | | | 452. 116| +| Expense *? | | 154183| =| Gross income| | | 606. 299| -| Vacancy @ 7%| | | 36610| =| Adjusted Gross income| | 569. 689| -| Operating Expenses| | | 154. 183| -| Capital reserves| | | 60. 000| =| Cash flow from Operations| | 355. 506| | | | | | | Table C7 Net Sales Price | | | | | | | | | | | | | | Base rent*? | | | 452. 116| +| Expense *? | | | 154. 183| =| Gross income| | | 606. 299| -| Vacancy @ 7%| | | 36. 610| =| Adjusted Gross income| | 569. 689| -| Operating Expenses| | | 154. 183| -| Capital reserves| | | 60. 000| =| Cash flow from Operations| | 355. 506| | | | | | | Net sales price – 5% Transaction cost*? | | 4. 08. 096| | | | | | | *? | (3. 25*1. 03^5)*120. 000| | | *? | 133. 000*1. 03^5| | | | *? | 0. 95*(293. 390*1. 03^5)/0. 0733)| | | | | | | | Table C8 Taxable Gain | | | | | | | | | | | | | | Net Sales Price| | | 4. 408. 096| -| Book Value| | | 3. 864. 105| =| Gain| | | | 543. 991| | | | | | | Table C9 Taxes due to Taxable Gain | | | | | | | | | | | | | | Gain| | | 543. 991| | -| Depreciation| | 435. 895| | -| Tax rate @ 25%| | | 108. 974| =| Balance of Gain| | 108. 096| | -| Tax rate @ 15%| | | 16. 214| =| Total taxes due| | | 125. 188| | | | | | | Table C10 Sales proceeds after tax | | | | | | | | | | | | | Net sales price| | | 4. 408. 096| -| Mortgage balance end 2003| | 2. 605. 521| -| Taxes| | | | 125188| =| Net cash from sale| | | 1. 677. 387| | | | | | | Table C11 Cash flow after taxes (CFAT) and Cash flow after financing (CFAF) | | | | | | | | | | | | | | | | | | | | | | | 1999| 2000| 2001| 2002| 2003| | Cash flow from Operations| 293. 390| 293. 390| 293. 390| 293. 390| 293. 390| -| Depreciation| | 87. 179| 87. 179| 87. 179| 87. 179| 87. 179| -| Debt service| | 201. 448| 201. 448| 201. 448| 201. 448| 201. 448| | | | | 4.

763| 4. 763| 4. 763| 4. 763| 4. 763| +| Principal| | | 34. 384| 36. 05| 38. 756| 41. 147| 43. 604| +| Capital Reserve| | 60. 000| 60. 000| 60. 000| 60. 000| 60. 000| | Taxable income| | 99. 147| 101. 268| 103. 519| 105. 910| 108. 367| | | | | | | | | | | | | | | | | | | | | Tax rate| | | 35%| 35%| 35%| 35%| 35%| | | | | | | | | | | | CFAF| | | 91. 942| 91. 942| 91. 942| 91. 942| 91. 942| -| Taxes| | | 34701| 35444| 36232| 37069| 37928| | CFAT| | | 57. 241| 56. 498| 55. 710| 54. 874| 54. 014| | | | | | | | | | Table C11 Internal rate of return (IRR) Initial Equity| | | -1. 200. 000| Year 1 after tax cash flow| | 57. 241| Year 2 after tax cash flow| | 56. 498|

Year 3 after tax cash flow| | 55. 710| Year 4 after tax cash flow| | 54. 874| Year 5 after tax cash flow| | 1. 731. 400| IRR calculation: -1200000

+57241/(1+x)

+56498/(1+x)^2+55710/(1+x)^3+54874/(1+x)^4+1731400/(1+x)^5 = 0

Solving for x results in x = 0. 11. The IRR for the Shady Trail property is thus equal to 11%. Table C12 Property valuation for IRR = 12. 5% -1200000

+109257/(1+x)+108785/(1+x)^2

+107997/(1+x)^3+107160/(1+x)^4+1725010/(1+x)^5= 0 For X we want a IRR of 12, 5% so: +1. 200. 000 = +109257/(1, 125)+108785/(1, 125)^2

+107997/(1, 125)^3+107160/(1, 125)^4+1725010/(1, 125)^5 1. 200. 000 = 1. 129. 709 + x X= 70. 291