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Technical Memorandum

Lublin, Poland
Cash Flow Modeling for Renovation in Old Town

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Unit for Housing and Urbanization
Harvard University, Graduate School of Design

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PADCO, Inc.
1025 Thomas Jefferson Street, NW, Suite 170 Washington, D.C. 20007

Technical Memorandum

POLAND: LUBLIN - OLD TOWN CASH FLOW MODELING FOR RENOVATION

Exploring Funding Strategies and Potential Financial Implications

Introduction

The City Council of Lublin is attempting to effect progressive renovation of the historic and cultural fabric of the Old Town. Despite the paucity of financial resources, both public and private, together with the potential demands upon these, there has already been some impressive activity, both within and adjacent to the Old Town. This has included the upgrading of infrastructure, especially roads and drainage, and selective physical restoration of some of the historical buildings.

Despite this progress, however, the City Council is still faced with a daunting catalogue of demands, for which funding will continue to be difficult to arrange. Moreover, although the physical improvements to buildings within the Old Town will ultimately benefit the occupants of these buildings, there has so far been little response to a number of initiatives to encourage major private sector participation. Thus, although there has been some limited private activity - some of it impressive - it is likely that most of the motivation and funding for renovation will need to be engendered within the City Council.

The City Council has the following concerns in dealing with the restoration of the Old Town:

a) rehabilitation of the historic fabric, including exterior facades and major structural support;

b) rehabilitation of interiors, to facilitate productive use for housing, commerce, culture or public services;

c) upgrading of physical infrastructure, including roads, surface drainage, footpaths, open space, water supply and sewerage;

d) facilitation of adequate and appropriate housing accommodation for Old Town residents, including those displaced from the historic buildings and those who remain;

e) facilitation of access by residents to public services, including education, health, safety and social welfare;

f) improvement of environmental conditions and activities within the various buildings, to reduce pollution of air, water and public open space; and,

g) enhancement of the overall community life of the Old Town as an attractive and welcoming place, both for residents and visitors, within the overall social and economic environment of the City of Lublin as a whole.

Clearly, not all of these activities and facilities should be - nor can be - financed wholly or mainly by the City Council. However, their provision cannot be left to the private market either. Thus, the City Council is attempting to consider alternative ways to use its spatial and regulatory planning responsibility, to marshal public and private resources in partnership, so that the outcomes are beneficial both to individuals and the community.

Exploration of a Financial Strategy

Working as a team, City Council officials, with the participation of specialists from the Unit for Housing and Urbanization of the Harvard University GSD, have been considering a simple model of possible financial strategies, using a single property within the Old Town. The building chosen for this exploratory case study is **No. 30 Grodska Street**. It is currently expected that this will require major structural repairs and restoration, including provision for historic preservation of the physical fabric. It will also require interior improvements, to meet more rigorous environmental standards, and to prepare it for occupancy for both business - on the ground floor - and residential use elsewhere.

One strategy under consideration is to divide the work into two parts. The initial and major restoration would be carried out by the City Council. Then, the entire building, as a structurally sound but otherwise virtually empty shell, would be made available to a TBS, or similar organization, which would carry out the remainder of the interior work. The TBS entity could include the financial participation of those residents intending to remain in the building after completion. It could also avail itself of concessionary loans from the National Housing Fund (BGK, KFM Program), not currently available to the City Council itself.

Both the City Council and the TBS would seek to avail themselves of grants from the Historic Conservation Fund and from the Environmental Fund, both of these controlled at Central Government level. The remaining financing would need to come, respectively, from either the City Council or the TBS. Some, perhaps all, of this funding might need to come from direct and immediate sources. In the case of the City Council, this would be from the budget. For the TBS, the participants, public or private, would likely be expected to provide it, through the initial capitalization. However, it may be that some of the initial capital funding, of both the City Council or the TBS, would be borrowed. This would reduce the immediate funding burden, but engender corresponding later expenditures for debt service. For the purposes only of illustration of implications, the financial model will postulate the borrowing, both by the City Council and the TBS, of more than half of the residual funding requirements.

<u>The Computer Spreadsheet Model</u> (see Annex B for printout)

To illustrate just a single example of a potential funding strategy, a detailed explanation will be given of the numbers included in the chosen example. As with all models, the numbers can be changed. However, it is stressed that the model does not, at this stage, purport to be one which can be used to merely input data to produce operational outputs. Still less does it offer innovative funding mechanisms which can easily overcome the daunting demand for funds. At best, it demonstrates the possible outcomes from working within currently available funding mechanisms, in a relatively high-inflation environment. It is, to some extent, a mere opening of a professional and policy conversation. Indeed, the comments which follow in this memorandum can be perceived of as a contribution to that conversation. The outcome might well be only a warning against proceeding too soon and expecting too much. This could then, at least, engender a search for other alternatives.

The model must also be seen as adjustable, to allow for changes in both policies and legal structure. More precisely, application of the model to specific circumstances will disclose which aspects of these are most likely to be responsive to - or are influenced by - policy adjustments or external economic variables. The latter can include variations in inflation and interest rates, as well as market conditions and valuations relating to property. Indeed, the inputs to the model, as currently presented, will need to be adjusted to conform to observations of ongoing situations. At present, the inputs are mere calculations, albeit based on rational economic assessments.

Because of the many uncertainties, the model does not produce a continuous, integrated, year-by-year, outcome. Instead, it postulates one funding option for the year of the initial (capitalized) expenditures. Then, for a later year, it shows a possible impact of the initial funding options upon the operating finances of that single year. The year chosen for this test is that of 2004, because by then there will be an expiration of current national laws regarding rent controls and tenant security. Assuming that the likely activity will take place no earlier than in 1998, the lag between the capital funding and the operating implications will be set at five years.

Although the date for the test of annual implications is about five years hence, most numbers will be shown in constant 1997 prices. However, loan conditions, because of their monetary implications, will be based on the best available information for current legal requirements. Because of significant inflation, the real values of debt service will therefore impact most heavily in earlier years. As an additional guide, some of the 2004 numbers are also shown with an alternative in inflated numbers, albeit that monetary implications of debt service will remain at their original numbers. This will indicate the decline of the real impact of debt service in later years.

The use of the model, in its present format, makes the important assumption that the existing (partially derelict) properties have no inherent recoverable market value. This, of course, may not be true in the longer term. However, any inherent values are assumed to be reflected in changes in the overall capital and rental values of the property after completion of the renovations. The use of the model, as presented, is thus confined to assessing the likelihood of recovery of the expenditures on renovation.

Initial Capitalized Expenditures

The initial capitalized expenditures are shown in Sheet 30 GROD-A (8). These have been derived from analysis by Lublin City Council staff, as the least cost solution of providing for the basic necessary renovations and improvements. Expenditures on various physical components of the project are shown in detail. The activity is expected to be performed with minimum disruption of present occupants. No provision is included for replacement housing. This will be an additional and necessary expenditure, which will need to be wholly financed by the City Council. It will also need to be dealt with within the broader implications of the City's overall public housing policy.

Consistent with the assumed strategy, major construction for the frontage, staircase, roof and foundations will be performed by the City Council. This would total Zl. 480,000, plus documentation of Zl. 49,624, giving an overall funding requirement of Zl. 529,624.

The remainder of the expenditure is assumed to be undertaken by the TBS. This includes the remainder of the structural upgrading, together with internal modernization. Total expenditure would be Zl. 584,000 on physical works and Zl. 60,376 for documentation, giving an overall funding requirement of Zl. 644,376.

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The City Council Component - Funding of Capitalized Expenditure

The capitalized expenditures of the City Council, and other related information, are shown on the first page of Sheet 30 GROD-A (6). It begins by setting out the various terms for financing. Municipal borrowing, if any, is assumed to be at an interest rate only slightly below that assumed for the commercial market. Thus, it would be at 20%, repayable over 20 years[1]. The National Housing Fund (BGK/KFM) is assumed to lend at its rate of "Prime minus 10% - with a minimum rate equal to 50% of the prime rate." With the prime rate assumed to be 21%, this gives a rate of 11%. Loans are required to be repaid over 30 years. For the time being, this is academic, because this kind of loan is not permitted to local governments directly. For loans from the Environment Fund, an arbitrary rate of 20%, slightly under the market rate, is assumed, with repayment over 10 years. Finally, it is assumed that the property will be made available to the TBS on a "lease/purchase" basis calculated at a real rate of return of 5% on the total value of the capitalized expenditure, recoverable over 10 years. It is also assumed that annual operation, maintenance and administration would be assessed at 2% of the capitalized expenditures. However, the postulated strategy assumes that all operation and maintenance, including that on the capitalized works of the City Council, will be carried out by the TBS. Thus, this rate will not be applied, in this table, for the City Council components.

After the financing information, comes an assessment of the usable space and number of units available from the improvements. This will be used as a basis for some of the apportionment of expenditures and for the calculation of some of the allowable financing, and of rental calculations. It will be seen that a total of 900 m2 is assumed to be available, providing 12 units. Of this, 10 units, comprising 670 m2, will be used for residential accommodation and 2 units, comprising 230 m2 will be used for business.

[1] In practice, loan periods of this duration at such high (inflationary) interest rates are not sustainable. However, the numbers are, in this instance only indicative. They could apply, for example, if inflation was sustained and interest rates were adjustable or indexed.

expenditures from the National Conservation Funds. Thus, 23% of Zl. 529,624 is equal to Zl. 121,813. However, this grant cannot be claimed except as a reimbursement, based on total expenditures when all work has been completed. There is also understood to be a significant delay in funds being made available after the claim is submitted[2]. Therefore, it is assumed that the funding will need to be borrowed, at a real interest rate of 5%, for a delay period of two years. Because of this, the sum has been discounted to a present value of Zl. 110,488. Thus, assuming a 5% real interest rate, if this amount were borrowed and used at the time of the project, the reimbursement (Zl. 121,813) would represent the loan repayment, plus two years of interest (compounded) - Zl. 11,325.

On the basis of the assumptions regarding other financing, this would leave Zl. 419,136 to be funded by the City Council. The extent to which this would be - or could be - financed from the annual budget would be a policy decision of the City Council. The model offers no direct guidance on this. However, for purposes only of illustration, the model assumes that, in lieu of providing all funding from the current budget, the City Council decides to borrow Zl. 300,000. This would be at the postulated rate of 20% for 20 years, with debt service payable from the budgets of subsequent years. The remaining Zl. 119,136 would be deemed funded from the current budget.

The City Council Component - Annual Financial Implications

The annual financial implications of the above City Council expenditure and funding, and other related information, are set out on the second page of Sheet 30 GROD-A (6). As indicated, they are arbitrarily applied to the year 2004. All income and expenditure is shown in total and is apportioned between residential and business uses of the property.

Assuming the property will be handed over to a TBS, the only annual expenditures will be debt service on the Zl. 300,000 loan, amounting to Zl. 61,607. This is because the annual operation and maintenance of the property would become the responsibility of the TBS.

It is assumed that the property will be made available to the TBS on some form of lease/purchase arrangement, as yet undetermined. Thus, after the arbitrary 5-year period to 2004, the renovation expenditures, with interest capitalized at the real rate of 5%, will amount to Zl. 675,949. If this sum is deemed recoverable over 10 years at 5%, the annual lease/purchase payment would be Zl. 87,539. After payment of the debt service, the City

[2] There is also a risk that, because of central budget constraints, the funds may be eliminated or curtailed. This, however, has been ignored.

Council would have an annual cash surplus of Zl. 25, 932. It would, however, need to see this as offset against the earlier use of its budgetary funds. It would also be giving up the title to the property, albeit, without the renovations, virtually valueless. It may, however, as a result of its own renovation expenditures, have created property value in excess of these expenditures.

As already mentioned, because of relatively high and unpredictable rates of inflation, most calculations have been presented in constant (1997) terms. However, an additional table shows the calculations adjusted for a 5-year period of inflation at a (compounded) rate of 10%. In this case, the debt service, reflecting a legal contract in monetary terms, would remain the same. However, in prices of 2004, the calculated lease/rent payment would be Zl. 140,982. This would leave a cash surplus, in 2004 prices, of Zl. 79,375.

The TBS Component - Funding of Capitalized Expenditure

The capitalized expenditures of the TBS, and other related information, are set out on the first page of Sheet 30 GROD-A (7). It begins by setting out the various terms for financing. Commercial borrowing, if any, is assumed to be current market rates. Thus, it would be at 21%, repayable over 20 years. The National Housing Fund is assumed to lend at its rate of "Prime minus 10% - with a minimum rate equal to 50% of the prime rate." With the prime rate assumed to be 21%, this gives a rate of 11%. Loans are required to be repaid over 30 years. For the time being, although this kind of loan is not permitted to local governments directly, it is available to TBS and similar organizations. For loans from the Environment Fund, an arbitrary rate of 20%, slightly less than the market rate, is assumed, with repayment over 10 years. Finally, it is assumed that the property will be made available to the final tenants of the TBS, even if participants[3], at either legally mandated rents (residential) or market rents (business).

In the model, market rents have been based on a calculation of a real rate of return of 5% on the total value of the capitalized expenditure, recoverable over 20 years. It is also assumed that annual operation, maintenance and administration would be assessed at 2% of the capitalized expenditures. However, the strategy assumes that all operation and maintenance, including that on the capitalized works of the City Council, will be carried out by the TBS. Thus, the rates in the calculation will be applied, in these tables, to the capitalized expenditures of the City Council, totaling Zl. 529,624, and of the TBS,

[3] No provision has been included to allow for the possibility of crediting the initial contributions of TBS participants against subsequent rent requirements. Indeed, with expected deficits, there seems little point in this. However, the matter is likely to be contentious.

property will be made available to the final tenants of the TBS, even if participants[3], at either legally mandated rents (residential) or market rents (business).

In the model, market rents have been based on a calculation of a <u>real</u> rate of return of 5% on the total value of the capitalized expenditure, recoverable over 20 years. It is also assumed that annual operation, maintenance and administration would be assessed at 2% of the capitalized expenditures. However, the strategy assumes that all operation and maintenance, including that on the capitalized works of the City Council, will be carried out by the TBS. Thus, the rates in the calculation will be applied, in these tables, to the capitalized expenditures of the City Council, totaling Zl. 529.624, and of the TBS, totaling Zl. 644,376. The City Council expenditures are therefore shown, for reference, as a memorandum item.

After the financing information comes an assessment of the usable space and number of units available from the improvements. This will be used as a basis for some of the apportionment of expenditures and for the calculation of some of the allowable financing, and of rental calculations. It will be seen that a total of 900 m2 is assumed to be available, providing 12 units. Of this, 10 units, comprising 670 m2, will be used for residential accommodation and 2 units, comprising 230 m2 will be used for business.

Next comes the capitalized expenditures on renovations. The totals come directly from the information on Sheet 30 GROD-A (8) and are apportioned among the various qualifying categories, as shown in that sheet. The expenditures are also allocated between residential and business purposes, based on the given floor areas. The grand totals, of Zl. 644,376, agree with the totals on the cost table for TBS expenditures.

The funding for renovations follows directly and - by definition - must, in total, balance with the expenditures on this. First, it is assumed that there will be a loan from the National Housing Fund. The basis for this would be the total expenditure for residential purposes, amounting to Zl. 479,702. The loan could, in principle, be for 70% of this, which would amount to Zl. 335,791. However, there is an over-riding limit of Zl. 18,000 per housing unit. Thus, for the 10 units assumed in this case, this limit would apply, giving the lower figure of Zl. 180.000.

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[3] No provision has been included to allow for the possibility of crediting the initial contributions of TBS participants against subsequent rent requirements. Indeed, with expected deficits, there seems little point in this. However, the matter is likely to be contentious.

On the basis of the assumptions regarding other financing, this would leave Zl. 290,227 to be funded by the TBS. The extent to which this would be - or could be - financed from the capital contributions of the TBS participants (or other TBS current sources) would be a policy decision of the TBS. The model offers no direct guidance on this. However, for purposes only of illustration, the model assumes that, in lieu of providing all funding from the capital contributions (or current budget) of the TBS, it decides to borrow Zl. 150,000. This would be at the postulated rate of 21% for 20 years, with debt service payable from the rent receipts of subsequent years. The remainder, Zl. 140,227, would be funded directly from (then) current TBS sources.

The TBS Component - Annual Financial Implications

The annual financial implications of the above TBS expenditure and funding, and other related information, are set out on the second page of Sheet 30 GROD-A (7). As already indicated, they are arbitrarily applied to the year 2004. All income and expenditure is shown in total and is apportioned between residential and business uses of the property.

Based on the various loan financing options, there will be a number of annual expenditures for debt service. These will each be based on the loan conditions already explained. For the Environmental Fund loan, only 50% of the loan, on the postulated terms, will need to be repaid.

As already explained, it is assumed that the property will be made available to the TBS on some form of lease/purchase arrangement, as yet undetermined. Thus, after the arbitrary 5-year period to 2004, the renovation expenditures, with interest capitalized at the real rate of 5% will amount to Zl. 675,949. If this sum is deemed recoverable over 10 years at 5%, the annual lease/purchase payment would be Zl. 87,539.

In addition to the debt service and the lease/purchase payment, the TBS would also be responsible for the operation and maintenance of the property. This expenditure, as already indicated, is postulated as 2% the capitalized expenditures by the TBS and the City Council. The total annual expenditure, therefore, to be met from the rents of the TBS, in 1997 prices, is calculated as Zl. 168,672.

This annual expenditure is assumed to be recovered from rents payable to the TBS by its final tenants. For the business rents, these are assumed to be calculated on the basis of a full cost recovery. This would include: operation and maintenance - at 2%; and, capital recovery and return on investment - at 5%; totaling 7% of the capitalized expenditures by both the City Council and the TBS. Thus, a 7% annuity rate[4] would be applied to the total of Zl. (164,674 + 135,348) or Zl. 300,022. This annuity would total Zl. 28,320. For the residential property, the rent for "SCENARIO A" is postulated on the current TBS legal requirements. These set an upper limit to rents, as based on a capital valuation of Zl. 1,800 per m2, with a 4% return applied to this valuation. Thus, for residential rents, the limit would be Zl. (1,800 * 670) * 4% = Zl. 48,240. Combining the residential and business rents, under this scenario, will give a total of Zl. 76,560. Unfortunately, this rental income will cover only about 45% of the annual expenditures. This would leave a loss of cash-flow for the TBS of Zl. 92,112.

Under SCENARIO B, the TBS rules for residential rents are set aside, with these then being calculated on the same basis as for business rents. This increases them (in 1997 prices) to Zl. 82,497. If these are added to the business rents, there will be a total rental income of Zl. 110,817, reducing the TBS cash deficit to Zl. 57,855.

As already mentioned, because of relatively high and unpredictable rates of inflation, most calculations have been presented in constant (1997) terms. However, an additional table shows the calculations adjusted for a 5-year period of inflation at a (compounded) rate of 10%. In this case, the debt service, reflecting a legal contract in monetary terms, would remain the same. However, in prices of 2004, the calculated lease/rent payment would be Zl. 140,982. Furthermore, the expenditures for operation and maintenance would increase to Zl. (20,755 + 17,059) = Zl. 37,814.

Under each of the two scenarios, the rents from final tenants are also postulated to increase by the inflation rate. The TBS cash-flow losses would then be Zl. 113,149 (SCENARIO A) and Zl. 57,978 (SCENARIO B). However, although these losses appear higher - in nominal terms - than those under the 1997 prices, they are - in 1997 (real) terms - lower, because they must be discounted by the inflation factor.

Initial Observations - One Alternative Scenario

As already indicated, the operation of the model, in its present form, is not intended to provide a unique solution to the financing problems. However, observation of the results of the spreadsheet, together with the above detailed explanations, gives an indication that the

[4] More correctly, there should be no capital recovery element for the 2% included for operation and maintenance. Instead, this 2% should be applied only as a flat charge against the capitalized expenditure. However, because of the already arbitrary nature of the calculations and the speculative nature of the data, this refinement has been ignored.

cash-flows of the City Council show a surplus, while those of the TBS show a loss. This is partially due to the fact that the lease/purchase payment has been set on a full cost-recovery basis. In contrast, the expenditures to be covered by this - debt service on the municipal borrowing - are reduced from what they otherwise would be, because of the subsidised loans and grants included in the capital funding package.

Thus, using sensitivity analysis, a test has been made to determine what might be the implications of eliminating the City Council cash-flow surplus, thus passing on the benefit of all financial concessions to the TBS. The City Council would still absorb the costs of the Zl. 119136 directly charged against its own budget. If this were also borrowed, the lease/purchase charge would have to again increase, to cover the additional debt service.

The initial annual lease/purchase payment has been based on the premise of a 5% (real) return on investment, recovered over 10 years. If, instead, the return on investment is reduced to only <u>4%</u>, with the recovery period extended to <u>15</u> years, the lease/purchase payment is reduced from Zl. 87,539 to Zl. 60,796. The cash surplus of the City Council would then be eliminated[5]. In prices of 2004, there will still be a cash surplus, because the Council's contractual debt service payment remains unchanged, while the lease/purchase payment is assumed as inflated. However, this surplus is cut from Zl. 79,375 to Zl. 36,305, a reduction of almost 55%.

When this revised lease/purchase payment of Zl. 60,796 is applied to the TBS, the loss, under SCENARIO A, falls from Zl. 92,112 to Zl. 65,369, a reduction of almost 30%. Under SCENARIO B, the loss falls from Zl. 57,855 to Zl. 31,112, a reduction of over 45%. Correspondingly, losses are also reduced where 2004 prices are used.

One possible policy implication might be that (within postulated financing arrangements) the expenditures on the proposed works are <u>not affordable</u> to final tenants. However, much more analysis would be required, especially of property values and rents, as well of loan and inflation rates, before a closer assessment could be made.

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[5] In the tables there is a negligible loss of Zl. 811, due to rounding.

Conclusion

Application of the model to a single property (30 Grodska St.) has postulated some of the potential ways of financing the renovations, and speculating about possible annual financial implications. However, although some useful numbers have emerged from the exercise, it needs to be re-emphasized that those inputs over which the City Council has neither control nor accurate information will be at least as disruptive to the analysis as any which it provides itself. Among the latter are: time delays; physical and price contingencies for the capitalized works; loan terms; rental regulations; grant conditions; and, market rates for property rent and valuations. Above all, the analysis will be made even more difficult by varying speculations about inflation rates. These, in turn, affect interest rate postulations.

Because of the many and varied options and speculations, the model is relatively unsophistocated, because there is a need to compromise complex inputs and calculations with simplicity of understanding. However, the model does provide an interim tool to examine options. This, at the very least, is better than totally blind speculation.

ANNEX A:

POLAND: LUBLIN - OLD TOWN
CASH FLOW MODELING FOR RENOVATION

Assumptions for Cash Flow Statements

[The spreadsheet information is set up as a mathematical model. Thus, all assumptions can be readily changed. Also, separate spreadsheets can be used for different properties.]

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Expenditure estimates used for cash flows	Assumptions based on informal calculations provided by staff of Lublin City Council, *only* for the express purpose of testing the pro forma cashflows and *not intended to have legal or other consequences.*	Expenditure on renovations from cost estimate provided by Lublin City Council staff. Major structural renovations are assumed carried out by City Council and other renovations - mainly internal - assumed to be carried out by TBS.
Market values of properties after renovation	Derelict property assumed to have minimal (or nil) market value before expenditure on renovations. Thus renovation cost (in 1997 values) assumed to be the market values.	Expenditure on renovations from cost estimate provided by Lublin City Council staff.
National Housing Fund: Interest	Prime rate minus 10% - with minimum rate equal to 50% of prime rate.	Prime is rate assumed at 21%, giving a lending rate of (21-10)% or 11%
Environmental Fund Interest	Pro forma rate assumed - just less than current market rate	Rate assumed as 20%
Municipal Borrowing Interest Rate	Pro forma rate assumed - just less than current market rate	Rate assumed as 20%
Commercial Borrowing Interest Rate	Pro forma rate assumed - current market rate	Rate assumed as 21%

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Rate of return for rentals and for lease/purchase of property by City Council to TBS	Real rate of return assumed to be related to expectation of private landlord, based on time value of money and risk expectation (For TBS, this will include renovation costs incurred by City Council, as well as by the TBS)	Real rate of return assumed at 5%
Operation, maintenance and administration of property	Assumption of an annual rate, based on market value of property (For TBS, this will include renovation costs incurred by City Council, as well as TBS)	Assumption of 2% of market value
Loan life (or rent recovery period)	National Housing Fund: legal maximum Environmental Fund: pro forma assumption Lease purchase period from City Council to TBS Rent recovery: assumed maximum market period	National Housing Fund: 30 years Environmental Fund: 10 years Recovery: 10 years Rent recovery: 20 years
Usable space after renovations and numbers of units	Based on estimates provided by Lublin City Council staff.	Residential: 8 units (670 m3) Business: 2 units (230 m3)
Allocation of expenditures	Technical, historical, environmental and other costs provide by City Council staff.	Where appropriate, costs have been apportioned according to floor area.
Expenditure on flats for replacement housing	<u>Not</u> included in calculations	
Different categories of external funding: from National Housing Fund, Environmental Fund and Conservation Funds	Expenditure on documentation is included in estimates provided by Lublin City Council staff.	Qualifying expenditures assumed to <u>include</u> documentation, and allocated in proportion to primary costs.

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Rate of return for rentals and for lease/purchase of property by City Council to TBS	Real rate of return assumed to be related to expectation of private landlord, based on time value of money and risk expectation (For TBS, this will include renovation costs incurred by City Council, as well as by the TBS)	Real rate of return assumed at 5%
Operation, maintenance and administration of property	Assumption of an annual rate, based on market value of property (For TBS, this will include renovation costs incurred by City Council, as well as TBS)	Assumption of 2% of market value
Loan life (or rent recovery period)	National Housing Fund: legal maximum Environmental Fund: pro forma assumption Lease purchase period from City Council to TBS Rent recovery: assumed maximum market period	National Housing Fund: 30 years Environmental Fund: 10 years Recovery: 10 years Rent recovery: 20 years
Usable space after renovations and numbers of units	Based on estimates provided by Lublin City Council staff.	Residential: 10 units (670 m3) Business: 2 units (230 m3)
Allocation of expenditures	Technical, historical, environmental and other costs provide by City Council staff.	Where appropriate, costs have been apportioned according to floor area.
Expenditure on flats for replacement housing	Not included in calculations	
Different categories of external funding: from National Housing Fund, Environmental Fund and Conservation Funds	Expenditure on documentation is included in estimates provided by Lublin City Council staff.	Qualifying expenditures assumed to include documentation, and allocated in proportion to primary costs.

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Commercial rents: public and private sector occupancy	The operation, maintenance and administration expenditure percentage has been added to the rental percentage (covering consumption of capital, return on investment and - allowing for inflation - adjustment of value) Important Qualification: This is a mathematical calculation only, based on the concept of real cost recovery - there is no guarantee that the actual market rents will reach these levels. Any shortfall will need additional subsidy or the TBS will incur a loss. For rents accruing to any private sector improvements, there will be a reduction in profit (or loss) to private interests.	2% for operation, maintenance and administration has been added to 5% for capital recovery, giving an annual "real" rental of 7% of property value. Inflation (and real changes in market values) are assumed to increase the amount annually, in line with revaluation of the properties. Note: In SCENARIO A, rents for residential property have been limited to what are assumed as official controls. They are thus based on an upper limit of Zl. 1,800 times floor area (670 m2) and then with 4% return applied.
Rental captures: City Council	There is an assumption that the capital investments made by the City Council will be recovered by lease-purchase rents charged to the TBS. participants.	The total expenditure of the City Council has been compounded forward - at a real 5% rate of interest - to the year 2004, when there will be en expiration of rent and tenant controls. Thus, the total expenditure (Zl. 529,624) will compound to (Zl. 675,949) Then, 5% will be applied for capital recovery, giving an annual "real" rental. Inflation (and real changes in market values) are assumed to increase the amount annually, in line with revaluation of the properties.
Surplus or Loss: City Council	Assumed as the difference between the (lease/purchase) rents collected from the TBS and the expenditures on debt service of the City Council.	Total net surplus is Zl. 61,607

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Surplus or loss: TBS	Assumed as the difference between the rents collected and the expenditures on operation, maintenance and administration of the commercially rented or occupied property components, as well as the capital recovery factor - @2% - on expenditures of the City Council and the TBS.	Total net loss is Zl. 92.112
Inflation: funding of renovations	The delay between expenditure on environmental and historical components and the related reimbursements, by way of loan or grant (which could amount to up to 24 months) will incur an interest cost for the City Council in carrying these expenditures, incorporating the real rate of interest plus inflation. In effect, any reimbursement, when finally received, can be perceived as a repayment (at 5% for 2 years of accrued interest) of a loan earlier raised by the City Council.	Real interest is assumed to be 5% for two years. Inflation is ignored, to show capitalized expenditures in constant prices.
Inflation: annual expenditures	Annual inflation will increase the expenditures on operation, maintenance and administration, for both the City Council and the TBS components. To the extent not covered by rent increases, these additional costs will reduce surpluses or increase losses. However, debt charges will remain constant in monetary values. Thus, in real terms, these will diminish with inflation, creating additional potential for monetary surpluses.	Initially, inflation is ignored in the example. However, there is an additional table showing prices inflated by 10% per annum for 5 years (indexed by the factor 1.61) applied only to those components which are likely to be affected

INFORMATION	BASIS FOR ASSUMPTIONS	NUMERICAL BASE
Identity of Property: **30 Grodska Street**		Owned by: **City Council** Managed by: **TBS (or similar)**
Economic analysis	Because of the difficulty (indeed, the virtual impossibility) of usefully speculating about values of property after renovation, it may be helpful to use the concept of "average incremental cost." This, effectively asks "what is the average unit price which must be set to achieve a target commercial return. To the extent that the unit price is lower, and with a decision to continue with the project, the difference in price is the implicit annual net equivalent value of the public interest.	If marginal costs are to be considered as all renovation expenditures (technical, private, historical, environmental, social and documentation), creating a total of 900 m2 of usable space, then a 7% rate of return (rental value - including 2% operation, maintenance, administration, consumption of capital and 5% return on investment) over a 20-year time period will require a commercial rent (in 1997 prices) of about Zl. 123 per m2. To the extent that the rent is lower, the decision to continue with the project demonstrates the annual equivalent value of the public interest (heritage, social and environmental)

ANNEX B:

POLAND: LUBLIN - OLD TOWN
CASH FLOW MODELING FOR RENOVATION

Spreadsheet Model

POLAND: LUBLIN - OLD TOWN - CASH FLOWS OF RENOVATIONS
(MINIMAL DISRUPTION OF PRESENT OCCUPANTS)

Identity of Property (illustrative exam		30 Grodska Street						
Activity and financing by:			City Council	TBS	Technical	Historical	Environment	Private
EXPENDITURES ON RENOVATIONS		Zl.	Zl.	Zl.	Zl.	Zl.	Zl.	Zl.
Frontage	Technical	50.000	50.000		50.000			
	Historical	50.000	50.000			50.000		
Back facade	Technical	50.000		50.000	50.000			
Windows	Technical	10.000		10.000	10.000			
	Historical	6.000		6.000		6.000		
Front doors	Technical	2.000		2.000	2.000			
	Historical	2.000		2.000		2.000		
Staircase	Technical	15.000	15.000		15.000			
	Historical	5.000	5.000			5.000		
Gas heating	Technical	24000		24000	24000			
	Environmental	36000		36000			36000	
Interior Mod.	Technical	225.000		225.000	225.000			
	Private	225.000		225.000				225.000
Roof	Technical	30.000	30.000		30.000			
	Historical	30.000	30.000			30.000		
Foundation	Technical	200.000	200.000		200.000			
	Historical	100.000	100.000			100.000		
Landscaping	Technical	2.000		2.000	2.000			
	Historical	2.000		2.000		2.000		
Total Construction		1.064.000	480.000	584.000	608.000	195.000	36.000	225.000
Documentation		110.000	49.624	60.376	62.857	20.160	3.722	23.261
TOTAL RENOVATION EXPENDITU		1.174.000	529.624	644.376	670.857	215.160	39.722	248.261

The above estimates exclude the costs of temporary or permanent relocation - to be borne by the City Council

POLAND: LUBLIN - OLD TOWN - CASH FLOWS OF RENOVATIONS

(MINIMAL DISRUPTION OF PRESENT OCCUPANTS)

Identity of Property (illustrative example): **30 Grodska Street** Owned by: **City Council**

Activity and financing by: **City Council**

Loan Terms or Rental Equivalents:	Municipal Borrowing	Housing Bank	Environment Fund	Lease Purchase
Reference Rate (Prime Rate or Return on Investment)	20,00%	21,00%		5,00%
Operation, Maintenance & Administration (% of Value)				2,00%
Interest or Rent (Monetary - Nominal or Real)	20,00%	11,00%	20,00%	7,00%
Loan Life (or Rent Recovery Period)	20	30	10	10

APPORTIONMENT OF EXPENDITURES		TOTAL	COSTS & RENTS	
		EXPENDITURE	RESIDENTIAL	BUSINESS
USABLE SPACE - AFTER RENOVATIONS				
Floor Area (M2)		900	670	230
Number of Units			8	2
EXPENDITURES ON RENOVATIONS		Zl.	Zl.	Zl.
Technical:	Construction	295.000	219.611	75.389
	Documentation (Gen.)	30.498	22.704	7.794
Historical	Construction	185.000	137.722	47.278
	Documentation	19.126	14.238	4.888
Environmental:	Construction	0	0	0
	Documentation	0	0	0
Private	Construction	0	0	0
	Documentation			
TOTAL RENOVATION EXPENDITURE		529.624	394.276	135.348
FUNDING FOR RENOVATIONS				
National Housing Bank (Renovation)*		0	0	
National Housing Bank (Replacements)*		0	0	
National Environmental Fund (Loan)		0	0	0
National Conservation Funds (Grant)**		110.488	82.253	28.236
Lublin City Council - Municipal Loans (if any)		300.000	223.333	76.667
Lublin City Council - Budgetary Funds***		119.136	88.690	30.446
TOTAL FUNDING		529.624	394.276	135.348

POLAND: LUBLIN - OLD TOWN - CASH FLOWS OF RENOVATIONS

(MINIMAL DISRUPTION OF PRESENT OCCUPANTS)

Identity of Property (illustrative example):		**30 Grodska Street**		Owned by:	**City Council**
Activity and financing by:		**City Council**			
Loan Terms or Rental Equivalents:		Municipal Borrowing	Housing Bank	Environment Fund	Lease Purchase
Reference Rate (Prime Rate or Return on Investment)		20,00%	21,00%		5,00%
Operation, Maintenance & Administration (% of Value)					2,00%
Interest or Rent (Monetary - Nominal or Real)		20,00%	11,00%	20,00%	7,00%
Loan Life (or Rent Recovery Period)		20	30	10	10
APPORTIONMENT OF EXPENDITURES		TOTAL EXPENDITURE	COSTS & RENTS RESIDENTIAL	BUSINESS	
USABLE SPACE - AFTER RENOVATIONS					
Floor Area (M2)		900	670	230	
Number of Units			10	2	
EXPENDITURES ON RENOVATIONS		Zl.	Zl.	Zl.	
Technical:	Construction	295.000	219.611	75.389	
	Documentation (Gen.)	30.498	22.704	7.794	
Historical	Construction	185.000	137.722	47.278	
	Documentation	19.126	14.238	4.888	
Environmental:	Construction	0	0	0	
	Documentation	0	0	0	
Private	Construction	0	0	0	
	Documentation				
TOTAL RENOVATION EXPENDITURE		529.624	394.276	135.348	
FUNDING FOR RENOVATIONS					
National Housing Bank (Renovation)*		0	0		
National Housing Bank (Replacements)*		0	0		
National Environmental Fund (Loan)		0	0	0	
National Conservation Funds (Grant)**		110.488	82.253	28.236	
Lublin City Council - Municipal Loans (if any)		300.000	223.333	76.667	
Lublin City Council - Budgetary Funds***		119.136	88.690	30.446	
TOTAL FUNDING		529.624	394.276	135.348	

POLAND: LUBLIN - OLD TOWN - CASH FLOWS OF RENOVATIONS

(MINIMAL DISRUPTION OF PRESENT OCCUPANTS)

Identity of Property (illustrative example):	**30 Grodska Street**		Owned by:	**City Council**
Activity and financing by:	**TBS (or similar organization)**			
Loan Terms or Rental Equivalents:	Commercial Borrowing	Housing Bank	Environment Fund	Market Rents
Reference Rate (Prime Rate or Return on Investment)	21,00%	21,00%		5,00%
Operation, Maintenance & Administration (% of Value)				2,00%
Interest or Rent (Monetary - Nominal or Real)	21,00%	11,00%	20,00%	7,00%
Loan Life (or Rent Recovery Period)	20	30	10	20

APPORTIONMENT OF EXPENDITURES		TOTAL EXPENDITURE	COSTS & RENTS RESIDENTIAL	BUSINESS
USABLE SPACE - AFTER RENOVATIONS				
Floor Area (M2)		900	670	230
Number of Units			10	2
EXPENDITURES ON RENOVATIONS		Zl.	Zl.	Zl.
Technical:	Construction	313.000	233.011	79.989
	Documentation (Gen.)	32.359	24.089	8.270
Historical	Construction	10.000	7.444	2.556
	Documentation	1.034	770	264
Environmental:	Construction	36.000	26.800	9.200
	Documentation	3.722	2.771	951
Private	Construction	225.000	167.500	57.500
	Documentation	23.261	17.317	5.945
TOTAL RENOVATION EXPENDITURE		644.376	479.702	164.674
TOTAL RENOVATION EXPENDITURE (LUBLIN CITY COUNCIL)		529.624	394.276	135.348
FUNDING FOR RENOVATIONS				
National Housing Bank (Renovation)*		180.000	180.000	0
National Housing Bank (Replacements)*		0	0	0
National Environmental Fund (Loan)		39.722	29.571	10.151
National Conservation Funds (Grant)		134.428	100.074	34.354
Commercial Loans (if any)		150.000	111.667	38.333
Equity Contributions**		140.227	58.391	81.836
TOTAL FUNDING		644.376	479.702	164.674
ANNUAL EXPENDITURES - 2004 (1997 Prices)				
Debt Service - Housing Bank (Ren.)		20.704	20.704	
Debt Service - Housing Bank (Rpl.)		0		
Debt Service - Environmental Fund		4.737	3.527	1.211
Debt Service - Commercial Loans (if any)		32.212	23.980	8.232
Lease/Purchase from City Council to TBS		87.539	65.168	22.371
Operation, Maint. & Admin. (TBS Investments)		12.888	9.594	3.293
Operation, Maint. & Admin. (City Investments)		10.592	7.886	2.707
TOTAL ANNUAL EXPENDITURES		168.672	130.858	37.814

	TOTAL	RESIDENTIAL	BUSINESS
ANNUAL REVENUES - 2004 (1997 Prices) - SCENARIO A			
Housing (TBS rules)***& Business Rents	76.560	48.240	28.320
TBS - (Profit) or Loss	92.112	82.618	9.494
TOTAL ANNUAL REVENUES TO RECOVER	168.672	130.858	37.814
ANNUAL REVENUES - 2004 (1997 Prices) - SCENARIO B			
Housing & Business Rents (Commercial)	110.817	82.497	28.320
TBS - (Profit) or Loss	57.855	48.361	9.494
TOTAL ANNUAL REVENUES TO RECOVER	168.672	130.858	37.814
ADJUSTMENT FOR INFLATION TO 2004			
Average Annual Inflation	10% Compounding Coefficient		1,611
ANNUAL EXPENDITURES - 2004 (2004 Prices)			
Debt Service - Housing Bank (Ren.)	20.704	20.704	0
Debt Service - Housing Bank (Rpl.)	0	0	0
Debt Service - Environmental Fund	4.737	3.527	1.211
Debt Service - Commercial Loans (if any)	32.212	23.980	8.232
Lease/Purchase from City Council to TBS	140.982	104.953	36.029
Operation, Maint. & Admin. (TBS Investments)	20.755	15.451	5.304
Operation, Maint. & Admin. (City Investments)	17.059	12.700	4.360
TOTAL ANNUAL EXPENDITURES	236.450	181.315	55.135
ANNUAL REVENUES - 2004 (2004 Prices) - SCENARIO A			
Housing (TBS rules)***& Business Rents	123.301	77.691	45.610
TBS - (Profit) or Loss	113.149	103.624	9.525
TOTAL ANNUAL REVENUES TO RECOVER	236.450	181.315	55.135
ANNUAL REVENUES - 2004 (2004 Prices) - SCENARIO B			
Housing & Business Rents (Commercial)	178.472	132.863	45.610
TBS - (Profit) or Loss	57.978	48.452	9.525
TOTAL ANNUAL REVENUES TO RECOVER	236.450	181.315	55.135

* = National Housing Bank funding available only to TBS (& similar organizations)
** = Equity contributions assumed by TBS participants (minus commercial borrowing)
(borrowing will reduce immediate funding impact - but involve related annual debt service)
*** = TBS Rules (Zl. 1,800 per M3 * 4%)