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A METHODOLOGY FOR PLANNING LAND USE AND ENGINEERING ALTERNATIVES FOR FLOOD PLAIN MANAGEMENT: THE FLOOD PLAIN MANAGEMENT SYSTEM MODEL

A Report Submitted to the
U. S. Army Engineer Institute for Water Resources
Kingman Building
Fort Belvoir, Virginia 22060

by

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Tucson, Arizona 85721

In Partial Fulfillment of:
Contract Number DACW73-71-C-0030

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This report is not to be construed as necessarily representing the views of the federal government or of the Corps of Engineers, U. S. Army.

FORWARD

A. Purpose

This research deals with the problem of planning land use and engineering alternatives for floodplain management. An analytical and decision-making methodology is developed in this study.

B. Findings

The methodology can consider land use regulations such as zoning ordinances, subdivision regulations, and building and housing codes; development policies such as direction of services and utilities, acquisition or open space uses, redevelopment and renewal, and permanent evacuation; engineering measures such as dams, reservoirs, levees, flood-walls and channel alterations. The objective of the floodplain management system model is to select the most economically efficient combination of land use and engineering alternatives. A computer-based, mathematical optimization approach is used to select the combination of management alternatives that will maximize the aggregate economic productivity of all land resources within a study area subject to an appropriate set of planning constraints.

A test application of the methodology specifically examines economic rationale and decision rules for determining the most economically efficient combination of

(a) spatial and temporal distribution of urban land uses,

(b) site elevation through dirt fill,

(c) floodproofing,

(d) public acquisition of undeveloped land for open space uses,

(e) public acquisition and removal of existing improvements from the floodplain,

(f) dams, and

(g) channel improvements.

C. Assessments

The demonstration study illustrates how the methodology can be used to

(a) formulate floodplain management system plans,

(b) evaluate the economic impact of floodplain management system plans,

(c) perform "with and without" analysis,

(d) perform incremental analysis of development policy and engineering alternatives, and

(e) perform sensitivity analysis.

D. Status

This publication is related to two other reports prepared for the Corps of Engineers. One report, entitled "The Value of Land in Alternative Urban Uses" generates the input data for the floodplain management system model through the use of regression analysis. It may be noted that methods other than regression analysis may be employed to generate the needed data in application of the general methodology. Another report, Computer Listings for the Floodplain Management System Model, documents a computer program that was used in the test application. Both reports are kept on IWR files.

The model developed in this study can aid planners in achieving a unified, unbiased approach to floodplain management. This research represents the findings, conclusions, and independent judgment of the researchers. Their views should not be construed as necessarily representing those of the Corps of Engineers.

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PREFACE AND ACKNOWLEDGMENTS

Research has shown that encroachment of urban settlement into unprotected, or only partially protected, floodplain areas is a major cause of the increasing rate of annual flood loss in this country. Because of this, policymakers at several levels have expressed a need for an expanded list of alternatives to choose from in dealing with flood problems. In response, the Corps of Engineers has begun to try to include nonstructural techniques when formulating flood control projects. Land use management practices can be effective in reducing the loss associated with expected flooding by regulating the type and rate of growth which occurs in hazardous areas.

Although comprehensive floodplain management has great potential for improved utilization of land and water resources, the Corps faces practical difficulties relating to legal, political, administrative, and technical aspects of such planning.

This work focuses upon formalization of a conceptual basis for joint land and water use planning and a practical computational procedure for evaluating, comparing, and choosing desirable programs for specific problem areas. The objective has been to formalize a floodplain management planning methodology employing an operations research technique and to assess its technical feasibility through a field demonstration test.

In assessing the effectiveness of different analytical techniques, one cannot make judgments about the efficacy of any one approach without taking into account its practicability. If the technique requires data or technical expertise not likely to be available to the planning process, then the

technique is valueless despite the completeness, elegance, or precision of its answers. Similarly, if results of an analysis yield recommendations which are inconsistent with probable means of implementation, then once again the technique may have little utility as a practical problem solving tool. Thus, the vast potential of recent developments in operations research and computer sciences must be tempered through an understanding of social institutions and an appreciation of the limitations of data.

On the other hand, a danger in faithfully "accounting" for existing planning institutions and conventional wisdom is that poor ways of doing things, and outmoded legal rules and administrative procedures may be perpetuated. For this reason, in forging new tools of analysis, a valuable product is the guidelines that can be established for improved procedures. Although many sparks may fly, a technique which can be shown to yield valuable results may be just the impetus needed to create new mechanisms for public planning and may be worth the effort of change. In developing this methodology, we therefore lean toward a liberal interpretation of "what might be and ask why not."

Looking down the road a bit, we can expect to see a much closer relationship established between federal, state, and local planners concerning land and water resource development. Cooperation can mean that rather detailed land and water programs are possible. With an operational methodology for designing and evaluating such plans as part of its kit of tools, the Corps of Engineers could occupy a strong position in the natural resources planning area. This is all the more true because the method discussed herein has been designed within the framework of a complex urban water resource system and can be extended to accommodate a variety of additional problems, e.g.,

waste water management, navigation and river-based port facilities, and water supply allocation.

Given the interrelated nature of urban hydrology problems, it is only logical that the Corps move in this direction. We should also expect greater participation from local groups in solving their own problems and this participation should include a positive response to beneficial land and water management proposals which the Corps may suggest to them.

The first attempt at formulating an evaluation model for nonstructural alternatives was carried out by one of the authors of this report [Day, 1969]. (The Corps of Engineers played an important role in developing that research study.) The approach proved itself capable of identifying a (constrained) optimal spatial and temporal mix of zoning, site elevation, and floodproofing, both within and outside floodplain areas, for any community examined. A "solution" of that nature can show how the productivity of community land resources can be improved, subject to the necessary physical and institutional constraints, through land use management practices. The research effort is an outgrowth of previous work.

The project report is divided into three separate volumes. Phase I, entitled <u>The Value of Land in Alternative Urban Uses</u>, deals with the problem of empirical measurement of the changes in economic productivity generated by a project which combines land use management practices such as zoning, land fill, floodproofing of building, and open space acquisition, together with engineering flood control works. Phase II, entitled <u>The Floodplain Management System Model</u>, focuses upon development of a computer based computational scheme for evaluating and comparing alternative combinations of land use management and engineering measures. A detailed report of a field

level application of the methodology is also presented in Phase II. Phase III, Computer Listings for the Floodplain Management System Model, is a compilation of computer programs and documentation utilized in the development of the model and its test in Phase II.

Special recognition is given to Mr. James Tang of the U.S. Army Corps of Engineers Institute of Water Resources for his assistance throughout the course of this study. His counsel on many matters and his cooperation in overcoming unforeseen difficulties were an important ingredient in the completion of this study. Thanks are given to Mr. E. A. Schiffers, BERH, Corps of Engineers, and Mr. G. R. Phippen, Floodplain Management, OCE, Corps of Engineers for their review comments. Appreciation is extended also to the Department of Agricultural Economics at the University of Arizona for administrative and clerical support. In particular, the assistance of Mrs. Paula Tripp in the preparation of the manuscript is gratefully acknowledged. Phase II of the project report is based upon a Ph.D. dissertation prepared by Reuben N. Weisz, Department of Hydrology and Water Resources, University of Arizona.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The damaging effect of uncontrolled flooding is one of the oldest of man's land and water problems. In the American past, flood damage control planning has been usually limited to the economic evaluation and implementation of engineering works designed to regulate streamflow.

The need to broaden the set of alternatives considered as potential solutions to flood problems is widely recognized. Modern planning seeks better solutions to the age-old problem by encouraging intelligent use and development of floodprone land as well as control of floodwater. The need to relate flood damage control planning and land use planning is in part the result of the potential relationship between flooding and land use. The type and extent of flood protection which is provided for a community may have an affect upon future development within floodplains and adjacent upland areas. Similarly, existing and expected community development helps to determine the physical and economic impact of alternative flood control measures and, thus, influences the type of project that is built. This report makes a contribution toward expanding the traditional concept of flood damage control planning to encompass the idea of land use planning.

The need to consider objectives other than economic efficiency is also widely recognized. For example, all of the usual goals of land use planning--land use configurations which are esthetically pleasing, economically beneficial, politically and legally possible, administratively feasible--apply to urban floodplains. Hence, the floodplain management plan recommended for a community must not only be an effective means of reducing flood losses but it must be consistent with overall community planning ends as well. Nevertheless, the main thrust of this report is to develop a methodology for integrating land use planning with the traditional economic planning and evaluation procedures employed in flood damage control planning. This methodological approach makes a contribution to the planning process by illustrating how land use planning is related to the traditional way of looking at things. Although the economic impact of noneconomic considerations is of concern in this study, the task of developing a "full blown" multiple-objective planning methodology is left to other researchers. The preoccupation with the economic efficiency objective in this study in no way assumes a primacy for economic efficiency under all circumstances.

It is evident that a floodplain management plan integrating control of land use through public administration and control of floodwater through engineering works is not an easy thing to achieve. Planners may have to surmount several types of obstacles. A legal constraint facing planners is what local law will permit in the way of land use controls. There are administrative problems; for example, who has the power to plan, implement, and enforce floodplain land use management practices,

and what is the proper role and method of operation for Federal agencies to follow vis-à-vis local planning agencies? Political considerations may hamper what can actually be accomplished in a particular flood hazard locale. Planners may also encounter technical difficulties relating to economic and engineering analysis of alternatives.

This dissertation deals with the technical issues of formulating floodplain management plans. If an intelligent trade-off is to be made between land use regulation and structural flood control, there must be an accounting of the net gains with one or the other, or with combinations of the two. Floodplain management involves practices not traditionally included in flood control projects. It therefore calls for a new planning perspective and a scheme for quantification of the joint economic impacts of disparate alternatives having different immediate effects. The broader problem context requires also a means of expressing urban planning objectives extending beyond flood damage reduction per se. Thus, an important problem is a methodological one involving economic criteria and model choice. In addition, an efficient review procedure for identifying desirable combinations of structural and nonstructural measures would be extremely helpful to planners in public agencies that are responsible for the development of flood damage control programs.

A Common Measure of Effectiveness

Economic analysis of floodplain management alternatives has in the past made a distinction between two categories of benefits--land

enhancement benefits and flood damage reduction benefits. For example, quoting General Glasgow [in Arvanitidis et al. 1970, p. 37]:

> . . . land enhancement benefits may be defined as the additional economic gains accruing to agricultural, industrial and commercial firms and to households that find it profitable to use the floodplain once protection has been provided versus what these firms and households would earn either in the floodplain or elsewhere in the absence of flood control protection.
>
> . . . land enhancement benefits as currently defined and used are differentiated from two other types of flood control benefits. One is the prevention of damage to existing development that can be expected to persist into the future. The second is the prevention of damage to future development that can reasonably be expected to take place even if flood protection is not provided.

The above statement is taken to be illustrative of current thinking in this area. While the general sense of the message conveyed is correct with regard to this class of project benefits, the terminology used is ambiguous. Quoting other researchers in this area [Arvanitidis et al. 1970, p. 6]:

> Benefits from flood control result from the increased productivity of land and, therefore, in a general sense all benefits involve land enhancement. At the same time, the only way which a project can affect the productivity of land is by reducing potential damages and in a sense all benefits result from damage reduction.

The experience gained in this study from interaction with other researchers and U. S. Army Corps of Engineers personnel suggests that much confusion and imprecise understanding of basic economic relationships has arisen because of this distinction between categories of economic benefits. Needed is a conceptual framework which will yield a common measure of effective economic consequences stemming from dissimilar

alternatives--for example, land use zoning and upstream reservoir flood protection.

Land use regulations, development policies, and engineering alternatives have improvement of welfare as a common goal. Since these are entirely different actions, their direct impacts also differ, yet the direction of their final result, improved welfare, is expected to be the same. One index commonly used as a measure of the welfare effects of a policy or program is income change. A body of economic literature pertinent to the floodplain management problem [including Renshaw 1960, Pendleton 1966, Day 1969, Boxley 1969, Struyk 1971] is devoted to a theoretical analysis of the impact of floodplain management alternatives on the income potential of land resources. Rent is commonly defined as the net gains associated with the use of a resource, and as such is synonymous with economic efficiency returns.

As a means of coming to grips with the problem of evaluating alternative floodplain management practices in the same scalar units, an effort is made in this study to empirically measure changes in the economic productivity of land resources occurring with alternative land use regulations, development policies, and engineering works. The use of empirical estimates of land or site productivity as a basis for a measure of planning effectiveness derives from the fact that land use regulations, development policies, and engineering measures all impact upon the economic productivity of land units. A reduced flood frequency, ceteris peribus, in effect increases the earning power of affected land use activities. Similarly, land use regulations affect the way in which

land resources may be employed and, hence, help to determine the capacity of the land to earn a return. This relationship suggests that the concept of economic rent can be a helpful construct for summarizing the net efficiency impacts of land in alternative employment subject to varying degrees of flood hazard.

Water and Land Use Models

Floodplain management implies operating rules for the utilization of water and land resources. The design of engineering works can be based upon optimal allocations of water to alternative uses with uses understood to include flood storage in reservoir or containment in channel through levees, etc. Similarly, a land use plan can be based upon optimal allocations of land to different employment. This view of the floodplain management problem suggests that activity analysis may be a useful technique for making the required resource allocation decisions.

There is an extensive literature dealing with optimization of water resource systems; however, the same cannot be said for land use planning, particularly in a floodplain context. Experiments with a linear programming formulation of certain land use planning aspects of the problem (land use regulation of floodplain development through zoning, site elevation, and floodproofing of buildings) have been encouraging [Day 1969] and the goal of this study is to refine this early model and also bring in the necessary engineering alternatives. Consequently, the methodology developed herein is based upon an operations research procedure capable of selecting desirable land use regulation plans for any number of possible development policy and engineering work

alternatives. The efficiency solutions will identify, for the planning area considered, combinations of land use and engineering measures which can provide helpful guidelines for specific floodplain management programs.

Research Objectives and Procedures

As indicated, the overall objective of this study is to develop an economic approach to planning and evaluating land use and engineering alternatives for floodplain management. In that framework the concept of economic rent is utilized to indicate the economic efficiency of planning alternatives.

The efficiency criterion employed in the floodplain management methodology envisioned, therefore, is maximization of the aggregate economic productivity of all land resources contained in the planning area subject to various physical, institutional and noneconomic constraints. Land resources include both floodplain and upland land units within the planning area. Thus, the rent concept has relevance as a means of expressing in common terms the economic consequences of different flood damage control practices, and can be used, along with other data, to compute the overall economic benefits and costs of a management plan. In the constrained optimization model, empirical estimates of rent become the means of choosing economically productive land use configurations subject to an appropriate set of constraints. Inclusion of upland locations permits an economic choice between floodplain and nonfloodplain utilization and a display of the efficiency opportunity costs of either selection.

Pima County, Arizona, including the Tucson metropolitan area, has been selected for purposes of demonstrating the methodology. The alternatives to be considered in this test application include the spatial and temporal distribution of land use activities, site elevation through land fill, floodproofing through the establishment of building and housing codes, development policies through public acquisition of unimproved property for open space uses and public acquisition and removal of existing development from the floodplain, and a variety of engineering measures.

Because of time and data constraints, the number of alternatives examined in the test application of the methodology is limited. However, the decision rule and analytical approach developed can also accommodate land uses, development policies, and engineering measures other than those considered in this study. The purpose of this study is to develop and explore, in an empirical way, an economic methodology for floodplain management. The reader should clearly understand that the task to which this research effort is directed is to develop and explore, in an empirical way, an economic methodology for floodplain management and not to produce an operational solution to Pima County's planning problems. For that reason whenever empirical data were limited, simplifying assumptions and calculations were freely employed. An effort was made however to use data which were as realistic and internally consistent as possible.

The following organizational plan is adopted in this report. The concept of floodplain management is explained in Chapter II. The discussion will develop the rationale for a floodplain management system model

and review earlier planning models. A computer oriented floodplain management system model that can be used for planning and evaluating land use and engineering alternatives is developed in Chapter III. In this chapter, the concept of economic rent will be related to land use and engineering alternatives for floodplain management. Economic rent provides the conceptual framework for the development of the model. Examples of the types of input data that are necessary for applying the methodology are developed in Chapter IV. Using this data, the results of tests and experiments with the model are described in Chapter V. The final chapter contains a summary of the results and discusses the implications for further research.

CHAPTER II

THE FLOODPLAIN MANAGEMENT CONCEPT

Some insight into the development of the floodplain management philosophy can be gained from a review of the history of federal policies, standards, and procedures for planning the use of water and related land resources. This background is important because the concepts embodied in government reports and documents provide the direct stimulus for the development of a floodplain management system model. A floodplain management system can, in turn, assist planners in attaining floodplain management objectives.

Rationale for a Floodplain Management System Model

In the past, the Federal government has played the dominant role in flood damage control planning. Where this has occurred, the economic analysis of engineering alternatives has been stressed; for example, [Proposed Practices for Economic Analysis of River Basin Projects, a Report to the Inter-Agency Committee on Water Resources prepared by the Subcommittee on Evaluation Standards, 1958, p. 5]:

> The most effective use of economic resources required for a project is made if they are utilized in such a way that the amount by which benefits exceed costs is at a maximum rather than in such a way as to produce a maximum benefit-cost ratio or on some other basis. Maximization of net benefits is a fundamental requirement for the formulation and economic justification of projects and programs.

Subsequent to the above statement, Federal policies and standards have been developed which indicate that no one objective has an inherent priority over another. Nevertheless, the above statement still reflects current thinking to the extent that where the potential for federal investment in a project is high, the economic efficiency objective continues to play an important role in the planning process.

House Document 465, A Unified National Program for Managing Flood Losses [89th Congress 1966] contained suggestions for combining land use alternatives with the traditional engineering approach to flood damage control planning. Those elements of House Document 465 that have influenced the development of economic floodplain management models are contained in the following statements:

> Programs to . . . provide limited assistance and advice on alternative methods of reducing flood losses, including floodplain regulations and floodproofing, should be conducted by the Corps of Engineers . . . [p. 2].

> Under the Housing Act of 1961 as amended in 1965, Federal Grants are made to assist communities in acquiring open space for conservation, recreation, and other purposes. The proposals are required to be linked with a program of comprehensive planning, and the acquisition of open space and its use are required to include consideration of flood hazard [p. 29].

> Survey reports should present, along with other information, the results of studies of--
> (a) The effect on floodplain use of alternative measures such as regulation, improved forecasting, floodproofing, and public acquisition;
> (b) Nearby areas suitable for development as an alternative to floodplain development;
> (c) Alternative structural measures for protection against flooding; and
> (d) Combinations of measures and degrees of protection which maximize net benefits [p.40].

The most up-to-date statement pertaining to the floodplain management philosophy is presented in a draft report of "A Unified National Program for Floodplain Management," prepared by the U. S. Water Resources Council. The report contains the following summary and recommendations [U. S. Water Resources Council 1972, p. i]:

> Floodplain management is defined as a continuing program that seeks optimal use of a region's water and floodable land resources. The program includes planning, research, educational, legislative, regulatory, administrative, construction, operation, and maintenance activities as needed for effective management. Optimal use is a characteristic of the management plan that distinguishes it from all feasible alternate plans by most nearly meeting predetermined objectives. This definition implies that both the hazards of flooding and the needs of both the encompassing area and the Nation are recognized in the plans for utilizing a unique and relatively scarce resource.
>
> In a broad sense, the objectives of floodplain management are to enhance social well-being, to enhance national growth, to enhance the quality of the environment, and to enhance regional development. Objective achievement is conditioned by sets of basic physical, socioeconomic, and planning principles. The thrust of these principles is that the floodplain plays a role as both a spatial and an environmental resource which must be viewed for itself and simultaneously as a part of its region.
>
> The means exist for attaining floodplain management objectives. They are (1) to modify susceptibility to flooding; (2) to modify characteristics of flooding; and (3) to modify consequences of flooding. Means of modifying susceptibility to flooding include land use regulations, open space acquisitions, temporary evacuation, and other activities that restrict or minimize the exposure to inundation. Means of modifying characteristics of flooding include reservoirs, levees, channel improvements, and other engineering works that retard, confine, or divert flood waters. Means of modifying the consequences of flooding include flood insurance, tax adjustments, recovery plans, and other techniques that ease the impact of flooding on individuals and the community.

Local government planning is often concentrated on the first means of attaining floodplain management objectives--land use planning.

Traditionally, federal agencies have concentrated on the second means of attaining objectives--planning and constructing engineering works.

A coordinated planning effort by local and Federal agencies could result in a synergistic effect on the overall ability of planners to meet many objectives, including economic efficiency. The reason that a comprehensive planning approach (considering all relevant means including land use and engineering alternatives) has rarely if ever occurred is suggested by the U. S. Water Resources Council [1972, p. 3]:

> Perhaps the root of the institutional problem is the lack of a conceptual framework and incentives such as planning grants that permit a unified and unbiased approach by all concerned (emphasis added).

The floodplain management system model (FMS) developed and tested in this research project provides a conceptual framework for facilitating inter-agency interaction by integrating land use and engineering means of attaining floodplain management objectives.

House Document 465 was the steppingstone to the Draft Report of the Water Resources Council; whereas the former described the need for a new planning attitude and conceptual framework for flood damage control planning, the latter suggests a conceptual framework for the broader notion of floodplain management encompassing the legal, administrative, and political needs of the institutional problem.

This study focuses on some of the technical needs of the problem. In this way it compliments the Draft Report and also uses House Document 465 as a steppingstone.

The well recognized necessity for viewing floodplain management in the context of multiple-means, multiple-agency, multiple-resource,

multiple-purpose, multiple-objective[1] planning requires that a systems analytic approach to the problem must be adopted. The complexity and magnitude of the problem can be reduced to manageable proportions by formulating the problem as a mathematical model.

The Model Approach

When a planning problem is formulated as a mathematical model, abstract mathematical symbols are used to represent reality. These symbols describe, among other things, the relationship between the variables (which the water-resource administrator can influence) and the economic effectiveness criteria. More importantly, manipulation of the model according to accepted mathematical rules is a powerful analytical tool. By making the procedures for model manipulation very explicit, the analyst can also take advantage of the high speed computational capabilities and large scale data handling capacities of modern computers.

Mathematical models of real world phenomena are usually based on certain common types of simplifying assumptions. To the extent that the simplifications are insignificant they can be made with confidence.

Once a solution to a planning problem has been determined, the sensitivity of the model to the initial set of simplifications may be tested. During sensitivity analysis, the planner can

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1. There is a subtle distinction between the meaning of the terms multiple-purpose and multiple-objective. Multiple-purpose water resource planning considers related water problems; these may include the following purposes: water supply, water quality, navigation, hydroelectric power, land and beach stabilization, defense, drainage, outdoor recreation development, fish and wildlife development, etc. Multiple-objective planning is directed toward achieving broader social goals; as previously defined, these include enhancements of social well-being, national growth, environmental quality, and regional development.

simulate how the model will respond to alternative sets of assumptions. This sensitivity analysis may incorporate certain complexities--system interactions, nonlinearities, stochastic processes, etc.--which had to be left out of the original analytical model to make it more manageable.

The solution to the floodplain management problem may be bounded in the modeling approach by real and imagined limitations which are perceived and suggested by the planner. In the modeling approach, limitations (due to physical, administrative, political, and legal considerations, for example) are translated into mathematical equations which prevent the affected decision variables from varying freely. For example, in an optimization problem, the solution to the problem provides maximum net benefits <u>given</u> this set of constraints.

A larger maximum net benefit may be possible if some of the constraints are "relaxed" or eliminated. On the other hand, lower net benefits may result if more constraints are "tightened" or additional constraints are introduced. The impact of alternative constraint assumptions may also be evaluated during the sensitivity analysis phase of a study.

The specific modeling approach adopted in the development of the FMS model will be described in detail in Chapter III. This will be followed in Chapter V by a description of a test application of the model. The discussion of the results of the test will include examples of the ease with which the FMS model lends itself to post-optimality analysis.

A Brief Review of the Literature on Flood Damage Control Planning and Floodplain Management Models

The latent power of mathematical modeling and computer technology are so great that it is easy to wonder if such tools of analysis will allow the planner to consider all alternatives in one grand analysis on a system basis. The answer is almost yes. Quoting Wagner [1969, pp. 4-5]:

> Decision analysis separates a large-scale problem into its [simplified] subparts, each of which is simpler to manipulate and diagnose. After the separate elements are carefully examined the results are synthesized to give insight into the original problem.

DeLucia and Harrington [1972, p. 422] point out the necessity for a set of linked, hierarchical models when planning large-scale water resource projects. For example, different models may be applied to different project purposes. Certain models focus on determining the best operating policy for the system while assuming a given set of engineering works; on the other hand, other models may be used to determine the best capacity assuming a fixed operating policy.

Traditionally the term "flood damage control" has been identified with the hydrologic characteristics of flooding. This has been the incidental effect of nonflood control water resource projects and the intentional effect of single purpose and multiple purpose flood control projects. It has been accomplished through some combination of the following engineering alternatives:

1. Number of engineering units to be constructed for a specific project.

2. Design of each unit.

3. Capacity of each unit.

4. Location of each unit.

5. Timing of possible staged construction of each unit.

6. Operating rules for each unit.

7. Target output for each nonflood purpose associated with each unit.

Typically, single purpose flood damage control planning has considered the economic relationship between a variety of engineering alternatives and a specific, given, land use plan [Linsley and Franzini 1964, pp. 602-603; Hufschmidt in Maas et al. 1962, pp. 226-244]. Single purpose, nonflood control planning has modified the characteristics of flooding without evaluating the consequences of this result on flood damages [Buras 1963, 1965]. Multiple purpose planning, on the other hand, has assumed the land use plan, either explicitly or implicitly, as given and often assumes flood control engineering parameters (such as flood control storage requirements) as boundary conditions [Hall and Buras 1961; Manne 1962; Beard 1963; Hall 1964; Hall, Butcher and Esogbue 1968; Young 1968; James 1968; Roefs and Bodin 1970].

As early as 1945, Gilbert White [1945] suggested that land use alternatives be used in conjunction with flood damage control engineering works as a means of attaining floodplain management objectives. Nevertheless, as the preceding discussion indicates, water resource planning has traditionally relegated land use planning to a secondary or non-existent role. A growing awareness of the relationships between

land uses and flood damages has resulted in the current attempts to incorporate land use planning within the flood damage control planning process; this expanded idea of water and related land use management is embodied in the concept of floodplain management.

Previously quoted statements from House Document 465 [U. S. Congress, House 1966, p. 40] promoted analytical research into two particular areas. One area of research concentrated on evaluating the effect "on floodplain use of alternative measures." The other area of research has concentrated on determining the "combinations of measures and degrees of protection which maximize net benefits."

The first thorough attempt to develop a means of evaluating the effect of alternative flood control measures on floodplain use was conducted by Lind [1967]. Lind was concerned with evaluating the economic impact resulting from the introduction of engineering works onto the floodplain. He was also interested in determining the distribution of economic consequences between landowners and land users and the distribution of economic consequences between land enhancement benefits, i.e., those resulting from more intensive use of land due to structural measures, and flood damage reduction benefits. The means that he proposed to evaluate these effects was a spatial equilibrium simulation model which indicated how the existing and projected land use patterns (distributions of land use activities over space and time) would be altered by the construction of flood damage control engineering works. The difference in the sum of the economic productivity of all the real

estate in the study area with and without the project was the gross economic benefits resulting from the project.

A serious omission in Lind's model is the failure to adequately distinguish between the following four types of flood damages in the simulation model:

1. A private individual's perception of the value of his own expected personal flood hazard.

2. The expected value of the private individual's flood hazard based on expert statistical analysis.

3. The true expected value of the private flood hazard.

4. The cost to the rest of society resulting from an individual's decision to locate in the floodplain.

The flood losses described by 1, 2, and 3 above are measured in the "private" account; these include damages to the parcel of land, damages to the structure and its contents, and losses due to the interruption of economic activity. The losses described by 4 are measured in the "social" account; these include the costs of civil defense, Red Cross, and other rescue work, the cost of damages to streets, bridges, and public utilities, etc., as well as increased private offsite losses arising because of floodplain encroachment.

If Lind's model purports to simulate the economic behavior of individuals in the real estate market, in the sense of imitating their conduct, it must be based on private individual's perception of the flood hazard--1, above. However, it is difficult to determine how adequately the private individual evaluates the true flood hazard--3, above.

It is generally believed that the private perception of the flood hazard will tend to underestimate the true flood hazard, but it is entirely possible that floodprone lands are not settled because of over-estimated danger.

Perhaps for these reasons, extensions and applications of Lind's model by Arvanitidis et al. [1970, 1971, and 1972] have been based on frequency-depth-damage (to land unit, contents, and structure) relationships developed by professional estimating procedures--2, above. These computed damages with and without the project appear to be the only flood damages that are used to simulate the behavior of the real estate market and evaluate the benefits of a flood control project. To the extent that these computed damages differ from private individual's perception of the flood hazards, the model will not properly simulate the behavior of participants in the real estate market. To the extent that these computed damages do not include external diseconomies (those an individual participant creates for the rest of society but that aren't reflected in his own "private" account) the project benefits will not have been properly evaluated in the "social" account. (These external diseconomies are the social costs in 4, above.) A solution to the latter problem would be to use private account estimates of flood damages to obtain the initial and perturbed equilibria and then use private plus social flood losses to evaluate the two equilibrium states from society's point of view.

Variables other than flood damage considerations influence the relative economic productivity of alternative sites. To the extent that

individuals in the marketplace do not properly evaluate the effect of these variables, or to the extent that planners cannot adequately estimate the private and social effect of these variables, a simulation model will not adequately reproduce and evaluate the behavior of individuals in the real estate market. Furthermore, the simulation approach that has been most recently developed [Arvanitidis et al. 1972] is based on the economic productivity differentials of different locations for each land use activity. The nonflood damage determinants of economic productivity which are introduced are site development costs, transportation costs, amenity values, and social environmental effects. (Amenity values are defined as the additional amount of money an activity would be willing to pay for a location with certain physical amenities, such as view of a river or lake, as compared to a location without any special amenities. Social-environmental effects are defined as the influence of already existing, different neighboring land use on the economic rent of a residential activity; for example, the effect of existing neighboring industry and low income housing on high and middle income housing [Arvanitidis et al. 1972, pp. 71-72].

Of these rent determinants, the last two present serious empirical estimation problems. To the extent that estimates of these components are based on land price differentials there is a danger of double counting; this would occur because certain site development and transportation costs may also be responsible for land price differentials.

A full analysis of the problems associated with the development and empirical estimation of economic productivity indicators for a simulation model could be the subject of another in-depth study.

It must be emphasized that even if the real estate market is relatively free of governmental restrictions, the market, or a simulation model of that market, will not allocate activities to locations in a manner that will maximize economic efficiency. Economic efficiency is here defined as being equal to the maximized sum of the economic productivities of all land units. There are two reasons for this. The first is that important externalities may not be accounted for in the private decision-making process. The second is that even if externalities did not exist, the real estate market or a simulation model of that market will not necessarily allocate activities in any economically optimal manner. A simplified numerical example to illustrate the point is given in Appendix A.

Market solutions and simulations of them may also be deficient on equity and other nonefficiency grounds. Hence, governments in an urban environment seem more and more disposed to influence the real estate market by means of zoning ordinances, subdivision regulations, and building codes, and it is this same rationale that has prompted the current interest in a normative approach to floodplain land use management. Moreover, real estate interests have played an important part in determining the form of the final set of governmental controls. On the other hand, real estate development is influenced by government restrictions. A simulation model could more realistically be used to predict

the type of land use activity that might take place if a set of governmental land use restrictions were used in conjunction with a specific set of engineering works. While this begs the question of what set of governmental controls should be imposed on the real estate market, it may provide insight into the impact of a prespecified set of land use controls and engineering works.

The latest tested version of the previously described simulation model [Arvanitidis et al. 1972] is used in this manner. The main input data for the land use allocation part of the simulation model are the ultimate land use plans with and without floodplain management [Arvanitidis et al. 1972, p. 34].

James [1964, 1965, and 1967] was the first researcher to develop decision making, computer oriented analysis procedures which could be used to select a combination of structural and nonstructural measures for flood damage control planning. A brief summary of James' approach is given by Day [1969, p. 12]:

> James' model is designed to indicate the least-cost set of structural and nonstructural programs for given problem areas over a time horizon divided into intervals. A plan, or set of plans, is selected for each interval, based upon changing conditions over time. Thus, his model is a dynamic planning device specifying desirable timing for investment in engineering structures and land use planning. Land use alternatives are urban vs. agricultural land development. The cost of retaining floodplain land in an undeveloped (agricultural) state (thereby minimizing flood losses) is the difference in land value between urban and agricultural uses. Final land use programs, integrated with various structural measures (viz. channel improvements) are chosen by a comparison of the total costs of each alternative.

There are several shortcomings in this model as it has been developed and tested to date. The first is that land use activities are

only divided into three groups: agricultural, urban, and public land. While some level of aggregation may be necessary for various reasons--for example, computational requirements--it is doubtful that such a gross level of aggregation is fully warranted. For example, two reasons are given for treating all types of urban property as one homogeneous category [James 1965, p. 12]:

> In short, the statistical reliability of the urban damage-depth function does not warrant dividing urban development into categories. Furthermore, there is no reliable method for pinpointing specific types of future urban development.

Even if the reliability of flood damage estimates by themselves doesn't warrant dividing urban activities into finer subsets of categories, other considerations do. The flood damage component is only one of the determinants of economic productivity that affect the value of various types of urban property. There is enough variance in market value between different types of urban development, flood damage considerations aside, that there may be statistical justifications for stratifying urban development into more than one category. The larger the number of land use categories considered, the more realistic the problem becomes; the larger the number of alternatives that are available to the planner, the more improved are the chances of deriving a good solution. Planners may be interested in receiving more detailed information than can be derived from too gross a level of aggregation.

Although James used operations research terminology, formal mathematical optimization techniques do not appear to have been utilized

in his approach. Instead, the plans appear to have been selected by comparing the costs of alternative measures, e.g. [James 1965, p. 16],

> The problem is simplified by considering only two alternatives: urban development is completely withdrawn from a floodplain, or it proceeds as if there were no flood hazard.
>
> Although there are such formal rules as linear programming for obtaining the optimum single-stage solution, estimating the cost of the most promising alternatives is usually quickest for minimizing flood control cost, because most cases degenerate into readily obvious solutions.

Whipple [1969] suggests a decision making procedure for investment in flood control and floodplain zoning. His hypothetical approach is a combination of James' [1965] and Lind's [1967] approaches. Alternative combinations of structural measures and floodplain zoning, where zoning is defined as the prevention of all future construction without interfering with existing installations, are evaluated taking into consideration project induced growth. That combination of measures with the highest amount of net benefits is the best economic solution to the problem.

Day [1969, 1970] extended the work of Lind and James in four ways, viz.:

(1) giving more attention to theoretical and analytical precision in setting forth economic criteria for nonstructural floodplain management,
(2) disaggregating urban land use activities into more refined land use planning alternatives,
(3) developing computerized, mathematical optimization techniques,
(4) testing an experimental optimization model with empirical data [1969, p. 14].

Day's approach concentrated on developing urban land use management techniques.[2] Although he recognized that land use management could complement engineering works as well as being an alternative to engineering works, structural alternatives were not considered in his study. His work focused on developing a linear programming model that could determine the most economically efficient land use plan subject to various nonefficiency constraints. This plan was the optimal combination of:

1. Zoning ordinances such as the spatial and temporal arrangement of different urban land use activities.

2. Subdivision regulations such as requirements for site elevation through land fill.

3. Building codes such as floodproofing of buildings.

The above model was treated as a recursive linear programming (RLP) problem; RLP has been defined by Richard Day [1964, p. 51] as a succession of linear programming (LP) subproblems in which the solution variables of each LP subproblem determine the objective function, constraint matrix and/or the right hand side parameters of the subsequent LP subproblem.

By decomposing a large linear land use planning model into smaller but related land use planning models, the RLP method requires less computer core memory than does a straight LP approach to the same problem. While this may be necessary at certain computer installations,

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2. A mathematical description of Day's land use planning model is given in Appendix B. This discussion of the model includes an example of the types of considerations that will occur when developing a specific set of equations for a mathematical model. Some modifications to Day's model are also suggested.

LP software packages now exist which can handle land use models larger than the one examined by Day.

The RLP method and the LP method represent two alternative computational algorithms for solving the same linear land use planning model. Wherever possible, the LP computational procedure should be used since:

1. it may obtain a better solution because it considers all planning periods simultaneously; and

2. it is simpler than the RLP approach.

Summary

In this chapter, the need for a comprehensive approach to floodplain management has been stressed. The rationale for the development of a floodplain management system model is that this may provide a conceptual framework for an approach to the floodplain management problem. The modeling approach can reduce the complexity and magnitude of the problem. Previously developed, economic, mathematical, computer-based models have been examined in this chapter. In the following chapter, a new floodplain management system model is developed.

CHAPTER III

THE FLOODPLAIN MANAGEMENT SYSTEM MODEL

The preceding discussion has suggested that a floodplain management system model may provide a unified approach to floodplain management. The point of departure for such an approach is the development of a common measure of effectiveness of the consequences of dissimilar means of attaining floodplain management objectives. In the following section the criterion problem is described and the importance of an economic efficiency criterion is stressed. An economic index, rent, becomes the basis for evaluating land use and engineering alternatives.

The Criterion Problem

In practice, multiple-objective criteria will determine which combination of land use and engineering alternatives are implemented within a given problem area, since there are a multitude of individual and social ends to which planners must respond in carrying out their work. The actual level of effectiveness which results from a floodplain management system depends also upon the accounting stance employed (local, regional, or national). It is possible that planning alternatives may be seriously limited because of conflicting and competing ends and means.

As an illustration of this problem, consider the following typical situation. One group of floodplain property owners may want a river

left in its natural state because they fear a project will lead to high density development of their neighborhood. Another group of owners are in favor of structural alternatives because they have sustained losses in the past and a federal project would permit a large share of the cost of protection to be shifted to the general public. The general public, however, may have no interest in subsidizing floodplain property owners. An argument from this group might be that people should suffer the consequences of their own decisions and that if there is general ignorance of the presence, or effect, of the flood hazard, the problem should be handled by zoning, etc. Floodplain property owners might counter by saying that no one has the right to tell them what they can do with their property. Overlying all is the established responsibility of the Federal government to provide for the general welfare of citizens.

It is unlikely that one criterion for choice is fully applicable to all floodplain management problems. In fact, generalized policy recommendations (e.g., " . . . it is unwise to develop on a floodplain and the state must protect from themselves those persons who do try to develop it." [Beuchert 1963, p. 258]) emphasizing one approach over another are to be followed with caution.

Nevertheless, some basis of choice must be established. There is a need to develop rigorous multiple-objective planning procedures and there is a need to develop a method for incorporating land use aspects of the floodplain management problem within the standard plan formulation and evaluation procedures employed by Federal agencies. The satisfaction of the former need is outside the scope of this study; the primary concern here is to attend to the latter need.

For this reason, the methodology developed in this study uses constrained economic efficiency as a primary choice criterion. This does not imply that economic efficiency should be the only basis for choice in all floodplain management problems. However, this criterion has been and still is considered important. For example, the Review Draft of the Proposed Report of the National Water Commission [1972, pp. 3-8] states, "Economic value has been the principal concept of value in our society." The Commission continues by describing the need to recognize noneconomic values in water use planning [pp. 3-9]:

> Much value of an aesthetic or social nature is derived from water. Water provides enjoyment for people through recreation, scenic beauty, and the simple appreciation of nature. Although these are difficult to evaluate, they are undeniably desirable, useful, and important and thus valuable uses of water. Estimates of the economic value of water can contribute much to better decisions about water management and use even where other values can only be approximated or protected by placing limits on permissible changes in natural water systems, such as minimizing streamflows.

The approach adopted in this study is compatibible with the perspective just suggested in the preceding paragraph with regard to the means of recognizing noneconomic values. For example, in a land use planning context, noneconomic considerations can be protected by placing limits on permissible changes in natural land systems, such as minimizing urban encroachment of the floodplain through public acquisition of "greenbelts" for open space uses.

The method followed here allows certain types of noneconomic considerations to be made explicit and allowed to act as constraints

upon the efficiency solutions [see Maas et al. 1962, pp. 58-87].[1] This procedure can incorporate many of the principal ends likely to be of concern yet retains the efficiency impacts in a form which is easily identified, comparable with other projects using this criterion for choice, and adaptable to mathematical optimization. A trade-off analysis of the kind proposed by the Water Resources Council [1971, p. 24148] is thus allowed to take place, viz.:

> In cases where the trade offs among objectives are judged to be significant in the context of either national priorities or more localized priorities, an alternative plan will be formulated to emphasize the contributions to each such objective. One such alternative plan will be formulated in which optimum contributions are made to the national economic development objective. Additionally, during the planning process at least one alternative plan will be formulated which emphasizes the contributions to the environmental quality objective. Other alternative plans reflecting significant trade offs among the national economic development and environmental quality objectives may be formulated so as to not overlook a best overall plan.
>
> Alternative plans emphasizing contributions to specific components of the regional development objectives will be prepared only with advanced approval.

For example, the trade off between the national economic development objective and different amounts of floodplain land set aside for open space uses could be determined in this manner.

Economic Rent as an Efficiency Criterion

The methodology proposed herein employs the concept of economic rent as the basis for the floodplain management system model. The

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1. In this study the trade-off between floodplain open space land use and economic efficiency is examined (see pages 147-149). This is an example of how noneconomic considerations can influence the results of economic analysis.

economic rent of a parcel of land may be computed as the sum of the annual net returns discounted to their present value. This relationship can be expressed in the following way:

$$SR = \sum_{n=0}^{N} \frac{A_n}{(1+d)^n} \qquad (3\text{-}1)$$

where:

SR = site rent to a parcel of land

N = total number of years in the planning horizon

n = index denoting a particular year

A_n = annual net return in year n

d = discount rate

The net annual return to a parcel of land in time period n is defined as the gross annual return minus the annual total non-land cost. Economic rent can be used as an efficiency index to evaluate the <u>combined</u> effectiveness of alternative means of attaining floodplain management objectives.

Three general types of land use and engineering alternatives are examined, viz., land use regulations, development policies, and engineering measures. In the following discussion, these alternatives are described and a specific example or examples of each are given. The economic impact of each individual means for floodplain management is discussed. Since a floodplain management system can consist of some combination of land use and engineering alternatives, the economic impact of a combination of land use and engineering alternatives is also described; economic rent equations are developed to describe the combined impact.

Economic Impact of Land Use Regulations

Land use regulations are part of the police power of local and state governments which may be used to provide appropriate direction to growth and change in an urban area. Floodplain regulations are special-purpose aspects of this power. The challenge for the planner is to develop a comprehensive plan that takes into account the needs and goals of the overall urban area. The pattern, mode, and timing of land use, inside and outside the floodplain, must be viewed from the perspective of the community as a whole.

The economic consequences of land use regulations are important for planning purposes.[2] This impact may be measured by evaluating the effect of land use regulations on the site rents of individual parcels of land, both inside and outside the floodplain.

As used here, the total net economic productivity of all land resources subject to land use regulations is referred to as "aggregate site rent." Aggregate site rent is the sum of the site rents of all parcels of land affected by those regulations. A basic postulate in this study is that, even in the absence of flood hazards, one economic objective is to select a combination of land use regulations which enhances aggregate site rent.

Zoning Ordinances. Zoning divides the planning area into districts and within each district regulates the use of structures and land,

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2. Individual property owners are usually interested in the impact of land use regulations on individual property values. Property owners, collectively, may be interested in how the general land use plan of the entire community affects aggregate property values and, hence, the ability of the community to tax itself for worthy social causes.

the height and bulk of structures, and the size of lots and density of use. Zoning can affect the economic productivity of an individual parcel of land by specifying the spatial and temporal distribution of growth.

The spatial pattern of growth can be affected by regulations which indicate the specific type of land use that will be allowed to occur in a specific location. An important determinant of the economic productivity of an individual parcel of land in a certain location is the specific use to which the land is employed. Similarly, an important determinant of the economic productivity of an individual land use is the location in which the specific use occurs.

Of particular interest to floodplain managers is the economic productivity differential associated with the locational differential of a particular land use being either outside or inside the floodplain. The economic rent of a parcel of land inside the floodplain differs from the economic rent of an "otherwise identical" parcel of land outside the floodplain by an amount corresponding to the potential flood loss.

There are two types of flood losses. On-site flood losses are those that are sustained and caused by the same individual land use that occupies a floodplain site. Off-site losses refer to those costs borne by others including the general public through costs of rescue, relief and recovery operations that are not paid for by the individual floodplain occupant.

The temporal pattern of growth can be affected by regulations which prevent development from occurring until a specific time period.

Given landowners' and land users' time preferences for income, the "opportunity cost foregone" by withholding the permission for a certain land use to occur in a specific location until a specific time period must be considered.

Subdivision Regulations. Subdivision regulations direct the manner in which large parcels of land are partitioned into smaller parcels for the purpose of sale or building. These can help assure that a lot is suitable for its intended use and discourage victimization and speculation.

An example of a subdivision regulation that might be applicable to flood hazard areas is the requirement that dirt fill be employed to elevate a site above a certain selected height. When considering the amount of fill that is economically optimal for a particular land use activity, the cost of an incremental amount of fill must be compared with the incremental flood damage reduction benefits.

Building and Housing Codes. Building codes set standards to control building design and construction materials; housing codes set minimum standards for occupance and maintenance of structures. These can be used to modify the susceptibility to flood damage for a specific land use activity in a specific location in a number of ways, including affecting the character of building materials (absorptiveness, solubility, corrodibility), specifying the shape of buildings and the type and location of their contents. Sheaffer [1960] has examined a number of floodproofing alternatives which could be applied in the form of building and

housing codes. The costs of an incremental level of floodproofing should be compared with the corresponding flood damage reduction benefits.

Economic Impact of Development Policies

Development policies are public actions, which do not employ police power, that can be used to guide private and public development through means that include the direction of utilities and services, public acquisition of property for open space uses, permanent evacuation, and subsidized redevelopment and renewal. Development policies may take into account the flood hazard and natural characteristics of the floodplain.

Development policies may affect the economic productivity of land use activities subject to land use regulations in several ways. An example related to floodplain characteristics can be used to illustrate the point. Public acquisition for open space use of undeveloped land within the floodplain can be used to prevent an increase in urban encroachment on the floodplain and, hence, help prevent an increase in flood loss potentials. At the same time the preservation of an area for open space use may enhance the floodplain environment; this may result in increased aesthetic pleasure for many members of a community and may improve property values in the immediate neighborhood of the open space. The benefits of this activity must be balanced against the possible cost of preventing land use activities which might otherwise be gainfully employed in the floodplain from locating there and the costs of public acquisition, development, operation and maintenance of the open space area.

Although certain impacts of development policy alternatives may be measured in monetary terms (such as public acquisition costs and flood damage reduction benefits), other impacts are not so readily quantifiable (such as reduction in the potential loss of human life and increased aesthetic pleasure). Noneconomic considerations may justify the initial design of development policy alternatives outside the economic plan formulation process.

If development policies are used to guide private development, it may be useful to think of development policies coming first in time and being followed by the appropriate land uses. In terms of planning, land use regulations can be "planned around" development policy alternatives and should be used in conjunction with these policies. Often, unfortunately, it is the case of "the tail wagging the dog," i.e., governments may be constantly trying to catch up with runaway, uncontrolled growth by providing utilities and services to already existing development.

Economic Impact of Flood Control Engineering Measures

Engineering measures can be used to modify flood characteristics. This is the basis of the traditional approach to the problem. Engineering alternatives available include dams, reservoirs, dikes, levees, floodwalls, channel alterations, and high flow diversions. These can be used to modify the depth of inundation, extent of area inundated, velocity of flood waters, time of rise and duration, and the amount of debris and pollutants.

Certain types of engineering measures have a potential for multiple-purpose use, in the traditional water resources planning sense of the word. These measures may also be used in conjunction with land use planning alternatives.

Just as floodplain regulations are special-purpose aspects of the power to establish land use regulations, flood damage control engineering alternatives are special purpose aspects of the ability to guide the pattern and mode of future land use through development policies. Flood damage control engineering measures may be used to accomplish this effect because the change in the relative worth of floodplain locations (with respect to locations outside the floodplain) which accompanies the reduction of flood loss potential may result in a modification of the general land use plan for the floodplain and surrounding locations.

The benefits associated with adjustments to the general land use plan and the flood damage reduction benefits for existing and future land uses that would occur with and without the project must be compared with the costs of the engineering measures. This includes construction, right of way, operation and maintenance costs. Other benefits and costs not directly related to the flood damage control purpose must also be evaluated.

Economic Impact of a Floodplain Management System

Since a floodplain management system may consist of some combination of land use regulations, development policies, and engineering measure alternatives, it is useful to develop rent criteria which can be

used to evaluate the combined effect of a management plan on the productivity of land resources. The following discussion defines relationships which may be used to evaluate the economic impact of a combination of land use and engineering alternatives on three categories of land resources--an individual site, all sites affected by land use regulations, and all land resources within a planning area.

Impact on an Individual Site. The following relationship can be used to evaluate the impact of a floodplain management system on the economic productivity of an individual parcel of land that is subject to land use regulations.

$$SR_{ijfpts} = LV_{ijt} - CF_{ijft} - CP_{ijpt} - SD_{ijfpts} - OD_{ijfpts} \quad (3\text{-}2)$$

where:

i = index denoting a specific land use,

j = index denoting a specific location,

f = index denoting a specific level of fill,

p = index denoting a specific level of floodproofing,

t = index denoting a specific time period during which development for land use i may begin to occur at a site at location j,

s = index denoting specific development policy and/or engineering measures considered,

SR_{ijfpts} = site rent to the ijfpt activity given public investment in s,

LV_{ijt} = "land value which would be expected in the absence of a flood hazard" to the ijt activity,

CF_{ijft} = cost of fill to the level f for the ijt activity,

CP_{ijpt} = cost of floodproofing to the level p for the ijt activity,

SD_{ijfpts} = residual site damages to the ijt activity after private investment in fill to level f and floodproofing to level p, and after public investment in s,

OD_{ijfpts} = residual off-site damages associated with the ijt activity after private investment in fill to level f and floodproofing to level p and after public investment in s,

where all terms in the site rent equation are stated in terms of present value.[3] This equation indicates that the economic productivity of an individual parcel of land in location j may be affected by

(a) zoning ordinances which specify the type of land use i that may begin to develop at location j during time period t,

(b) subdivision regulations which specify the level of site elevation f which must be achieved by the ijt activity,

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3. A few items of interest should be stated. Equation (3-2) may be taken as an illustration of how a site rent equation can be defined. Minor modifications of this equation may be desirable from one application of the methodology to another.

For example, for the purpose of illustration in this study, floodproofing is defined to include all means of modifying the susceptibility to flooding (of a building and contents) other than the employment of dirt fill. Hence, the costs of fill and floodproofing are indicated as two separate terms in the site rent equation. However, floodproofing may also be defined so as to include the concept of site elevation through fill; where this is done the costs of fill and other means of floodproofing may be lumped together in one term. A joint cost of fill and floodproofing may also be appropriate if their costs are independent.

The letter "t" is used as an index to denote a time period that is relevant for land use planning. It does not necessarily denote a particular month, day, or year within a planning horizon; different lengths of time may be associated with different values of t. For example, there may be three time periods, t = 1, 2, and 3, in a fifty year time horizon that are relevant for land use planning; the first two time periods may each be five years in length and the third time period, t = 3, may be forty years in length.

(c) building and housing codes which indicate the level of floodproofing p which must be established and maintained, and

(d) development policies and/or engineering measures s.[4]

Aggregate Impact on all Regulated Sites. The following relationship can be used to evaluate the impact of a floodplain management system on the total economic productivity of all parcels of land within the planning area that are subject to land use regulations:

$$ASR_s = \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{t=1}^{T} R_{ijfpts} \cdot X_{ijfpts}$$

$$= \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{t=1}^{T} (SR_{ijfpts} \div L_i) \cdot X_{ijfpts} \qquad (3\text{-}3)$$

where:

I = total number of land uses,

J = total number of locations,

T = total number of time periods within the planning horizon,

ASR_s = aggregate site rent of all parcels of land within the planning area that are subject to land use regulations given public investment in s,

SR_{ijfpts} = site rent to the ijfpt activity given public investment in s,

R_{ijfpts} = rent per acre to the ijfpt activity given public investment in s,

L_i = lot size, in acres, associated with land use i,

X_{ijfpts} = acres of land assigned to the ijfpt activity given public investment in s; and

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4. The equation, by itself, says nothing about the economic impact of neighboring land uses which may result from a floodplain management plan. This subject is discussed elsewhere in this report.

where all other items are defined as before. This equation indicates that the present value of the total sum of the net annual returns of all parcels of land subject to land use regulations is a function of the pattern, mode and timing of regulated land use activities that are "planned around" development policy and engineering alternatives.

Aggregate Impact on the Entire Planning Area. The planning area consists of all land resources whose productivity is affected by a flood-plain management system. The following equation may be used to evaluate the aggregate economic productivity of all land resources within the planning area:

$$AER_s = ASR_s - RDED_s - C_s + OB_s - OC_s \qquad (3\text{-}4)$$

where:

s = index denoting a particular development policy and/or engineering measure considered,

AER_s = aggregate economic rent of the planning area given public investment in s,

ASR_s = aggregate site rent to activities affected by land use regulations given public investment in s, (see equation 3-3),

$RDED_s$ = residual damages to existing development given public investment in s,

C_s = cost of the engineering measures associated with s,

OB_s = other benefits associated with s but not accounted for in the first three terms of the aggregate economic rent equation,

OC_s = other costs associated with s but not accounted for in the first three terms of the aggregate economic rent equation; and

where all of the terms in the above equation are stated in terms of present value. The aggregate economic rent of a floodplain management system measures the combined economic efficiency of land use and engineering alternatives. The aggregate economic rent equation accounts for the total economic productivity of all regulated land resources, the residual flood damages to existing development, the costs of the engineering measures, and other benefits and costs related to the particular development policy and/or engineering measure considered.

There is a strong theoretical foundation for using aggregate economic rent as a basis for planning. For example, quoting Gaffney [1962, p. 32]:

> . . . government represents landholders collectively, and it is the medium through which they must act to supply their parcels with certain kinds of collective improvements . . . The true latent potential rent of lands is that which would be obtained if local government as well as individual landholders behave optimally.

Although Gaffney's remarks were in relation to the role of local government, the sentiment holds in a broader context as well.

The FMS (Floodplain Management System) Model

The aggregate economic rent equation (3-4) developed in the preceding section forms the basis of the FMS (Floodplain Management System) model. The general economic problem the planner must solve is to determine that combination of land use regulations, development policies, and engineering measures that will maximize the overall economic efficiency objective subject to various physical and institutional constraints. This problem is expressed by the general form of the floodplain management system model:

$$\text{Maximize } AER_s = ASR_s - RDED_s - C_s + OB_s - OC_s \tag{3-5}$$

subject to the appropriate set of constraints where all of the terms in the objective function are defined as earlier; see equation (3-4) in the preceding section for definitions. The specific formulation of the appropriate set of constraints will vary from one application of the FMS model to the next.

The Land Use Regulation Model within the FMS Model

Within the overall floodplain management problem is an urban land use planning subproblem. The approach adopted in this study views a local community as a single entrepreneur who is seeking the most economically efficient way of combining scarce land resources with a development policy and engineering measure that is being tentatively considered. The approach has been placed within the framework of a general maximization problem that seeks to select values for a set of decision variables such that the economic objective function is maximized subject to the appropriate set of constraints. In the case of the land use regulation planning problem, the decision variable, X_{ijfpts}, indicates the acres of land <u>assigned</u> to the ijfpt activity given public investment in s. The value of the objective function, aggregate site rent, is one indicator of the general economic welfare of the community. The constraint set can define a number of limitations on the ability of a land use regulation plan to maximize the economic productivity goal; this may describe the community's land resources endowment and population growth potential for example.

The general characteristics of the problem appear to be compatible with an approach to problem solving that goes by a variety of names including "operations research." Wagner [1969, pp. 5-6] describes operations research as having

1. a primary focus on decision making,
2. an appraisal resting on an economic effectiveness criterion,
3. a reliance on a formal mathematical model, and
4. a dependence on an electronic computer.

The mathematical modeling approach can be used to reduce the complexity and magnitude of the problem to manageable proportions, and the electronic computer can be used to take advantage of its high speed computational capacity and large scale data handling abilities. Since the problem analyzed in this study involves the assignment of resources to resource using activities, an examination of operations research assignment problem techniques may suggest a useful computational procedure for solving the land use regulation problem.

One of the most well-known assignment problem computational algorithms is linear programming (LP); this technique is described by Hillier and Lieberman [1969, pp. 127-128] as follows:

> Linear programming deals with the problem of allocating limited resources among competing activities in an optimal manner. This problem of allocation can arise whenever one must select the level of certain activities which must compete for certain scarce resources necessary to perform those activities.
>
> Linear programming uses a mathematical model to describe the problem of concern. The adjective "linear" means that all the mathematical functions in this model are required to be linear functions. The word "programming" is essentially a synonym for planning. Thus, linear programming involves the planning of

activities in order to obtain an "optimal" result, i.e., a result which reaches the specified goal best (according to the mathematical model) among all feasible alternatives.

The mathematical statement of a general form of the linear programming problem is the following. Find $x_1, x_2, \ldots, x_n$ which maximizes the linear function,

$$Z = c_1x_1 + c_2x_2 + \ldots + c_nx_n,$$

subject to the restrictions,

$$a_{11}x_1 + a_{12}x_2 + \ldots + a_{1n}x_n \leq b_1$$

$$a_{21}x_1 + a_{22}x_2 + \ldots + a_{2n}x_n \leq b_2$$

$$\vdots$$

$$a_{m1}x_1 + a_{m2}x_2 + \ldots + a_{mn}x_n \leq b_m$$

and

$$x_1 \geq 0,\ x_2 \geq 0,\ \ldots,\ x_n \geq 0,$$

where the a_{ij}, b_i, and c_j are given constants. The function being maximized is called the objective function. The restrictions are also referred to as constraints or restraints. The variables being solved for are called decision variables.

The linear programming model is easily interpreted . . . Given n competing activities, the decision variables, $x_1, x_2, \ldots, x_n$, represent the levels of these activities. For example, if each activity is the production of a certain product, then x_j would be the number of units of the jth product to be produced during a given period of time. Z is the chosen over-all measure of effectiveness, e.g., profit over the given time period. c_j is the increase in the over-all measure of effectiveness that would result from each unit increase in x_j. The number of relevant scarce resources is m, so that each of the first m linear inequalities corresponds to a restriction on the availability of one of these resources. b_i is the amount of resource i available to the n activities. a_{ij} is the amount of resource i consumed by each unit of activity j. Therefore, the left side of these inequalities is the total usage of the respective resources. The non-negativity restrictions ($x_j \geq 0$) rule out the possibility of negative activity levels.

The linear programming technique is theoretically sound and readily understood; computer software routines that can handle large scale LP problems have already been developed. However, one of the assumptions required for the use of an LP model is that object row interactions between decision variables do not exist; i.e., the economic impact of one LP land use activity on a neighboring LP land use activity cannot be considered by the LP computational algorithm.

Nonlinear assignment models that can consider this type of locational interaction would be preferable to an LP model if it were not for the fact that nonlinear models are practically insoluble. Quadratic and integer programming algorithms cannot consider a useful number of activity and locational alternatives [for examples, see Koopmans and Beckmann 1957; Wolfe 1959; Houthakker 1960; Wagner 1969, p. 486; and Graves and Whinston 1970]. Complete enumeration cannot guarantee an optimal solution within a reasonable amount of time [Wagner 1969, p. 449]. Comparative costing of alternatives can generate a solution within a feasible length of time but this is not likely to be the optimal solution [James 1964].

Locational interactional interactions can be handled in two ways when applying the LP approach to the land use regulation problem. First, predictable externality-producing land use activities may be considered exogenous decision variables similar to development policy and engineering measure alternatives. They can be assigned to locations by the planner "outside" the LP model. Prior to the commencement of the LP computational algorithm, the impact of each externality-producing land

use can be computed and capitalized into the site rent of each affected endogenous land use activity. The LP model can then "plan around" the exogenously determined externality-producing land use activities, development policies, and engineering measures. Secondly, locational interaction can be ignored during an initial LP assignment; the affect of the locational interactions on the value and stability of the LP solution may be examined during the postoptimality phase of the analysis.[5] The second approach may be useful if locational interactions are difficult to quantify without

1. a priori knowledge of the overall land use plan which will be in effect (this can be suggested by the LP assignment),

2. a better understanding of the rainfall-runoff process and certain socioeconomic processes in urban areas, and

3. a lack of sufficient data on 2, above, to make predictions.

In each application of the methodology, the characteristic features of the planning area will determine the exact form of the appropriate set of constraints. The following discussion of the land use regulation model that is adopted in this study will serve to illustrate

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5. The second approach is the one that is examined in this study. The sensitivity of the value and stability of the LP solution to variations in hydrologic state conditions resulting from LP land use assignments is described in Chapter V. Other types of nonlinearities, such as the affect of nonconforming land uses on adjacent property values, could be examined in a similar manner in future applications of the methodology. In this study, the backwater effect example is used to illustrate how the LP model can handle locational interactions as well as how the model can handle one type of an urbanization effect on runoff.

the types of considerations involved in establishing an appropriate set of constraints.

The linear programming constraints are numbered and briefly explained as follows: Constraint 1 indicates the quantity of land that can be regulated in each location j; Constraint 2 (a) indicates the level of population growth associated with each type of land use that must be accommodated by the model within each time period; Constraints 2 (b), 2 (c), 2 (d), and 2 (e) define the relationship between the location of business and commercial land uses and the location of residential land uses; Constraint 3 (a) is the non-negativity constraint.

Constraints 3 (b), 4, and 5 are additional requirements that must be satisfied outside of the LP computational algorithm, but within the land use regulation model. Constraints 3 (b) and 4 reduce the number of activities that must be considered by the LP model. Constraint 5 determines the value of the right-hand-side element in Constraint 1, i.e., the quantity of land that can be regulated in each location j. The output of this last set of constraints serves as input to the LP model.

A more complete discussion of the constraints employed follows this mathematical definition of the land use regulation model:

$$\text{Maximize } ASR_s = \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{t=1}^{T} R_{ijfpts} \cdot X_{ijfpts} \qquad (3\text{-}6)$$

subject to:

Constraint 1: $$\sum_{t=1}^{T} \sum_{i=1}^{I-1} X_{ijfpts} + X_{ijfpts} = A_{js} \quad j = 1 \ldots J$$

Constraint 2(a): $$\sum_{j=1}^{J} d_i \cdot X_{ijfpts} = P_{it} \quad \begin{matrix} i = 1 \ldots I-2 \\ t = 1 \ldots T \end{matrix}$$

Constraint 2(b):

$$PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} d_i \cdot X_{ijfpts} = 0 \quad \begin{matrix} j = 1 \ldots D \\ t = 1 \ldots T \end{matrix}$$

Constraint 2(c):

$$\sum_{j=D+1}^{D+12} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+1}^{D+12} d_i \cdot X_{ijfpts} = 0 \quad t = 1 \ldots T$$

Constraint 2(d):

$$\sum_{j=D+13}^{D+16} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+13}^{D+16} d_i \cdot X_{ijfpts} = 0 \quad t = 1 \ldots T$$

Constraint 2(e):

$$\sum_{j=D+17}^{D+20} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+17}^{D+20} d_i \cdot X_{ijfpts} = 0 \quad t = 1 \ldots T$$

Constraint 3(a): $X_{ijfpts} \geq 0$ for all i, j, f, p, t, s

Constraint 3(b): $X_{ijfpts} = 0$ for all $t > 1$

Constraint 4: Choose $X_{\underline{ijfpts}}$ s.t. $R_{\underline{ijfpts}} \geq R_{\underline{ij}fpts}$ for all $fp \neq \underline{fp}$

Constraint 5: $A_{js} = A_j - EXOG_{js}$ $\quad j = 1 \ldots J$

where:

i = index denoting a specific land use,

j = index denoting a specific location,

f = index denoting a specific level of fill,

p = index denoting a specific level of floodproofing,

t = index denoting a specific time period during which development for land use i may begin at a site at location j,

s = index denoting a specific development policy and/or engineering measures considered,

I = total number of land uses (i),

J = total number of locations (j),

T = total number of time periods (t),

D = number of locations (j=1...D) that are outside the floodplain,

ASR_s = aggregate site rent of all parcels of land within the planning area that are subject to land use regulations given public investment in s,

R_{ijfpts} = rent per acre to the $ijfpt$ activity given public investment in s,

X_{ijfpts} = acres of land assigned to the $ijfpt$ activity given public investment in s,

A_{js} = acres of land in location j available for assignment by the model to regulated land use activities given public investment in s,

P_{it} = population growth forecast associated with land use i in time period t,

d_i = population per acre of residential land use i,

PPBA = population per business acre coefficient,

A_j = total acres of land presently suitable for site development in location j, and

$EXOG_{js}$ = total acres of land in location j which will be publicly acquired by public investment in s.

In the following discussion, the land use regulation model will be described one mathematical relationship at a time.

The Regulation Model Objective Function

The objective of the LP model is to maximize aggregate site rent. Aggregate site rent is to be maximized under the tentative assumption of public investment in a specific development policy and/or engineering measure.

Constraint 1

This availability of land relationship indicates that all of the land in each location j that can be regulated, given public investment in s, will be assigned to some combination of residential (i=1...I-2), commercial (i=I-2) and open space (i=I) land use activities. When the decision to tentatively consider a development policy is made "outside the model" by the planner, the LP model must "plan around" this decision. Whether or not some open space land use allocations are exogenously determined, the open space land use activity, I, still can actively compete with other land uses for the remaining land resources that the LP model actively considers.

Constraint 2(a)

This is the population growth relationship. It indicates that the number of people (P_{it}) who will be accommodated by each residential land use i within each time period t.

Constraints 2(b) through 2(e)

The relationship between business and commercial land use and population must also be considered. Local planners estimate the requirements for business and commercial land as a function of population. The people per business acre technological coefficient (PPBA) can be developed from this relationship. Constraint 2(b) applies this relationship to each of the non-floodplain areas. Constraint 2(c) applies the relationship simultaneously to three reaches of the floodplain. Constraints 2(c) and 2(d) each define this relationship for one reach of the floodplain.

The reason for having a separate equation to describe the relationship between business and commercial population and land use in separate geographic areas is to insure that the PPBA statistic is in effect within each separate geographic area. This will prevent a solution to an LP model from resulting in all business and commercial activity locating in one part of the county and all residential activity locating in another part of the county; it is unlikely that local planners and citizens could accept this type of solution as being a realistic one.

Constraint 3(a)

This is the usual non-negativity constraint.

Constraint 3(b)

This constraint indicates that all endogenously assigned open space land use activities take place immediately. It is based on the

assumption that it is cheaper to acquire land for open space use during time period 1 than during any other time period. This helps reduce the number of activities that must be considered by the LP model.

Constraint 4

This relationship helps reduce the number of possible activity combinations which must be considered by the LP computational algorithm from i·j·f·p·t to i·j·1·1·t. This is done by selecting, for each ijt combination, the most economically productive fill (f) and floodproofing (p) combination to determine the ijfpt combination that will be allowed to enter the model.

Constraint 5

Before the LP program is run, the amount of land in location j required by public investment in s is deducted from the amount of land presently suitable for site development in location j. The remaining land A_{js} is available for assignment to land use activities by the LP program. This determines the appropriate value for the right-hand-side element, A_{js}, in the first constraint equation.

The land use regulation model just described "plans around" the exogenous decision to tentatively consider some non-regulation alternative. It does so in two ways. First, the non-regulation alternative may affect the value of the object row coefficients in the regulation model. Second, the regulation model must develop a plan using whatever land resources remain after a certain amount of land is assigned to the non-regulation alternative.

Noneconomic considerations are included in the appropriate set of constraints. Noneconomic considerations are reflected in the population requirements, the density and people per business acre coefficients, and in the land uses considered as planning alternatives.

The FMS Model as a Planning Tool

The floodplain management system model developed in this chapter can be a useful planning tool. Using the concept of economic rent as the analytical framework of the methodology the FMS model can provide a variety of information that is pertinent to the floodplain management problem. In the remaining portions of this study the ability to do the following,

1. formulate a large number of land use and engineering planning alternatives,
2. evaluate the economic impact of each land use and engineering plan,
3. compare economic productivity with and without each land use and engineering plan,
4. compare each land use and engineering plan with the most economically efficient land use alternative, and
5. conduct sensitivity analysis

is examined in detail. This capability conforms to requirements as put forth in "Proposed Principles and Standards for Planning Water and Related Land Resources" that have been entered into the Federal Register by the Water Resources Council [1971]. The following sections summarize the FMS model vis-à-vis the five steps listed above.

Plan Formulation

As suggested in the preceding chapter, the FMS model combines the ability of mathematical modeling to reduce the complexity and magnitude of a problem with the large data capacity and high speed computational capabilities of the modern computer. This allows planners to generate, modify and update plans on a timely basis. For each development policy and engineering alternative considered, the model can be used to indicate the most economically efficient combination of zoning ordinances, subdivision regulations, and building and housing codes. Zoning ordinances will indicate the spatial pattern and timing of growth; subdivision regulations and building and housing codes will indicate the mode of growth. Iteration of the model for any number of development policies and/or engineering approaches will generate a set of economically feasible floodplain management programs which can then be compared and ranked.

Economic Impact Statements

Each management plan formulated by the FMS model consists of some combination of development policies, engineering measures, zoning ordinances, subdivision regulations, and building and housing codes. Empirically calculated economic rent provides a common unit of measure for evaluating the economic impact of each FMS mixture of means for attaining floodplain management objectives. This is accomplished by computing the aggregate economic rent of each FMS plan.

In addition, the aggregate economic rent that will occur in the absence of any FMS plan can be evaluated by substituting values for the

terms in the aggregate economic rent equation expected to occur <u>without</u> the FMS plan.

"With and Without" Analysis

For each plan generated by the FMS model, it is necessary to compare the aggregate economic productivity with the FMS plan and the aggregate economic productivity that will occur without the adoption of an FMS plan. Quoting the U. S. Water Resources Council [1971, p. 24146]:

> Beneficial and adverse effects of each alternative plan will be determined by comparing the conditions expected with the plan to the conditions expected without the plan.

"With and without" analysis can use the opportunity cost of adopting an existing local use plan to evaluate the incremental productivity that can be gained by employing an FMS plan instead. This analysis may be meaningful if the existing plan represents the best possible effort of local planners and if the local community is strongly committed to the existing alternative in the event that federal funding for a management plan is not granted. Where these conditions are not met, the validity of "with and without" analysis may be properly questioned. The following two paragraphs give examples of conditions under which "with and without" analysis may not be meaningful.

A. A poor existing plan, from the economic efficiency point of view, will inflate the results of "with and without" analysis by indicating a lower aggregate economic productivity without the FMS plan than that which could have been achieved. To the extent that this is true, "with and "without" analysis rewards poor local planning.

B. The local community may not be committed to an existing land use plan, i.e., there may not be an existing land use plan and/or it may be difficult to simulate what would happen without one. Local planners may be delaying the development of local plans until they can determine what federal investments in the local area will be granted. If there is a plan, it may be out of date, or unrealistic. For these reasons there may be uncertainty over what will happen without an FMS plan.

Where there is doubt about the validity of "with and without" analysis, the FMS model can be used to provide another method of comparing and evaluating alternatives. That method is incremental analysis.

Incremental Analysis of Development Policies and Engineering Measure Alternatives

Where the potential for federal investment in development policies and engineering measures is high, it may be useful to evaluate the incremental economic productivity that can be gained by including these alternatives within the floodplain management system plan. Quoting the U. S. Water Resources Council [1971, p. 24148]:

> Major increments proposed for addition to a plan intended to serve a single objective will be included only if the beneficial effects on that objective of the addition outweigh the adverse effects. For example, an increment to an alternative plan proposed for the national economic development objective would be added only if the additional beneficial effects exceeded the additional adverse effects and similarly for all objectives.

From a strict economic efficiency point of view, a Federal plan including development policies and engineering measures should not be

recommended, even if it is better than what will occur without the project, if it precludes non-Federal plans (not including these alternatives) that would more effectively contribute to the attainment of the economic efficiency objective.[6] For this reason, it may be useful to compare the aggregate economic productivity of each structural-nonstructural FMS plan containing these alternatives with the opportunity cost of the aggregate economic productivity of the most economically efficient nonstructural FMS land use regulation alternative.

Sensitivity Analysis

As a means of handling the uncertainties and risks that are inherent in water and related land use planning, the following general evaluation principle is stated by the U. S. Water Resources Council [1971, p. 24147]:

> Plans should be examined to determine their sensitivity to data availability and to alternative assumptions as to future economic, demographic, environmental and technologic trends. Selected alternative projections and assumptions that are reasonably probable and that, if realized, would appreciably effect plan design or scheduling should be analyzed.

The FMS methodology developed in this study utilizes a computerized procedure that facilitates sensitivity analysis and allows other types of interactions between the decision maker and the decision model to be conducted on a timely basis.

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6. Of course, where noneconomic objectives are judged to be important, the economic effectiveness of development policies and engineering measures is not the sole criterion by which these measures are evaluated.

Summary

The development of a comprehensive approach to floodplain management requires explicit consideration of the criterion problem. In practice, multiple-objective criteria will determine which combination of land use and engineering measures are implemented within a planning area. Nevertheless, where the potential for Federal investment in engineering measures is high, national economic efficiency could be an important consideration.

The methodology developed in this study uses economic rent as the efficiency basis for a floodplain management system model. The economic rent of a land resource is equal to the present value of the future stream of its net returns. The net return to an individual parcel of land is defined as the gross return minus the total non-land cost.

Economic rent measures the combined economic effectiveness of land use and engineering means of attaining floodplain management objectives. Alternative means include zoning ordinances, subdivision regulations, building and housing codes; direction of services and utilities, acquisition or open space uses, redevelopment and renewal, permanent evacuation, dams and reservoirs, dikes, levees and floodwalls, channel alterations, and high flow diversions. Empirical calculations of rent can measure the impact of a floodplain management system on an individual private parcel of land (site rent), on all parcels of regulated land (aggregate site rent), and on all land resources in the planning area (aggregate economic rent).

The FMS, floodplain management system, model can be used by the planner in the attempt to determine that combination of land use regulations, development policies and engineering measures that will maximize aggregate economic rent subject to physical, institutional and non-efficiency planning constraints. The general form of the floodplain management problem can be expressed as a mathematical model that can be adapted to modern computer technology in that embedded within the overall FMS model is a land use assignment model. For each development policy and engineering alternative considered the land use assignment model determines that combination of zoning ordinances, subdivision regulations, and building and housing codes that will maximize the potential productivity of the land within the planning area, given the set of operative constraints.

The FMS model methodology can be a valuable planning tool for it can be used to

1. formulate a large number of land use and engineering planning alternatives,

2. evaluate the economic impact of each land use and engineering plan,

3. compare economic productivity with and without each land use and engineering plan,

4. perform incremental analysis of development policy and engineering alternatives, and

5. perform sensitivity analysis.

The quality of the information that is produced by the above plan formulation and evaluation procedures depends on the quality of information that goes into the model. In the following chapter, input data considerations are discussed.

CHAPTER IV

INPUT DATA FOR THE FMS MODEL

The discussion in the preceding chapter formalized a conceptual basis for joint water and land resource planning in the context of urban floodplain management. However, the information produced by such an approach may only be as good as the information that went into the decision-making model.

If the FMS model requires data that is not likely to be available, in terms of adequate quantity and quality, during the planning process, then the information produced by the methodology may be of questionable value. This may be true despite the apparent elegance and completeness of the answers produced by the model. For example, if flood damages are underestimated, then under-regulation and under-protection may be suggested by the model.

On the other hand, if a test of the model indicates that the model may be used effectively in the comprehensive planning process (given the existence of certain types of data), this fact may serve as a stimulus for gathering additional data. Pima County, Arizona, which includes the City of Tucson, is the initial test site of the FMS model. The discussion in this chapter describes input data required for the test application.

The model tested considers various combinations of land use regulations, development policies and engineering measures. Information on the types of activities that are considered by the model is required before the planner can begin to bring together the relevant data needed for formulating and evaluating alternatives. The chapter begins with a description of those activities that are considered in the test application. This is followed by a section that describes in a general way the data required for analyzing those activities. The remainder of the chapter includes a detailed discussion of the specific type of data used in this analysis.

Land Use and Engineering Alternatives Examined

The symbols used to denote the alternatives considered by the FMS model have been defined in the preceding chapter; "i" refers to a specific land use; "j" identifies its geographic location in the planning area; "f" and "p" are site elevation and floodproofing indices; "t" indicates the time period during which development for a land use activity may begin to occur; "s" specifies the development policy or engineering measure considered. There are $i \cdot j \cdot f \cdot p \cdot t \cdot s = 6 \cdot 25 \cdot 5 \cdot 5 \cdot 3 \cdot 37 = 416{,}250$ possible combinations of separate alternatives that are examined in the test application of the model. These alternatives are described below.

Land Use Regulation Alternatives

Existing LP computer programs can handle problems with thousands of decision variables. The more activities the planner includes in the LP model the more realistic the model will be. When one considers the

capabilities of existing "canned" LP programs a relatively small model is tested in this application. A number of arguments weigh in favor of testing a smaller model here.

The main purpose of this research project is not to develop a detailed, realistic solution to Pima County's flood damage control planning problems, but to develop and illustrate a methodology which can be applied to any floodplain area where land use planning and engineering planning alternatives need to be considered. For this reason, the model selected is large enough to contain the essential features of the methodology, yet small enough to be easily understood.

Alternative Locations within the Planning Area

The study area is divided into 25 separate locations in order to provide for spatial planning. Five major upland areas are considered relevant for planning purposes [Garcia 1971, p. 2]. These are illustrated in Figure 4-1. Twenty floodplain locations are examined by the model. These areas are delineated by reach boundaries which can be thought of as being perpendicular to the channel and by flood risk zone boundaries which can be thought of as being more or less parallel to the channel. Schematic diagrams of the reach and flood risk zone boundaries are illustrated in Figures 4-2 and 4-3.

Five reaches and three flood risk zones are based on existing Corps subdivisions [TRW Systems Group 1969, p. 119]:

> Reach 1 is approximately 13,000 feet long and covers the Pantano Wash from Sabino Canyon Road to Craycroft Road. Reach 2 is approximately 18,000 feet long and covers the Tanque Verde Wash from Tanque Verde Road to Craycroft Road. Reach 3 is approximately 6,000 feet long and runs from Craycroft to Swan Road. Reach 4 and Reach 5 are approximately 55,000 feet long and run

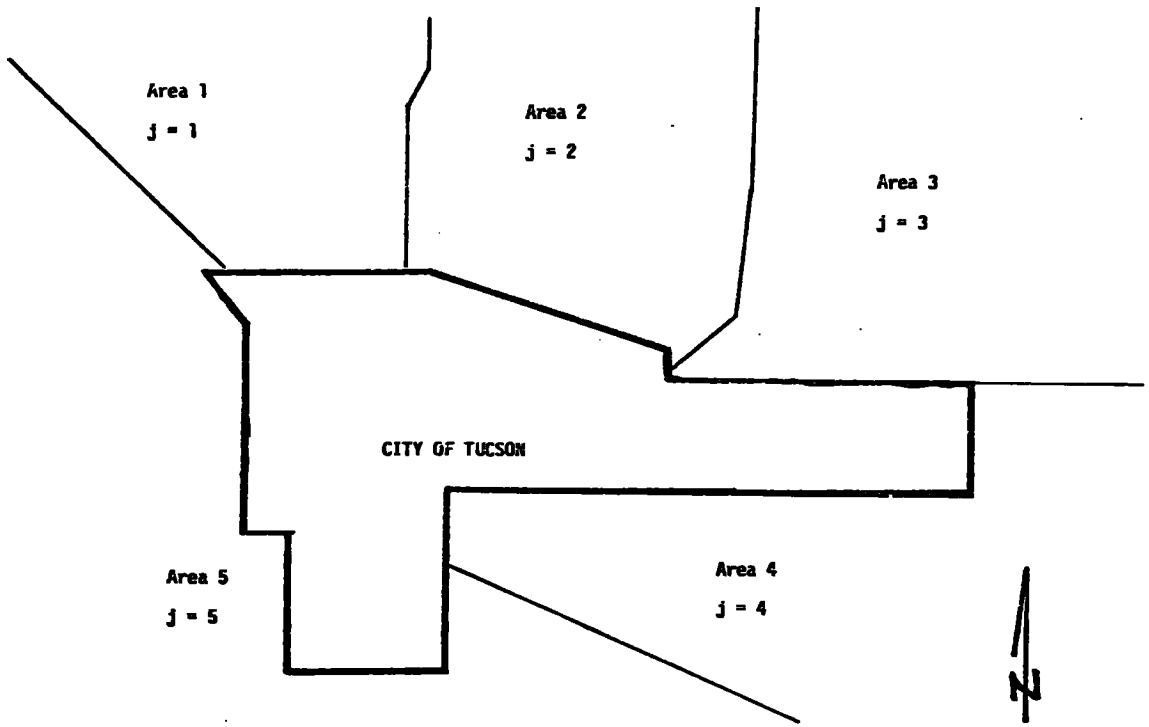

Figure 4-1. Major Upland Areas Relevant for Floodplain Management.

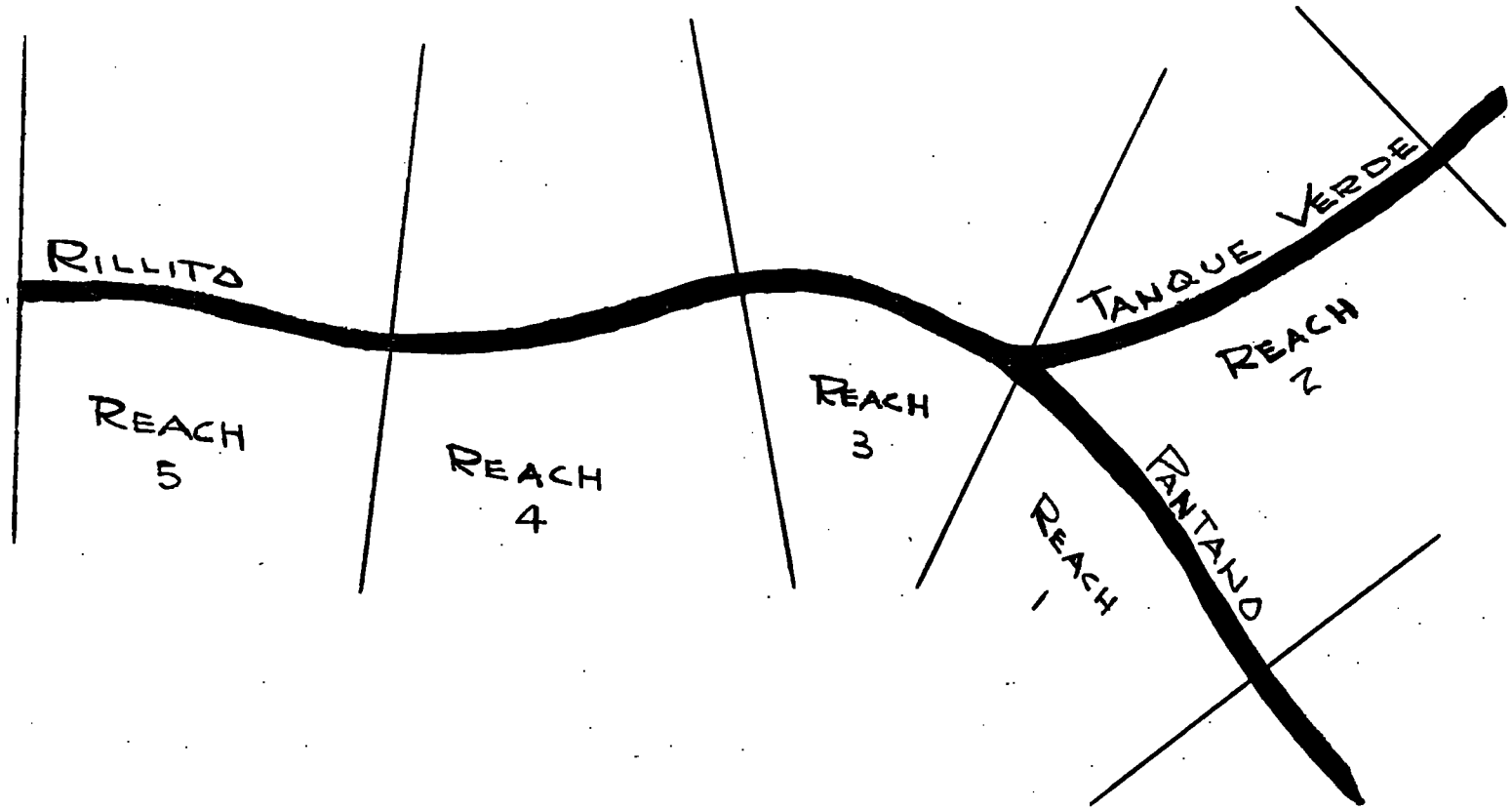

Figure 4-2. Reach Boundaries.

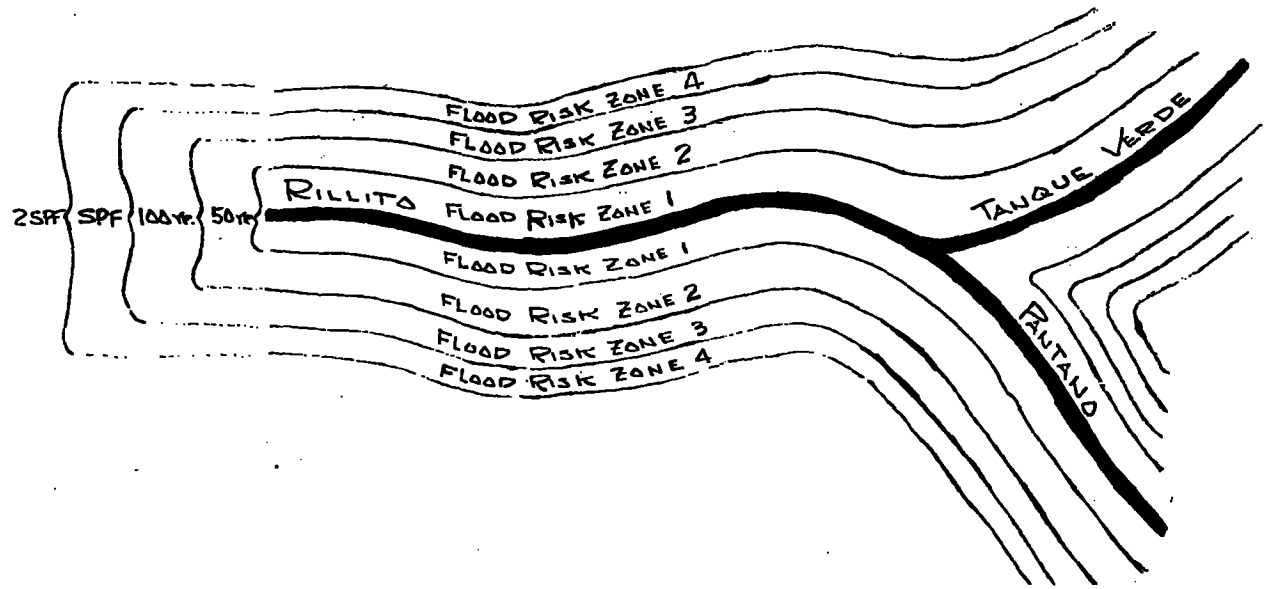

Figure 4-3. Flood Risk Zone Boundaries.

from Swan Road to Campbell (Reach 4) and Campbell to its confluence with the Santa Cruz River (Reach 5). Flood Risk Zone 1 is defined as the area which would be flooded in the event of the occurrence of a 50-year flood. Flood Risk Zone 2 represents the area between the 50-year floodplain and the outer limits of the 100-year floodplain. Flood Risk Zone 3 represents the area between the 100-year outer flood limits and the limits of the Standard Project Flood (SPF).

For didactic reasons a fourth flood risk zone was defined for this study. Flood Risk Zone 4 is assumed to represent the area between the SPF floodplain and the outer limits of the area that would be inundated with the occurrence of a flood that has twice the peak flow rate of the SPF. This zone represents land which is not now expected to be inundated but which may be inundated in the future if the effect of urbanization on runoff is taken into consideration.

According to the Corps of Engineers, the peak flow rate of the SPF on Rillito Creek is 85,000 cubic feet per second; this corresponds to the 500-year flood. The peak flow rate of 2SPF is assumed to be equal to 170,000 cfs. The locations (j=1...25) are considered a site alternative for each land use in each time period. In addition to the location index, j, two other numerical indices are used to indicate the type of location; a reach number, r, and a zone number, z, were assigned to each location. All the land within each location is considered to be homogeneous with respect to both flood and non-flood characteristics. The relationships among the locational indices are illustrated in Table 4-1.

Land Use Categories

Six major land use categories are considered by the LP model. These are illustrated in Table 4-2.

Table 4-1. A List of Locational Alternatives.

Location[a]	Reach[b]	Flood Risk Zone[c]
j	r	z
1	0	1
2	0	2
3	0	3
4	0	4
5	0	5
6	1	1
7	1	2
8	1	3
9	1	4
10	2	1
11	2	2
12	2	3
13	2	4
14	3	1
15	3	2
16	3	3
17	3	4
18	4	1
19	4	2
20	4	3
21	4	4
22	5	1
23	5	2
24	5	3
25	5	4

[a]The location index j is used in the mathematical equations in the model. The other two location indices, r and z, are used to facilitate reading computer output. See Appendices C and D.

[b]The reach index r is set equal to zero for the five upland locations (j = 1...5).

[c]To facilitate reading the computer output the value of the flood risk zone index z has been set equal to the location index j for the five upland locations even though the upland locations are outside the floodplain.

Table 4-2. Land Uses Considered.

Land Use Index i	Zone Code	Description	Lot Size in Acres
1	SR	Suburban Residential	4.0
2	CR-1	Suburban Residential	1.0
3	CR-2	Suburban Residential	0.45
4	CR-3	Urban Residential	0.29
5		Business and Commercial	1.00
6		Open Space	no predetermined lot size for LP open space activities

Three-fourths of the land available to house Tucson's growing population is set aside for the four residential land uses by county planners [Garcia 1971, pp. 3-5]. Thus, the test application will consider the major residential land uses in Pima County.

The remaining residential land requirements are set aside primarily for multiple family dwellings and mobile home units. There is not sufficient time in this study to consider these additional land uses.

The business and commercial land use activity, i = 5, represents a highly aggregated land use type. Several reasons for grouping nine business and commercial zoning codes into this one land use type are given by Weisz and Day [1972]. One consideration is the lack of sales data for business and commercial land use activities necessitates grouping these zoning codes together in order to derive statistical property

value models for this category of property. Another consideration is that detailed LP assignment of specific business and commercial land uses to specific locations within large desert areas over long time periods is beyond the reasonable capabilities of the assignment model and is unfeasible if one considers the realities of the planning process.

Site Elevation and Floodproofing Possibilities

For each ijt land use activity, the LP model selects the most economically efficient fill-floodproofing combination of 25 possible combinations that are evaluated for each land use activity outside the LP model. Dirt fill is employed to one of five elevations (0,2,4,6 and 8 feet) above the natural ground level of a location. Floodproofing is employed to one of five heights (0,2,4,6 and 8 feet) above the level of dirt fill.

Time Variables

For the purpose of testing the model, a planning horizon of 50 years, from 1971 through 2020, is used. One advantage of selecting this planning horizon is that a certain amount of population and land use planning data is readily available. Another consideration is that recent Corps of Engineers planning which occurred before 1970 also used a 50-year planning horizon.

The planning horizon has been divided into three planning periods. The first and second planning periods are each five years in length while the third planning period is 40 years. The assumption that the average year of development of an activity is at the midpoint of the planning

period is based on local planners' assumptions of a linear rate of population growth for this planning horizon.

Although the planning horizon for assigning activities to locations occurs over the 50-year period, 1971 through 2020, the time horizon over which the effects of flooding are evaluated is the hundred year period, 1971 through 2070. The rationale for this is that flooding may occur long after urban development takes place. Additional information on time variables appears in Table 4-3.

Table 4-3. Time Variables.

Planning Period t[a]	First Year	Length of Period	Average Year of Development[b]
1	1971	5 years	1973
2	1976	5 years	1978
3	1981	40 years	2000

[a]The subscript t in the FMS model is used to indicate the planning period considered. This should not be confused with the variable $\bar{t}$ which indicates a year in which flooding is evaluated. $\bar{t}$ takes on one hundred integer values from 1971 to 2070.

[b]Development is assumed to occur at the midpoint of the planning period.

Development Policy and Engineering Alternatives

The initial set of engineering alternatives considered is derived from U. S. Army Engineer District preliminary worksheets [1967] and from a set of alternatives presented at a public hearing by the Corps in Tucson, June 1970. Based on this information, an additional set of alternatives was hypothesized. No effort was made to determine the

feasibility of constructing the hypothesized engineering works. The main purpose of this additional alternative set is to illustrate the flexibility of the model. The symbol, +, is used to indicate that a development policy or engineering alternative has been assumed for purposes of illustration and has not been designed by the Corps; Q is used to indicate the peak rate of flow that the engineering channel can contain; F refers to the recurrence interval of the flood that is associated with the design level of the engineering works.

Plan A

A soft-bottom trapezoidal channel for all five reaches was considered first. Three designs were presented, the first for handling the SPF, the second for the 100-year flood, and the third for the 50-year flood (see Figure 4-4).

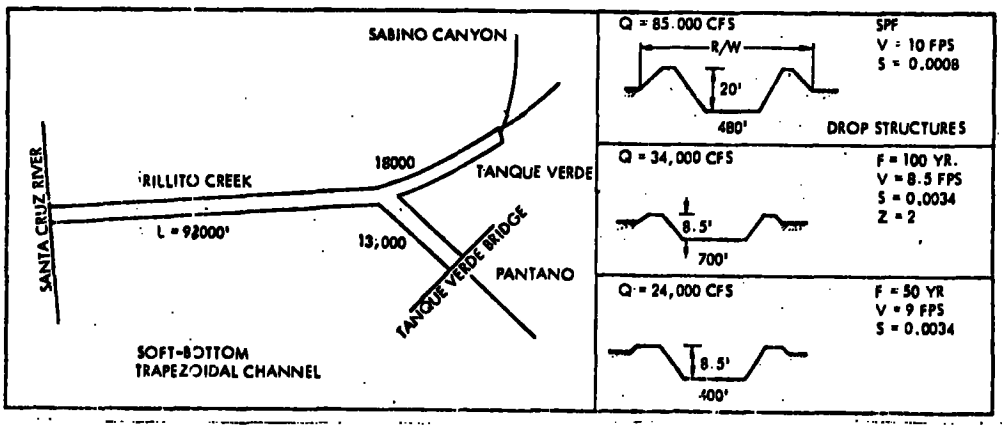

Figure 4-4. Soft-bottom Trapezoidal Channel.

Plan B

The second plan consisted of three dams and a soft-bottom trapezoidal channel for reaches 2, 3, 4, and 5. Designs were presented for the SPF, the 100-year flood, and the 50-year flood (see Figure 4-5).

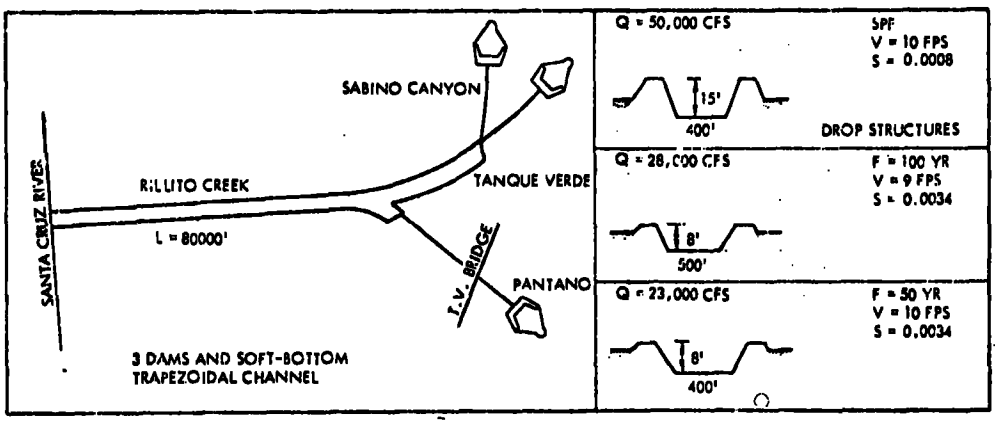

Figure 4-5. Three Dams and Soft-bottom Trapezoidal Channel.

Plan C

The third plan considered consisted of two dams and a soft-bottom trapezoidal channel for reaches 2, 3, 4, and 5. Designs were presented for the SPF, the 100-year and 50-year floods (see Figure 4-6).

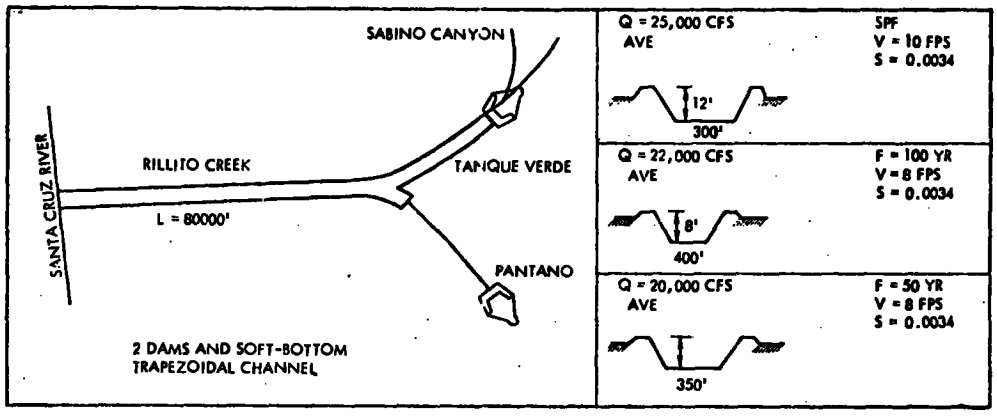

Figure 4-6. Two Dams and Soft-bottom Trapezoidal Channel.

Plan D

The fourth plan considered consisted of a rectangular concrete channel for all five reaches with spreading basins upstream and adjacent to the channel. Designs were presented for the SPF, the 100-year and 50-year floods (see Figure 4-7).

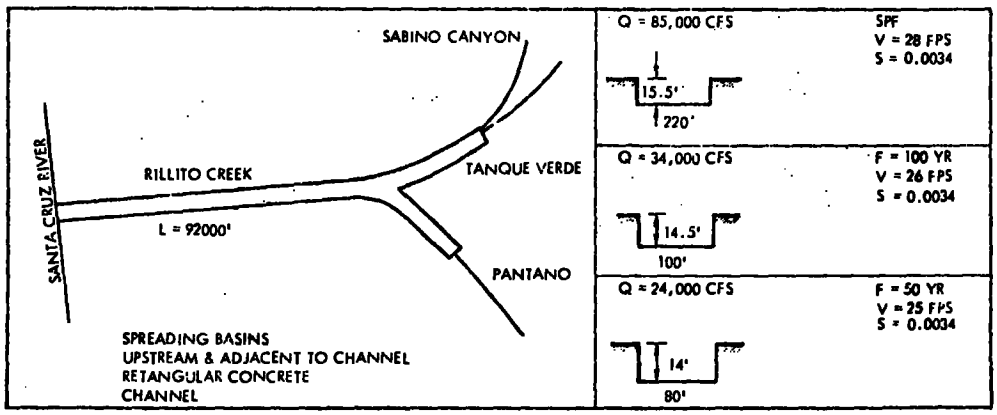

Figure 4-7. Spreading Basins Upstream and Adjacent to Channel; Rectangular Concrete Channel.

Plan E

The fifth plan considered consisted of a trapezoidal concrete channel for all five reaches. Designs were presented for the SPF, the 100-year and 50-year floods (see Figure 4-8).

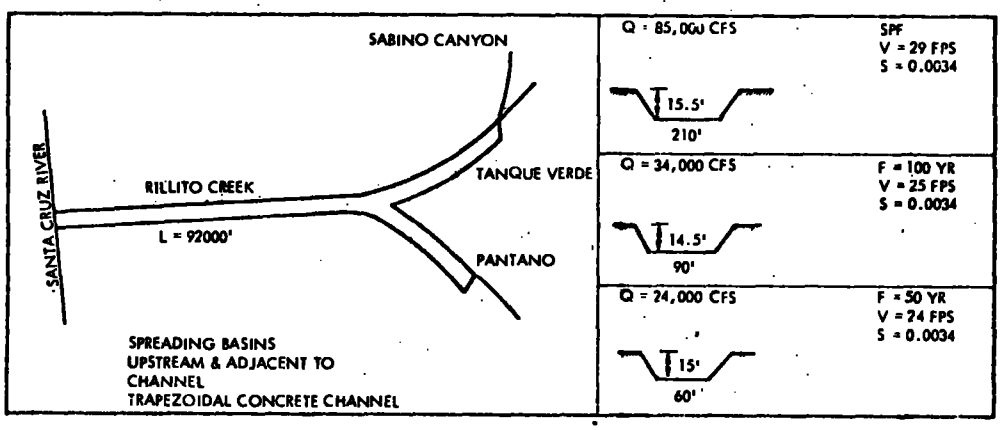

Figure 4-8. Spreading Basins Upstream and Adjacent to Channel; Trapezoidal Concrete Channel.

Plan F

The sixth plan considered consisted of two dams with a trapezoidal concrete channel for reaches 2, 3, 4, and 5 with a spreading basin adjacent to the channel. Designs were presented for the SPF, the 100-year and 50-year floods (see Figure 4-9).

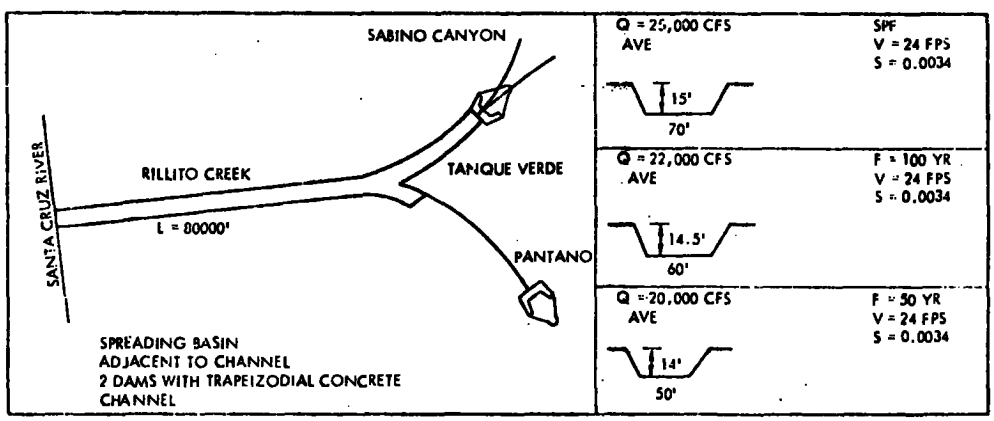

Figure 4-9. Spreading Basin Adjacent to Channel; Two Dams with Trapezoidal Concrete Channel.

Plan G+

The seventh plan considered consists of a trapezoidal concrete channel from Swan Road to the confluence of Rillito Creek with the Santa Cruz River. Designs are presented for the SPF, the 100-year and 50-year floods (see Figure 4-10).

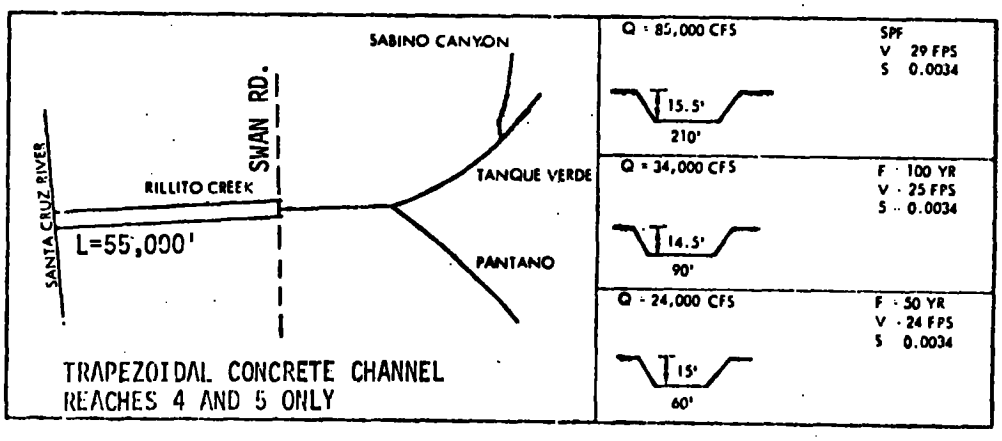

Figure 4-10. Trapezoidal Concrete Channel; Reaches 4 and 5 Only.

Plan H+

The eighth plan consists of two dams. Designs are presented for the SPF, the 100-year and the 50-year floods (see Figure 4-11).

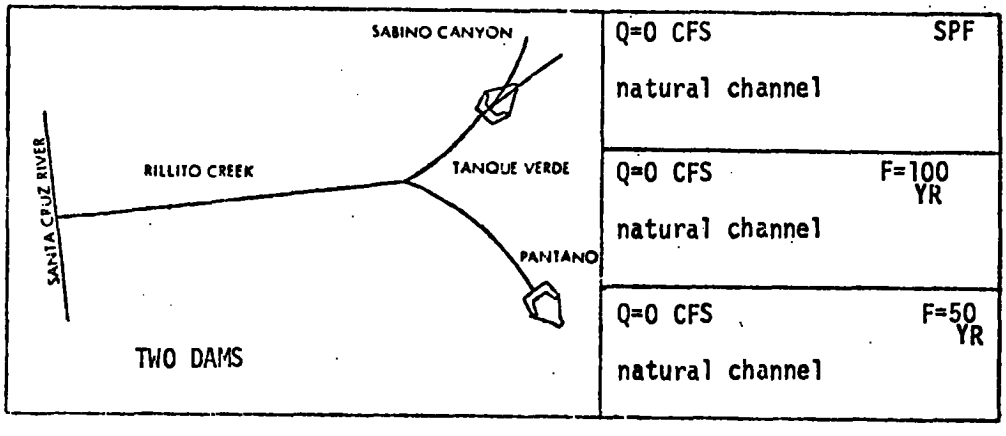

Figure 4-11. Two Dams.

Plan I+

This plan considers prohibitive zoning; this will prevent future urban encroachment of the floodplain by public acquisition of unimproved land for open space use. Exogenous assignment of land for open space is considered for the SPF, the 100-year, and the 50-year floodplains.

Plan J+

This plan consists of prohibitive zoning combined with removing existing urban encroachment, i.e., improvements, from the floodplain; this is to be accomplished by public acquisition. Exogenous assignment of land for open space is considered for the SPF, the 100-year and the 50-year floodplains.

Plan K+

This is the same design as Plan H. However, staged investment results in Plan K being constructed at the end of the first time period. Designs were presented for the SPF, the 100-year flood and the 50-year flood (see Figure 4-11).

Plan L+

This is the same design as Plan H. However, staged investment results in Plan L being constructed at the end of the second time period. Designs were presented for the SPF, the 100-year and the 50-year flood (see Figure 4-11).

Plan M+

This consists of no structural alternatives or exogenous land use assignments.

Activity Levels

The activity levels, X_{ijfpts}, in the LP model tested indicate the quantity of each land use that will be assigned to each location at each time period. Activity levels will be expressed in terms of acres. The fill-floodproofing (fp) index indicates the most economically efficient site-elevation-floodproofing combination that has been determined for each use-location-time-period combination.

Data Requirements

To consider the above alternatives requires bringing together a variety of information, including economic, engineering, urban planning, and hydrologic data. The development of aggregate economic rent indicators for planning alternatives requires data on

1. aggregate site rent resulting from land use regulations,
2. residual flood damages to existing development,
3. costs of engineering structures,
4. other benefits, and
5. other costs,

i.e., data is needed on each one of the terms in the aggregate economic rent equation, equation (3-4).

For each development policy and engineering measure considered, the value of the aggregate site rent term (see equation 3-7) is determined by the solution value of the objective function of the LP, land use regulation model within the FMS model. The following section of the chapter is devoted to the data required to obtain the needed linear programming parameters. Following this, the data needs of the terms in the

FMS model objective function, i.e., aggregate economic rent equation (3-5), are described.

One should remember, when reading this chapter, that the purpose of this study is not to develop an operational solution to a local planning problem; the primary purpose is to develop a methodology for floodplain management in general. For that reason, the data actually employed in the test application serve only to illustrate the type of information needed and its place in the methodology. While the data employed may not necessarily be strictly correct, it is judged to be sufficient for a meaningful test of the approach.

Linear Programming Parameters

Data requirements for the LP, land use regulation model within the FMS model are discussed in this section. Data are required for object row coefficients, technological coefficients and right hand side elements.

Site Rent

The object row coefficient for each land use activity in the LP model is defined as the "site rent per acre." Site rent is evaluated according to the relationship defined in the preceding chapter and restated here:

$$SR_{ijfpts} = LV_{ijt} - CF_{ijft} - CP_{ijpt} - SD_{ijfpts} - OD_{ijfpts} \qquad (4\text{-}1)$$

where:

i = index denoting a specific land use,

j = index denoting a specific location,

f = index denoting a specific level of fill,

p = index denoting a specific level of floodproofing,

t = index denoting a specific time period during which development for land use i may begin to occur at a site at location j,

s = index denoting specific development policy and/or engineering measures considered,

SR_{ijfpts} = site rent to the ijfpt activity given public investment in s,

LV_{ijt} = "land value which would be expected in the absence of a flood hazard" to the ijt activity,

CF_{ijft} = cost of fill to the level f for the ijt activity,

CP_{ijpt} = cost of floodproofing to the level p for the ijt activity,

SD_{ijfpts} = residual site damages to the ijt activity after private investment in fill to level f and floodproofing to level p, and after public investment in s,

OD_{ijfpts} = residual off-site damages associated with the ijt activity after private investment in fill to level f and floodproofing to level p and after public investment in s,

where all terms in the site rent equation are stated in terms of present value.

All of the terms in the site rent equation are related in one way or another to real estate property values and property characteristics. By previous definition, the first term, LV_{ijt}, is equal to the present value of the future stream of net returns to land which would be expected in the absence of flooding. Since the theory of perfect factor markets holds that in equilibrium the market price of land is equal to the expected present value of its future stream of net benefits, LV_{ijt} is directly related to property value. The remaining terms in equation (4-1)

are indirectly related to property values and characteristics. The costs of fill and floodproofing are related to lot size and size of improvements. The private and social flood losses remaining after fill and floodproofing are derived from depth-damage curves related, among other things, to total property value (land value plus improvement value), and improvement value.

Econometric Study of Urban Property Values and Characteristics. Least squares regression analysis procedures for deriving property value and property characteristic estimates have been developed and examined in a separate study [Weisz and Day 1972]. The econometric models developed in that study are used here only for the purpose of getting input data to illustrate how the FMS model works. A brief description of the econometric study follows.

The rationale for applying least squares analysis rests in part on the need for extracting from real estate data some understanding of the economic advantage of a land use being assigned to one location instead of another (of particular interest are the economic productivity differentials associated with being inside vs. outside floodplain areas). There is also a need for treating all land users and property owners in a systematic and unbiased manner.

A number of researchers have had some success with property value and property characteristic regression models [Blettner 1969; Bourne 1969; Brigham and McAllister 1968; Burns and Mittlebach 1964; Clonts 1970; Czamanski 1966; David 1968; Gottlieb 1965; Harris, Tolley and Harrel 1968, Hinshaw 1969, Johnson and Haigh 1970, Kain and Quigley 1970,

Kaiser 1968; Knetsch and Parrot 1964; Mann and Mann 1968; Mohring 1969; Pendleton 1965; Ridker and Henning 1967; Swango 1970; and Weiss, Donnelly and Kaiser 1966]. For this reason, the econometric approach was examined in the context of floodplain management.

There is evidence that the market value of floodplain land will not adequately reflect the true consequences of probable flooding [Boxley 1969; James, Laurent and Hill 1971; Kates 1962; Struyk 1971]. For this reason, in this study, empirical estimates of rent are based on land value regression models derived from non-floodplain real estate transaction data which are then combined with exogenously estimated flood losses and flood prevention costs.

Several types of input data were employed in the econometric study. The Multiple Listing Service of Tucson (MLST) provided records of real estate transactions involving unimproved residential and commercial lots and improved single family residential properties.

No MLST list of improved commercial property sales records was readily available, and for these classes of property an alternate source of data, viz. local property tax records, was used to produce a surrogate for market value as well as descriptive information associated with each observation. In a recent study, the Pima County Assessor's Office [1971] calculated the average ratio of assessed full cash value to current sales price for a large sample of property to be .58. This ratio is known as the "assessment ratio." In order to render the data for business and commercial properties comparable to the residential sales data, assessed full cash value was divided by the assessment ratio.

Additional geographic information on the qualitative character of each site was taken from maps of the City and County.

Special computer routines were written to facilitate screening, storage and retrieval of data. For example, although approximately 8000 MLST property records were available, almost two-thirds of these were discarded because they contained records of floodplain transactions and/or missing or erroneous information, non-market transactions, and other factors which destroyed their usefulness as representative real estate transactions. Computer screening was necessary because the large number of transactions precluded manual and field inspection of each observation.

All of the regression analyses reported upon here are based upon models which assume a multiplicative relationship among the explanatory variables. (Other mathematical relationships have been tested and found to be less satisfactory than the multiplicative model; some of these preliminary analyses are discussed by Weisz and Day [1972].) The general functional form of this relationship is:

$$Y = B_0 X_1^{B_1} X_2^{B_2} \ldots X_n^{B_n} \epsilon$$

where:

Y = the dependable variable = price,

X_i = an independent variable, $i = 1 \ldots, n$

B_i = the parameter associated with X_i

ϵ = an error term.

In each instance, stepwise regression procedures were carried out for a log linear transformation of the multiplicative model. The transformed model may be written as:

$$\text{Log } Y = \log B_0 + B_1 \log X_1 + B_2 + \ldots + B_n \log X_n + \log \epsilon.$$

Separate equations were estimated for each of the following categories of property: (1) suburban single family residential, (2) urban single family residential, and (3) business and commercial.

After experimenting with some 300 different models (different functional forms and explanatory variables) the following multiplicative models were found to be the most satisfactory in terms of explanatory and predictive power.[1]

Suburban single family regression models for land uses i = 1, 2, and 3 are:

$$Y_{SF} = 1.13949 + .45942X_{10}, \tag{4-2a}$$

$$Y_{TV} = 4.07260 + .33716X_1 + .28061X_6, \text{ and} \tag{4-2b}$$

$$Y_{LV} = 3353053 + .23303X_2 + .56398X_6. \tag{4-2c}$$

---

1. Y_{SF} = log of square feet of floor area; Y_{TV} = log of recorded sale price of a developed lot; Y_{LV} = log of recorded sale price of an undeveloped lot; Y_{AIV} = log of assessed improvement value; X_1 = log of miles N of SW corner of Tucson Map; X_2 = log of miles E of SW corner of Tucson Map; X_3 = dummy variable equal to 0 if outside city limits and equal to 1 if inside city limits; X_4 = log of neighborhood traffic volume; X_5 = log of date of sale; X_6 = log of lot size in acres; X_7 = log of age of building; the symbol, ^, indicates the predicted value of a variable; $X_{10} = T\hat{V} - L\hat{V}$, $\hat{X}_{13} = \hat{Y}_{AIV}$.

Urban single family regression models for land use i = 4 are:

$$Y_{SF} = -.30863 + .80612X_{10}, \tag{4-3a}$$

$$Y_{TV} = 4.27827 + .26774X_{10} + .17857X_2 + .02214X_3 - .01415X_4 + .33396X_6 - .13522X_7 \tag{4-3b}$$

$$Y_{LV} = -8.20267 + .32963X_1 + .51458X_2 + 6.19755X_5 + .94070X_6 \tag{4-3c}$$

Business and commercial regression models for land use i = 5 are:

$$Y_{SF} = .8208 + .56955X_{13}, \tag{4-4a}$$

$$Y_{AIV} = 3.83839 + .53589X_1 + .51196X_2 + .47567X_6, \tag{4-4b}$$

$$Y_{LV} = 2.81443 + 1.01494X_1 + .17321X_4 + .72949X_6. \tag{4-4c}$$

All but one of the coefficients in the preceding regression equations have t-statistics that are significant at the .05 level. Nevertheless, some of the regression models derived did not explain a large amount of variance in the data.

It is entirely possible that work with additional property characteristic variables, an increase in the sample sizes for each zoning classification, greater geographic dispersion of data as well as more observations from each location and a longer sampling time horizon would yield improved results. Additional functional forms, additional distance variables, and more geographic data might yield significant results. However, due to limitations of time, these ideas were not tested.[2]

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2. Supplementary material on this subject is contained in the econometric study by Weisz and Day [1972].

The manner in which the regression models illustrated in equations (4-2a) through (4-4c) have been used to generate input data for the FMS model will be illustrated in the remainder of the discussion on data for the site rent equation.

Land Value in the Absence of a Flood Hazard (LV_{ijt}). All initial estimates of the land value term in the site rent equation are stated in terms of 1970 prices. The land value predictions have been obtained using regression equations (4-2c), (4-3c), and (4-4c).

These estimating equations are assumed to be derived from data covering an urban geographic area large enough to reflect all important non-flood loss rent determinants. This is in line with the original research objectives of this project, viz., to:

> Develop and empirically test econometric procedures for deriving economic criteria for land use planning in urban floodplain situations [Day 1970, p. 2].

However, as the research project neared completion, it was evident that in addition to upland areas within Metropolitan Tucson, certain locations far removed from the Tucson urban area must be considered as alternative development sites. Despite the fact that some of this remote land has been promoted nationwide for many years, an active resale market for this type of property does not exist [Bleck 1972]. Thus it is hard to justify using a market value approach for remote subdivision locations similar to the approach that was adopted for urban areas.

The major determinant of sale price for remote subdivision lots is the promotional factor according to a recent analysis of the available data [Bleck 1972,p. 13]. For this reason, least squares analysis

of remote subdivision lot sales data using rent determinants such as location, lot size, etc., has not produced meaningful results.

The following primarily subjective method of estimating the land value term in the rent equation for remote subdivision land is used in this study:

1. All remote subdivision land and all land considered beyond the "region of fit" of the econometric models is assumed to be in dummy location j = 5.

2. The value of land employed in a specific use in a specific time period in location 5 is equal to a fraction of the average value of land used for the same use in the same time period in the four county planning locations, j = 1 . . . . 4.

3. A separate fraction, F_t, is applied to the four locations' average land value for each time period, i.e., the value of land employed in use i in location 5 at time t is given by the following equation:

$$LV_{i5t} = [(F_t \cdot \sum_{j=1}^{4} LV_{ijt}) \div 4]$$

where:

i = index denoting a specific land use,

j = index denoting a specific location,

t = index denoting a specific time period during which development for land use i may begin to occur at a site at location j (see Table 4-3),

$F_1 = 0.10$,

$F_2 = 0.20$,

$F_3 = 0.80$.

As time goes on, the value of this land relative to the value of land in the other locations is assumed to increase. Nevertheless, within the planning horizon, the value of land in location 5 is assumed to remain less than the average value of land in the other county locations.

The determination of open space land use benefits and costs is outside the scope of this study. Consequently, a synthetic method of selecting open space land value indicators has been assumed. This method is based on the assumption that open space land use can only be assured by public acquisition of the desired land. The cost per acre of public acquisition in a given location is assumed to be equal to the average value of all other land uses in that location. The negative value of this average for a particular location is the LP object row coefficient for endogenously selected open space land use activities. Since this object row coefficient is only reflecting the possible costs and not the benefits of open space use, the true value of open space use is not indicated in the open space object row coefficients. The results of the LP model Tucson test application must be interpreted accordingly.

The intention here is to illustrate how the LP model may assign land to open space use if the model is given an indication of the cost of acquiring land for this activity. Better open space land value indicators should be developed and tested in future applications of this methodology.

The land values of 90 percent of the LP land use activities were obtained by direct application of the statistical property value models derived from the econometric study [Weisz and Day 1972]. The land values

of the remaining activities--open space land uses and location 5 land uses--were derived indirectly from the same statistical property value models but required a number of computationally convenient assumptions. In this test application of the methodology, how the FMS model works is more important than the accuracy of the parameter estimates within the model.

Site Elevation Costs (CF_{ijft}). Cost estimates for site elevation were derived from interviews with suppliers of dirt fill in the Tucson, Arizona, area. Based on these discussions, the cost of dirt fill is assumed to be a constant $.50 per cubic yard. In reality, the cost per cubic yard of fill may change with depth of fill, quality of fill, and location of the site which is filled. Where this is true, the appropriate incremental costs may be employed. For convenience, it is assumed that the entire area associated with a site is covered with dirt fill. In other applications, this assumption may be changed if necessary. For example, if site elevation is achieved by putting a building on stilts, only the building is elevated. Site elevation costs are assumed to occur during the time period in which a site is developed. Site elevation costs are stated in terms of present value.

Floodproofing Costs (CP_{ijpt}). Based on a study by Sheaffer [1960], the following type of equation is used to estimate the cost of floodproofing:

$$CP_p = D \cdot SF \cdot p$$

where:

p = the level of floodproofing in feet above the level of dirt fill,

CP_p = the cost of floodproofing to level p,

D = cost per square foot of floor space per foot level of floodproofing,

SF = square feet of floor area predicted using the regression models in equations (4-2a), (4-3a), and (4-4a).

In the above equation, D is initially set equal to $0.68/SF/p.

It would be naive to believe that the cost of floodproofing equation accurately reflects the costs of a wide array of floodproofing alternatives such as:

1. application of waterproofing seal to floors,
2. poured concrete walls and floors,
3. reinforced walls and floors,
4. corner anchorages to prevent shifting,
5. no windows,
6. check valves on sewer lines,
7. doorway and window sealing systems, and
8. pumps, etc.

The purpose of using this equation to generate floodproofing costs is to illustrate one way of computing floodproofing cost information. The general relationship appears to be a reasonable one; all other things being equal, floodproofing costs will increase with increasing size of building structure and with increasing level of floodproofing.

Floodproofing costs are assumed to occur during the time period in which a site is developed. These costs are stated in terms of present value.

Private and Social Flood Losses (SD_{ijfpts} and OD_{ijfpts}). On-site flood damages (SD_{ijfpts}) computed included those defined by Homan [1958, p. 21], i.e., damages to:

> Structure: Includes foundation, walls, floors, windows, doors, and fixed attachments such as wiring and plumbing fixtures, etc.
>
> Structure Contents: Inventory, including supplies, raw materials and finished goods, office equipment, records, etc., and heating and cooling units, etc.; an additional separate item in this category is the equipment and machinery directly involved in production.
>
> Lot Improvements: Lawns, trees, fences, etc., and parking lot.
>
> Indirect Losses: Sandbagging, evacuating, establishing temporary facilities, reoccupation of structure, cleaning up, etc. This category does not include the costs of relief and clean-up borne by public agencies or the costs of repairing or replacing damaged or lost property.

A private flood loss item not explicitly considered by Homan that is evaluated here is damages to automobiles parked on lots.

This study also considered off-site flood damages (OD_{ijfpts}). These are externalities to the rest of society created by the existence of a private land use in a floodplain location. This includes costs of relief and clean-up borne by public agencies such as the sheriff and highway departments, public utilities and services, transportation delays, street repairs, Red Cross, etc. Estimated flood loss computations are based on a standard application of depth-damage curves. For a particular flood event, flood damages may be based on:

1. depth of flood above street level,
2. depth of flood above level of fill,
3. depth of flood inside residential or business structure.

When the depth of a flood above channel bottom (in a reach associated with the location of interest, j) is less than the sum of:

a. the average natural site height above channel bottom, plus

b. the level of fill, plus

c. the level of floodproofing,

then 3, above, is equal to zero; otherwise 3 is equal to the depth of flood above channel bottom, minus the average natural site height above channel bottom, minus the level of fill. For the purposes of computational convenience, depth of flood above channel bottom is set equal to zero if the flow rate is less than the level of protection of the engineering structure. Otherwise this depth is given by what the rating curve for a similar flood would be in the absence of protection.

Although land use plans are developed for the 50-year period, 1971-2020, flood damages are evaluated for the 100-year period, 1971-2070. For each year of flooding, the depth of flooding depends on the engineering works that have been installed by that year.

Depth-damage relationships are derived from three sources--a study by Homan [1958, pp. 30-34, 41, 56, 62, 65, and 67], depth-damage curves used by the U. S. Army Corps of Engineers in the July 1966 Tucson Survey [1966a, -b], and personal communication with a Corps planner [Bogue 1973]. One set of depth-damage relationships is applied to residential property. Another set of depth-damage relationships is applied to commercial property.

Residential damages are based upon:

1. Percent of dollar damage of contents and structure to market value of structure. (Value of an urban residential structure is given by variable X_{10} in equations 4-2a and 4-3a.)

2. Dollar damage to value of automobile.

3. Dollar damage to lot improvements per thousand dollars market value of structure.

4. Indirect private damage. (Indirect private damage is equal to 15 percent of direct private damage. Direct private damage is the sum of items 1, 2, and 3, above.)

5. Off-site flood loss. (Off-site damage is equal to 15 percent of the site damage that would occur if no fill and floodproofing were employed. Site damage is the sum of items 1, 2, 3, and 4, above.)

Commercial damages are based upon:

1. Damage to structure. (Structural value is given by variable Y_{AIV} in equation 4-4b.)

2. Damage to contents per thousand dollars market value of structure.

3. Damage to equipment and machinery per thousand dollar market value of structure.

4. Indirect private damage. (Indirect private damage is equal to ten percent of direct private damage. Direct private damage is the sum of items 1, 2, and 3, above.)

The expected value of flood loss associated with a land use activity during year of flooding $\bar{t}$ is computed as follows:

$$EVD_{ijfpts}(\bar{t}) = \sum_{c=1}^{3} P_{c\bar{t}} \cdot AD_{ijfptsc}$$

where:

$EVD_{ijfpts}(\bar{t})$ = the expected value of total flood loss--on site and off site damage--during year $\bar{t}$, associated with land use i, in location j, with fill-floodproofing combination fp, for a lot that was initially improved at time t, given the engineering structural alternative prescribed by s,

c = a range of flow measured in cubic feet per second,

$AD_{ijfptsc}$ = the average damage in dollars associated with the ijfpts combination for a flow in range c,

$P_{c\bar{t}}$ = the probability of a flow in the interval c occurring in year $\bar{t}$ (see Table 4-4).

Table 4-4. Range of Flows and Probability of Flows.

Range of Flow	CFS Flow Interval	Probability of Flow in Interval C
c		$P_{c\bar{t}}$
1	No flow to 50-year flood	.98
2	50-year to 100-year flood	.01
3	100-year to SPF[a]	.008
4[b]	All flows greater than SPF	.002

[a]In the Tucson Survey conducted by the U. S. Army Engineer District, Los Angeles [1967] the SPF, standard project flood, is defined as a flood with a 500-year recurrence interval.

[b]No economic evaluation of flows with a recurrence interval greater than the SPF has been conducted in this study or in the Tucson Survey conducted by the U. S. Army Engineer District, Los Angeles [1967].

The present value of the sum of the site and off-site flood damages is determined according to the following relationship:

$$SD_{ijfpts} + OD_{ijfpts} = \sum_{\bar{t}=1971}^{2070} \frac{EVD_{ijfpts}(\bar{t})}{(1+r)^{(\bar{t}-1970)}}$$

where:

i = index denoting a specific land use,

j = index denoting a specific location,

f = index denoting a specific level of fill,

p = index denoting a specific level of floodproofing,

t = index denoting a specific time period during which development for land use i may begin to occur at a site at location j,

$\bar{t}$ = index denoting year in which flooding is evaluated,

s = index denoting specific development policy and/or engineering measures considered,

r = discount rate,

SD_{ijfpts} = residual site damages to the ijt activity after private investment in fill to level f and floodproofing to level p,

OD_{ijfpts} = residual off-site damages associated with the ijt activity after private investment in fill to level f and floodproofing to level p and after public investment in s,

$EVD_{ijfpts}(\bar{t})$ = the expected value of total flood loss--$SD_{ijfpts} + OD_{ijfpts}$--during year $\bar{t}$, associated with land use i, in location j, with fill-floodproofing combination fp, for a lot that was initially developed during time period t, given the engineering alternative prescribed by s.

The present value of the total non-structural flood costs associated with land use activity ijt is given by the following relationship:

$$PVTOTAL_{ijfpts} = CF_{ijft} + CP_{ijpt} + SD_{ijfpts} + OD_{ijfpts}$$

where:

$PVTOTAL_{ijfpts}$ = present value of the total nonstructural flood costs associated with land use activity ijt,

CF_{ijft} = cost of fill to the level f for the ijt activity,

CP_{ijpt} = cost of floodproofing to the level p for the ijt activity,

SD_{ijfpts} = residual site damages to the ijt activity after private investment in fill to level f and floodproofing to level p and after public investment in s,

OD_{ijfpts} = residual off-site damages associated with the ijt activity after private investment in fill to level f and floodproofing to level p and after public investment in s.

<u>Economic Efficiency Test for Site Elevation and Floodproofing Combinations</u>. The fill-floodproofing combination, fp, that minimizes the present value of the total nonstructural flood costs, $PVTOTAL_{ijfpts}$, is also the fp combination that satisfies the incremental economic efficiency test that determines the dominant ijfpts combination that will enter the LP model. The incremental economic efficiency test, defined by Constraint 4 in the land use regulation model (see page 50), is

satisfied where the cost of an incremental level of fill and flood-proofing,

$$\Delta(CF_{ijft} + CP_{ijpt})$$

is equal to the corresponding incremental reduction in residual flood loss

$$\Delta(SD_{ijfpts} + OD_{ijfpts}).$$

Although the economic efficiency test is a three dimensional equilibrium problem, the conceptual relationships underlying this type of incremental analysis are illustrated in the two dimensional sample problem in Table 4-5.

Table 4-5. Economic Efficiency Test Example.

Level of Fill	Cost of Fill	Residual Damages	Incremental Cost of Fill	Incremental Damage Reduction	Total Non-Structural Flood Costs
0 ft.	$ 0.00	$67,492.76			$67,492.76
			$4,848.48	$43,847.86	
2 ft.	4,848.48	23,644.90			28,493.38
			4,848.48	23,142.38	
4 ft.	9,696.97	502.52			10,199.49
			4,848.48	326.52	
6 ft.	14,545.45	176.00			14,721.45
			4,848.48	176.00	
8 ft.	19,393.94	0.00			19,393.94

The data for this sample problem is derived from a computer run on structural plan B designed for the 100-year flood protection level. Since the economic efficiency test resulted in the selection of a zero level of floodproofing for this land use activity, floodproofing costs and benefits have been eliminated from this table for visual clarity. The data is associated with a four acre suburban residence (i = 1) in the 50-year floodplain on the Pantano Wash tributary (j = 6) which is developed during the first time period (t = 1). All dollar figures are expressed in terms of present value. In this study as previously indicated, fill alternatives have only been examined at increments of two feet above natural site elevation; slightly different results may have been obtained if a larger number of fill alternatives had been examined so the words "optimum" and "minimum" in the following discussion refer to the optimum and minimum values for the fill alternatives examined.

As Table 4-5 indicates, the optimal level of fill for this ijt combination is four feet of fill. At f = 4, the present value of the total nonstructural flood costs is at its minimum value, i.e.,

$$PVTOTAL_{1,6,4,0,1,B100} = \$10,199.49$$

for this land use activity. Up to f = 4 the incremental cost of fill is less than the incremental damage reduction benefits. Above f = 4, the incremental cost of fill is greater than the incremental damage reduction benefits. Given the discrete nature of the nonstructural alternatives considered in this example, the model selects the i = 1, j = 6, f = 4, p = 0, t = 1 combination as the dominant ijt land use activity to enter the LP model.

For the four acre land use activity considered in this example, the value of the site rent equation is \$638.90, i.e.,

$$SR_{ijfpts} = LV_{ijt} - CF_{ijft} - CP_{ijpt} - SD_{ijfpts} - OD_{ijfpts} = \$638.90$$

since

$$LV_{ijt} = \$10,838.40,$$

$$CF_{ijft} = \$9,696.97,$$

$$CP_{ijpt} = \$0.00, \text{ and}$$

$$SD_{ijfpts} + OD_{ijfpts} = \$502.52.$$

The rent per acre, R_{ijfpts}, for this land use activity equals \$159.93, i.e.,

$$R_{ijfpts} = \frac{\$638.90}{4 \text{ acres}} = \$159.73 \text{ per acre.}$$

The f = 4, p = 0, fill-floodproofing combination is the dominant one for land use i = 1 in location j = 6 for time period t = 1 given public investment in engineering measure s = B-100 since it satisfies Constraint 4 in the land use regulation model (see page 50) viz.,

$$\text{choose } X_{ijfpts} \text{ s.t. } R_{\underline{ijfpts}} > R_{\underline{ij}fp\underline{ts}} \text{ for all } fp \neq \underline{fp};$$

in this case $R_{\underline{i,6,4,0,1,B\text{-}100}} \geq R_{\underline{1,6},f,p,\underline{1,B\text{-}100}}$ for all $f,p \neq 4,0$.

<u>Changes in Site Rent Over Time</u>. The assumption is made that the economic productivity of an individual parcel of land will increase with passage of time to reflect the increased economic productivity of the surrounding metropolitan region and the decreasing supply of vacant land in the study area. The percent annual increase in the economic productivity of a parcel of land is initially assumed to be equal to 2.6

percent. This estimate is verified by discussions with a Corps of Engineers planner [Bogue 1973].

Annual flood damage estimates are adjusted to reflect changes in the value of residential and commercial buildings over time due to depreciation, improvements, etc. The assumption of a 2.6 percent annual increase in the value of a building is based on discussions with a Corps planner [Bogue 1973]. Important Rillito Creek watershed runoff characteristics are expected to change with the passage of time. For example, increased urban encroachment on this municipal watershed will result in an increased percentage of area covered by pavement and buildings. These impervious areas may tend to reduce infiltration and increase runoff. Urban encroachment in floodplain locations may increase upstream flooding by creating backwater.

Computing changes in hydrologic state conditions through the analysis of backwater profiles and simulation of changes in the stage of inundation, number of peaks, peak rate of flow, peak volume of flow, duration of flow, etc., is outside the scope of this study. For this reason the initial assumption adopted is that there is no change in hydrologic state conditions. The sensitivity of the model to this assumption is later tested and the results are evaluated in the post optimality section of the next chapter.

There is room for argument over what discount rate is appropriate for flood damage control planning. Examining the pros and cons of this issue is outside the scope of this study. Since this application of the model is based on a market data approach to land value determination, it

seems appropriate to use an interest rate that resembles a market rate of interest. It may also be appropriate to use the same interest rate to evaluate all economic benefits and costs. The initial results produced in this study are based on an assumed ten percent discount rate. Sensitivity analyses on the discount rate are carried out.

Right-Hand-Side Elements

Land Resources. The right-hand-side vector for land resources indicates the amount of land that can be used within each of the 25 planning zones; this appears as the right-hand-side element, A_{js}, in each of the first 25 constraint equations. The availability of land within the study area is derived in part from local planning data [Garcia 1971 and TATPA 1965], and is based on the following assumptions:

1. A certain amount of land will be released by State and Federal governments for development in accordance with current plans.

2. Development will occur in areas presently considered as locational alternatives by local planning authorities.

3. Land availability is affected by the exogenous assignment of land in all locations for land use activities that are not actively considered by the LP model. A certain amount of land is set aside for mobile home units, multiple family dwellings and general rural use. This reduces the quantity of land available in each location. The LP model plans around these exogenous land use assignments that have been suggested by local planners.

4. The stock of available land as indicated by local planners does not include floodplain land.

5. The amount of land available in flood risk zone 4 is based on crude approximations and extrapolations using existing rating curves and topographic maps.[2]

Based on Garcia [1971] the assumption that 20 percent of the above stock of land will be used for public access ways is adopted. In other words, one-fifth of urban land is used for schools, public buildings, major streets, etc. The assumption is made that the 20 percent service factor does not include open space considerations.

Constraint 5 in the land use regulation model (see page 50) viz.,

$$A_{js} = A_j - EXOG_{js} \qquad j = 1 \ldots J$$

further modifies the amount of land that is available for assignment by the land use regulation model. This accounts for the fact that a certain amount of land may have to be set aside for development policy and engineering measure alternatives.

The driver program that creates the LP matrix also prints out the stock of land available in each location after the allocation of land for development policy and engineering measure alternatives. Table 4-6 has been constructed using the printout for three distinct planning alternatives--the alternative of no development policy or engineering measures, the alternative of public acquisition of all unimproved land within the SPF floodplain for "open space" uses, and an alternative with an engineering structure that will protect all reaches against the SPF.

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2. Flood risk zone 4 receives special treatment since it is not delineated on existing floodplain maps. As defined earlier in this chapter, flood risk zone 4 is assumed to represent the area between the SPF floodplain and the outer limits of the area that would be inundated with the occurrence of a flood twice the size of the SPF.

Table 4-6. The Stock of Land Available for Endogenous Land Use Assignments Under Three Planning Alternatives.

Location	Alternative		
	M-0[a]	I-SPF[b]	A-SPF[c]
	(acres)	(acres)	(acres)
1	26,373.0	26,373.0	26,373.0
2	26,373.0	26,373.0	26,373.0
3	26,373.0	26,373.0	26,373.0
4	59,302.0	59,302.0	59,302.0
5	125,506.0	125,506.0	125,506.0
6	23.0	0.0	0.0
7	5.0	0.0	0.0
8	98.0	0.0	0.0
9	62.0	62.0	0.0
10	113.0	0.0	0.0
11	4.0	0.0	0.0
12	99.0	0.0	0.0
13	466.0	466.0	345.0
14	53.0	0.0	0.0
15	129.0	0.0	77.0
16	9.0	0.0	9.0
17	16.0	16.0	16.0
18	690.0	0.0	332.0
19	6.0	0.0	6.0
20	25.0	0.0	25.0
21	44.0	44.0	44.0
22	1,346.0	0.0	648.0
23	193.0	0.0	193.0
24	353.0	0.0	353.0
25	505.0	505.0	505.0

[a]No development policy or engineering measure considered.

[b]Public acquisition of all unimproved land within the SPF floodplain for open space uses.

[c]Engineering measure that will protect all reaches against the SPF.

Land Uses. The right-hand-side elements, P_{it}, for land uses indicates the estimated growth in population during time period, t, which will be accommodated by land use i. The growth forecasts used in this study are given in Table 4-7. Population estimates are based on the assumption that growth rates will be comparable to the 1960-1970 period. A linear growth pattern is also assumed.

Table 4-7. Forecasted Population Growth for Each Land Use in Each Time Period.[a]

Land Use[b]	Time Period[c]		
	t = 1	t = 2	t = 3
i = 1	8,842.8	8,842.8	70,742.4
i = 2	26,178.9	26,178.9	209,431.2
i = 3	7,678.2	7,678.2	61,425.6
i = 4	43,093.5	43,093.5	344,748.0

[a]Source: Garcia [1971].

[b]Land use categories i are defined in Table 4-2.

[c]Time periods t are defined in Table 4-3.

As explained earlier, constraint equations 2(b) through 2(e) have right-hand-side elements equal to zero. Since no commercial land uses that accommodate population, such as apartment dwellings, hotels, etc., are considered by the model in this test application, no non-zero P_{it} terms are required for commercial land uses. Constraint equations 2(b) through 2(e) do indicate, however, that a relationship exists between the amount of business activity in a location and the level of residential population in that area.

Technological Coefficients

Land Resources. The technological coefficient for all land resource constraint equations is set equal to 1. This reflects the idea that an acre of land available in a location can be used for an acre of residential or commercial land use. This is possible since the stock of land available in a location A_{js} is computed as being net of land needed for other uses--streets, utilities, etc.

Land Uses. Table 4-8 indicates the population density associated with each acre of land use. People per acre of residential land use i (d_i) is based on the assumption of an average of three people per dwelling unit [Garcia 1971].

The technological coefficient for commercial land uses is based upon 1960 ratios between population and acres of commercial land [TATPA, Vol. II, 1965, pp. 20-21]. The people per business acre coefficient PPBA is set equal to 200. The PPBA statistic and relationships are compatible with the neighborhood planning concept embodied in " . . . The General Land Use Plan, prepared by the City-County Planning Department

Table 4-8. Population Densities (in People per Acre) Associated with Each Residential Land Use.

Use	Density
i	d_i
1	.75
2	3.00
3	6.60
4	10.20

Source: Garcia [1971].

and adopted as part of the master plan for Tucson and environs" [TATPA 1965, Vol. II, p. 67]. This concept is roughly based on square mile land use cells; each cell contains a mixture of land uses--residential, business and commercial, public and quasi-public, etc.

Terms in Aggregate Economic Rent Equation

Data requirements of the LP, land use regulation model within the FMS model have been described in the preceding section of this chapter. The following discussion considers the remaining data requirements of the FMS model. Specifically, there is a need to define data sources for the values of the terms in the objective function of the previously defined FMS model, viz.,

$$\text{Maximize } AER_s = ASR_s - RDED_s - C_s + OB_s - OC_s$$

subject to the appropriate set of constraints

where:

s = index denoting a particular development policy and/or engineering alternative,

AER_s = aggregate economic rent of the planning area given public investment in s,

ASR_s = aggregate site rent to activities affected by land use regulations given public investment in s,

$RDED_s$ = residual damages to existing development given public investment in s,

C_s = cost of the engineering measures associated with s,

OB_s = other benefits associated with s but not accounted for in the first three terms of the aggregate economic rent equation,

OC_s = other costs associated with s but not accounted for in the first three terms of the aggregate economic rent equation, and

all terms are stated in present value. The purpose of applying the FMS model is to maximize the aggregate economic rent of the floodplain management system, subject to the appropriate set of constraints. Aggregate economic rent is a measure of the combined impact of all means of attaining floodplain management objectives. The following discussion identifies sources of data for each of the individual terms in the aggregate economic rent equation.

Aggregate Site Rent (ASR_s)

The first term in the aggregate economic rent equation is aggregate site rent, ASR_s. For each development policy and engineering alternative, s, considered, maximizing aggregate economic rent necessitates maximizing ASR_s. The maximum value of ASR_s attainable for each s

considered is equal to the value of the solution of the previously defined LP land use assignment model.

Primary Source of Data for Remaining Aggregate Rent Terms

The remaining terms in the aggregate economic rent equation are based on an analysis of worksheets used by the U. S. Army Engineer District, Los Angeles [1967] during a survey of the Rillito Creek flood problem. In addition, subjective judgment combined with rough approximations and extrapolations based on the Corps' data is used to develop planning alternatives other than those considered by the Corps. For this reason, the values of these terms in the rent equation should not be considered official Corps statistics even though data provided by the Corps is used to generate values.

Residual Damages to Existing Development ($RDED_s$)

Table 4-9 illustrates estimated potential flood damage to all existing floodplain improvements in the absence of floodplain management. Based on the information in Table 4-9, and an examination of natural site elevations and extent of improvement within each flood risk zone, the residual average annual damages to existing improvements are derived and displayed in Table 4-10. The residual average annual damages to existing development are used to compute the present value of residual damages to existing development, $RDED_s$, for each development policy and engineering measure.

Table 4-9. Estimated Potential Flood Damages to Existing Improvements in Floodplain in the Absence of Floodplain Management.[a]

Discharge (C.f.s.)	Frequency (Percent)	Estimated Potential Flood Damages
85,000	SPF[b]	$23,381,000
34,000	1.0	8,549,000
24,000	2.0	4,944,000
18,000	5.0	2,472,000
14,000	10.0	1,236,000
10,000	20.0	515,000
5,000	50.0	0

[a]Source: U. S. Army Engineer District, Los Angeles [1967].

[b]In this study, the SPF is a flooding event that has a 500-year recurrence interval.

Table 4-10. Residual Average Annual Damages to Existing Improvements.

Engineering Measure	Public Acquisition of Existing Improvement within Flood Risk Zone			
	No Acquisition	Zone 1	Zone 2	Zone 3
None	$595,855	$89,378	$29,793	$ 0
50-year design	227,115	34,067	11,356	0
100-year design	159,650	23,948	7,983	0
SPF design	0	0	0	0

Source: Computations based on information in Table 4-9 combined with an examination of natural site elevations and extent of improvement within each flood risk zone.

Cost of the Engineering Works (C_s)

The C_s term in the aggregate economic rent equation represents the present value of the cost of the flood damage control engineering works identified by s. The basic cost information used in this study is given in Table 4-11. Table 4-11 contains estimates of total fixed Federal and non-Federal costs and corresponding estimates of annual operating and maintenance costs as well as annual loss of productivity charges. These costs combined with the appropriate discount rate are used to determine the present value of the costs of floodplain management engineering alternatives.

Other Benefits (OB_s)

The other benefits term, OB_s in the aggregate economic rent equation is the present value of the future average annual increased recharge due to engineering improvements. Average annual recharge is expected to increase 4,000 acre-feet per year for engineering alternatives B, C, H, K, and L at all design levels for these measures. The value of an incremental acre-foot of groundwater is assumed to be equal to $15 [U. S. Army Engineer District, Los Angeles, 1967].[3]

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3. The $15 per acre-foot of groundwater figure used by the Corps is higher than the present marginal value of an acre-foot of groundwater computed by other researchers [Kelso, Martin and Mack 1973] in this area. The $15 figure may have been intended as an average figure over the entire planning horizon. Nevertheless, the results of the analysis, as displayed in the next chapter, do not appear to be affected by the high value of recharge benefits used.

A number of other benefits are not reflected in the aggregate economic rent equation in this study either because of the fact that a monetary value could not be assigned, or because of the fact that quantification of these other benefits was outside the scope of this study. Examples of other benefits that might be picked up include decreased risk of loss of human life and decreased erosion of channel banks.

Table 4.11. Costs of Engineering Works.[a]

Development Policy and Engineering Measure(s)	Design Level[b]	Total Initial Federal and Non-Federal Cost[c]	Annual Charges	
			Operating & Maintenance[d]	Loss of Productivity[e]
		($1000)	($1000)	($1000)
A	SPF	34,400	110	30
A	100	30,700	85	55
A	50	20,500	85	30
B	SPF	70,243	130	75
B	100	48,000	110	50
B	50	39,300	110	30
C	SPF	41,000	100	100
C	100	33,500	100	80
C	50	27,600	100	50
D	SPF	41,366	75	0
D	100	26,927	75	0
D	50	22,732	75	0
E	SPF	37,659	75	0
E	100	23,122	75	0
E	50	19,317	75	0
F	SPF	49,366	90	90
F	100	35,805	90	60
F	50	31,707	90	40
G	SPF	30,793	42	0
G	100	17,210	42	0
G	50	14,546	42	0
H	SPF	37,600	20	7
H	100	24,400	15	5
H	50	23,000	10	5
I	SPF	0	0	0
I	100	0	0	0
I	50	0	0	0
J	SPF	0	0	0
J	100	0	0	0
J	50	0	0	0
K	SPF	37,600	20	7
K	100	24,400	15	5
K	50	23,000	10	5
L	SPF	37,600	20	7
L	100	24,400	15	5
L	50	23,000	10	5
M	0			

[a]Source: U.S. Army Engineer District, Los Angeles, 1967. Plans I, J and M do not include flood damage control engineering works.

[b]"SPF" denotes design against a flood with a 500-year recurrence interval; "100" denotes design against a flood with a 100-year recurrence interval; "50" denotes design against a flood with a 50-year recurrence interval.

Table 4.11--Continued

[c]Total initial cost includes costs of engineering design and construction and costs of relocation of utilities.

[d]Annual operating and maintenance charges includes annual costs of channel clearing and annual costs of repairing engineering measures.

[e]Annual loss of productivity charges reflects forgone fair annual return to private land that cannot be used for private use once engineering measures go into place.

Other Costs (OC_s)

While LP land use assignments are based on land values derived from econometric models of the market value of land in alternative uses, the values of land in assignments that occur "outside" the LP model (i.e., land set aside for development policy and engineering works alternatives) are computed by another method. A certain amount of land must be set aside for the construction of engineering alternatives considered. The costs of engineering alternatives include right of way purchases and these are lumped together with the cost data given in Table 4-11. Within the time limitations of this study, it is not possible to distinguish between the right of way costs and other engineering costs. It is probable that right of way costs have been determined by traditional appraisal procedures.

Crude approximations of costs of public acquisition were derived from examination of County assessors' property value data for an assumed representative sample of floodplain property. The data used to develop

these approximations is consistent with the data used to develop right of way costs.

Summary

The input data for the test application of the FMS model have been described in this chapter. Several types of data are required.

Land use regulation, development policy, and engineering measures examined by the FMS model are specified. The FMS model provides a means of bringing together hydrologic, engineering, economic, and other data related to these planning alternatives.

One set of data is directly related to the LP land use assignment model within the FMS model. LP input data is needed to determine site rents, right-hand-side elements, and technological coefficients.

Site rent is based on several types of data--property value, site elevation cost, floodproofing cost, and depth-damage data. Site elevation costs, floodproofing costs, and depth-damage data can be used to indicate the most economically efficient combination of fill and floodproofing for each land use activity. Changes in site rent over time are also considered. The right-hand-side elements and technological coefficients in the LP model require urban planning information. Needed is data on land resources available, forecasted population growth, population density criteria, etc.

Another set of data is needed to evaluate terms in the aggregate economic rent equation; the objective of the FMS model is to maximize aggregate economic rent. The aggregate site rent (ASR_s) term is equal to the object row value of the solution to an LP land use assignment

model. The residual damages to existing development ($RDED_s$) term is computed as the present value of the future stream of flood losses remaining to already existing floodplain development given the tentative assumption of a particular development policy and/or engineering measure alternative. Costs of engineering measures (C_s) include total initial Federal and non-Federal costs as well as annual operating, maintenance, and loss of productivity charges. Other benefits (OB_s) are illustrated using artificial recharge benefits. Other costs (OC_s) include the cost of public acquisition of private property for development policy alternatives.

Since most of the data and data generating mechanisms are readily available to local and Federal planners, the FMS model approach is compatible with current planning procedures and techniques.

CHAPTER V

TESTS AND EXPERIMENTS WITH THE FMS MODEL

In the preceding chapter, input data for the floodplain management system model have been described and methods of data collection discussed. Every effort has been made to generate realistic data for the Pima County test application. Since the purpose of this study is to develop a general methodology, the information presented in this chapter is intended to illustrate how the FMS model works and not to provide a solution to a particular problem. How the model works, what kinds of information can it provide to floodplain managers, and what type of flexibility is built into the model are more important questions at this time than the specific numerical values which the model herein manipulates and generates.

In this chapter, the results of tests and experiments with the FMS model are summarized. In the first section of the chapter, the mathematical form of the model is restated; the reader who is already familiar with the mathematical form of the model may want to omit this section. In the remainder of the chapter, the results of using the model to perform the following plan formulation and evaluation procedures are described:

1. formulate FMS plans,

2. evaluate the economic impact of each FMS plan,

3. compare economic productivity with and without each FMS plan,

4. compare each FMS plan with the most economically efficient land use regulation alternative, and

5. conduct sensitivity analysis.

There is a separate section devoted to each of the above items.

The Model

The FMS model is designed to aid the planner in determining the most economically efficient combination of land use and engineering alternatives for floodplain management subject to an appropriate set of constraints. The FMS model can be described by the following mathematical relationships:

$$\text{Maximize } AER_s = ASR_s - RDED_s - C_s + OB_s - OC_s; \qquad (5\text{-}1)$$

i.e.,

$$\text{Maximize } AER_s = \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{t=1}^{T} R_{ijfpts} \cdot X_{ijfpts} - RDED_s - C_s + OB_s - OC_s$$

subject to:

Constraint 1: $$\sum_{t=1}^{T} \sum_{i=1}^{I-1} X_{ijfpts} + X_{Ijfpts} = A_{js} \quad j = 1 \ldots J$$

Constraint 2(a): $$\sum_{j=1}^{J} d_i \cdot X_{ijfpts} = P_{it} \quad \begin{matrix} i = 1 \ldots I-2 \\ t = 1 \ldots T \end{matrix}$$

Constraint 2(b): $$PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} d_i \cdot X_{ijfpts} = 0 \quad j = 1...D \quad t = 1...T$$

Constraint 2(c):

$$\sum_{j=D+1}^{D+16} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+1}^{D+12} d_i \cdot X_{ijfpts} = 0 \quad t = 1...T$$

Constraint 2(d):

$$\sum_{j=D+13}^{D+16} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+13}^{D+16} d_i \cdot X_{ijfpts} = 0 \quad t = 1...T$$

Constraint 2(e):

$$\sum_{j=D+17}^{D+20} PPBA \cdot X_{I-1,jfpts} - \sum_{i=1}^{I-2} \sum_{j=D+17}^{D+20} d_i \cdot X_{ijfpts} = 0 \quad t = 1...T$$

Constraint 3(a): $X_{ijfpts} \geq 0$ for all i, j, f, p, t, s

Constraint 3(b): $X_{ijfpts} = 0$ for all $t > 1$

Constraint 4: Choose $X_{\underline{ijfpts}}$ s.t. $R_{\underline{ijfpts}} \geq R_{\underline{ij}fp\underline{ts}}$ for all $fp \neq \underline{fp}$

Constraint 5: $A_{js} = A_j - EXOG_{js}$ $\quad j = 1...J$

where:

s = index denoting a particular development policy and/or engineering measure considered,

AER_s = aggregate economic rent of the planning area given public investment in s,

ASR_s = aggregate site rent to activities affected by land use regulations given public investment in s, (see equation 3-3),

$= \text{the maximum value of } \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{t=1}^{T} R_{ijfpts} \cdot X_{ijfpts},$

$RDED_s$ = residual damages to existing development given public investment in s,

C_s = cost of the engineering measures associated with s,

OB_s = other benefits associated with s but not accounted for in the first three terms of the aggregate economic rent equation,

OC_s = other costs associated with s but not accounted for in the first three terms of the aggregate economic rent equation; and

i = index denoting a specific land use,

j = index denoting a specific location,

f = index denoting a specific level of fill,

p = index denoting a specific level of floodproofing,

t = index denoting a specific time period during which development for land use i may begin at a site at location j,

I = total number of land uses (i),

J = total number of locations (j),

T = total number of time periods (t),

D = number of locations (j=1...D) that are outside the floodplain,

R_{ijfpts} = rent per acre to the ijfpt activity given public investment in s,

X_{ijfpts} = acres of land assigned to the ijfpt activity given public investment in s,

A_{js} = acres of land in location j available for assignment by the model to regulated land use activities given public investment in s,

P_{it} = population growth forecast associated with land use i in time period t,

d_i = population per acre of residential land use i,

PPBA = population per business acre coefficient,

A_j = total acres of land presently suitable for site development in location j, and

$EXOG_{js}$ = total acres of land in location j which will be publicly acquired by public investment in s,

where all of the terms in equation 5-1 are stated in terms of present value.

Plan Formulation

The method of formulating plans with the FMS model is simple and straightforward. For each development policy and engineering measure s,

1. the influence of public investment in s on the object row coefficients of all potential LP land use activities is determined,

2. the potential land use activities are screened so that only those activities containing economically efficient fill-floodproofing combinations are allowed to enter the LP model,

3. the amount of land resource that is available in each location for endogenous LP land use assignments is computed,

4. other appropriate constraints are determined, and

5. the LP model is run.

Each combination of development policy, engineering measure and land use regulation plan that is produced is considered an alternative floodplain management system plan. Iteration of this procedure over many alternative development policies and engineering measures produces a set of alternative floodplain management system plans which may then be

ranked using various criteria on planning impacts. Development policies and engineering measures that have been considered in the test application are illustrated and described in the preceding chapter. Appendix C contains computer printouts that describe the complete land use regulation plan associated with each FMS plan. A complete description of the mixture of land use and engineering alternatives contained in each FMS plan can only be gained by a detailed examination of the material in Appendix C and the preceding chapter.

In order to facilitate the presentation, the impact of several alternative FMS plans on the land resources of one particular location is examined. Table 5-1 illustrates the land use implications for location j = 22 associated with each of thirty-seven FMS plans; the numbers in this table have been extracted from the detailed land use regulation information given in Appendix C. As the table indicates, the land use(s) recommended for location 22 by the FMS model will depend on the specific development policy and engineering measure considered. Development policies will prevent future urban encroachment of location 22 by assigning land in that location to open space uses. Low density residential land use on one and/or four acre lots is recommended for every engineering measure considered. Commercial land use is recommended, also, for about one-fourth of the engineering measures. Where development of location 22 is permitted to occur this is not allowed until time period 3. Alternative M-O, a LP land use regulation plan that has been derived under the assumption that no development policy or engineering measure will be established, is the only FMS plan that recommends site

Table 5-1. Optimal Activity for Location 22[a] Associated with Each of 37 Different Floodplain Management System Plans.[b]

Development Policy and Engineering Measure(s)	Design Level[c]	Land Use Category[d] (i)	Level of Fill (f)	Level of Flood-proofing (p)	Time Period (t)	Rent/ Acre (R_{ijfpts})	Acreage Allotment (X_{ijfpts})
A	SPF	2	0 ft.	0 ft.	3	547 $/ac.	622 ac.
		5	0	0	3	6770	25
A	100	1	0	0	3	262	531
		5	0	0	3	6702	15
A	50	1	0	0	3	260	909
B	SPF	2	0	0	3	547	813
		5	0	0	3	6770	27
B	100	1	0	0	3	279	720
B	50	1	0	0	3	260	888
C	SPF	2	0	0	3	547	1090
C	100	1	0	0	3	279	622
C	50	1	0	0	3	260	989
D	SPF	2	0	0	3	547	1268
D	100	1	0	0	3	279	1346
D	50	1	0	0	3	260	1346
E	SPF	2	0	0	3	547	1201
E	100	1	0	0	3	279	1346
E	50	1	0	0	3	260	1346
F	SPF	2	0	0	3	547	1310
		5	0	0	3	6770	35
F	100	1	0	0	3	279	1346
F	50	1	0	0	3	260	1346
G	SPF	2	0	0	3	547	1167
		5	0	0	3	6770	33
G	100	1	0	0	3	279	1346
	50	1	0	0	3	260	1346

Table 5-1.--Continued

Development Policy and Engineering Measure(s)	Design Level[c]	Land Use Category[d] (i)	Level of Fill (f)	Level of Flood-proofing (p)	Time Period (t)	Rent/ Acre (R_{ijfpts})	Acreage Allotment (X_{ijfpts})
H	SPF	2	0	0	3	547	1310
		5	0	0	3	6770	35
	100	1	0	0	3	279	1346
	50	1	0	0	3	260	1346
I & J	All	Open Space					
K	SPF	2	0	0	3	547	1346
K	100	1	0	0	3	279	1346
K	50	1	0	0	3	260	1346
L	SPF	2	0	0	3	547	1310
		5	0	0	3	6770	35
L	100	1	0	0	3	279	1346
L	50	1	0	0	3	260	1346
M	0	2	2	0	3	428	1346

[a]Location 22 is Flood Risk Zone 1 in Reach 5; this is the 50-year floodplain in the most downstream reach.

[b]Values entered into the table are taken from the solution to the LP program associated with each development policy and engineering measure. A complete description of each land use regulation, development policy, and engineering alternative is contained in Chapter IV.

[c]Design level SPF offers protection against the Standard Project Flood; design level 100 offers protection against the 100 year flood; design level 50 offers protection against the 50 year flood; All indicates result for public acquisition of all land in 50 year floodplain; 0 indicates no development policy or engineering measure.

[d]Land use i = 1 corresponds to 4 acre residential zoning; i = 2 corresponds to 1 acre residential zoning; i = 5 corresponds to business and commercial zoning.

elevation in location 22; this is to be accomplished by introducing dirt fill to a height of two feet above natural ground elevation. Floodproofing is not recommended under any FMS plan for this location. The rent per acre and acreage allotments associated with each assigned land use may vary from one FMS plan to the next.

Economic Impact Statements

The concept of economic rent is the basis of a common unit of measure for evaluating the economic impact of each FMS mixture of means for attaining floodplain management objectives. Table 5-2 contains summary information pertaining to the economic value obtained from each iteration of the FMS model. As stated in the preceding chapter, all economic values are computed on the basis of a ten percent discount rate.

Discussion of Results

The information in Table 5-2 can be used to define policy issues. It can also be used to explain the causes for the economic productivity differentials associated with the planning alternatives generated by the floodplain management system model.

The most economically efficient FMS plan is associated with the M-O alternative that consists of a land use regulation plan without any development policy or engineering measures; the aggregate economic rent of the M-O alternative equals $417,285,000. The least economically efficient FMS plan is associated with the B-SPF alternative which contains three dams and a soft-bottom trapezoidal channel along reaches 2 through 5. The B-SPF engineering measure is designed to protect against the

Table 5-2. Economic Values for 37 Alternative Floodplain Management System Plans.

Development Policy and Engineering Measure(s)[a]	Design Level[b]	Aggregate Economic Rent (AER_s)[c] ($1000)	Optimal Site Rent (ASR_s)[c] ($1000)	Residual Damages Existing Development ($RDED_s$) ($1000)	Cost of Engineering Works (C_s) ($1000)	Other Benefits (OB_s)[d] ($1000)	Other Costs (OC_s)[e] ($1000)
A	SPF	389,342	425,142	0	35,800	0	0
A	100	391,519	425,216	1,597	32,100	0	0
A	50	400,502	424,423	2,271	21,650	0	0
B	SPF	352,895	424,588	0	72,293	600	0
B	100	374,126	424,723	1,597	49,600	600	0
B	50	381,963	424,334	2,271	40,700	600	0
C	SPF	381,696	424,096	0	43,000	600	0
C	100	388,629	424,926	1,597	35,300	600	0
C	50	393,343	424,114	2,271	29,100	600	0
D	SPF	381,672	423,788	0	42,116	0	0
D	100	394,100	423,374	1,597	27,677	0	0
D	50	397,556	423,309	2,271	23,482	0	0
E	SPF	385,529	423,938	0	38,409	0	0
E	100	397,907	423,376	1,597	23,872	0	0
E	50	400,971	423,309	2,271	20,067	0	0
F	SPF	372,444	423,610	0	51,166	0	0
F	100	384,471	423,373	1,597	37,305	0	0
F	50	388,031	423,309	2,271	33,007	0	0
G	SPF	392,510	423,723	0	31,213	0	0
G	100	404,131	423,358	1,597	17,630	0	0
G	50	406,069	423,306	2,271	14,966	0	0

Table 5-2. Economic Values for 37 Plans--Continued

Development Policy and Engineering Measure(s)[a]	Design Level[b]	Aggregate Economic Rent (AER_s)[c] ($1000)	Optimal Site Rent (ASR_s)[c] ($1000)	Residual Damages Existing Development ($RDED_s$) ($1000)	Cost of Engineering Works (C_s) ($1000)	Other Benefits (OB_s)[d] ($1000)	Other Costs (OC_s)[e] ($1000)
H	SPF	386,370	423,640	0	37,870	600	0
H	100	397,777	423,374	1,597	24,600	600	0
H	50	398,488	423,309	2,271	23,150	600	0
I	SPF	415,422	426,627	5,959	0	0	5,246
I	100	415,177	425,984	5,959	0	0	4,848
I	50	415,957	425,577	5,959	0	0	3,661
J	SPF	400,396	426,627	0	0	0	26,231
J	100	401,448	425,984	298	0	0	24,238
J	50	406,376	425,577	894	0	0	18,307
K	SPF	400,328	423,625	2,259	21,377	339	0
K	100	406,667	423,374	3,160	13,886	339	0
K	50	407,041	423,309	3,541	13,066	339	0
L	SPF	406,887	423,611	3,661	13,273	210	0
L	100	410,741	423,374	4,221	8,622	210	0
L	50	410,948	423,309	4,457	8,114	210	0
M	0	417,285	423,244	5,959	0	0	0

[a]A description of development policy and engineering measures is contained in Chapter IV.

[b]Design level SPF offers protection against the Standard Project Flood; design level 100 offers protection against the 100 year flood; design level 50 offers protection against the 50 year flood; "0" indicates no development policy or engineering measure.

Table 5-2. Economic Values for 37 Plans--Continued

[c]Values in table are solution values corresponding to the solution of the LP problem associated with each development policy and engineering measure.

[d]Other benefits are recharge benefits.

[e]Other costs are costs of public acquisition for development policy alternatives.

SPF and the FMS plan, containing the B-SPF measure, generates aggregate economic rent to the area of $352,895,000.

Although the difference between the largest and smallest aggregate economic rent, AER_s is 64.4 million dollars, the optimal values of the LP objective function, ASR_s, vary only within a range of about 3.2 million dollars of each other. In this test case, the main cause of economic productivity differentials between floodplain management system model planning alternatives appears to be the cost of the engineering measures, C_s. The present value of the cost of the engineering structures varies from 0 to 72.2 million dollars.

The variance of the C_s rent term is greater than the variance of any of the other terms in the rent equation. If economic comparisons of floodplain management system planning alternatives are very sensitive to this major cost component, planners should determine and examine the value of the cost of engineering structures very closely.

An economic comparison of each planning alternative with every other planning alternative would be a tedious and unnecessary process. The following discussion will focus on general comparisons of selected FMS plans that are typical of categories of alternatives.

Different Design Levels of the Same Engineering Measure

The information in Table 5-3 (which has been extracted from Table 5-2 for the sake of clarity) facilitates the comparison of the economic impact of different design levels of the same engineering measure. In this example, the economic consequences of designing a project to protect

Table 5-3. Economic Impact of Different Design Levels of the Same Engineering Measure.[a]

Economic Impact[b]	Level of Protection	
	SPF	100-Year Flood
	($1000)	($1000)
Aggregate Economic Rent	389,342	400,502
Optimal Aggregate Site Rent	425,142	424,423
Residual Damages to Existing Development	0	2,271
Cost of Engineering Works	35,800	21,650
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	0	0

[a]The measure considered in this example is Engineering Plan A, a soft-bottom trapezoidal channel for all five reaches; it is illustrated in Figure 4-4, page 74. Information in this table is derived from Table 5-2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

against the SPF are compared with the consequences of designing a project to protect against the 100-year flood.

The value of the optimal aggregate site rent term associated with each FMS plan is equal to the value of the solution of the linear programming land use regulation plan. In general, the specific engineering design level considered will influence the value of the LP solution (i.e., the value of optimal aggregate site rent) in several of the following ways:

1. Each regulated LP floodplain land use activity will tend to sustain a lower residual level of flood loss with a higher structural design level which in turn will result in a higher value of the site rent per acre object row coefficient in the LP model. The higher LP object row coefficients that are associated with a higher design level will tend to contribute to a higher value of the LP land use regulation plan.

2. A greater amount of land will usually need to be purchased for right of way purposes the higher the design level of the engineering structure. The more acreage set aside for right of way purposes outside the LP model, the less open space acreage allotments are required by the LP model. Since the LP open space activities have negative object row coefficients, lower LP open space land use acreage allotments associated with a higher design level will tend to contribute to a higher LP solution value.

3. If a greater amount of land is set aside for right of way purposes outside the LP model, a lesser amount of total land resources

is available for assignment of all LP land use activities; to the extent that the LP model is more constrained in terms of lower resource availability with a higher design level, this will tend to contribute to a lower LP solution value.

In this instance, the general net affect of the above three influences is that a higher LP solution value, i.e., higher optimal aggregate site rent, appears to be associated with a higher engineering design level.

Nevertheless, the incremental engineering costs accompanying a higher design level are greater than the associated incremental benefits of a higher optimal aggregate site rent and a lower residual flood damage to existing development. Therefore, the aggregate economic rent accompanying a higher design level of an engineering structure is less than the aggregate economic rent accompanying a lower design level.

Different Lengths of Channel Improvement

Table 5-4 illustrates the economic impact of two different lengths of channel improvement for the same type and design level of improvement. Both engineering measures are trapezoidal concrete channels that are designed to control the 50-year flood. One channel improvement covers all five reaches; the other channel improvement only covers the two most downstream reaches.

The value of the land use regulation plan, i.e., optimal aggregate site rent, is equal to about 423 million dollars for both alternatives. With protection for upstream reaches with the longer length alternative, only, one might expect more intensive development to occur

Table 5-4. Economic Impact of Different Lengths of Engineering Channel Improvements.[a]

Economic Impact[b]	Length of Improvement	
	92,000 ft.	55,000 ft.
	($1000)	($1000)
Aggregate Economic Rent	400,971	406,069
Optimal Aggregate Site Rent	423,309	423,306
Residual Damages to Existing Development	2,271	2,271
Cost of Engineering Works	20,067	14,966
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	0	0

[a]The two engineering measures of concern in this table are both trapezoidal concrete channels that are designed to control the 50-year flood. The 92,000 feet long Engineering Plan E covers all five reaches; it is illustrated in Figure 4-8, page 78. The 55,000 feet long Engineering Plan G^+ covers the two most downstream reaches; it is illustrated in Figure 4-10, page 80. Information in this table is derived from Table 5-2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

in upstream reaches with the longer length alternative. This would result in different optimal aggregate site rents for the two alternatives. However, in this instance, the solution of the LP model was not sensitive to different lengths of improvement. Since most existing, high density, floodplain development occurs in the two reaches that are protected by the shorter length of channel alternative, the present value of residual flood damages to existing improvements is the same for both alternatives. The five million dollar difference in aggregate economic rent is almost entirely due to the five million dollar difference in the cost of the engineering structures.

This makes an engineering alternative protecting only the two downstream reaches 4 and 5 more economically efficient than the same type and design level of channel improvement covering reaches 1 through 5. This economic result may be legitimate and effective from a social and political point of view. At a June 11, 1970, Corps of Engineer public hearing, persons residing in the downstream reaches 4 and 5 seemed to be quite eager to receive some type of structural protection. Upstream property owners, on the other hand, appeared to oppose any type of engineering structure that would detract from the rural environment through reducing the availability of riding trails and encouraging high density urban encroachment.

Although the shorter length alternative may coincide with non-economic community goals, the consequences of <u>the land use regulation assignment</u> recommended by the floodplain management model may encounter some resistance from some floodplain property owners. Some downstream

property owners are interested in receiving protection for their existing improvements; other downstream property owners are interested in structural protection as a means of justifying high density future development of their as yet unimproved land. The second group of downstream property owners may be disappointed to learn that the nonstructural land use assignment associated with the G-50 engineering structure (see Appendix C) recommends very low density residential use in downstream areas.

Conversely, higher density urban residential development is assigned to upstream locations. While this may please potential upstream developers it may not please present upstream reach residents and adjacent residents. As the previous discussion indicates, the shorter length alternative will be viewed as a mixed blessing by local property owners and residents; some will be for it and some will be against it. But this is likely to happen no matter what alternative is selected.

Different Staging of Investment

Table 5-5 illustrates the economic impacts associated with two alternative dates of construction of the same type and design level of engineering structure, viz., two dams designed to protect all five reaches against the 50-year flood; one dated 1970, the other 1980.

The value of the LP land use regulation plan (optimal aggregate site rent) is identical for both planning alternatives. The 1980 alternative offers fewer years of flood damage reduction benefits to existing improvements than does the 1970 alternative; therefore, the 1980 alternative has a higher present value of residual flood damages to

Table 5-5. Economic Impact of Different Staging of Investment.[a]

Economic Impact[b]	Date of Construction	
	1970	1980
	($1000)	($1000)
Aggregate Economic Rent	398,488	410,948
Optimal Aggregate Site Rent	423,309	423,309
Residual Damages to Existing Development	2,271	4,457
Cost of Engineering Works	23,150	8,114
Other Benefits (Recharge Benefits)	600	210
Other Costs[c]	0	0

[a]Each of the engineering alternatives consists of two dams designed to protect all five reaches against the 50-year flood. The alternative constructed in 1970, Engineering Plan H, is illustrated in Figure 4-11, page 81. The alternative constructed in 1980, Engineering Plan L, described on page 82, is the same design as Plan H; the only difference is the staging of investment. Information in this table is derived from Table 5-2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

existing improvements. The same line of reasoning results in a lower economic contribution from artificial recharge benefits with the 1980 alternative. The reduced flood damage reduction and recharge benefits associated with the 1980 alternative are more than compensated for by the lower present value of the cost of the engineering structures under the 1980 alternative. The overall result is that the 1980 staged investment alternative has a higher aggregate economic rent.

Protection of Future Development: Engineering Measure versus Development Policy

Table 5-6 illustrates the economic impacts associated with two alternative means of protecting future development on all five reaches against a design level flood. The engineering measure in this example consists of a soft-bottom trapezoidal channel designed to protect against the 50-year flood. The development policy alternative consists of public acquisition of all undeveloped land within the 50-year floodplain.

The value of the LP land use regulation plan (optimal aggregate site rent) is more than a million dollars higher for the development policy alternative than for the engineering measure alternative; this occurs because the engineering LP model has more open space acreage purchase requirements than the development policy LP model. On the other hand, the engineering measure would provide flood damage reduction benefits to existing development whereas the development policy alternative would not. The main economic difference between the two FMS plans is that the high cost of the engineering works is far greater than the public acquisition cost for the development policy alternative. Hence,

Table 5-6. Protection of Future Development: Engineering Measure vs. Development Policy.[a]

Economic Impacts[b]	Means of Protection Against a Design Level Flood	
	Engineering Measure	Development Policy
	($1000)	($1000)
Aggregate Economic Rent	400,502	415,497
Optimal Aggregate Site Rent	424,423	425,557
Residual Damages to Existing Development	2,271	5,959
Cost of Engineering Works	21,650	0
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	0	3,661

[a]Each of the alternatives is designed to protect future development on all five reaches against the 50-year flood. Engineering Plan A is illustrated in Figure 4-4, page 74. Development-Policy Plan I involves public acquisition of all undeveloped land within the 50-year floodplain for open space uses. Information in this table is derived from Table 5-2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

the public acquisition of undeveloped land for open space uses is a more economically efficient means of protecting future development against a design level flood than is the engineering measure approach in this example.

Protection of Existing and Future Development: Engineering Measure versus Development Policy

Table 5-7 illustrates the economic impacts associated with two alternative means of protecting existing and future development on all five reaches against a design level flood. The engineering measure in this example consists of a soft-bottom trapezoidal channel designed to protect against the 50-year flood. The development policy alternative consists of public acquisition of all property within the 50-year floodplain.

The value of the LP land use regulation plan (optimal aggregate site rent) is slightly higher for the development policy alternative than for the engineering works. The main reason for this is that some public acquisition costs are reflected in the other costs term, OC_s, of the development policy alternative whereas all of the open space expenditures for the engineering measure reflected in optimal aggregate site rent term, ASR_s. This outweighs the advantage of the engineering LP model having a larger supply of land to work with than development policy LP model.

Although the engineering measure protects existing development in the design-level-flood floodplain against the design level flood, these existing improvements can be expected to sustain flood damages in

Table 5-7. Protection of Existing and Future Development: Engineering Measure vs. Development Policy.[a]

Economic Impact[b]	Means of Protection Against a Design Level Flood	
	Engineering Measure	Development Policy
	($1000)	($1000)
Aggregate Economic Rent	400,502	406,376
Optimal Aggregate Site Rent	424,423	425,577
Residual Damages to Existing Development	2,271	894
Cost of Engineering Works	21,650	0
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	0	18,307

[a]Each of the alternatives is designed to protect existing and future development on all five reaches against the 50-year flood. Engineering Plan A, a soft-bottom trapezoidal channel, is illustrated in Figure 4-4, page 74. Development-Policy Plan J involves public acquisition of all property within the 50-year flood plain and the removal of existing development from the 50-year flood plain. Information in this table is derived from Table 5-2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

the future from floods that are greater than the design level flood. The development policy alternative, however, removes existing development from the design-level-flood floodplain at the same time that it prevents future urban encroachment of the same area. Removing improvements from the floodplain completely prevents these activities from sustaining any future flood damages. This results in a lower level of residual flood damages to existing development for the development policy alternative, than for the engineering alternative. Nevertheless, land uses outside the design level flood floodplain will continue to sustain the same level of flood loss with either alternative.

In this example, the cost of engineering works is greater than the public acquisition cost of the development policy alternative. This relationship cannot be stated as a generalization for the Pima County test study since the cost of the engineering works for other alternatives --staged investments, for example--is less than public acquisition costs of corresponding development policy alternatives.

The combined affect of all of the above relationships results in the engineering FMS plan having a lower aggregate economic rent than the development policy FMS plan. Once more, this relationship cannot be stated as a generalization since the aggregate economic rent of certain engineering FMS plans is greater than that obtained from comparable public acquisition alternatives.

Public Acquisition of All Floodplain Property versus Acquisition of Undeveloped Land

Table 5-8 illustrates the economic impacts associated with two different kinds of development policy alternatives for the 50-year floodplain: public acquisition of all property combined with the removal of existing development and public acquisition of undeveloped land only.

The value of the optimal aggregate site rent is the same for each of the alternatives since the LP model cannot assign activities to the design-level-flood floodplain in either case. Public acquisition of all undeveloped land within the 50-year floodplain is an exogenous land use assignment which the LP model must plan around.

Public acquisition of all property within a design-level-flood floodplain eliminates flood damages <u>for improvements that have been removed</u> from the floodplain. Public acquisition of unimproved land only does not eliminate flood damages for existing improvements. Therefore, the residual flood damages to existing development are higher for the alternative that only involves public acquisition of undeveloped land.

The costs of acquiring all property within a floodplain are obviously greater than the costs of only acquiring unimproved land. If the residual flood damage to existing development is a fraction of what the value of the improved property is worth, then public acquisition of unimproved land only will be more economically desirable than public acquisition of all property within a floodplain. This appears to be the case in the Pima County test application.

Table 5.8. Public Acquisition of All Property within a Floodplain vs. Acquisition of Undeveloped Land Only.[a]

Economic Impact[b]	Category of Floodplain Property Publicly Acquired	
	All Property	Undeveloped Land, Only
	($1000)	($1000)
Aggregate Economic Rent	406,376	415,597
Optimal Aggregate Site Rent	425,577	425,577
Residual Damages to Existing Development	894	5,959
Cost of Engineering Works	0	0
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	18,307	3,661

[a]Development-Policy Plan J involves public acquisition of all property within the 50-year floodplain and the removal of existing development from the 50-year floodplain. Development-Policy Plan I involves public acquisition of all undeveloped land within the 50-year floodplain. Information in this table is derived from Table 5.2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

Trade-off Between Floodplain Open Space Land Use and Economic Efficiency

Earlier in this dissertation, it has been noted that the evaluation of certain types of benefits associated with open space land use is outside the scope of this study. Some open space benefits that have not been empirically estimated and evaluated are economic benefits; for example, in the test application of the model, no attempt has been made to evaluate the increased property value associated with a residential land use activity as the result of a neighboring parcel of land being set aside for open space use. Some open space benefits that have not been evaluated in this study reflect noneconomic considerations, for example, no attempt has been made to estimate and evaluate the expected reduction in loss of human life associated with different amounts of floodplain land set aside for open space use. Nevertheless, it is possible to say something about the alternative impacts on aggregate economic rent of setting aside different amounts of floodplain land for open space use. Table 5-9 illustrates the economic impacts associated with a trade-off between the amount of floodplain open space acreage and the economic efficiency criterion.

Two development policy alternatives are examined. The first involves acquisition of all undeveloped land within the 50-year floodplain. The second involves the acquisition of all undeveloped land within the boundaries of the 100-year floodplain.

The LP model plans around the tentative exogenous decision of the planner to set aside a certain amount of floodplain land for open space use. The more land that is allocated to open space use outside of the

Table 5-9. Trade-off Between Floodplain Open Space Land Use and Economic Efficiency.[a]

Economic Impact[b]	Location of Undeveloped Land Acquired for Open Space Uses	
	Flood Risk Zone 1	Flood Risk Zones 1 & 2
	($1000)	($1000)
Aggregate Economic Rent	415,957	415,177
Optimal Aggregate Site Rent	425,577	425,984
Residual Damages to Existing Development	5,959	5,959
Cost of Engineering Works	0	0
Other Benefits (Recharge Benefits)	0	0
Other Costs[c]	3,661	4,848

[a]Development-Policy Plan I involves public acquisition of all undeveloped land within a floodplain. This table illustrates the economic impacts of two design levels of Plan I: the first involves public acquisition of all undeveloped land within Flood Risk Zone 1, the 50-year floodplain; the second involves public acquisition of all undeveloped land within Flood Risk Zones 1 and 2, i.e., all undeveloped land within the boundaries of the 100-year floodplain. Information in this table is derived from Table 5.2.

[b]Impacts are those economic consequences that are primarily reflected at the local level plus cost of engineering works which is an expenditure accountable primarily at the national level.

[c]These are public acquisition costs for development policy alternatives.

LP model, the lower are the open space purchase requirements within the LP model; by itself, this tends to increase the value of the LP objective function. On the other hand, the more land that is allocated to open space use outside of the LP model, the greater are the constraints on land resources available for LP land use assignments, which tends to decrease the value of the LP objective function. The combination of these two converse effects in this example results in a higher value of optimal aggregate site rent being associated with the larger exogenous floodplain open space acreage assignment.

The higher aggregate site rent associated with the larger exogenous acreage assignment is outweighed by the higher public acquisition costs (for floodplain open space land) that accompany the larger exogenous acreage assignment. Hence, in this example there is a trade-off between the economic efficiency criterion and the amount of land that is set aside for open space land use. The difference in economic efficiency between these two alternatives is so slight that if additional economic benefits had been evaluated and if certain types of noneconomic considerations had been evaluated, the larger exogenous open space land use assignment might have been the best choice.

"With and Without" Analysis

Table 5-10 provides the information needed to compute the net incremental economic gain associated with adopting each alternative plan generated by the floodplain management system instead of employing the existing local land use plan. A partial description of the existing local land use plan is given by Garcia [1971].

Table 5-10. Economic Values for "With and Without" Analysis.

Development Policy and Engineering Measure(s)[a]	Aggregate Economic Rent (AER_s)[b]	Incremental Economic Productivity with FMS Plan[c]
	($1000)	($1000)
A SPF	389,342	126,719
A 100	391,519	128,896
A 50	400,502	137,879
B SPF	352,895	90,236
B 100	374,126	111,503
B 50	381,963	119,340
C SPF	381,696	119,073
C 100	388,629	126,006
C 50	393,343	131,020
D SPF	381,672	119,049
D 100	394,100	131,477
D 50	397,556	134,933
E SPF	385,529	122,906
E 100	397,907	135,284
E 50	400,971	138,348
F SPF	372,444	109,821
F 100	384,471	121,848
F 50	388,031	125,408
G SPF	392,510	129,887
G 100	404,131	141,508
G 50	406,069	143,446
H SPF	386,370	122,747
H 100	397,777	135,154
H 50	398,488	135,865
I SPF	415,422	152,799
I 100	415,177	152,554
I 50	415,957	152,974
J SPF	400,396	137,773
J 100	401,448	138,825
J 50	406,376	143,753
K SPF	400,328	137,705
K 100	406,667	144,044
K 50	407,041	144,418
L SPF	406,887	144,264
L 100	410,741	148,118
L 50	410,948	148,325
M 0	417,285	154,662
No FMS Plan[d]	262,623	0

Table 5-10.--Continued

[a]Development policies and engineering measures are described in Chapter IV.

[b]Value in table corresponds to solution of LP problem associated with development policy and engineering measure.

[c]Aggregate economic productivity "with" an FMS plan minus aggregate economic productivity "without" any FMS plan.

[d]Values that would occur "without" any FMS plan.

The first column in this table contains the, by now, familiar symbolic representations of each of the planning alternatives. The words "No FMS Plan" at the bottom of the first column are used to denote the existing local land use plan.

The second column in Table 5-10 contains the same aggregate economic rent values that appear in the second column of Table 5-2. The only modification of the earlier list is the last figure in the column; this contains the aggregate economic rent of the existing land use plan. The primary basis for computing the value of the existing land use plan is the acreage allotment per activity by location and time period that is assumed to be used by local planners; see Garcia [1971]. The value of each acreage allotment is based on the econometric models that generated the LP land values. Flood damage estimates under present and anticipated future conditions are derived from Corps of Engineers data [U. S. Army Engineer District, Los Angeles, California, 1967].

The aggregate economic rent associated with the existing local land use plan is based on the following computations:

Aggregate land value in five county locations:	$261,812,615
Aggregate land value of floodplain:	+ 33,513,534
Cost of public acquisition of land for open space uses:	- 23,013,531
Present value of flood damages to existing and future improvements:	- 9,690,000
Total aggregate economic rent for existing local plan:	$262,622,618

In "with and without" analysis, the net increased economic productivity associated with a FMS plan is equal to the difference between the FMS aggregate economic rent and the aggregate economic rent without the FMS plan.[1]

The third column in Table 5-10 indicates the increased economic productivity associated with each of the 37 planning alternatives developed in this study. This indicates that the aggregate economic rent associated with any of the floodplain management system solutions is greater than what could be expected from the existing land use plan. The greatest incremental economic gain can be achieved by adopting the purely nonstructural, land use regulation planning alternative generated by the LP model; this is the FMS plan associated with the subscript s = M-0.

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1. In this test example, the net increased economic productivity does not include the opportunity cost of what would happen anywhere else in the nation. Computation of national opportunity costs are outside the scope of this study. In the future, when these costs can be computed, they may be capitalized into the aggregate economic rent equations and the "with and without" analysis may proceed as indicated here.

Incremental Analysis

Table 5-11 contains information that can be used to evaluate the incremental economic productivity of including a development policy or engineering alternative within a FMS plan. This incremental analysis uses the most economically efficient FMS plan that contains no flood damage control engineering measures as a point of reference--i.e., the FMS plan that is associated with the subscript s = M-0. For purposes of discussion, the M-0 plan is referred to as "the best FMS nonengineering alternative." The incremental economic productivity is computed by subtracting the aggregate economic rent of the best FMS nonengineering alternative, i.e., AER_{M-0}, from the aggregate economic rent of the FMS plan that is being incrementally analyzed. The negative signs in the last column in Table 5-11 indicate that there is no economic advantage associated with the inclusion of a development policy alternative or engineering measure in an FMS plan in this test application.

The Best FMS Nonengineering Alternative Compared with Other FMS Plans

The best FMS nonengineering alternative, i.e., the M-0 plan, is entirely determined by the LP land use assignment model. This may be contrasted with other FMS planning alternatives which consist of LP land use plans that have been developed around preselected engineering structure and exogenous land use assignment alternatives.

The M-0 LP objective function value is less than that associated with other floodplain management system model planning alternatives involving engineering works and/or development policies. It is lower than

Table 5-11. Economic Values for Incremental Analysis of Development Policy and Engineering Alternatives.

Development Policy and Engineering Measure(s)[a]	Design Level	Aggregate Economic Rent (AER_s)[b]	Incremental Economic Productivity of Development Policy and Engineering Measures[c]
		($1000)	($1000)
A	SPF	389,342	-27,943
A	100	391,519	-25,766
A	50	400,502	-16,783
B	SPF	352,895	-64,390
B	100	374,126	-43,159
B	50	381,963	-35,322
C	SPF	381,696	-35,589
C	100	388,629	-28,656
C	50	393,343	-23,942
D	SPF	381,672	-35,624
D	100	394,100	-23,185
D	50	397,556	-19,729
E	SPF	385,529	-31,756
E	100	397,907	-19,389
E	50	400,971	-16,314
F	SPF	372,444	-44,841
F	100	384,471	-29,824
F	50	388,031	-29,254
G	SPF	392,510	-24,775
G	100	404,131	-13,154
G	50	406,069	-11,216
H	SPF	386,370	-30,915
H	100	397,777	-19,519
H	50	398,488	-18,791
I	SPF	415,422	- 1,863
I	100	415,177	- 2,108
I	50	415,957	- 1,688
J	SPF	400,396	-16,899
J	100	401,448	-15,797
J	50	406,376	-10,909
K	SPF	400,328	-16,957
K	100	406,667	-10,618
K	50	407,041	-10,244
L	SPF	406,887	-10,398
L	100	410,741	- 6,544
L	50	410,948	- 6,337
M	0	417,285[d]	0

Table 5 11.--Continued

[a]Development policy and engineering measures are described in Chapter IV.

[b]Value in table corresponds to solution of LP problem associated with development policy and engineering measures.

[c]Aggregate economic productivity with a development policy or engineering measure minus maximum aggregate economic productivity without a development policy or engineering measure.

[d]Maximum aggregate economic productivity that could occur without any development policy or engineering measure.

the optimal aggregate site rent associated with structural alternatives for two reasons:

1. Potential land use activities will tend to sustain a smaller amount of flood loss with a structural measure in place.

2. Right of way costs are reflected in the cost of engineering works term for structural alternatives whereas all public acquisition costs are reflected in the optimal aggregate site rent term in the M-0 model.

It is lower than the optimal aggregate site rent associated with development policy alternatives primarily because a major portion of the open space expenditures in these alternatives is assigned to the other costs term in their aggregate economic rent equations.

The residual flood damages to existing development term is at a maximum value with the M-0 planning alternative. Residual flood damages to existing development can be reduced or eliminated by including

engineering works in the FMS plan. Residual flood damages to future development could be prevented by public acquisition of unimproved floodplain property. Residual flood damages to existing development could be prevented through public acquisition of floodplain property and the removal of existing improvements from the floodplain.

Artificial recharge benefits are nonexistent for the M-0 alternative and for all of the development policy alternatives. Half of the engineering alternatives, however, have recharge benefits.

Since the M-0 FMS plan consists only of an LP land use assignment plan, both the cost of the engineering works term and the cost of exogenous land use assignments term are equal to zero in the M-0 aggregate economic rent equation. This is not the case for other FMS planning alternatives.

The Most Economically Efficient Nonengineering Plan Compared to the Existing Land Use Plan

Since less than two percent of the land in the study area is in the floodplain, it is natural to expect that effective management of non-floodplain land will have the greatest impact on aggregate economic rent. This expectation is confirmed by comparing the aggregate land values in the five county, non-floodplain, areas for the M-0 plan and for the existing land use plan. The comparison indicates that over 99 percent of the difference in aggregate economic rent can be "explained" by the difference in the aggregate land values in the non-floodplain locations. Although differences in floodplain land use, flood damages, and rent can be expected for the different land use plans,

these differences will not affect the potential economic productivity of the entire study area significantly.

Nevertheless, the M-0 floodplain land use plan is a part of a larger plan which is 155 million dollars more economically efficient than the existing land use plan. When viewed in this perspective, the value of comprehensive flood damage control planning can be more fully appreciated.

As the last plan illustrated in Appendix C indicates, the land use plan associated with M-0 assigns non-open space land use activities to each reach of the river. It also assigns non-open space land use activities to floodplain locations in each flood risk zone during each time period.

In general, higher density land uses within floodplain locations tend to be allocated further upstream and further into future time periods.

Fill-floodproofing combinations are assigned according to the economic efficiency criterion described earlier. Non-zero levels of floodproofing do not appear in the LP object row coefficients of the M-0 planning alternative. With no level of floodproofing entering the M-0 LP model, the following result appears to be reasonable: within each reach, the higher the flood hazard the greater the tendency to have a higher level of fill assigned to a land use activity; for example, all other things being equal, the level of fill assigned to a land use activity in flood risk zone 1 is greater than or equal to the level of fill assigned to the same land use activity in flood risk zone 3.

Sensitivity Analysis

The experiments with the floodplain management system model resulted in the design of a distinctive, LP generated, optimal land use plan for each of 37 engineering and exogenous land use assignment alternatives. Given a set of constraints which include noneconomic constraints as well as constraints on the planning process, itself, the model has been used to develop and select the most economically efficient combination of land use and engineering alternatives, i.e., that combination of land use regulations, development policies, and engineering works, that will maximize aggregate economic rent. In this sense, the M-O planning alternative has been selected as the "optimum optimorum." However, the process of plan formulation and evaluation is not complete. Planners may be more interested in knowing how the floodplain management system model will respond to variations in the (economic, environmental, sociological, technological, and political) postulated conditions and constraints than they are in knowing the "optimal plan" which may be generated under the initial set of assumptions. Postoptimality analysis of the model can be used to test the sensitivity of the initial results to alternative suppositions.

A brief description of the role of sensitivity analysis in water resource planning is given by Meier et al. [1971, p. 530]:

> Regardless of how much information a water resource planner can usefully organize and analyze, he must ultimately select a single implementation plan. The selected plan includes definite facilities of specified size and purposes to be constructed at specific times during the planning period. In order for a planner to (1) apprise himself of the type and magnitude of the variations which can be expected to occur, (2) quantify their expected effects, and (3) make decisions tempered by this

information, he should depend heavily upon the results of some sort of sensitivity analysis. Sensitivity analysis (or post optimality analysis) is the name given to the process of identifying and quantifying the magnitude of the expected effects or changes.

Sensitivity analysis can be used in another context thereby providing other important information to planners. For example, it can be used to guide the development and refinement of basic data collection and the project design functions that must be conducted prior to and during both reconnaissance and detailed planning studies. In reality, water resources planning is an evolutionary process which takes place over the entire planning period. Initially, reconnaissance-level plans are made; later more detailed planning is conducted; and still later detailed planning is conducted; and still later detailed designs are formulated and implemented. Because of both time and budgetary constraints, it is impossible and undesirable to develop all of the input data to the same level of accuracy initially. Also, throughout the planning period, basic data, cost estimates, and design criteria are continually refined. Therefore, studying the sensitivity that the system responses (the answers) have to variations in the input data can be used to indicate the relative importance of various types of input information. Emphasis can then be placed on developing and refining those data which have the greatest influence on system response. In other words, given a prespecified amount of manpower and money which could be used for data collection and data preparation, sensitivity analyses can be conducted to define how best to expend the effort to improve the accuracy of the answer by the greatest possible amount.

Changes in the input parameters may result in <u>changes in the optimal basis set of the LP model</u>. This type of detailed information can be used by local planners to make recommendations with regard to the desirable spatial and temporal distribution of future growth.

Changes in the input parameters may result in <u>changes in the computed value of the LP model objective function</u>. Federal planners may be interested in knowing this type of aggregate information since one of their primary roles is to determine whether or not expenditure of Federal funds in engineering works has a significant impact on the aggregate

economic productivity of the region. Alternate sets of engineering works may be more appropriate than the "optimal" set under conditions other than those postulated when deriving the initial optimal FMS plan.

The ease with which a properly designed computer model may be manipulated is well recognized. For example, each of the initial 37 land use plans has been created by modifying only one card in the LP matrix generation program input deck. Similarly simple adjustments were used to derive the results of the sensitivity analysis discussed in this section.

This discussion will illustrate some of the types of sensitivity analysis which can be performed on the model and some of the types of information that can be provided by postoptimality analysis. This is not intended to be a "full blown" attempt at sensitivity analysis. Its only purpose is to suggest what is possible by illustrating how the model has been rerun with various changes in input data.

To do this, two alternatives--M-0 and G-50--have been compared under a variety of circumstances. M-0 is an FMS plan developed by the LP model in the absence of engineering structures and exogenous, development policy land use assignments. Given the initial set of assumptions, constraints, and parameters this is the "optimum optimorum" for the Pima County study. G-50 is a concrete channel structure extending from Swan Road to the Santa Cruz River (reaches 4 and 5) designed to contain the 50-year flood.

Table 5-12 summarizes some of the results of sensitivity analysis. A detailed description of the land use regulation plan that resulted from each postoptimality LP computer run is given in Appendix D.

Table 5-12. Economic Values for Sensitivity Analysis of M-0 and G-50 Alternatives.[a]

Test Description	Alternative (s)[b]	Aggregate Economic Rent (AER_s)	Optimal Site Rent (ASR_s)	Residual Damages to Existing Development ($RDED_s$)	Cost of Engineering Works (C_s)
		($1000)	($1000)	($1000)	($1000)
Test 0:	M-0	417,296	423,244	5,959	
no modifications	G-50	406,069	423,306	2,271	14,966
Test 1:	M-0	1,484,010	1,503,873	19,863	
discount rate = 3%	G-50	1,480,698	1,504,214	7,570	15,946
Test 2:	M-0	401,149	422,889	21,740	
urbanization effect = 1%	G-50	404,103	422,889	3,620	15,166
Test 3:	M-0	1,428,654	1,501,121	72,467	
discount rate = 3% urbanization effect = 1%	G-50	1,472,408	1,501,121	12,067	16,646
Test 4:	M-0	1,425,267	1,497,734	72,467	
discount rate = 3% urbanization effect = 1% cost of fill = $1/cu. yd. cost of floodproofing is reduced by 50%	G-50	1,469,021	1,497,734	12,067	16,646

Table 5-12. Economic Values for Sensitivity Analysis--Continued

Test Description	Alternative (s)[b]	Aggregate Economic Rent (AER_s)	Optimal Site Rent (ASR_s)	Residual Damages to Existing Development ($RDED_s$)	Cost of Engineering Works (C_s)
		($1000)	($1000)	($1000)	($1000)
Test 5:	M-0	822,868	841,545	18,677	
discount rate = 3%	G-50	822,258	841,545	3,132	16,155
urbanization effect = 1%					
annual productivity increase = 0%					
% OD to SD = 10% if i ≤ 4					
% OD to SD = 2% if i = 5					
flood damages are evaluated for 50 years, only					
Test 6:	M-0	380,889	386,848	5,959	
all population estimates reduced by 5%	G-50	369,674	386,911	2,271	14,966
Test 7:	M-0	526,911	532,870	5,959	
value of remote subdivision land is increased	G-50	515,720	532,957	2,271	14,966

Table 5-12. Economic Values for Sensitivity Analysis--Continued

Test Description	Alternative (s)[b]	Aggregate Economic Rent (AER_s)	Optimal Site Rent (ASR_s)	Residual Damages to Existing Development ($RDED_s$)	Cost of Engineering Works (C_s)
		($1000)	($1000)	($1000)	($1000)
Test 8: high density growth prohibited in locations 2,3 and 4	M-0	340,159	346,118	5,959	
	G-50	328,883	346,120	2,271	14,966
Test 9: no constraints on the amount of land that must be assigned to each residential land use	M-0	524,117	530,076	5,959	
	G-50	513,280	530,517	2,271	14,966
Test 10: backwater effect introduced	M-0	416,765	423,113	6,348	
Test 11: discount rate = 7%	M-0	655,421	663,934	8,513	
	G-50	645,674	664,064	3,244	15,146
Test 12: urbanization effect = 5%	M-0	375,760	421,830	46,070	
	G-50	399,994	421,830	6,030	15,806

Table 5-12. Economic Values for Sensitivity Analysis--Continued

[a]Values entered into table are based on modifications to initial input data and modeling assumptions.

[b]Alternative M-0 is a land use regulation plan, only; no development policy or engineering measure is considered. Alternative G-50 consists of a land use regulation plan developed around an engineering measure. The engineering measure is a concrete channel on Rillito Creek from Swan Road to the confluence with the Santa Cruz River (i.e., Reaches 4 & 5) designed to protect against the 50-year flood; see Figure 4-10, page 80.

An initial glance at Table 5-12 yields a few interesting observations. Alternative M-0 which dominated all other FMS plans in the previous analysis is, under different assumptions, a less desirable alternative than the FMS plan associated with G-50. The value of the LP objective function covered a range of over a billion dollars in the postoptimality analysis; the changes in this optimal aggregate site rent term explain most of the changes in value of the aggregate economic rent in the postoptimality tests. However, within each test, there is not much difference in the optimal aggregate site rent value between the two alternatives. The determination of whether or not the engineering alternative is the better choice appears to be the result of the relative changes in the values of the residual flood damages to existing development term and the cost of engineering works term. The following discussion describes the results of a number of different sensitivity tests.

Variation in the Discount Rate

Tests 0, 1, and 11 have been conducted to determine the sensitivity of the model to changes in the discount rate. Discount rates of 3, 7, and 10 percent have been tested. Since all future rents and flood damages are discounted to obtain their present value, the values of the optimal aggregate site rent term and the residual damages to existing development term are roughly inversely proportional to the interest rate. The cost of the engineering structure for the G-50 alternative responds less dramatically to changes in the discount rate because only a small fraction of this is an annual stream of cost in terms of operating and maintenance expenditures. The nonstructural planning alternative, M-0,

dominated the structural-nonstructural alternative in each instance. For both alternatives, the lower the interest rate, the higher the aggregate economic rent.

Variation in the Hydrologic State Conditions: The Backwater Effect

Activities locating in floodplain areas may modify the flood water surface profile. Computer programs for determining water surface profiles are available [Dougal and Shearman 1965, for example]; the results of this type of computation are highly sensitive to the roughness parameter and might therefore be of questionable validity. Calculating the hydrologic impacts of urban encroachment of the floodplain is outside the scope of this study. The approach adopted here is to illustrate how this information could be used if it were available.

Examining the sensitivity of the initial FMS results to the backwater effect illustrates one of the two ways of handling locational interactions that were suggested in Chapter III (page 48). In the FMS model test application, the locational interaction created by the backwater effect has been ignored during the initial LP assignments. The affect of the backwater effect locational interactions on the value and stability of the initial LP assignments is described in the following discussion. First, an initial FMS plan is re-evaluated to account for the economic consequences of the backwater effect. Then, the stability of the initial LP land use assignment to the new backwater effect assumption is examined.

An inspection of the original M-0 land use plan indicates that most floodplain locations within the boundaries of the SPF should not be developed until time period three; relatively high density zoning is assigned to upstream reaches; low density zoning is assigned to downstream reaches. The assumed modification of depth of inundation for this time period based on the above information is illustrated in Table 5-13. A greater backwater effect was assigned to locations containing higher density zoning.

Table 5-13. Assumed Backwater Effect.

Reach	Increased Depth of Flood
1	2.0'
2	2.0'
3	1.5'
4	1.0'
5	0.5'

The economic impact of this hydrologic effect on existing improvements and those introduced by the original M-0 land use plan has been evaluated. This impact is less than a one percent reduction in aggregate economic rent for Pima County, with the rent per acre for a typical floodplain property being reduced by less than $100.

This reduction is too small to affect the economic preeminence of the nonstructural M-0 plan over the structural alternatives.

However, it might be large enough to affect the competitive position of the M-0 plan vis-à-vis the I-50 exogenous land use assignment alternative.

The I-50 alternative is an LP land use plan that has been developed for all land outside the 50-year floodplain combined with public acquisition of unimproved, 50-year floodplain land. In the absence of the backwater effect, the aggregate economic rent of the I-50 alternative is over 99 percent of the value of the aggregate economic rent of the M-0 alternative (see Table 5-2). The backwater effect makes this already minute economic productivity differential even smaller. This fact combined with the noneconomic advantages of the I-50 alternative--open space considerations such as aesthetic pleasure, recreational benefits, and possible reduction in the risk of loss of human life--may make the I-50 alternative a better choice. A postoptimality analysis, Test 10, was conducted to determine whether or not this violation of the LP additivity assumption would produce violent changes in the M-0 basis set. A comparison of the M-0 land use regulation plan with and without the backwater effect indicates some minor readjustments in land use suggested for time period three. This includes some rearrangement of residential land uses in the upstream reaches and reduction of residential density from one acre lot size to four acre lot size in the 50-year floodplain of the reach furthest downstream. In addition to this, higher levels of fill and floodproofing may be justified.

In view of this information, the best policy might be to adopt the original M-0 land use regulation plan with some slight modifications; these modifications might initially include slightly lower density

requirements in the 50-year floodplain downstream reach. As time period three approaches, the LP model could be "fine tuned" and adjusted to reflect updated knowledge about the hydrologic and economic parameters and known changes in acreage availability and land use requirements. The model can be rerun to obtain an improved land use plan for time period three which may include higher density zoning than was specified in the initial plan. The flexibility of the land use regulation floodplain management alternative is illustrated in this case. It allows the planner to postpone making the final detailed plans for floodplain land use until more information is gathered. In the meantime, it provides a general outline for a comprehensive land use plan outside of the floodplain.

Variation in the Hydrologic State Conditions: The Urbanization Effect

Numerous events originating outside of a floodplain may have an impact on the nature of flooding. The hydrologic effects due to land and water use associated with urbanization have been described by Jens and McPherson [1964] and others. Some of these effects may be directly related to the spatial and temporal distribution of urban land uses such as increased runoff resulting from decreased infiltration corresponding to an increased percentage of impervious areas due to building construction, pavement of streets, etc. Other effects may be totally unrelated to the particular arrangement of urban land uses that is selected including increased storm flow due to removal of vegetation from a municipal watershed for the main purpose of augmenting the existing water supply.

Computing the effect on flooding of non-floodplain land and water use associated with urbanization is outside the scope of this study. Figure 5-1 is taken from a comparison of a local urban watershed and an adjacent natural semi-arid watershed conducted by Fogel, Duckstein and Kisiel [1972], and indicates that the storm runoff associated with a given recurrence interval can be expected to be about twice as great on a local urban watershed as on the adjacent natural semi-arid watershed. Extrapolating these results to the entire Rillito Creek watershed is extremely hazardous. Nevertheless, to illustrate how the LP model can handle this type of information the extrapolation was done in sensitivity Test 2.

For this test the assumption was made that the flood peak associated with a given return period would double in a linear fashion over the next hundred years. The following equation was used to compute the flood peak associated with each recurrence interval in each year of flood damage evaluation.

$$CFS_{ry} = CFS_{ro} + [CFS_{ro}] \cdot [U] \cdot [y]$$

where:

r = a specific recurrence interval,

y = the number of years past the start of the planning horizon y = 0,

U = the urbanization effect,

CFS_{ry} = the cubic feet per second associated with a given recurrence interval, r, in year of flooding, y, and

CFS_{ro} = the cubic feet per second associated with recurrence interval, r, at the start of the planning horizon.

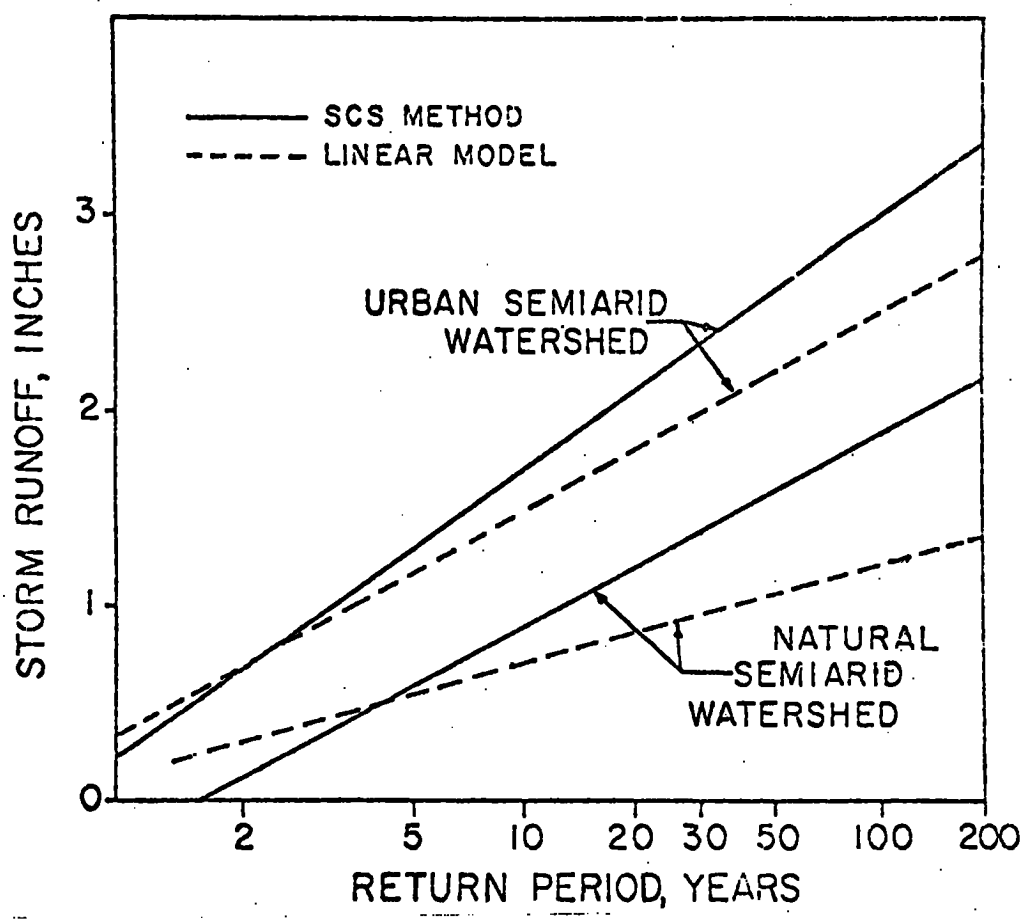

Figure 5-1. A Comparison of Urban and Adjacent Rural Watersheds.

The urbanization effect for postoptimality Test 2 was set at U = .01. Thus, 100 years after the start of the planning horizon, for example,

$$CFS_{r100} = CFS_{ro} + [CFS_{ro}] \cdot [.01] \cdot [100] = 2 \cdot [CFS_{ro}]$$

As Table 5-12 indicates, <u>if an urbanization effect of one percent is assumed, the G-50 structural-nonstructural alternative is nearly three million dollars more economically productive than the purely nonstructural M-0 alternative</u>.

With increased flooding over time, the values of the optimal aggregate site rents for both alternatives are slightly reduced but identical. As can be expected, the residual flood damages to existing development increases dramatically. The cost of the engineering structures increases due to the fact that operating and maintenance costs can be expected to increase with increased levels of flooding. However, the increase in the cost of the engineering works is very slight because 0 and M costs are a very small fraction of the total costs of the G-50 engineering works. In any case, the incremental flood damage reduction benefits for existing developments for the G-50 alternative far outweighs the slight incremental costs of the engineering structure.

A comparison of the Test 2 land use plans with the original, Test 0, land use plans indicates that non-floodplain land uses in the optimal basis sets do not appear to be violently altered due to the assumed affect of urbanization. The urbanization effect on runoff will probably not be that different for the Test 0 non-floodplain land use assignments and the Test 2 non-floodplain land use assignments.

However, if the urbanization effect is assumed to exist, higher levels of fill will dominate for floodplain locations and different spatial and temporal assignments will occur within the floodplain. Since most of the floodplain assignments should not occur until time period three, the final details of zoning ordinances and subdivision regulations may possibly be postponed for a number of years while additional information on the urbanization effect and other parameters is obtained and the model gets updated. A new land use plan developed ten years past the start of the planning horizon may produce better allocations for time period three.

The above results were amplified in two other postoptimality tests. In Test 3, with the urbanization effect held at one percent and the discount rate lowered to three percent, the aggregate economic rent of the G-50 alternative increased about 41 million dollars above what was obtained in Test 2. This was accomplished primarily by assigning a higher value to future flood damage reduction benefits than was the case for Test 2. In Test 12, the discount rate was set back to ten percent but the urbanization effect was increased to five percent. The combined results of Tests 0, 2, and 12 indicate that the greater the urbanization effect, the greater is the economic justification for the G-50 engineering alternative.

Variation in the Cost of Fill and Floodproofing

In Test 4, the cost of fill is doubled and the cost of floodproofing is halved; otherwise, the parameters used in Tests 3 and 4 are

the same. The result of this change is to decrease the economic desirability of fill and increase the economic desirability of floodproofing. Whereas in Test 3 only dirt fill is assigned to floodplain land use activities; in Test 4 both fill and floodproofing are assigned to floodplain locations. Increasing the cost of fill and decreasing the cost of floodproofing does not affect the value of residual flood damages to existing development or the cost of the engineering structure. It does result in a lower LP objective function value for both alternatives. However, the optimal aggregate site rent reduction is the same for both alternatives so this variation doesn't affect the advantage of the G-50 engineering alternative over the M-0 plan.

Variation in Annual Productivity Increases, Off-Site Damages and Years of Flooding

Test 5 differs from Test 3 in that annual productivity increases (see page104), off-site damages and years of flood evaluation are reduced. The most important result is a lowering of the flood damage reduction benefits associated with the G-50 engineering alternative. The result is that the Test 5 M-0 plan is slightly more economically advantageous than the Test 5 G-50 alternative, whereas in Test 3, M-0 was about 44 million dollars less economically productive than G-50.

Variation in the Value of Remote Subdivision Land

The value of remote subdivision land in Test 7 was higher than the value of remote subdivision land in Test 0 (see Table 5-14). The

Table 5-14. Variation in the Value of Remote Subdivision Land.

Time Period	Value of F_t[a]	
t	Test 0[b]	Test 7[c]
1	.1	.5
2	.2	.7
3	.8	2.0

[a]As described in Chapter IV, for each land use i the value of remote subdivision land in time period t is determined by applying a fraction F_t to the average value of land in locations j = 1...4 according to the following equation:

$$LV_{i5t} = [(F_t \cdot \sum_{j=1}^{4} LV_{ijt}) \div 4]$$

[b]Test 0 used the original values of F_t.

[c]Test 7 increased the values of F_t.

increase resulted in identical increases in optimal aggregate site rent and aggregate economic rent for both alternatives. The economic consequences of this parameter modification do not change the fact that a purely nonstructural alternative is more desirable than a structural-nonstructural alternative. Nevertheless, the modification does have important implications for land use planning; for example, major open space purchases are shifted from location 5 to location 4.

Variations in Population Estimates

Projected population growths associated with each land use in Test 6 are five percent lower than the corresponding estimates in Test 0. The result is a 36.4 million dollar reduction in the aggregate economic rent of both alternatives. For both alternatives this comes from a 36.4 million dollar reduction in the optimal aggregate site rent term. A large part of the reduction can be attributed to the increased open space purchase requirements that the model requires with lower population levels; another major part of the reduction results from a reassignment of urban land use activities among the five non-floodplain locations.

Variation in Density Coefficients

Test 8 differs from Test 0 in that high density residential growth is prohibited in locations 2, 3, and 4 whereas no such restriction is in effect in Test 0. Restricting high density urban growth from these areas might be done to meet noneconomic objectives. The result is that the value of the LP objective function is reduced by an identical amount for both alternatives as high density residential land

uses are assigned to other locations. The M-0 plan is still preferred over the G-50 alternative.

Removal and Replacement of
Entire Constraint Equations

Test 9 differs from Test 0 in that there are no longer any constraints specifying the amount of land that must be allocated to each residential land use category. In Test 9, the model assigns acreage to land uses according to the more relaxed constraint specifying only that all population growth be accommodated with no land use categories specified. The specific proportion of total acreage that is assigned to each land use is now determined by a strict economic efficiency criterion. One might expect this type of modification to result in the assignment of more land to high density residential land uses, since these land uses will have a higher rent per acre than low density land uses, all other things being equal. The opposite is true. For example, there is over a ten percent increase in acreage assigned to land use i = 1 which has a minimum lot size equal to four acres. Nevertheless, all land uses receive some alloted acreage with either alternative. Allocating more land to low density residential land uses reduces the open space purchases within the LP model; this results in an increase in aggregate economic rent for both planning alternatives. The increased economic productivity due to decreased open space purchases and a more economically efficient urban land use mix is identical for both planning alternatives. The M-0 plan has a higher aggregate economic rent than the G-50 alternative.

The results of this postoptimality test are compatible with recent thinking by local planners who recognize that outright purchase of private land for open space purposes is a costly proposition. A cheaper alternative that has been suggested is to " . . . establish less dense zoning ordinances such as an open space zone, or an estate zone in which the minimum lot size is 20 to 40 acres" [Nilsson 1973, pp. 1-2A].

The sensitivity analysis tests were conducted to illustrate the type of information planners can derive from the model and the facility with which the sensitivity of the model to alternative assumptions may be tested. In an actual application of the methodology, close interaction with local and Federal planners would be required in both the original model building process and the final postoptimality analysis. This type of interaction was outside the scope of this study. If it were included it would result in a more realistic model which could more readily lend itself to policy recommendations for the Rillito Creek floodplain.

CHAPTER VI

CONCLUSION

The purpose of this study has been to develop a rigorous methodology for planning land use and engineering alternatives for floodplain management. Although the research has focused on the development of a mathematical model that can provide a conceptual framework for a unified, unbiased approach to floodplain management, three related considerations were essential elements in this study. One concerned the development of explicit economic criteria for systematically generating and evaluating land use and engineering alternatives. The second consideration dealt with data requirements and data sources. Third, was the need to illustrate how the model could be used; this has been accomplished by demonstrating how the model works in a test application.

The main idea behind the plan formulation methodology developed in this study can be stated simply: Given an appropriate set of constraints, select the most economically efficient combination of land use regulation, development policy, and engineering alternatives. To give this concept some "empirical flavor" a simplified floodplain management system model was constructed for a floodplain management problem in Pima County, Arizona.

The objective function employed indicates the contribution to aggregate economic productivity of three alternative means of attaining

floodplain management objectives--land use regulations, development policies, and engineering works.

The economic worth of land use regulations, referred to as aggregate site rent, is a cardinal measure of the gross benefits associated with an economically efficient combination of zoning ordinances, subdivision regulations, and building and housing codes. Given the appropriate set of noneconomic constraints for each development policy and engineering alternative considered, a land use regulation plan that maximizes aggregate site rent is selected through the use of a linear programming formulation of the land use regulation assignment problem.

Aggregate site rent is the sum of the economic productivities of the individual land use activities that will result if the floodplain management plan is implemented. The economic productivity of each land use alternative in each location is determined through use of a site rent equation for computing the expected present value of the activity. The present value is partially based on empirical land values estimated on the basis of zero flood hazard. For floodplain locations, the present value of the costs of site elevation and floodproofing and the present value of the expected public and private residual flood losses must be computed and capitalized into estimates of site rent; previous work [Weisz and Day 1972] developed and examined econometric techniques that have been used in this study for estimating site rent.

Just as land value in the absence of a flood hazard forms the basis of the site rent equation, the aggregate site rent term forms the basis of an aggregate economic rent equation indicating the present

value of an overall floodplain management plan. The present value of the cost of development policy alternatives (public acquisition of all developed and/or undeveloped property within a flood risk zone for open space purposes) and engineering alternatives, plus the present value of the residual flood damages to existing development and the other benefits (in this case, recharge) associated with each alternative must also be computed and capitalized into aggregate economic rent.

Nested within the overall floodplain management system (FMS) model is a linear programming (LP) land use assignment model. For each development policy and engineering alternative considered, the LP model specifies the spatial and temporal distribution of land-use activities (use-location-fill-floodproofing-time combinations) that will maximize the value of the LP objective function, i.e., aggregate site rent.

Some of the characteristic features of the floodplain management system model developed here include the following:

1. For each development policy and engineering alternative considered, the land use regulation part of the model is structured as a linear activity analysis problem. A linear model is readily understood and is compatible with existing computer solution techniques capable of determining the optimal solution to very large problems.

2. The planning model developed here is directed toward achieving floodplain management objectives. Given an appropriate set of constraints and exogenous decisions, the model can be used to produce the most economically efficient combination of land use regulations, development policies and engineering alternatives.

3. The solutions to the model can be used as a guide for subsequent action at all levels of government. On the Federal level, the model will indicate the incremental economic productivity that can be gained by including Federally funded development policy and engineering alternatives in the floodplain management plan.

On the local and state level, the model can be used to recommend a socially desirable set of regulatory tools--zoning ordinances, subdivision regulations, and building and housing codes. The hallmark of the model is that it can consider all land use and engineering alternatives, those modifying flood characteristics as well as those modifying susceptibility to flood damage.

4. The model can also provide guidance on other means of attaining floodplain management objectives--i.e., means which modify the consequences of flooding if not the hydrologic and land use possibilities. For example, one subroutine of the floodplain management system model computes the expected present value of private <u>and</u> public flood losses. This information can be used as a basis for establishing flood insurance premiums and tax adjustments.

5. The sensitivity of the solution of the model to the initial input data and model formulation assumptions may be readily examined during postoptimality analysis. The results of such an examination can indicate additional input requirements and highlight data inadequacies. This information may be used to indicate how much reliance can be placed on any particular solution of the model.

6. The floodplain management system model can account for the fact that a number of objectives may be relevant in a given planning area. Although the economic efficiency objective may be important, especially where the potential for Federal interest and investment is high, the economic opportunity cost of no longer considering this objective as a dominant criterion can be determined by comparing the value of the aggregate economic (rent) productivity associated with each solution as the noneconomic considerations reflected in the constraint set are altered. A trade-off analysis between the economic objective and noneconomic considerations can be performed in this manner.

7. The model recognizes that the kinds of actions taken that are peculiar to the floodplain may not be the actions that have the greatest leverage in achieving objectives. For example, in this study, site elevation, floodproofing, and engineering works do not appear to contribute as much to overall economic productivity as the actions that are applied to the whole planning area--i.e., zoning ordinances.

8. The model may provide a means for coordinating flood damage reduction proposals with other plans to satisfy the needs of the area. In this test study, the floodplain land use regulations are coordinated with a general land use plan for all of Pima County.

9. The model may be used to indicate an acceptable level of residual flood losses. All losses will never be eliminated. An economically efficient floodplain management plan may necessitate a "desirable" level of residual flood losses. In general terms, this level is defined to exist at the point where the marginal flood damage reduction

benefits are equal to the marginal costs of obtaining the incremental benefits.

10. In the absence of comprehensive planning, the owner of a parcel of land may employ that land in what appears to be the best use when measured in the private account; however, this may be a suboptimal land use when viewed from the perspective of the community at large. In addition, by explicitly including offsite damages as well as site damages within the model, a social accounting stance is taken.

11. The model provides a common measure of productivity for a variety of land use regulation, development policy, and engineering alternatives; it also provides a means for bringing together a variety of information--economic, hydrologic, engineering, and urban planning. This combined with a systematic approach to formulating and analyzing a floodplain management problem will aid planners in achieving a unified approach to floodplain management.

12. The affect of watershed developments on future flood characteristics should be incorporated into the model. In this study, the implications of an assumed non-floodplain urbanization effect on runoff and the "backwater" effect on planning decisions and the economic consequences of planning decisions are examined during postoptimality analysis.

13. The model distinguishes between the problem of minimizing flood damages to existing development (the residual flood damages to existing development term in the aggregate economic rent equation) and achieving optimum future development of floodplains (the aggregate site

rent term in the aggregate economic rent equation). Actually both of these concerns are subordinate to the overall objective of increasing the aggregate economic productivity.

14. For each relevant land use the model considers economic productivity differentials due to locational differentials and temporal differentials. The LP model simultaneously considers all land uses in all locations in all time periods when developing an optimal allocation; this differs from other approaches which develop suboptimal solutions by allocating land uses one time period and/or one planning area at a time.

15. The mixed bag of tools in the model provide the planner with a certain amount of flexibility. For example, in the test application of the model in Pima County, Arizona, staged investment in engineering works as well as stage investment in development of the floodplain are considered. As the time for investment approaches, the model can be updated to take into account changed state conditions and additional data that has accumulated since the existing plan was developed. Once this is done, the model may be rerun; the results of this analysis may suggest a modification of earlier plans for future land use regulations and engineering works.

16. Since the purpose of this study has been to develop a methodology for floodplain management, and not to develop a specific solution to Pima County's floodplain management problem, the reader should be cautioned against using the results of this analysis to make direct policy implications about specific land use and engineering alternatives for floodplain management in the test area. However, the

results of this analysis can be used to indicate to planners the information that is required from them in this approach and the types of information which the model in turn can give to planners. For example, future interaction with local planners could result in modifying the model to include and consider:

a. a larger number of relevant land uses, i.e., zoning classification;

b. a more detailed breakdown of locational alternatives;

c. a more complete set of constraint equations;

d. additional development policy alternatives such as location of public services, utilities, and facilities in places that will guide private development away from flood-prone areas.

This kind of information combined with additional input data could be used to develop solutions to the floodplain management system model which could form the basis for policy formation.

17. The manner in which the FMS model is constructed is more significant than the exact form of the model as tested here. This is true because future applications of the methodology may be based on modified forms of this particular model. For example, item number 4 in this chapter indicated that the expected value of private and social flood losses which is computed in a subroutine of the model could be used as a basis for establishing flood insurance premiums. If it is possible to estimate the amount of insurance over and above the expected value of flood loss that a floodplain property owner would be willing to pay to avoid the uncertainty of catastrophic loss, then this "cost of

risk" could be capitalized into the site rent equation of each potential floodplain activity. Similarly, certain types of floodproofing require a definite amount of lead time in order that the protective measures may be put into effect. Where this is the case, an advance warning, i.e., flood forecasting, system may be a useful alternative. This alternative could be evaluated within the FMS model by capitalizing the relevant costs and benefits into the rent equations in the same manner as other costs and benefits have been included in the model.

The author believes that the floodplain management concept developed in this study can provide a basis for a unified approach to floodplain management. In that framework, the methodology can be used to:

a. formulate FMS (floodplain management system) plans,

b. evaluate the economic impact of FMS plans,

c. perform "with and without" analysis,

d. perform incremental analysis of development policy and engineering alternatives, and

e. perform sensitivity analysis.

Because of the novelty of the approach outlined herein, initial implementation of the methodology may necessitate a greater effort at coordinated planning between local, state, and Federal levels of government than will be necessary in future applications. This interaction along with further experience in presenting the results of modeling of this sort to professional public planning groups, the general public and private interest groups will provide the feedback by which the methodology may be improved.

APPENDIX A

A COMPARISON OF TWO APPROACHES TO FORMULATING LAND USE PATTERNS: A SIMULATION MODEL VERSUS AN OPTIMIZATION MODEL

The following discussion compares two different approaches to formulating land use plans. In one approach, a land use pattern is established by the use of a mathematical model that simulates the economic behavior of participants in the real estate market. In the other approach, a land use pattern is established by the use of a mathematical model that is directed towards the development of an economically optimal land use pattern; for purposes of discussion, an optimal land use pattern is here defined as one that maximizes the total economic productivity of land resources within a study area. The discussion begins by considering the rationale put forth by Arvanitidis et al. [1972] for using a simulation approach. This is followed by a simplified example that compares a simulation model with an optimization model.

Rationale for Using a Simulation Model

One of the main characteristics of the simulation approach advocated by Arvanitidis et al. [1972] is that the spatial distribution of land uses is determined outside the model. This fact and the rationale for using a simulation model instead of an optimization model are given in the following statement [Arvanitidis et al. 1972, p. 80]:

> [1] Another major characteristic of the [simulation] model is that the allocation of land uses over time is performed inside the program, while the ultimate land use plan for the study area, and the sequence in which areas with fixed development cost are used, are determined outside the program. [2] There are several reasons for leaving part of the land use allocation in the hands of the planner, and not formulating it as an overall optimization program. [3] First, for the purpose of analyzing alternative flood control measures, what is needed is what is likely to happen, not what is optimal according to some model. [4] Second, there are serious practical difficulties in deriving an optimal dynamic allocation that accounts for fixed area development as well as costs for spatial and inter-temporal interdependence between activities. [5] The main cause of the difficulties related to interdependencies lies in the fact that the proper quantification is beyond the current state of the art. [6] In addition, the dimensionality of the complete problem adds to the difficulties of deriving an optimal allocation. [7] Finally, the model should be capable of performing sensitivity studies with respect to land use plans, land use regulation such as floodplain zoning, irrational behavior of floodplain users, etc. [8] This is made easier by leaving the specification of the ultimate land use plan to the planner.

The arguments raised in the above paragraph must be answered categorically since the approach developed in this study is an optimization approach.

The following comments correspond to the order in which issues are mentioned above. The sentences have been numbered to facilitate referencing items of interest.

Sentences 1 and 2. In the simulation approach the ultimate land use plan is said to be determined outside the model; the simulation model merely allocates activities over time. This procedure begs the question of which ultimate spatial land use pattern should be used as input data to the simulation model. An optimization approach based on an economic efficiency criterion can <u>suggest</u> the ultimate land use plan (in the form of zoning ordinances, subdivision regulations and building codes) which

the local land use planner should consider. Part of the land use planning process must always be left in the hands of the local land use planner(regardless of whether or not that planner is assisted by a simulation model or an optimization model). However, the problem of which model or combination of models would be best for assisting planners in achieving desirable solutions to local and national problems must be seriously considered.

Sentence 3. The statement that " . . . for the purpose of analyzing flood control alternatives, what is needed is what is likely to happen not what is optimal according to some model" is not true! This contradicts numerous Congressional and Corps directives which direct survey reports analyzing flood control alternatives to consider <u>both</u> what is likely to happen and that combination of measures that will maximize net benefits. A <u>true and accurate</u> simulation approach can indicate what is likely to happen given a combination of floodplain management measures; an optimization approach on the other hand is expressly designed to indicate that combination of measures which will maximize net benefits. If a land use plan (based upon an optimization solution incorporating various noneconomic efficiency constraints) is accepted by a local community, it may provide an indication of "what is likely to happen" in the future and can, thus, be a basis for investment in (complementary) structural flood control works.

Sentences 4, 5, 6, and 7. These statements apply to simulation models as well as to optimization models.

Sentence 8. The last statement is not supported by facts. Even if it were, it would be facetious.

A Simplified Example of a Simulated versus Optimal Land Use Pattern

In Figure A-1, the letters (c_{ij}) in the boxes indicate the net economic productivity associated with assigning a particular land use i to a specific location j. In this two dimensional example one can think of a location as a point in space at a point in time. If in the marketplace the ability of each activity to bid for a location is equal to the economic gain it could derive from that location, the resulting combination or activities and locations is indicated by the asterisks.

If one can assume for purposes of discussion that only one activity can be assigned to one location and vice versa, the allocation of activities to these locations would occur according to the following logic: the most economically productive activity-location combination is activity 1 and location 1 where economic productivity equals 25; since activity 1 can gain more from this location than any other activity can gain from this location (or than any other activity can gain from any other location), activity 1 will place the highest bid for location 1; given this assignment and the remaining possible activity location combinations, the next most desirable location is location 4 where economic productivity equals 12 for both activities 2 and 3. Since the conclusions to this discussion will be the same regardless of whether activity 2 or activity 3 gets location 4, let's assume that the two activities arbitrarily decided (perhaps by a coin toss) that activity 2

USE \ LOCATION	1	2	3	4
1	25*	20	5	19
2	18	3	0	12*
3	22	4	2*	12
4	16	7*	-2	10

$\sum c_{ij}^* = 46$

$\sum c_{ij} = 52$

Figure A-1. A Simulated vs. an Optimal Land Use Pattern. -- NOTE: The symbol c_{ij} indicates the net economic productivity associated with assigning land use i to location j. A use-location combination containing an asterisk would have been assigned an activity by the simulation model of the behavior participants in the real estate market. A use-location combination containing a circle would have been assigned an activity by an optimization model.

should get location 4. Since activity 4 prefers location 2 over location 3 and since activity 4 can outbid activity 3 for location 2, activity 4 gets location 2. Activity 3 is then left with location 3.

The total economic productivity of this simulated market behavior is equal to the sum of the economic productivities of the individual assignments. Adding up all the figures in the assignment boxes denoted by asterisks, gives a total economic productivity equal to 46. This is less than the total economic productivity associated with an optimal solution as determined by a formal mathematical programming solution. The assignments associated with the optimal solution are the circled economic productivity indicators; the total economic productivity associated with these assignments, i.e., the sum of the circled numbers, is equal to 52! Thus, the land use pattern developed by the optimization approach is the one that maximizes total net economic benefits.

APPENDIX B

THE FIRST LINEAR PROGRAMMING MODEL FOR THE SELECTION OF LAND USE REGULATIONS FOR FLOODPLAIN MANAGEMENT

Day [1969] developed the first linear programming model for the selection of land use regulations for floodplain management. While Chapter III contained a general verbal description of Day's recursive programming model, the following discussion is devoted to the mathematical form of the model.

The level of each activity in the model is denoted by X_{ijfpt} which refers to the number of acres assigned to each ijfp combination in each time period t. In the recursive programming model, a separate, but related, linear programming problem is solved for each time period t. The subscript i identifies land uses--residential, commercial, and industrial; j refers to a specific geographic location whose net economic productivity is relatively homogeneous for each land use activity; f and p are indices denoting the level of fill and floodproofing that are employed.

Constraint 1 specifies the total amount of land which can be developed in each geographic location, j. Constraints 2 and 3 specify the upper and lower bounds of growth that the model will accommodate; these are based on "maximum" and "minimum" growth forecasts. Constraints 5, 6, and 7 are economic feasibility requirements which must be

satisfied if an activity is to be included in the linear programming matrix.

Day's mathematical model is:

Maximize Rent = $\Sigma_{ijfpt} R_{ijfpt} \cdot X_{ijfpt}$ $\quad t = 1...T$

subject to:

Constraint 1	$\Sigma_{ijfpt} X_{ijfpt} \leq A_{jt}$	$t = 1...T,\ j = 1...J$
Constraint 2	$\Sigma_{jfp} d_{ijt} \cdot X_{ijfpt} \leq PU_i$	$t = 1...T,\ i = 1...I$
Constraint 3	$\Sigma_{ifp} d_{ijt} \cdot X_{ijfpt} \leq PL_i$	$t = 1...T,\ i = 1...I$
Constraint 4	$X_{ijfpt} \geq 0$	for all i,j,f,p,t
Constraint 5	$ICF_{ijft} \leq (\Delta TFL_{ijft})$	for all $i,j,t,f > 0$
Constraint 6	$ICP_{ijfpt} \leq (\Delta FLI_{ijfpt})$	for all $i,j,f,t,p > 0$
Constraint 7	$R_{ijfpt} \geq 0$	for all i,j,f,p,t

where:

Rent = sum of the productivities of the individual land units,

R_{ijfpt} = estimated economic productivity per acre of land in the ifp employment beginning at time period t in location j,

X_{ijfpt} = number of acres devoted to the ijfpt activity,

i = specific type of land use,

j = specific geographic location,

f = index denoting the presence or absence of land fill: f = 0, no landfill; f > 0, landfill to depth indicated by value assigned to f,

p = index denoting the presence or absence of floodproofing: p = 0, no floodproofing; p > 0, floodproofing to height indicated by value assigned to p,

t = time period,

J = total number of geographic areas to be considered as locational alternatives,

T = total number of years in the planning horizon,

d_{ijt} = coefficient indicating the desired density (density measured in parcels per acre) of the i-j combination at time, t,

A_{jt} = number of acres in the jth location at time, t,

PU_{it} = upper limit of expected growth of the ith land use category,

PL_{it} = lower limit of expected growth of the ith land use category,

ICF_{ijft} = present value of the incremental cost of land fill for the ith land use to the f level,

ICP_{ijpt} = present value of the incremental cost of floodproofing an ith value use to the p level,

ΔTFL_{ijft} = present value of the change in flood loss attributable to the ijft land use as landfill is incrementally increased,

ΔFLI_{ijfpt} = present value of the change in flood loss to the ijfpt activity as floodproofing is incrementally increased.

Constraint 1 is reasonable. There is only a certain quantity of land in each geographic location which may be developed.

Constraints 2 and 3 have been justified on the grounds that " . . . point estimates of economic growth are not usually reliable" [Day 1970, p. 1268]. It may be more realistic to specify a range of values within which growth will probably occur. However, one of the outputs of the linear programming model is a specified growth rate based on an economic efficiency criteria which maximizes the value of the objective function. If local planners are willing to control the <u>rate</u> of

growth as well as the pattern of growth, this additional information will be useful. Otherwise, point estimates of growth combined with a postoptimality sensitivity analysis on the growth estimates may be sufficient; using point estimates would reduce the number of rows and, therefore, the computational effort of the model.

Constraints 5 and 6 indicate that the costs of incremental amounts of landfill and floodproofing must be less than the resulting decrement in potential flood loss. These are reasonable and appropriate requirements. Constraint 7 indicates that each final activity must have a positive payoff. Society, however, may be better off (i.e., the value of the object row may be higher) if certain necessary activities have negative payoffs. If a resulting locational pattern yields a larger object row value for society as a whole an argument could be made for subsidizing the location of these activities. Also, if the solution to problem results in final activities with negative coefficients, planning efforts can be directed towards ameliorating or eliminating this problem; for example, uneconomically desirable forms of economic growth may be further constrained.

If there are no limits on fill, floodproofing and economic productivity other than an initial judgment as to which i, j, f, p, t combinations should be considered then it is possible that i, j, f, p, t separate decision variables may have to be considered. Constraints 5, 6, and 7 may reduce this number somewhat, as will the fact that activities situated outside of floodplains will not have to consider any level of landfill or of floodproofing.

The preceding discussion illustrates some of the considerations which may occur in constructing constraint equations. The type and number of constraints (and activities) will in each case be determined by the specific problem being analyzed.

APPENDIX C

LP SOLUTIONS FOR INITIAL SET OF ALTERNATIVES

The computer listings in this appendix section contain the LP model solutions for the initial FMS plans developed in this study. Information in the two tables that precede the computer listings will facilitate interpreting the LP results. Table C-1 indicates the letter code that is associated with each fill-floodproofing combination. Table C-2 gives an example of how a sample LP solution could be interpreted.

Table C-1. Fill-floodproofing Codes.

Code	Level of Fill (feet)[a]	Level of Floodproofing (feet)[b]
A	0	0
B	0	2
C	0	4
D	0	6
E	0	8
F	2	0
G	2	2
H	2	4
I	2	6
J	2	8
K	4	0
L	4	2
M	4	4
N	4	6
O	4	8
P	6	0
Q	6	2
R	6	4
S	6	6
T	6	8
U	8	0
V	8	2
W	8	4
X	8	6
Y	8	8

[a]Level of fill is measured in feet above natural ground elevation.

[b]Level of floodproofing is measured in feet above level of dirt fill.

Table C-2. Format of Sample LP Solution.

Plan S; N. AGGREGATE RENT .... = $*03873474.

.....((I=3)).....

.....((T=2)).....

J	R	Z		
1	0	1		
2	0	2		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
21	4	4		R_{ijfpts} / X_{ijfpts}
.	.	.		
.	.	.		
.	.	.		
.	.	.		
.	.	.		
25	5	4		

S = alphanumeric number indicating development policy and engineering alternative considered;
N = sensitivity test number; if N is blank this is an initial solution and not a sensitivity test;
AGGREGATE RENT = optimal aggregate site rent;
* = indicates that a number is too large to be printed in this field;
I = land use i; see Table 4-2;
T = time period t; see Table 4-3;
↓ = indicator pointing to fill-floodproofing code; see Table C-1;
J = location index; see Figure 4-1 and Table 4-1;
R = reach index; see Figure 4-2;
Z = flood risk zone index; see Figure 4-3;
R_{ijfpts} = rent per acre;
X_{ijfpts} = acreage allotment.

PLAN A SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = 2425142456.

J	R	Z	(((I=1))) ((T=1))	(((I=1))) ((T=2))	(((I=1))) ((T=3))	(((I=2))) ((T=1))	(((I=2))) ((T=2))	(((I=2))) ((T=3))	(((I=3))) ((T=1))	(((I=3))) ((T=2))	(((I=3))) ((T=3))	(((I=4))) ((T=1))	(((I=4))) ((T=2))	(((I=4))) ((T=3))	(((I=5))) ((T=1))	(((I=5))) ((T=2))	(((I=5))) ((T=3))	((I=6)) ((I=6))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6693A	$-55224
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10696A	$ 7467A	$ 1617A	$37307A	$26337A	$ 5690A	$-75894
			0	0	0	0	0	0	0	0	8180	0	0	17 53			1139	
3	0	3	$ 2554A	$ 2014A	$ 435A	$ 5223A	$ 3607A	$ 795A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9370A	$ 2132A	$27512A	$19422A	$ 4196A	$-70544
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	048	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5513A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	14974	834	1163	757	0	0	0	202	213	248	0
5	0	5	$ 2464A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 29124	$ 41111	$ 3553A	$-12644
			0	0	68048	0	0	53261	0	0	0	0	0		0	0	1.54	3141
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0				0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	4	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0		0	0	0	1
13	2	4	$ 2554A	$ 1874A	$ 435A	$ 4659A	$ 3430A	$ 741A	$ 6653A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27951A	$ 6.39A	$-8.63A
			0	0	0	0	0	0	328	0	0	0	0	0	10	0	5	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -.A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	77	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2556A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	332	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6955A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	37	0	0	0	0	6	0	0
22	5	1	$ 1361A	$ 1364A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7593A
			0	0	0	0	0	622	0	0	0	0	0	0	0	0	25	0
23	5	2	$ 1361A	$ 1364A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7593A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1361A	$ 1334A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 677.A	$-759.A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1364A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7593A
			0	0	0	0	0	585	0	0	0	0	0	0	0	0	0	0

PLAN A 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $425215623.

J	P	Z	(I=1) (T=1)	(I=1) (T=2)	(I=1) (T=3)	(I=2) (T=1)	(I=2) (T=2)	(I=2) (T=3)	(I=3) (T=1)	(I=3) (T=2)	(I=3) (T=3)	(I=4) (T=1)	(I=4) (T=2)	(I=4) (T=3)	(I=5) (T=1)	(I=5) (T=2)	(I=5) (T=3)	(I=6) (T=J)
1	3	1	$ 1519A	$ 1072A	$ 231A	$ 2772A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$32962A	$ 6694A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	3	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6353A	$ 4482A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	9092	0	0	17139	0	0	1141	0
3	3	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9871A	$ 2132A	$27912A	$19422A	$ 4190A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16043	215	215	546	0
4	3	4	$ 3015A	$ 2129A	$ 461A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7913A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	6726	8701	14693	879	1163	590	0	0	0	204	213	249	0
5	3	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2512A	$ 4111A	$ 3553A	$-1264A
			0	0	67724	0	0	54194	0	0	0	0	0	0	0	0	1165	2922
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	4	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	2	4	$ 2555A	$ 1674A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11201A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8083A
			0	0	0	0	0	0	293	0	0	0	0	0	9	6	2	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2344A	$ 1652A	$ 377A	$ 3520A	$ 2761A	$ 664A	$ 5109A	$ 3597A	$ 905A	$ 7420F	$ 5303F	$ 1417F	$34600A	$24394A	$ 5377A	$-7552A
			0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2493A	$ 1757A	$ 388A	$ 4423A	$ 3114A	$ 700A	$ 6084A	$ 4279A	$ 977A	$ 9499A	$ 6666A	$ 1572A	$34976A	$24659A	$ 5424A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2595A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11653A	$ 7803A	$ 1686A	$35652A	$25320A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2015A	$ 1417A	$ 343A	$ 3040A	$ 2134A	$ 561A	$ 3997K	$ 3053K	$ 789K	$ 7718K	$ 5761K	$ 1340K	$40766A	$28743A	$ 6330A	$-8.99A
			0	0	0	0	0	0	0	0	281	0	0	0	0	0	0	0
19	4	2	$ 2239A	$ 1579A	$ 359A	$ 3770A	$ 2657A	$ 634A	$ 4943A	$ 3435A	$ 856A	$ 6695A	$ 4697A	$ 1273A	$41144A	$29019A	$ 6355A	$-8.99A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0
20	4	3	$ 2359A	$ 1662A	$ 368A	$ 4178A	$ 2941A	$ 663A	$ 5738A	$ 4035A	$ 925A	$ 8362A	$ 5865A	$ 1394A	$41395A	$29283A	$ 6376A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6353A	$ 4492A	$ 970A	$ 9654A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	34	0	0	0	9	0	0	0
22	5	1	$ 1455A	$ 1021A	$ 252A	$ 1985A	$ 1385A	$ 430A	$ 2739K	$ 2145K	$ 593K	$ 4073K	$ 3127K	$ 786K	$43455A	$30655A	$ 6724	$-7590A
			0	0	531	0	0	0	0	0	0	0	0	0	0	0	15	0
23	5	2	$ 1492A	$ 1184A	$ 278A	$ 2701A	$ 1899A	$ 482A	$ 3355K	$ 2366A	$ 648A	$ 3009A	$ 2142F	$ 718A	$43665A	$30807A	$ 6717A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1347A	$ 1296A	$ 290A	$ 3220A	$ 2263A	$ 520A	$ 4378A	$ 3073A	$ 722A	$ 4887A	$ 3415A	$ 854A	$43671A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1351A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6776A	$-7590A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN A 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424422720.

J	R	Z	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	((I=6)) (T=0)
1	0	1	$ 1519A	$ 1072A	$ 211A	$ 2779A	$ 1962A	$ 423A	$ 3319A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43863A	$33962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7599A
			0	0	0	0	0	0	0	0	8092	0	0	17139	0	0	1141	0
3	0	3	$ 2354A	$ 2014A	$ 436A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13352A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	846	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3596A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11751	0	8726	8701	15099	658	1163	712	0	0	0	196	213	250	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66946	0	0	53744	0	0	0	0	0	0	0	0	1157	3757
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8329A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	39	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4599A	$ 3243A	$ 722A	$ 6353A	$ 4430A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
13	2	4	$ 2555A	$ 1874A	$ 405A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6139A	$-8183A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2355A	$ 1658A	$ 373A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23637F	$ 5304F	$-7552A
			0	0	0	0	0	119	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6359A	$ 4497A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 729A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1939A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$39733F	$28121F	$ 6251F	$-8199A
			0	0	0	0	0	0	0	0	462	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2526A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8199A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2438A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8199A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8199A
			0	0	0	0	0	0	0	0	27	0	0	0	0	15	0	0
22	5	1	$ 1424A	$ 997A	$ 240A	$ 2038F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29988F	$ 6618F	$-7592A
			0	0	909	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1687A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7593A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1596A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43671A	$30953A	$ 6732A	$-7593A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7593A
			0	0	0	0	0	488	0	0	0	0	0	0	0	0	16	0

PLAN 8 SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424588412.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=6))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$438604	$3.962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	36.	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7585A
			0	0	0	0	0	0	0	0	8327	0	0	16908	0	0	1137	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	349	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10767A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	3701	15279	677	1163	516	0	0	0	197	213	246	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68048	0	0	52666	0	0	0	0	0	0	0	0	1.45	3745
6	1	1	$ 1375A	$ 951A	$ 316A	$ 2183F	$ 1696K	$ 550F	$ 3762K	$ 2858K	$ 622K	$ 7467P	$ 5563P	$ 1474K	$35661K	$25338K	$ 5759K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	10	0	0	12	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3946A	$ 2802A	$ 685A	$ 5233F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5583F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4638A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	94	0	0	0	0
9	1	4	$ 2729A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6933A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28.8UA	$ 6.67A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	2	4	$ 2555A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4530A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8083A
			0	0	0	0	0	0	440	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	429	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	29	0	0	0	0	14	0	0
22	5	1	$ 1561A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	813	0	0	0	0	0	0	0	27	0	0
23	5	2	$ 1561A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1561A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1561A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN B 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424722599.

J	R	Z	((((((((((T=1)))))))))) ((T=1))	((((((((((T=2)))))))))) ((T=2))	((((((((((T=3)))))))))) ((T=3))	((((((((((I=3)))))))))) ((T=1))	((((((((((I=3)))))))))) ((T=2))	((((((((((I=3)))))))))) ((T=3))	((((((((((I=4)))))))))) ((I=1))	((((((((((I=4)))))))))) ((I=2))	((((((((((I=4)))))))))) ((I=3))	((((((((((I=5)))))))))) ((I=1))	((((((((((I=5)))))))))) ((I=2))	((((((((((I=5)))))))))) ((I=3))	((I=6)) ((T=0))
1	0	1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A $30962A $ 6690A $-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	98 0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A $26337A $ 5690A $-7569A
			0	0	0	0	0	0	0	0	8210	0	0	17022	0 0 1139 0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 987.A	$ 2132A	$27512A $19422A $ 4196A $-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16642	215 215 548 0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3696A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7556A	$ 1633A	$ 7613A $ 5515A $ 1191A $-4316A
			11790	11790	0	872E	8701	15140	735	1163	594	0	0	0	199 213 246 0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A $ 4111A $ 3553A $-1264A
			0	0	67328	0	0	53637	0	0	0	0	0	0	0 0 1 57 3463
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K $14742K $ 4700K $-6226A
			0	0	0	0	0	0	0	0	0	0	0	23	0 0 0 0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3586A	$ 2602A	$ 685A	$ 5293F	$ 3828F	$ 937F	$ 9375F	$ 6823F	$ 1615F	$37316F $26414F $ 5683F $-8216A
			0	0	0	0	0	0	0	0	0	0	0	5	0 0 0 0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A $27318A $ 5991A $-8226A
			0	0	0	0	0	0	0	0	0	0	0	88	0 0 9 0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A $28080A $ 6067A $-8226A
			0	0	0	0	0	0	47	0	0	0	0	14	0 0 0 0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A $*7283A $*2377A $ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A $*7283A $*2377A $ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A $*7283A $*2377A $ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 1
13	2	4	$ 2555A	$ 1874A	$ 405A	$ 4855A	$ 3430A	$ 741A	$ 6857A	$ 4538A	$ 1045A	$11251A	$ 7563A	$ 1723A	$39593A $27950A $ 6 39A $-8183A
			0	0	0	0	0	0	380	0	0	0	0	0	0 0 0 0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A $*7283A $*2377A $ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 1
15	3	2	$ 2469A	$ 1735A	$ 396A	$ 4304A	$ 3035A	$ 692A	$ 5943A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34601A $24394A $ 5377A $-7552A
			0	0	0	0	0	0	0	0	88	0	0	0	0 0 0 0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6359A	$ 4487A	$ 958A	$10215A	$ 7195A	$ 1624A	$34976A $24669A $ 5404A $-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0 0 0 0
17	3	4	$ 2595A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35852A $25310A $ 5466A $-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0 0 0 0
18	4	1	$ 2222A	$ 1566A	$ 358A	$ 3718A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1313K	$40766A $28743A $ 6331A $-8199A
			0	0	0	0	0	0	0	0	368	0	0	0	0 0 0 0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A $29119A $ 6358A $-8199A
			0	0	0	0	0	0	0	0	6	0	0	0	0 0 0 0
20	4	3	$ 2438A	$ 1696A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6366A	$ 1444A	$41395A $29203A $ 6376A $-8199A
			0	0	0	25	0	0	0	0	0	0	0	0	0 0 0 0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A $29775A $ 6433A $-8199A
			0	0	0	0	0	0	0	0	30	0	0	0	0 12 1 0
22	5	1	$ 1658A	$ 1188A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 769K	$43458A $30655A $ 6702A $-7593A
			0	0	720	0	0	0	0	0	0	0	0	0	0 0 0 0
23	5	2	$ 1511A	$ 1276A	$ 289A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A $30607A $ 6717A $-7593A
			0	0	0	0	0	193	0	0	0	0	0	0	0 0 0 0
24	5	3	$ 1595A	$ 1336A	$ 294A	$ 3390A	$ 2329A	$ 533A	$ 4693A	$ 3254A	$ 745A	$ 5519A	$ 3877A	$ 901A	$43671A $30958A $ 6732A $-7593A
			0	0	0	0	0	353	0	0	0	0	0	0	0 0 0 0
25	5	4	$ 1951A	$ 1284A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4416A	$ 954A	$44385A $31334A $ 6773A $-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0 18 0

PLAN B SC . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424333893.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 575A	$43266A	$30962A	$ 6690A	$-6522A
			0	0	28274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 374A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7568A
			0	0	0	0	0	0	0	0	8211	0	0	17422	0	0	1139	0
3	0	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2122A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5919A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15209	656	1163	606	0	0	0	196	213	248	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1376A	$ 1192A	$ 2512A	$ 4111A	$ 3553A	$-1264A
			0	0	66967	0	0	53637	0	0	0	0	0	0	0	0	1 55	3845
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467F	$ 5563F	$ 1474K	$21174K	$14742K	$ 4700K	$-826A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1704A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3628F	$ 937F	$ 9375F	$ 6923K	$ 1619F	$37316F	$26414F	$ 5883F	$-826A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27316A	$ 5591A	$-826A
			0	0	0	0	0	0	0	0	0	0	0	85	0	0	8	0
9	1	4	$ 2799A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1795A	$39777A	$28.60A	$ 6.67A	$-826A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4659A	$ 3430A	$ 741A	$ 6853A	$ 4638A	$ 1045A	$11261A	$ 7563A	$ 1723A	$39693A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	462	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2355A	$ 1656A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5.14F	$-7552A
			0	0	0	0	0	116	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 956A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2555A	$ 1833A	$ 356A	$ 4752A	$ 3355A	$ 725A	$ 6792A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1666A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1969A	$ 1397A	$ 341A	$ 2562F	$ 2193F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$39733F	$28121F	$ 6251F	$-8.99A
			0	0	0	0	0	0	0	0	492	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6264F	$-8.93A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2438A	$ 1698A	$ 371A	$ 4332A	$ 3153A	$ 675A	$ 6326A	$ 4245A	$ 946A	$ 9050A	$ 6366A	$ 1444A	$41395A	$29203A	$ 6376A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 374A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9954A	$ 6996A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	27	0	0	0	0	14	1	0
22	5	1	$ 1424A	$ 997A	$ 264A	$ 2602F	$ 1515F	$ 428F	$ 3152F	$ 2315F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29988F	$ 6618F	$-7590A
			0	0	888	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1687A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-759.A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1396A	$ 1336A	$ 294A	$ 2390A	$ 2788A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 904A	$43871A	$31958A	$ 6732A	$-759.A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4416A	$ 954A	$44386A	$31334A	$ 6775A	$-759.A
			0	0	0	0	0	468	0	0	0	0	0	0	0	0	16	0

PLAN C SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424095541.

J	P	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=1))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8257	0	0	16977	0	0	1138	0
3	0	3	$ 2554A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9875A	$ 2132A	$27512A	$19422A	$ 4196A	$-7154A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	843	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11792	11790	0	8726	8701	15549	560	1163	368	0	0	0	193	213	245	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68038	0	0	52151	0	0	0	0	0	0	0	0	1.37	4279
6	1	1	$ 1353A	$ 714A	$ 292A	$ 263F	$ 250F	$ 410F	$ -846F	$ -585K	$ 485F	$-4333P	$-2989P	$ 613K	$37504A	$26418A	$ 5931A	$-8206A
			0	0	10	0	0	0	0	0	0	0	0	0	0	0	12	0
7	1	2	$ 2345A	$ 1652A	$ 386A	$ 3741A	$ 2635A	$ 667A	$ 4845F	$ 3532F	$ 905F	$ 9677K	$ 7.84K	$ 1637K	$38243A	$26958A	$ 5955A	$-8266A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2563A	$ 1808A	$ 402A	$ 4476A	$ 3155A	$ 721A	$ 6069A	$ 4276A	$ 998A	$ 9553A	$ 6831F	$ 1636A	$38735A	$27318A	$ 5991A	$-8246A
			0	0	0	0	0	0	0	0	96	0	0	0	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6933A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8236A
			0	0	0	0	0	0	42	0	0	0	0	0	19	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -04
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6953A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6953A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	553	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	25	0	0	0	0	18	0	0
22	5	1	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	1390	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	473	0	0	0	0	0	0	0	0	31	0

PLAN C 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424926106.

J R Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1 0 1	$ 1519A	$ 1072A	$ 231A	$ 2773A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 573A	$43260A	$30962A	$ 6690A	$-6922A
	0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2 0 2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
	0	0	0	0	0	0	0	0	8211	0	0	17522	0	0	1139	0
3 0 3	$ 2954A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7554A
	0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4 0 4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
	11790	11790	0	8725	8701	15030	781	1163	656	0	0	0	200	213	247	0
5 0 5	$ 245A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2512A	$ 4111A	$ 3553A	$-1264A
	0	0	67426	0	0	53747	0	0	0	0	0	0	0	0	1 59	3273
6 1 1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1656K	$ 541K	$ 3762K	$ 2358K	$ 822K	$ 7467P	$ 5553P	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7 1 2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5863F	$-8206A
	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8 1 3	$ 2531A	$ 1856A	$ 407A	$ 4693A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10537A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
	0	0	0	0	0	0	0	0	0	0	0	88	0	0	9	0
9 1 4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 755A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8318A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
	0	0	0	0	0	0	49	0	0	0	0	0	12	0	0	0
10 2 1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11 2 2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12 2 3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13 2 4	$ 2555A	$ 1874A	$ 405A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
	0	0	0	0	0	0	332	0	0	0	0	0	0	0	0	0
14 3 1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15 3 2	$ 2460A	$ 1735A	$ 346A	$ 4304A	$ 3035A	$ 692A	$ 5843A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34600A	$24394A	$ 5377A	$-7552A
	0	0	0	0	0	0	0	0	72	0	0	0	0	0	0	0
16 3 3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17 3 4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5466A	$-7552A
	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18 4 1	$ 2222A	$ 1566A	$ 358A	$ 3718A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$40766A	$28743A	$ 6330A	$-8099A
	0	0	0	0	0	0	0	0	319	0	0	0	0	0	0	0
19 4 2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$29019A	$ 6358A	$-8099A
	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20 4 3	$ 2438A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21 4 4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3135A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
	0	0	0	0	0	0	0	0	31	0	0	0	0	10	1	0
22 5 1	$ 1683A	$ 1188A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 769K	$43458A	$30655A	$ 6702A	$-7590A
	0	0	622	0	0	0	0	0	0	0	0	0	0	0	0	0
23 5 2	$ 1311A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 725A	$ 4506A	$ 3213F	$ 827A	$43665A	$30807A	$ 6717A	$-7590A
	0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24 5 3	$ 1396A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4593A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
	0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25 5 4	$ 1951A	$ 1354A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
	0	0	0	0	0	487	0	0	0	0	0	0	0	0	17	0

PLAN C 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $424114137.

J	P	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=C))
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$426661A	$302962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	96	0
2	0	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10506A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7569A
			0	0	0	0	0	0	0	0	8220	0	0	17112	0	0	1138	0
3	0	3	$ 2654A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5206A	$ 1123A	$13982A	$ 9970A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	348	0
4	0	4	$ 3115A	$ 2129A	$ 463A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7556A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15306	652	1163	914	0	0	0	196	212	246	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2312A	$ 4111A	$ 3552A	$-1264A
			0	0	66863	0	0	53527	0	0	0	0	0	0	0	0	1 53	4161
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2856K	$ 822K	$ 7467F	$ 5563F	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3906A	$ 2802A	$ 685A	$ 5233F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5863F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2531A	$ 1656A	$ 407A	$ 4695A	$ 3314A	$ 737A	$ 6495A	$ 4540A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1759A	$39777A	$28180A	$ 6167A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	16	0	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4558A	$ 3243A	$ 722A	$ 6353A	$ 4482A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	34	0	0	0	0	0	10	0
13	2	4	$ 2655A	$ 1874A	$ 409A	$ 4695A	$ 3430A	$ 741A	$ 6853A	$ 4638A	$ 1045A	$11261A	$ 7963A	$ 1723A	$39593A	$27950A	$ 6.39A	$-8183A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 1495A	$ 1043A	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272P	$ 730K	$ 6713F	$ 5.31F	$ 1357F	$30982F	$22149F	$ 5101F	$-7552A
			0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1656A	$ 379A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2543A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 996A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5424A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 366A	$ 4752A	$ 3355A	$ 725A	$ 6732A	$ 4731A	$ 1022A	$11053A	$ 7533A	$ 1686A	$35652A	$25310A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1918A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$35733F	$29121F	$ 6251F	$-8199A
			0	0	0	0	0	0	0	0	502	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6264F	$-8.99A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2436A	$ 1698A	$ 371A	$ 4232A	$ 3053A	$ 675A	$ 6126A	$ 4245A	$ 946A	$ 9350A	$ 6365A	$ 1444A	$41395A	$29203A	$ 6376A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3165A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	26	0	0	0	0	18	0	0
22	5	1	$ 1424A	$ 997A	$ 260A	$ 2.38F	$ 1515F	$ 428F	$ 3152F	$ 2315F	$ 629F	$ 3834K	$ 2513K	$ 765K	$42363F	$29568F	$ 6618F	$-7590A
			0	0	989	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1637A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7591A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1936A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4593A	$ 3314A	$ 745A	$ 5519A	$ 3977A	$ 500A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	487	0	0	0	0	0	0	0	0	17	0

PLAN O SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $42378820.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=1))
1	0	1	$ 15184	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$4366.A	$3.962A	$ 669.A	$-69224
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7467A	$ 1617A	$373.7A	$26337A	$ 569.A	$-7569A
			0	0	0	0	0	0	0	0	8282	0	0	16952	0	0	1137	0
3	0	3	$ 2554A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	548	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15757	369	1163	354	0	0	0	187	213	248	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	60048	0	0	51768	0	0	0	0	0	0	0	0	1.31	4657
6	1	1	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 6328A	$ 1799A	$39777A	$28.80A	$ 6.67A	$-82.6A
			0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0
7	1	2	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 6328A	$ 1799A	$39777A	$28.80A	$ 6.67A	$-8266A
			0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8	1	3	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 6328A	$ 1799A	$39777A	$28.80A	$ 6.67A	$-8266A
			0	0	0	0	0	0	71	0	0	0	0	0	26	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 6328A	$ 1799A	$39777A	$28.80A	$ 6.67A	$-82.6A
			0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0
10	2	1	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1722A	$39593A	$27950A	$ 6 39A	$-6.63A
			0	0	0	0	0	0	68	0	0	0	0	0	0	0	10	0
11	2	2	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1722A	$39593A	$27950A	$ 6 39A	$-6.63A
			0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
12	2	3	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1722A	$39593A	$27950A	$ 6.39A	$-6.63A
			0	0	0	0	0	0	39	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1722A	$39593A	$27950A	$ 6 39A	$-6.63A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	123	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	642	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	27	0	0	0	0	15	0	0
22	5	1	$ 13518	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 677.A	$-7590A
			0	0	0	0	0	1268	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 13514	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44365A	$31334A	$ 6770A	$-759.A
			0	0	0	0	0	158	0	0	0	0	0	0	0	34	0	0
24	5	3	$ 13514	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4416A	$ 954A	$44365A	$31334A	$ 677.A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44365A	$31334A	$ 677.A	$-7590A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN D 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423373562.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=3))
1	0	1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$31962A	$ 6690A	$-69224
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-75892
			0	0	0	0	0	0	0	0	8197	0	0	17036	0	0	1139	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11793	11790	0	8726	8741	15671	652	1163	156	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-12644A
			0	0	66722	0	0	52931	0	0	0	0	0	0	0	0	1044	4527
6	1	1	$ 1815A	$ 1266A	$ 348A	$ 2768F	$ 2059F	$ 593F	$ 3887F	$ 2858K	$ 834F	$ 7467P	$ 5563P	$ 1474K	$37504A	$26418A	$ 5931A	$-6225A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	16	0
7	1	2	$ 2513A	$ 1772A	$ 399A	$ 4302A	$ 3034A	$ 708A	$ 5730A	$ 4041A	$ 973A	$ 9376F	$ 6823K	$ 1619F	$38243A	$26958A	$ 5955A	$-6206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4699A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-6256A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8326A	$ 1799A	$39777A	$28080A	$ 6167A	$-6206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1754A	$ 1222A	$ 339A	$ 2565F	$ 1913F	$ 570F	$ 3553F	$ 2669K	$ 799F	$ 6847P	$ 5122P	$ 1365P	$37301A	$26274A	$ 5871A	$-6183A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2426A	$ 1710A	$ 388A	$ 4100A	$ 2888A	$ 686A	$ 5397A	$ 3801A	$ 938A	$ 8856K	$ 6458K	$ 1535K	$38008A	$26791A	$ 5923A	$-6183A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-6183A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6653A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27550A	$ 6039A	$-6183A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2165A	$ 1524A	$ 364A	$ 3325A	$ 2338A	$ 621A	$ 3967A	$ 2737A	$ 821A	$ 6713P	$ 5030P	$ 1359K	$33683A	$23723A	$ 5310A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2460A	$ 1735A	$ 386A	$ 4304A	$ 3035A	$ 692A	$ 5843A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34600A	$24394A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7193A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7963A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2222A	$ 1566A	$ 358A	$ 3719A	$ 2618A	$ 630A	$ 4649A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$40766A	$28743A	$ 6330A	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$29019A	$ 6358A	$-8099A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2403A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6363A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 689A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1638A	$ 1138A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 769K	$43458A	$30655A	$ 6702A	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1811A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A	$30807A	$ 6717A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1396A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6772A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

C

PLAN C 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $4233.9338.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	0	1	$ 1513A	$ 1372A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6691A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2445A	$ 1743A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5691A	$-7589A
			0	0	0	0	0	0	0	0	822L	0	0	17313	0	0	1138	0
3	0	3	$ 2954A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5210A	$ 1123A	$13982A	$ 9670A	$ 2132A	$27512A	$19422A	$ 4196A	$-7154A
			0	0	0	0	0	0	0	0	0	4224	4224	16843	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11791	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	246	0
5	0	5	$ 2464A	$ 3474A	$ 300A	$ 4500A	$ 6368A	$ 890A	$ 6354A	$ 8974A	$ 775A	$ 9774A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3853A	$-1264A
			0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1046	4627
6	1	1	$ 1375A	$ 951A	$ 316A	$ 2183F	$ 1696K	$ 550F	$ 3762K	$ 2858K	$ 822K	$ 7467F	$ 5563P	$ 1474K	$35661K	$25336K	$ 5759K	$-8216A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3936A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6623K	$ 1619F	$37316F	$26414F	$ 5683F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27316A	$ 5991A	$-8216A
			0	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$22606A	$ 6167A	$-8216A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1240A	$ 853A	$ 301A	$ 1945K	$ 1578K	$ 521K	$ 3495K	$ 2665K	$ 792K	$ 6447F	$ 5122F	$ 1385F	$35409K	$25158K	$ 5725K	$-8183A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 6856K	$ 6458K	$ 1535K	$37344F	$26220F	$ 5649F	$-8183A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4490A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	92	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4659A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27550A	$ 6135A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 1496A	$ 1043A	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272F	$ 730K	$ 6713F	$ 5130F	$ 1357F	$31982P	$22149P	$ 5111F	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 378A	$ 3670A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2543A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 399A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7663A	$ 1686A	$35652A	$25310A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1988A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$29733F	$28121F	$ 6251F	$-8199A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3613A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6264F	$-8199A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2307A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8199A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29779A	$ 6433A	$-8199A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1424A	$ 997A	$ 260A	$ 2608F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29988F	$ 6618F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1697A	$ 1186A	$ 279A	$ 2736A	$ 1913A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$31171F	$ 6644A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1994A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3677A	$ 910A	$43871A	$31556A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5563A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN E SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423937577.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=1))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 576A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5690A	$-7559A
			0	0	0	0	0	0	0	0	8271	0	0	16963	0	0	1136	0
3	0	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7154A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11793	11790	0	8726	8701	15657	423	1163	398	0	0	0	189	213	245	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-12644A
			0	0	68048	0	0	51933	0	0	0	0	0	0	0	0	1034	4489
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6933A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6 67A	$-8260A
			0	0	0	0	0	0	72	0	0	0	0	24	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6.67A	$-8260A
			0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0
10	2	1	$ 2555A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11261A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8.63A
			0	0	0	0	0	0	36	0	0	0	0	0	0	0	9	0
11	2	2	$ 2555A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8.63A
			0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
12	2	3	$ 2555A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6 39A	$-8.63A
			0	0	0	0	0	0	99	0	0	0	0	0	0	0	0	0
13	2	4	$ 2555A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6 39A	$-8.63A
			0	0	0	0	0	0	446	0	0	0	0	0	0	0	0	0
14	3	1	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.95A
			0	0	0	0	0	0	0	0	616	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.95A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.95A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.95A
			0	0	0	0	0	0	0	0	22	0	0	0	0	26	0	0
22	5	1	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-759.A
			0	0	0	0	0	1201	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-759.A
			0	0	0	0	0	153	0	0	0	0	0	0	0	0	33	0
24	5	3	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-759.A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-759.A
			0	0	0	0	0	545	0	0	0	0	0	0	0	0	0	0

PLAN E 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423375934.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=6))
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3319A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 573A	$43[illegible]	$3[illegible]962A	$ 669[illegible]A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$373[illegible]A	$26337A	$ 569[illegible]A	$-7589A
			0	0	0	0	0	0	0	0	8197	0	0	17336	0	0	1139	0
3	0	3	$ 2954A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7154A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3315A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7794A	$ 5495A	$ 1187A	$10707A	$ 7556A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11793	11796	0	8726	8701	15665	652	1163	162	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-12644
			0	0	66702	0	0	52937	0	0	0	0	0	0	0	0	1144	4521
6	1	1	$ 1416A	$ 1266A	$ 348A	$ 2768F	$ 2459F	$ 593F	$ 3847F	$ 2658K	$ 834F	$ 7467P	$ 5563P	$ 1474K	$375[illegible]A	$26418A	$ 59[illegible]1A	$-8206A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	16	0
7	1	2	$ 2513A	$ 1772A	$ 399A	$ 4302A	$ 3134A	$ 708A	$ 5730A	$ 4041A	$ 973A	$ 9375F	$ 6823K	$ 1619F	$38243A	$26958A	$ 5955A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4696A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$36735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$2508[illegible]A	$ 6[illegible]67A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	16	0	0	0	0
10	2	1	$ 1754A	$ 1222A	$ 339A	$ 2565F	$ 1913F	$ 570F	$ 3553F	$ 2659K	$ 799F	$ 6847P	$ 5122P	$ 1365P	$37[illegible]61A	$25274A	$ 5371A	$-8183A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2[illegible]25A	$ 1710A	$ 388A	$ 4100A	$ 2889A	$ 686A	$ 5397A	$ 3801A	$ 938A	$ 8856K	$ 6458K	$ 1535K	$38[illegible]08A	$26791A	$ 5923A	$-8[illegible]83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8[illegible]83A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2555A	$ 1874A	$ 405A	$ 4959A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$2795[illegible]A	$ 6139A	$-8[illegible]83A
			0	0	0	0	0	0	456	0	0	0	0	0	0	0	0	0
14	3	1	$ 2165A	$ 1524A	$ 364A	$ 3325A	$ 2338A	$ 621A	$ 3967A	$ 2787A	$ 821A	$ 6713P	$ 5030P	$ 1359K	$33683A	$23723A	$ 5310A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2483A	$ 1735A	$ 396A	$ 4304A	$ 3035A	$ 692A	$ 5843A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34630A	$24394A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5434A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35652A	$25310A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2222A	$ 1566A	$ 358A	$ 3719A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$40766A	$28743A	$ 6330A	$-8099A
			0	0	0	0	0	0	0	0	684	0	0	0	0	0	0	0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$29[illegible]19A	$ 6358A	$-8[illegible]99A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2438A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$292[illegible]3A	$ 6376A	$-8[illegible]99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$421774A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	26	0	0	0	0	22	0	0
22	5	1	$ 1588A	$ 1198A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 763K	$43456A	$30655A	$ 6702A	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1811A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A	$30817A	$ 6717A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1894A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3477A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1951A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5053A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	26	0

PLAN E 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423359308.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=3))
1	0	1	$ 1515A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43666A	$30962A	$ 6690A	$-6522A
			0	0	28274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7467A	$ 1617A	$73307A	$26337A	$ 5690A	$-7565A
			0	0	0	0	0	0	0	0	8220	0	0	17413	0	0	1139	0
3	0	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9972A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	546	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$14737A	$ 7554A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 697A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2512A	$ 4111A	$ 3553A	$-1264A
			0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1 46	4027
6	1	1	$ 1375A	$ 951A	$ 316A	$ 2182F	$ 1696K	$ 550F	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$35661K	$25336K	$ 5759K	$-8205A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5283F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2411A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 727A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$32735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1086A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6 67A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1243A	$ 853A	$ 341A	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$35409K	$25158K	$ 5725K	$-8.83A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5627F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37 44F	$26221F	$ 5849F	$-8.83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 393A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10169A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8.83A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2455A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39993A	$27950A	$ 6139A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 1486A	$ 1043A	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5.3.P	$ 1357P	$30982P	$22149F	$ 51.1F	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 374A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 53.4F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2543A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4437A	$ 998A	$10215A	$ 7192A	$ 1624A	$34976A	$24669A	$ 5444A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25316A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1989A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3275F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$39733F	$28121F	$ 6251F	$-8.99A
			0	0	0	0	0	0	0	0	650	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607P	$ 5451K	$ 1335F	$40187F	$28453F	$ 6264F	$-8.99A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2409A	$ 1698A	$ 371A	$ 4322A	$ 3153A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1424A	$ 997A	$ 263A	$ 2009F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29588F	$ 6618F	$-7591A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1587A	$ 1186A	$ 279A	$ 2716A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7591A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1396A	$ 1336A	$ 294A	$ 2390A	$ 2788A	$ 537A	$ 4693A	$ 3334A	$ 745A	$ 5519A	$ 3677A	$ 900A	$43871A	$30958A	$ 6732A	$-7591A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7591A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	16	0

PLAN F SFF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $4236100063.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$31962A	$ 6690A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7569A
			0	0	0	0	0	0	0	0	8391	0	0	16845	0	0	1136	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9875A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	0	4	$ 3015A	$ 2129A	$ 463A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	19839	443	1163	200	0	0	0	189	213	244	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68049	0	0	51601	0	0	0	0	0	0	0	0	1 29	4626
6	1	1	$ 1816A	$ 1266A	$ 348A	$ 2768F	$ 2059F	$ 593F	$ 3887F	$ 2858K	$ 834F	$ 7467P	$ 5563P	$ 1474K	$37504A	$26418A	$ 5961A	$-8206A
			0	0	0	0	0	7	0	0	0	0	0	0	0	0	15	0
7	1	2	$ 2517A	$ 1772A	$ 399A	$ 4312A	$ 3134A	$ 708A	$ 5730A	$ 4041A	$ 973A	$ 9375F	$ 6623K	$ 1619F	$38243A	$26958A	$ 5955A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2531A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1031A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1759A	$39777A	$28.83A	$ 6.67A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0
10	2	1	$ 2656A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	113	0	0	0	0	0	0	0	0	0
11	2	2	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
12	2	3	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$27950A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	689	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	21	0	0	0	0	22	0	0
22	5	1	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	1310	0	0	0	0	0	0	0	0	35	0
23	5	2	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	565	0	0	0	0	0	0	0	0	0	0

PLAN F 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423373041.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1516A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	99	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10605A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2654A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	849	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3894A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11770	11790	0	8726	8701	15695	652	1163	133	0	0	0	196	213	239	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66702	0	0	52931	0	0	0	0	0	0	0	0	1044	4927
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1596K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5883F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2531A	$ 1656A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1754A	$ 1222A	$ 339A	$ 2565F	$ 1913F	$ 570F	$ 3553F	$ 2669K	$ 799F	$ 6847P	$ 5122P	$ 1385P	$37301A	$26274A	$ 5871A	$-8083A
			0	0	0	0	0	95	0	0	0	0	0	0	0	0	17	0
11	2	2	$ 2426A	$ 1710A	$ 386A	$ 4100A	$ 2888A	$ 686A	$ 5397A	$ 3801A	$ 938A	$ 8856K	$ 6458K	$ 1535K	$38008A	$26791A	$ 5923A	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	89	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2165A	$ 1524A	$ 364A	$ 3325A	$ 2338A	$ 621A	$ 3967A	$ 2787A	$ 821A	$ 6713P	$ 5030P	$ 1359K	$33683A	$23723A	$ 5310A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2460A	$ 1735A	$ 386A	$ 4304A	$ 3035A	$ 692A	$ 5843A	$ 4120A	$ 959A	$ 9135F	$ 6574F	$ 1542F	$34600A	$24394A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2222A	$ 1566A	$ 356A	$ 3718A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$40766A	$28743A	$ 6330A	$-8099A
			0	0	0	0	0	0	0	0	630	0	0	0	0	0	0	0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$29019A	$ 6358A	$-8099A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2408A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6348A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6954A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1688A	$ 1188A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 769K	$43458A	$30655A	$ 6702A	$-7590A
			0	0	1345	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1811A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A	$30807A	$ 6717A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1896A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30953A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN E 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423309308.

J	R	Z	((((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6699A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	249	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1046	4827
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5893F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 437A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1240A	$ 853A	$ 301A	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$35409K	$25158K	$ 5725K	$-8083A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1522A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5965A	$-8083A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 1486A	$ 1043A	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5030P	$ 1357P	$30982P	$22149P	$ 5101P	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 376A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1956A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$39733F	$28121F	$ 6251F	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8099A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2408A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9954A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1424A	$ 997A	$ 260A	$ 2008F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29988F	$ 6618F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1587A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7590A
			0	0	143	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1896A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1951A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN G SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423722572.

J	R	Z	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	((I=6)) (T=0)
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15581	652	1163	245	0	0	0	196	213	241	0
5	0	5	$ 245A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68048	0	0	51824	0	0	0	0	0	0	0	0	1032	4600
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5883F	$-8205A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2531A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 901F	$ 734F	$ 273F	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$22879K	$15993K	$ 4810K	$-8083A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7943A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ -64K	$ 156K	$ 193K	$ 1561K	$ 1296K	$ 484K	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5030P	$ 1357P	$15040P	$10489P	$ 3936P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	608	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	22	0	0	0	0	20	0	0
22	5	1	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	1167	0	0	0	0	0	0	0	0	33	0
23	5	2	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN G 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423358202.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2654A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66702	0	0	52937	0	0	0	0	0	0	0	0	1044	4821
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1694K	$ 541K	$ 3762K	$ 2853K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 4700K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5883F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8205A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 901F	$ 734F	$ 273F	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$22879K	$15993K	$ 4810K	$-8083A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1917A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7943A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ -64K	$ 156K	$ 193K	$ 1561K	$ 1296K	$ 484K	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5030P	$ 1357P	$15040P	$10489P	$ 3936P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2222A	$ 1566A	$ 358A	$ 3718A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$40766A	$28743A	$ 6330A	$-8099A
			0	0	0	0	0	0	0	0	684	0	0	0	0	0	0	0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$29019A	$ 6358A	$-8099A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2408A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1688A	$ 1188A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 769K	$43458A	$30655A	$ 6702A	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1611A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A	$30807A	$ 6717A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1898A	$ 1330A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN G 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423306324.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	2627A	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2654A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15655	652	1163	171	0	0	0	196	213	240	0
5	0	5	$ 245A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66509	0	0	53122	0	0	0	0	0	0	0	0	1046	4827
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 4700K	$-8205A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5983F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 901F	$ 734F	$ 273F	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1365P	$22879K	$15993K	$ 4810K	$-8083A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6453A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ -64K	$ 156K	$ 193K	$ 1561K	$ 1296K	$ 484K	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5030P	$ 1357P	$15040P	$10489P	$ 3936P	$-7552A
			0	0	0	0	0	59	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5469A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1988A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$39733F	$28121F	$ 6251F	$-8099A
			0	0	0	0	0	0	0	0	890	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8099A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2406A	$ 1690A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1424A	$ 997A	$ 260A	$ 2008F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29988F	$ 6618F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1687A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1896A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3576A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN H SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423640399.

J	O	Z	(((((((((T=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((T=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((T=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((T=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((T=5)))))))))) ((T=1))	((T=2))	((T=3))	((T=6)) ((T=0))
1	0	1	$ 1515A	$ 1072A	$ 2311	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 573A	$438609A	$309620A	$ 66910A	$-69922A
			0	0	26276	0	0	0	0	0	0	0	0	0	0	0	96	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$18606A	$ 7487A	$ 1617A	$373070A	$263370A	$ 56900A	$-75690A
			0	0	0	0	0	0	0	0	9286	0	0	16948	0	0	1137	0
3	0	3	$ 2054A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9570A	$ 2137A	$27512A	$19422A	$ 41968A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11730	11798	0	6726	8701	15347	331	1163	304	0	0	0	186	213	247	0
5	0	5	$ 2465A	$ 1740A	$ 3708A	$ 4600A	$ 6308A	$ 550A	$ 6756A	$ 4897A	$ 775A	$ 977A	$ 1379A	$ 1152A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68448	0	0	51600	0	0	0	0	0	0	0	0	1029	4627
6	1	1	$ 2709A	$ 1912A	$ 4138A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28060A	$ 6067A	$-8206A
			0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0
7	1	2	$ 2709A	$ 1912A	$ 4138A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28060A	$ 6067A	$-8206A
			0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8	1	3	$ 2709A	$ 1912A	$ 4138A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28060A	$ 6067A	$-8206A
			0	0	0	0	0	0	70	0	0	0	0	0	27	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 4138A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8325A	$ 1799A	$39777A	$28060A	$ 6067A	$-8206A
			0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0
10	2	1	$ 2655A	$ 1874A	$ 435A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7363A	$ 1720A	$39593A	$27350A	$ 6039A	$-8083A
			0	0	0	0	0	0	112	0	0	0	0	0	0	0	10	0
11	2	2	$ 2655A	$ 1874A	$ 435A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
12	2	3	$ 2655A	$ 1874A	$ 435A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27350A	$ 6039A	$-8083A
			0	0	0	0	0	0	90	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 435A	$ 4359A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$358524A	$253100A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$358524A	$253100A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$358524A	$253100A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$358524A	$253100A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$421777A	$297750A	$ 64330A	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$421777A	$297750A	$ 64330A	$-8099A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6955A	$ 1503A	$421777A	$297750A	$ 64330A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$421777A	$297750A	$ 64330A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1361A	$ 1304A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$443785A	$313340A	$ 6770A	$-7590A
			0	0	0	0	0	1310	0	0	0	0	0	0	0	35	0	0
23	5	2	$ 1361A	$ 1304A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$443785A	$313340A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1361A	$ 1304A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$443785A	$313340A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1361A	$ 1304A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$443785A	$313340A	$ 6770A	$-7590A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN F 10C . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423373562.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 576A	$436614A	$309062A	$ 6690A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$373307A	$263337A	$ 5690A	$-7565A
			0	0	0	0	0	0	0	0	8197	0	0	17035	0	0	1139	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$194222A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16642	215	215	148	0
4	0	4	$ 3315A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7550A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15671	652	1163	156	0	0	0	196	213	246	0
5	0	5	$ 2464A	$ 2474A	$ 300A	$ 4504A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66702	0	0	52931	0	0	0	0	0	0	0	0	1.44	4627
6	1	1	$ 1416A	$ 1266A	$ 348A	$ 2760F	$ 2059F	$ 593F	$ 2847F	$ 2658K	$ 834F	$ 7467P	$ 5563P	$ 1474K	$37504A	$264108A	$ 5901A	$-8206A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	16	0
7	1	2	$ 2513A	$ 1772A	$ 399A	$ 4302A	$ 3034A	$ 708A	$ 5730A	$ 4041A	$ 973A	$ 9375F	$ 6823K	$ 1619F	$36243A	$269568A	$ 5955A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1036A	$10587A	$ 7575F	$ 1711A	$38735A	$273188A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1769A	$39777A	$288018A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1754A	$ 1222A	$ 339A	$ 2565F	$ 1913F	$ 570F	$ 3553F	$ 2669K	$ 799F	$ 6847P	$ 5122P	$ 1365P	$27301A	$262740A	$ 5871A	$-8183A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2426A	$ 1710A	$ 388A	$ 4100A	$ 2888A	$ 686A	$ 5397A	$ 3831A	$ 936A	$ 8656K	$ 6458K	$ 1535K	$38068A	$267918A	$ 5923A	$-8183A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 398A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1006A	$10109A	$ 7211F	$ 1635A	$28597A	$272224A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$29593A	$279500A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 2165A	$ 1524A	$ 364A	$ 3325A	$ 2338A	$ 621A	$ 3967A	$ 2787A	$ 821A	$ 6713P	$ 5130P	$ 1359K	$23683A	$237233A	$ 5310A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2460A	$ 1735A	$ 388A	$ 4304A	$ 3139A	$ 692A	$ 5843A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34600A	$243944A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 996A	$10215A	$ 7190A	$ 1624A	$34976A	$246669A	$ 5414A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7[illegible]3A	$ 1686A	$35852A	$253100A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2224A	$ 1566A	$ 358A	$ 3718A	$ 2618A	$ 630A	$ 4849A	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$41766A	$267438A	$ 6330A	$-8199A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2343A	$ 1653A	$ 367A	$ 4111A	$ 2900A	$ 659A	$ 5597A	$ 3948A	$ 914A	$ 8150A	$ 5738A	$ 1379A	$41144A	$25[illegible]19A	$ 6358A	$-8.99A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2409A	$ 1698A	$ 371A	$ 4232A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$292533A	$ 6376A	$-8199A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$297755A	$ 6433A	$-8199A
			0	0	0	0	0	0	0	0	21	0	0	0	0	22	0	0
22	5	1	$ 1638A	$ 1188A	$ 279A	$ 2724A	$ 1914A	$ 484A	$ 3414A	$ 2398A	$ 652A	$ 3834K	$ 2913K	$ 765K	$43458A	$306558A	$ 6702A	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1911A	$ 1276A	$ 288A	$ 3110A	$ 2191A	$ 512A	$ 4147A	$ 2922A	$ 705A	$ 4506A	$ 3213F	$ 827A	$43665A	$308027A	$ 6717A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1396A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 910A	$43871A	$306568A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1561A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$311234A	$ 6770A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN H SC . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423309358.

	((((((((((I=1))))))))))			((((((((((I=2))))))))))			((((((((((I=3))))))))))			((((((((((I=4))))))))))			((((((((((I=5))))))))))			((I=6))
J R Z	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=0))
1 0 1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 576A	$4366CA	$3.962A	$ 6491A	$-6922A
	0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2 0 2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
	0	0	0	0	0	0	0	0	9220	0	0	17013	0	0	1138	0
3 0 3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13582A	$ 9570A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
	0	0	0	0	0	0	0	0	0	4224	4224	16642	215	215	348	0
4 0 4	$ 7015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
	11790	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	240	0
5 0 5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1197A	$ 2912A	$ 4111A	$ 3553A	$-1264A
	0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1146	4627
6 1 1	$ 1375A	$ 951A	$ 316A	$ 2183F	$ 1696K	$ 550F	$ 3762K	$ 2656K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$35661K	$25338K	$ 5759K	$-8206A
	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7 1 2	$ 2414A	$ 1700A	$ 341A	$ 3986A	$ 2602A	$ 685A	$ 5283F	$ 3828F	$ 537F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5883F	$-6206A
	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8 1 3	$ 2631A	$ 1856A	$ 437A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5591A	$-8256A
	0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9 1 4	$ 2709A	$ 1912A	$ 413A	$ 4559A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28608A	$ 6 67A	$-8206A
	0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10 2 1	$ 1240A	$ 853A	$ 301A	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6947P	$ 5122P	$ 1385P	$35409K	$25158K	$ 5725K	$-6.83A
	0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11 2 2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1539K	$37344F	$26226F	$ 5849F	$-8.83A
	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12 2 3	$ 2576A	$ 1817A	$ 399A	$ 4596A	$ 3243A	$ 722A	$ 6353A	$ 4430A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8.83A
	0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13 2 4	$ 2655A	$ 1874A	$ 409A	$ 4659A	$ 3430A	$ 741A	$ 6653A	$ 4836A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$27951A	$ 6.39A	$-8.83A
	0	0	0	0	0	0	446	0	0	0	0	0	0	0	0	0
14 3 1	$ 1436A	$ 1043A	$ 315A	$ 1561K	$ 1295K	$ 487F	$ 2824K	$ 2272P	$ 730K	$ 6713F	$ 5.30F	$ 1357P	$36962P	$22149F	$ 5101P	$-7552A
	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15 3 2	$ 2355A	$ 1656A	$ 376A	$ 3670A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23637F	$ 5304F	$-7552A
	0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16 3 3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 996A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5414A	$-7552A
	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17 3 4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35852A	$25310A	$ 5466A	$-7552A
	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18 4 1	$ 1988A	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1319K	$39733F	$28121F	$ 6251F	$-8.99A
	0	0	0	0	0	0	0	0	691	0	0	0	0	0	0	0
19 4 2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8.99A
	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20 4 3	$ 2403A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6426A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8.99A
	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21 4 4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1563A	$42177A	$29775A	$ 6433A	$-8.99A
	0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22 5 1	$ 1424A	$ 997A	$ 260A	$ 2308F	$ 1519F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$42363F	$29588F	$ 6618F	$-7590A
	0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23 5 2	$ 1587A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7590A
	0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24 5 3	$ 1396A	$ 1136A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3577A	$ 900A	$43871A	$30956A	$ 6732A	$-7590A
	0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25 5 4	$ 1941A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6772A	$-7590A
	0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN I.JSPF. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $426626772.

J	R	Z	((I=1)) ((T=1)	((I=1)) ((T=2)	((I=1)) ((T=3)	((I=2)) ((T=1)	((I=2)) ((T=2)	((I=2)) ((T=3)	((I=3)) ((T=1)	((I=3)) ((T=2)	((I=3)) ((T=3)	((I=4)) ((T=1)	((I=4)) ((T=2)	((I=4)) ((T=3)	((I=5)) ((T=1)	((I=5)) ((T=2)	((I=5)) ((T=3)	((I=6)) ((T=0)
1	0	1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30952A	$ 6695A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5593A	$-7589A
			0	0	0	0	0	0	0	0	8092	0	0	17139	0	0	1141	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16543	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7786A	$ 5495A	$ 1187A	$10707A	$ 7559A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8726	14612	653	1163	1171	0	0	0	196	213	257	0
5	0	5	$ 2464	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68048	0	0	54700	0	0	0	0	0	0	0	0	1075	1681
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	485	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	3	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	4	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	4	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	42	0	0	0	0	0	1	0
22	5	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23	5	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24	5	3	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	497	0	0	0	0	0	0	0	0	7	0

PLAN I,J100. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $425983539.

			(((((((((I=1)))))))))			(((((((((I=2)))))))))			(((((((((I=3)))))))))			(((((((((I=4)))))))))			(((((((((I=5)))))))))			((I=6))
J	R	Z	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=1))	((T=2))	((T=3))	((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8192	0	0	17041	0	0	1139	0
3	0	3	$ 2054A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16543	215	215	849	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	14840	652	1163	973	0	0	0	196	213	254	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68048	0	0	54125	0	0	0	0	0	0	0	0	1067	2265
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	1	3	$ 2631A	$ 1956A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	89	0	0	0	0	0	9	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
18	4	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	4	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	4	3	$ 2038A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	42	0	0	0	0	0	1	0
22	5	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23	5	2	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24	5	3	$ 1896A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	492	0	0	0	0	0	0	0	0	12	0

PLAN I,J 50. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $425577160.

J	R	Z	(((((((((I=1))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7497A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8197	0	0	17036	0	0	1139	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	14842	652	1163	970	0	0	0	196	213	254	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	67855	0	0	53983	0	0	0	0	0	0	0	0	1064	2602
6	1	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	$ 2414A	$ 1709A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37315F	$26414F	$ 5883F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8083A
			0	0	0	0	0	0	0	0	87	0	0	0	0	0	11	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	$ 2355A	$ 1558A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2595A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8099A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2403A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6348A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	42	0	0	0	0	0	1	0
22	5	1	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$*1144A	$*7283A	$*2377A	$ -0A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23	5	2	$ 1687A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1696A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	491	0	0	0	0	0	0	0	0	13	0

PLAN K SPF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423625365.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=1))
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	3	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 574A	$4396A	$3.952A	$ 669A	$-6022A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	96	0	0
2	3	2	$ 2465A	$ 1749A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$1.636A	$ 7407A	$ 1617A	$3737A	$26337A	$ 569A	$-7589A
			0	0	0	0	0	0	0	0	8266	0	0	16945	0	0	1137	0
3	3	3	$ 2354A	$ 2514A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9570A	$ 2122A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	3	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11793	11790	0	8726	8701	15847	557	937	384	0	0	0	193	215	247	0
5	0	5	$ 246A	$ 347A	$ 3.0A	$ 452A	$ 636A	$ 552A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68048	0	0	51660	0	0	0	0	0	0	0	0	1.29	4027
6	1	1	$ 1255C	$ 1912A	$ 413A	$ 2483K	$ 3500A	$ 756A	$ 4476K	$ 4937A	$ 1066A	$ 9148K	$ 6328A	$ 1799A	$35741K	$28.6A	$ 6 67A	$-6216A
			0	0	0	0	0	0	0	20	0	0	0	0	2	0	0	0
7	1	2	$ 2576A	$ 1912A	$ 413A	$ 4346A	$ 3500A	$ 756A	$ 6737A	$ 4937A	$ 1066A	$11207A	$ 6328A	$ 1799A	$39446A	$2938.A	$ 6 67A	$-6216A
			0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
8	1	3	$ 2703A	$ 1912A	$ 413A	$ 4928A	$ 3500A	$ 756A	$ 6937A	$ 4937A	$ 1066A	$11660A	$ 6328A	$ 1793A	$39673A	$2908A	$ 6.67A	$-6206A
			0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 6328A	$ 1793A	$39777A	$28.8A	$ 6 67A	$-6216A
			0	0	0	0	0	0	42	0	0	0	0	0	20	0	0	0
10	2	1	$ 1731A	$ 1874A	$ 435A	$ 3424F	$ 3430A	$ 741A	$ 5738F	$ 4938A	$ 1045A	$ 9126F	$ 7963A	$ 1720A	$36657F	$2795.A	$ 6.39A	$-6.83A
			0	0	0	0	0	0	0	132	0	0	0	0	0	0	10	0
11	2	2	$ 2516A	$ 1874A	$ 435A	$ 4729A	$ 3430A	$ 741A	$ 5614A	$ 4938A	$ 1045A	$10711A	$ 7963A	$ 1720A	$39230A	$2795.A	$ 6.39A	$-6.83A
			0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
12	2	3	$ 2546A	$ 1874A	$ 435A	$ 4928A	$ 3430A	$ 741A	$ 6797A	$ 4938A	$ 1045A	$11147A	$ 7963A	$ 1720A	$39493A	$2795.A	$ 6.39A	$-6.83A
			0	0	0	0	0	0	0	99	0	0	0	0	0	0	0	0
13	2	4	$ 2555A	$ 1874A	$ 435A	$ 4959A	$ 3430A	$ 741A	$ 6853A	$ 4938A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$2795.A	$ 6 39A	$-6.83A
			0	0	0	0	0	0	456	0	0	0	0	0	0	0	0	0
14	3	1	$ 651C	$ 1873A	$ 396A	$ 2242K	$ 3355A	$ 725A	$ 4120K	$ 4731A	$ 1022A	$ 6244K	$ 7603A	$ 1686A	$31519K	$2531.A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2570A	$ 1833A	$ 396A	$ 4665A	$ 3355A	$ 725A	$ 6542A	$ 4731A	$ 1022A	$10662A	$ 7603A	$ 1686A	$35552A	$2531.A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2591A	$ 1833A	$ 396A	$ 4735A	$ 3355A	$ 725A	$ 6649A	$ 4731A	$ 1022A	$10978A	$ 7603A	$ 1686A	$35765A	$2531.A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2535A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35852A	$2531.A	$ 5466A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1569A	$ 1740A	$ 376A	$ 3261F	$ 3185A	$ 688A	$ 5.3.F	$ 4492A	$ 970A	$ 8430F	$ 6956A	$ 1503A	$39348F	$29775A	$ 6433A	$-6.99A
			0	0	0	0	0	0	0	0	696	0	0	0	0	0	0	0
19	4	2	$ 2434A	$ 1740A	$ 376A	$ 4411A	$ 3185A	$ 688A	$ 6160A	$ 4492A	$ 970A	$ 9420A	$ 6956A	$ 1503A	$41936A	$29775A	$ 6433A	$-6.99A
			0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
20	4	3	$ 2459A	$ 1740A	$ 376A	$ 4494A	$ 3185A	$ 688A	$ 6329A	$ 4492A	$ 970A	$ 9774A	$ 6956A	$ 1503A	$42.99A	$29775A	$ 6433A	$-6.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-6.99A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1319A	$ 1384A	$ 299A	$ 2336F	$ 2534A	$ 547A	$ 377.F	$ 3574A	$ 772A	$ 4895F	$ 4418A	$ 954A	$42516F	$31334A	$ 677.A	$-759.A
			0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1331A	$ 1384A	$ 299A	$ 3495A	$ 2534A	$ 547A	$ 4891A	$ 3574A	$ 772A	$ 5912A	$ 4418A	$ 954A	$44214A	$31334A	$ 677.A	$-759.A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1355A	$ 1384A	$ 299A	$ 3570A	$ 2534A	$ 547A	$ 5.25A	$ 3574A	$ 772A	$ 6155A	$ 4418A	$ 954A	$44334A	$31334A	$ 677.A	$-759.A
			0	0	0	0	0	317	0	0	0	0	0	0	0	0	35	0
25	5	4	$ 1361A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44365A	$31334A	$ 677.A	$-759.A
			0	0	0	0	0	505	0	0	0	0	0	0	0	0	0	0

PLAN K 100 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423373562.

J	R	Z	((I=1)) ((T=1)	((I=1)) ((T=2)	((I=1)) ((T=3)	((I=2)) ((T=1)	((I=2)) ((T=2)	((I=2)) ((T=3)	((I=3)) ((T=1)	((I=3)) ((T=2)	((I=3)) ((T=3)	((I=4)) ((T=1)	((I=4)) ((T=2)	((I=4)) ((T=3)	((I=5)) ((T=1)	((I=5)) ((T=2)	((I=5)) ((T=3)	((I=6)) ((T=1)
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1562A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 572A	$43661A	$30962A	$ 6692A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	98	0	
2	0	2	$ 2445A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10806A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8197	0	0	17036	0	0	1139	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13952A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	18643	215	215	648	0
4	0	4	$ 3315A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7013A	$ 5515A	$ 1191A	$-4316A
			11791	11795	0	8726	8701	15671	652	1163	156	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	86732	0	0	52931	0	0	0	0	0	0	0	0	1.44	4627
6	1	1	$ 646F	$ 1266A	$ 348A	$ 2115K	$ 2059F	$ 593F	$ 3762K	$ 2858K	$ 834F	$ 7467F	$ 5563P	$ 1474K	$24500K	$26418A	$ 5901A	$-8236A
			0	0	0	0	0	5	0	0	0	0	0	0	0	0	16	0
7	1	2	$ 2503A	$ 1772A	$ 399A	$ 4270A	$ 3034A	$ 708A	$ 5670A	$ 4041A	$ 973A	$ 9375F	$ 6523K	$ 1619F	$28 64A	$26956A	$ 5955A	$-82.6A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 437A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4583A	$ 1030A	$10587A	$ 7575F	$ 1711A	$36735A	$27316A	$ 5991A	$-8216A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11757A	$ 8326A	$ 1759A	$39777A	$28869A	$ 6167A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1197F	$ 1222A	$ 339A	$ 2482F	$ 1913F	$ 570F	$ 3498K	$ 2669K	$ 799F	$ 6847F	$ 5122F	$ 1385F	$35.05F	$26274A	$ 5871A	$-8063A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2414A	$ 1716A	$ 388A	$ 4662A	$ 2668A	$ 686A	$ 5325A	$ 3801A	$ 938A	$ 8356K	$ 6458K	$ 1535K	$37811A	$26791A	$ 5523A	$-8.83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1060A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8133A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6453A	$ 4838A	$ 1045A	$11261A	$ 7934A	$ 1720A	$39593A	$27950A	$ 6.39A	$-8163A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 277G	$ 1524A	$ 364A	$ 1859K	$ 2338A	$ 621A	$ 3382K	$ 2737A	$ 821A	$ 6713F	$ 5030P	$ 1359K	$30736K	$23723A	$ 5316A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2453A	$ 1735A	$ 386A	$ 4270A	$ 3035A	$ 692A	$ 5781A	$ 4120A	$ 959A	$ 9135F	$ 6534F	$ 1542F	$34425A	$24394A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4437A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24669A	$ 5434A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1666A	$35852A	$25316A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1455F	$ 1566A	$ 358A	$ 2962F	$ 2618A	$ 630A	$ 4611F	$ 3413A	$ 859A	$ 7430K	$ 5451K	$ 1318K	$36921F	$28743A	$ 6330A	$-8199A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2327A	$ 1653A	$ 367A	$ 4061A	$ 2903A	$ 659A	$ 5503A	$ 3948A	$ 914A	$ 7919A	$ 5738A	$ 1379A	$41066A	$29.19A	$ 6358A	$-8.99A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2403A	$ 1699A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$25203A	$ 6376A	$-8.99A
			0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1377B	$ 1188A	$ 279A	$ 2038F	$ 1914A	$ 484A	$ 3152F	$ 2396A	$ 652A	$ 3834K	$ 2913K	$ 769K	$41907F	$30655A	$ 6702A	$-7593A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1738A	$ 1276A	$ 288A	$ 3173A	$ 2191A	$ 512A	$ 4079A	$ 2922A	$ 705A	$ 4428F	$ 3213F	$ 827A	$43565A	$30807A	$ 6717A	$-7593A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1396A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4633A	$ 3304A	$ 745A	$ 5519A	$ 3377A	$ 900A	$43671A	$31958A	$ 6732A	$-7593A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1364A	$ 299A	$ 3593A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7593A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	2.	

PLAN K 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423309306.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1518A	$ 1672A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43660A	$30562A	$ 6690A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7599A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1136	0
3	0	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9873A	$ 2122A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	846	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11793	11798	0	8726	8701	19656	652	1163	171	0	0	0	196	213	241	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1 46	4527
6	1	1	$ 5030	$ 951A	$ 316A	$ 2115K	$ 1696K	$ 550F	$ 3762K	$ 2858K	$ 822K	$ 7467F	$ 5563P	$ 1474K	$24218K	$25338K	$ 5759K	$-62.6A
			0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5283F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$27316F	$26414F	$ 5863F	$-62.6A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4600A	$ 1030A	$10587A	$ 7579F	$ 1711A	$28735A	$27318A	$ 5991A	$-6206A
			0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8326A	$ 1795A	$35777A	$28060A	$ 6167A	$-62.6A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 901F	$ 853A	$ 3.1A	$ 1945K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847F	$ 5122P	$ 1365P	$34160K	$25158K	$ 5725K	$-6.63A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2304A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8856K	$ 6456K	$ 1535K	$27 44F	$28220F	$ 5649F	$-8.83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4480A	$ 1006A	$10109A	$ 7211F	$ 1635A	$33597A	$27222A	$ 5566A	$-8.83A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$29593A	$27550A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 160	$ 1043A	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272P	$ 731K	$ 6713F	$ 5.20F	$ 1357F	$29393F	$22145F	$ 5101F	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2359A	$ 1858A	$ 378A	$ 3973A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 53.4F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2543A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4437A	$ 998A	$10215A	$ 7190A	$ 1624A	$34576A	$24669A	$ 5474A	$-7552A
			0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1666A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1426P	$ 1397A	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3275F	$ 831F	$ 7430K	$ 5451K	$ 1316K	$28739F	$28121F	$ 6251F	$-8.99A
			0	0	0	0	0	0	0	0	692	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3602A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$41187F	$28453F	$ 6284F	$-8.99A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2409A	$ 1696A	$ 371A	$ 4232A	$ 3053A	$ 675A	$ 6026A	$ 4245A	$ 946A	$ 9050A	$ 6368A	$ 1444A	$41395A	$29203A	$ 6376A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	26	0	0	0	0	22	0	0
22	5	1	$ 1046P	$ 997A	$ 260A	$ 2.08F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$41787F	$29986F	$ 6618F	$-7593A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1537A	$ 1188A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7593A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1996A	$ 1336A	$ 294A	$ 3393A	$ 2383A	$ 533A	$ 4693A	$ 3304A	$ 745A	$ 5519A	$ 3877A	$ 900A	$43871A	$30956A	$ 6732A	$-7593A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3593A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6771A	$-7593A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN L SFF . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423611116.

J	R	Z	(((I=1))) (T=1)	(T=2)	(T=3)	(((I=2))) (T=1)	(T=2)	(T=3)	(((I=3))) (T=1)	(T=2)	(T=3)	(((I=4))) (T=1)	(T=2)	(T=3)	(((I=5))) (T=1)	(T=2)	(T=3)	((I=6)) (T=0)
1	0	1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$4386CA	$3096 2A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	96	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$27367A	$26337A	$ 5693A	$-7589A
			0	0	0	0	0	0	0	0	8512	0	0	16726	0	0	1133	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9970A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	219	646	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3695A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11797	11790	0	8726	8701	15847	852	1068	78	0	0	0	196	209	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	68049	0	0	51600	0	0	0	0	0	0	0	0	1.29	4627
6	1	1	$ 3530	$ 1009C	$ 413A	$ 2413K	$ 1963K	$ 756A	$ 4338K	$ 3374K	$ 1066A	$ 8842K	$ 6683K	$ 1799A	$32490K	$25574K	$ 6.67A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2532A	$ 1892A	$ 413A	$ 4692A	$ 3430A	$ 756A	$ 6485A	$ 4809A	$ 1066A	$10589A	$ 8012A	$ 1799A	$32584A	$27875A	$ 6.67A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2533A	$ 1567A	$ 413A	$ 4686A	$ 3481A	$ 756A	$ 6855A	$ 4962A	$ 1066A	$11473A	$ 6243A	$ 1799A	$39526A	$28016A	$ 6.67A	$-8206A
			0	0	0	0	0	0	0	94	0	0	0	0	0	3	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6.67A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1291F	$ 1332E	$ 435A	$ 3123F	$ 2539F	$ 741A	$ 4639F	$ 3835F	$ 1045A	$ 8269K	$ 6626F	$ 1721A	$34222F	$25146F	$ 6.39A	$-8183A
			0	0	0	0	0	0	0	0	0	0	0	113	0	0	0	0
11	2	2	$ 2553A	$ 1950A	$ 435A	$ 4551A	$ 3349A	$ 741A	$ 6260A	$ 4690A	$ 1045A	$ 9928A	$ 7609A	$ 1721A	$36742A	$27730A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
12	2	3	$ 2473A	$ 1868A	$ 435A	$ 4786A	$ 3411A	$ 741A	$ 6714A	$ 4803A	$ 1045A	$10985A	$ 7881A	$ 1720A	$35395A	$27869A	$ 6.39A	$-8.03A
			0	0	0	0	0	0	0	0	0	0	0	77	0	0	21	0
13	2	4	$ 2555A	$ 1874A	$ 435A	$ 4855A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27550A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 1150K	$ 625C	$ 396A	$ 2124K	$ 1796K	$ 725A	$ 3692K	$ 3128K	$ 1022A	$ 7715K	$ 6559K	$ 1686A	$28355K	$22619K	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2537A	$ 1816A	$ 396A	$ 4545A	$ 3300A	$ 725A	$ 6309A	$ 4632A	$ 1022A	$10123A	$ 7560A	$ 1686A	$35133A	$25123A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	0
16	3	3	$ 2537A	$ 1829A	$ 396A	$ 4710A	$ 3344A	$ 725A	$ 6623A	$ 4711A	$ 1022A	$10853A	$ 7751A	$ 1686A	$35643A	$25256A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
17	3	4	$ 2594A	$ 1833A	$ 396A	$ 4752A	$ 3255A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7903A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1225F	$ 1246F	$ 376A	$ 3239F	$ 2403F	$ 688A	$ 4978F	$ 3695F	$ 970A	$ 8257F	$ 6103F	$ 1503A	$32289F	$26329F	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	696	0	0	0	0	0	0	0
19	4	2	$ 2391F	$ 1721A	$ 376A	$ 4274A	$ 3123A	$ 688A	$ 5916A	$ 4378A	$ 970A	$ 8822A	$ 6687A	$ 1503A	$41600A	$29625A	$ 6433A	$-6.99A
			0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
20	4	3	$ 2451A	$ 1736A	$ 376A	$ 4465A	$ 3174A	$ 688A	$ 6282A	$ 4471A	$ 970A	$ 9662A	$ 6907A	$ 1503A	$41990A	$29726A	$ 6433A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1311B	$ 985B	$ 299A	$ 2279F	$ 1755F	$ 547A	$ 3661F	$ 2771F	$ 772A	$ 4687F	$ 3571F	$ 954A	$41599F	$30173F	$ 6770A	$-7590A
			0	0	0	0	0	1310	0	0	0	0	0	0	0	0	35	0
23	5	2	$ 1390A	$ 1366A	$ 299A	$ 3365A	$ 2475A	$ 547A	$ 4634A	$ 3461A	$ 772A	$ 5437A	$ 4203A	$ 954A	$43974A	$31227A	$ 6770A	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1945A	$ 1360A	$ 299A	$ 3542A	$ 2522A	$ 547A	$ 4974A	$ 3551A	$ 772A	$ 6082A	$ 4372A	$ 954A	$44263A	$31302A	$ 6770A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1945A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	525	0	0	0	0	0	0	0	0	0	0

PLAN L 10C . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423373562.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=6))
1	0	1	$ 1513A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$30962A	$ 6691A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	98	0	
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5696A	$-7589A
			0	0	0	0	0	0	0	0	8197	0	0	17.36	0	0	1139	0
3	0	3	$ 2454A	$ 2014A	$ 436A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	846	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7413A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8701	15671	652	1163	156	0	0	0	196	213	240	0
5	0	5	$ 2464A	$ 347A	$ 3204A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	66712	0	0	52931	0	0	0	0	0	0	0	0	1.44	4827
6	1	1	$ 159K	$ 606F	$ 348A	$ 2115K	$ 1696K	$ 593F	$ 3762K	$ 2858K	$ 834F	$ 7467P	$ 5563F	$ 1474K	$32441K	$24652K	$ 59.1A	$-82.6A
			0	0	0	0	0	6	0	0	0	0	0	0	0	16	0	
7	1	2	$ 2499A	$ 1766A	$ 399A	$ 4226A	$ 3.14A	$ 708A	$ 5588A	$ 4004A	$ 973A	$ 9375F	$ 6823K	$ 1619F	$37615A	$26847A	$ 5955A	$-82.6A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4658A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10567A	$ 7575F	$ 1711A	$36735A	$27318A	$ 5491A	$-82.6A
			0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28180A	$ 6.67A	$-82.6A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 1563F	$ 878F	$ 339A	$ 2369F	$ 1262F	$ 570F	$ 3498K	$ 2669K	$ 799F	$ 6947P	$ 5122F	$ 1365F	$32534F	$24596F	$ 5671A	$-8183A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2397A	$ 1703A	$ 386A	$ 4108A	$ 2865A	$ 686A	$ 5224A	$ 3756A	$ 936A	$ 8856K	$ 6458K	$ 1535K	$37536A	$26665A	$ 5923A	$-8183A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6352A	$ 4480A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38697A	$27222A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	59	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 415A	$ 4959A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1728A	$39593A	$27951A	$ 6.39A	$-8183A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 15K	$ 366F	$ 364A	$ 1813K	$ 1519K	$ 621A	$ 3296K	$ 2594K	$ 821A	$ 6713F	$ 5030P	$ 1359K	$27654K	$21739K	$ 531.A	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2435A	$ 1729A	$ 386A	$ 4224A	$ 3014A	$ 692A	$ 5694A	$ 4081A	$ 959A	$ 9135F	$ 6524F	$ 1542F	$34160A	$24285A	$ 5377A	$-7552A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4487A	$ 998A	$10215A	$ 7191A	$ 1624A	$34376A	$24669A	$ 54.4A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3356A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25311A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1149F	$ 1189F	$ 358A	$ 2962F	$ 2190F	$ 620A	$ 4511F	$ 3279F	$ 859A	$ 7430K	$ 5451K	$ 1318K	$37516F	$27639F	$ 6330A	$-8199A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2334A	$ 1643A	$ 367A	$ 3990A	$ 2669A	$ 659A	$ 5372A	$ 3890A	$ 914A	$ 7607F	$ 5594A	$ 1379A	$40814A	$28933A	$ 6358A	$-8199A
			0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
20	4	3	$ 2403A	$ 1696A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 5826A	$ 4245A	$ 946A	$ 9350A	$ 6366A	$ 1444A	$41395A	$29203A	$ 6376A	$-8199A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1513A	$42177A	$29775A	$ 6433A	$-8199A
			0	0	0	0	0	0	0	0	23	0	0	0	0	22	0	0
22	5	1	$ 1128	$ 809F	$ 279A	$ 2108F	$ 1515F	$ 464A	$ 3152F	$ 2319F	$ 652A	$ 3834K	$ 2913K	$ 769K	$41.84F	$29720F	$ 6712A	$-7595A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1791A	$ 1269A	$ 288A	$ 3.21A	$ 2168A	$ 512A	$ 3983A	$ 2880A	$ 705A	$ 4428F	$ 3213F	$ 827A	$43426A	$33745A	$ 6717A	$-759.A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1596A	$ 1336A	$ 294A	$ 3390A	$ 2388A	$ 533A	$ 4693A	$ 3374A	$ 745A	$ 5519A	$ 3677A	$ 910A	$43871A	$31958A	$ 6732A	$-7593A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1651A	$ 1384A	$ 299A	$ 3593A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4410A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN L 50 . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423309308.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43563A	$30962A	$ 4690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7457A	$ 1617A	$37307A	$26337A	$ 5590A	$-7589A
			0	0	0	0	0	0	0	0	8220	0	0	17013	0	0	1138	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	849	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7559A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4315A
			11791	11790	0	8726	8701	15656	652	1163	171	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2512A	$ 4111A	$ 3553A	$-1264A
			0	0	66456	0	0	53175	0	0	0	0	0	0	0	0	1046	4827
6	1	1	$ 159K	$ 516G	$ 316A	$ 2115K	$ 1695K	$ 550F	$ 3762K	$ 2858K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$32202K	$24442K	$ 5759K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 391A	$ 3986A	$ 2802A	$ 685A	$ 5293F	$ 3828F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5883F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2631A	$ 1856A	$ 407A	$ 4698A	$ 3314A	$ 737A	$ 6495A	$ 4580A	$ 1030A	$10587A	$ 7575F	$ 1711A	$38735A	$27318A	$ 5991A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28060A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 901F	$ 734F	$ 341A	$ 1949K	$ 1573K	$ 521K	$ 2438K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$32417K	$24383K	$ 5725K	$-8183A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8956K	$ 6458K	$ 1535K	$37044F	$26220F	$ 5849F	$-8183A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2576A	$ 1817A	$ 399A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4400A	$ 1008A	$10109A	$ 7211F	$ 1635A	$38597A	$27222A	$ 5966A	$-8183A
			0	0	0	0	0	0	0	0	82	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6453A	$ 4388A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6139A	$-8183A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ -64K	$ 175G	$ 315A	$ 1561K	$ 1296K	$ 487F	$ 2824K	$ 2272P	$ 730K	$ 6713P	$ 5030P	$ 1357P	$27175P	$21163P	$ 5101P	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1658A	$ 378A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 5304F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2540A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6359A	$ 4487A	$ 998A	$10215A	$ 7190A	$ 1624A	$34976A	$24569A	$ 5404A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1149F	$ 1070B	$ 341A	$ 2962F	$ 2190F	$ 575A	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1318K	$37351F	$27504F	$ 6251F	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$40187F	$28453F	$ 6284F	$-8099A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2408A	$ 1698A	$ 371A	$ 4332A	$ 3053A	$ 675A	$ 6025A	$ 4245A	$ 946A	$ 9050A	$ 6366A	$ 1444A	$41395A	$29203A	$ 6376A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	22	0	0	0	0	22	0	0
22	5	1	$ 789B	$ 784B	$ 260A	$ 2008F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3834K	$ 2913K	$ 769K	$40983F	$29631F	$ 6619F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1687A	$ 1186A	$ 279A	$ 2736A	$ 1918A	$ 485A	$ 3544F	$ 2597F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$30171F	$ 6644A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1496A	$ 1336A	$ 294A	$ 3390A	$ 2368A	$ 533A	$ 4693A	$ 3304A	$ 749A	$ 5519A	$ 3677A	$ 900A	$43871A	$31958A	$ 6732A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1394A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN M G . AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423244815.

J	R	Z	(I=1) (T=1)	(I=1) (T=2)	(I=1) (T=3)	(I=2) (T=1)	(I=2) (T=2)	(I=2) (T=3)	(I=3) (T=1)	(I=3) (T=2)	(I=3) (T=3)	(I=4) (T=1)	(I=4) (T=2)	(I=4) (T=3)	(I=5) (T=1)	(I=5) (T=2)	(I=5) (T=3)	(I=6) (T=G)
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 579A	$43663A	$30962A	$ 669A	$-6522A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10686A	$ 7467A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	8226	0	0	17613	0	0	1138	0
3	0	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7154A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	548	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$14707A	$ 7553A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-43164
			11790	11790	0	8726	8701	15655	652	1163	171	0	0	0	196	213	240	0
5	0	5	$ 246A	$ 347A	$ 330A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	67855	0	0	51791	0	0	0	0	0	0	0	0	1131	4527
6	1	1	$ 159K	$ 317K	$ 219K	$ 2115K	$ 1696K	$ 541K	$ 3762K	$ 2658K	$ 822K	$ 7467P	$ 5563P	$ 1474K	$21174K	$14742K	$ 47[illegible]K	$-6206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2414A	$ 1700A	$ 331A	$ 3956A	$ 2602A	$ 685A	$ 5283F	$ 3823F	$ 937F	$ 9375F	$ 6823K	$ 1619F	$37316F	$26414F	$ 5383F	$-6206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2531A	$ 1856A	$ 407A	$ 4633A	$ 3314A	$ 737A	$ 6405A	$ 4508A	$ 1036A	$10507A	$ 7575F	$ 1711A	$33735A	$27318A	$ 5991A	$-6206A
			0	0	0	0	0	0	0	0	0	0	0	99	0	0	0	0
9	1	4	$ 2709A	$ 1912A	$ 413A	$ 4359A	$ 3500A	$ 756A	$ 6933A	$ 4937A	$ 1066A	$11797A	$ 8326A	$ 1799A	$39777A	$28.8[illegible]A	$ 6.67A	$-6206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 931F	$ 734F	$ 273F	$ 1949K	$ 1578K	$ 521K	$ 3498K	$ 2669K	$ 792K	$ 6847P	$ 5122P	$ 1385P	$22879K	$15993K	$ 4610K	$-8183A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2306A	$ 1622A	$ 379A	$ 3716A	$ 2608A	$ 658A	$ 5027F	$ 3644F	$ 907F	$ 8556K	$ 6458K	$ 1535K	$37.44F	$2622.F	$ 5049F	$-8.83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2574A	$ 1817A	$ 395A	$ 4598A	$ 3243A	$ 722A	$ 6353A	$ 4430A	$ 1008A	$10109A	$ 7211F	$ 1635A	$36597A	$27222A	$ 5466A	$-8.83A
			0	0	0	0	0	0	0	0	82	0	0	0	0	16	0	0
13	2	4	$ 2555A	$ 1876A	$ 405A	$ 4653A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1723A	$39593A	$2795.A	$ 6.39A	$-8.83A
			0	0	0	0	0	0	446	0	0	0	0	0	0	0	0	0
14	3	1	$ -64K	$ 156K	$ 193K	$ 1561K	$ 1296K	$ 434K	$ 2824K	$ 2272P	$ 73LK	$ 6713P	$ 5.3LP	$ 1357P	$15.4[illegible]P	$1[illegible]439P	$ 3336P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2355A	$ 1655A	$ 379A	$ 3970A	$ 2791A	$ 667A	$ 5218A	$ 3776F	$ 913A	$ 9135F	$ 6534F	$ 1542F	$33655F	$23837F	$ 53.4F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2543A	$ 1792A	$ 392A	$ 4575A	$ 3225A	$ 712A	$ 6369A	$ 4437A	$ 996A	$10215A	$ 7191A	$ 1624A	$34976A	$24669A	$ 5434A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6582A	$ 4731A	$ 1022A	$11053A	$ 7903A	$ 1666A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1149F	$ 912F	$ 276F	$ 2962F	$ 2190F	$ 571F	$ 4511F	$ 3279F	$ 831F	$ 7430K	$ 5451K	$ 1315K	$29759F	$23826F	$ 5522F	$-8199A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2179A	$ 1533A	$ 355A	$ 3603A	$ 2528A	$ 622A	$ 4730F	$ 3431F	$ 847F	$ 7607F	$ 5451K	$ 1335F	$4[illegible].187F	$28453F	$ 6264F	$-8.93A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2403A	$ 1696A	$ 771A	$ 4332A	$ 3053A	$ 675A	$ 6226A	$ 4245A	$ 946A	$ 9.50A	$ 6368A	$ 1444A	$41395A	$2[illegible]2.3A	$ 6376A	$-8.93A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 15.3A	$42177A	$25775A	$ 6433A	$-8.93A
			0	0	0	0	0	0	0	0	26	0	0	0	0	22	0	0
22	5	1	$ 631F	$ 547F	$ 198F	$ 2.[illegible]8F	$ 1515F	$ 428F	$ 3152F	$ 2319F	$ 629F	$ 3334K	$ 2913K	$ 769K	$36582F	$25760F	$ 6196F	$-759.A
			0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1687A	$ 1185A	$ 279A	$ 2735A	$ 1918A	$ 485A	$ 3544F	$ 2537F	$ 657F	$ 4428F	$ 3213F	$ 817F	$42664A	$3.171F	$ 6644A	$-759.A
			0	0	133	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1395A	$ 1336A	$ 294A	$ 3391A	$ 2368A	$ 533A	$ 4493A	$ 3304A	$ 745A	$ 5519A	$ 3577A	$ 9[illegible]A	$43871A	$3[illegible]958A	$ 6732A	$-759.A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1341A	$ 1384A	$ 299A	$ 3593A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44365A	$31334A	$ 677[illegible]A	$-759.A
			0	0	0	0	0	471	0	0	0	0	0	0	0	0	33	0

APPENDIX D

LP SOLUTIONS FOR SENSITIVITY ANALYSIS

The following computer listings describe the LP results of the sensitivity analyses that were conducted on the M-0 and G-50 planning alternatives. Tables C-1 and C-2 in the preceding appendix section contain information that may be useful for interpreting the computer printout.

PLAN MOD 1. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*03673474.

J	R	Z	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	((I=6)) (T=J)
1	1	1	$ 1449A	$ 1814A	$ 1665A	$ 3385A	$ 3520A	$ 3647A	$ 4774A	$ 4682A	$ 4298A	$ 4618A	$ 4529A	$ 4157A	$53423A	$52394A	$46196A	$*3174A
			1173	11790	2633	0	0	0	0	0	0	0	0	0	44	44	10	0
2	1	2	$ 3022A	$ 2945A	$ 2703A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7611A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$40511A	$*4330A
			0	0	0	0	0	0	0	390	8425	0	0	16427	0	12	1115	0
3	1	3	$ 3476A	$ 3409A	$ 3129A	$ 6363A	$ 6240A	$ 5728A	$ 8973A	$ 8800A	$ 8078A	$17031A	$16703A	$15332A	$33511A	$32865A	$30169A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	1	4	$ 3673A	$ 3602A	$ 3307A	$ 6723A	$ 6593A	$ 6052A	$ 9481A	$ 9299A	$ 8536A	$13041A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-615JA
			0	0	0	8726	8726	39023	1163	752	0	0	0	0	169	155	585	0
5	1	5	$ 3[illegible]A	$ 588A	$ 2161A	$ 5494	$ 1677A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6956A	$25548A	$-4313A
			0	0	9039	0	0	29803	0	0	0	0	0	0	0	0	784	4827
6	1	1	$ -134K	$ 234K	$ 1467K	$ 1289K	$ 1866K	$ 3527K	$ 2935P	$ 3542P	$ 5337P	$ 8464U	$ 6999U	$10278U	$*4733U	$*3917U	$2[illegible].64U	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2011A	$ 2156A	$ 2561A	$ 3418F	$ 3705F	$ 4412F	$ 5566K	$ 5837K	$ 6340K	$11417K	$11546K	$11607K	$44143K	$43636K	$41069K	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2958A	$ 2950A	$ 2862A	$ 4914A	$ 4979A	$ 5377A	$ 7042F	$ 7381F	$ 7604F	$12893F	$12819F	$12272F	$46553F	$45888F	$42822F	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 33[illegible]A	$ 3236A	$ 2971A	$ 6.43A	$ 5924A	$ 5438A	$ 8518A	$ 8354A	$ 7669A	$14370A	$14093A	$12937A	$48451A	$47517A	$43619A	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$ -131	$ 3751	$ 1547G	$ 873K	$ 1561K	$ 3326K	$ 2478P	$ 3160P	$ 5673P	$ 7835U	$ 8381U	$ 9711U	$*6241U	$-6838U	$22569U	$*5263A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2.35[illegible]	$ 2143C	$ 2427A	$ 3641F	$ 3356F	$ 4217F	$ 5395K	$ 5639K	$ 6186K	$10788K	$10929K	$11341K	$43622K	$43534K	$41636K	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
12	2	3	$ 2433A	$ 2662A	$ 2821A	$ 4783A	$ 4656A	$ 4966A	$ 6871F	$ 6913F	$ 6850F	$12264F	$12202F	$11715F	$46344F	$45663F	$42626F	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	99	0	0	0	0
13	2	4	$ 3234A	$ 3171A	$ 2911A	$ 5113A	$ 5605A	$ 5329A	$ 6347A	$ 8137A	$ 7515A	$13741A	$13476A	$12372A	$48226A	$47297A	$43416A	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	423	0	0	45	0
14	3	1	$ -831K	$ -316K	$ 1863K	$ 699P	$ 1363P	$ 3812P	$ 2498P	$ 3151P	$ 4972P	$ 7558U	$ 8113U	$ 9462U	$*6144U	$*4158U	$137[illegible].1U	$*4261A
			0	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0
15	3	2	$ 2111A	$ 2211A	$ 2512A	$ 3648F	$ 3847F	$ 4340F	$ 5443F	$ 5691F	$ 6299F	$10511K	$10657K	$10791K	$39490K	$39254K	$376[illegible]4K	$*4261A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2912A	$ 2952A	$ 2763A	$ 4933A	$ 5011A	$ 4964A	$ 6650F	$ 6754A	$ 6589A	$11987F	$11931F	$11456F	$41837F	$41250F	$39539F	$*4261A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 3163A	$ 3122A	$ 2847A	$ 5789A	$ 5677A	$ 5211A	$ 8164A	$ 8307A	$ 7350A	$13464A	$13204A	$12121A	$43670A	$42829A	$39315A	$*4261A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1273F	$ 1283F	$ 1494F	$ 2549F	$ 2683F	$ 3815F	$ 4798K	$ 5354K	$ 5648K	$ 9350K	$ 9225K	$ 9477K	$ 2224K	$ 9158K	$3[illegible].573K	$*5293A
			0	0	0	0	0	0	0	0	696	0	0	0	0	0	0	0
19	4	2	$ 1742A	$ 1880A	$ 2316A	$ 3[illegible]3F	$ 3265F	$ 3967F	$ 4798K	$ 5354K	$ 5727F	$ 9350K	$ 9225K	$ 9477K	$47437K	$47[illegible]13K	$44615K	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2746A	$ 2736A	$ 2623A	$ 4639A	$ 4714A	$ 4697A	$ 6274F	$ 6336A	$ 6508A	$10527F	$10496F	$10141F	$49579F	$48644F	$45467F	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 3022A	$ 2945A	$ 2703A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7611A	$ 6977A	$12003A	$11772A	$10866A	$51374A	$50384A	$46250A	$*5293A
			0	0	0	0	0	0	0	20	0	0	0	0	23	0	0	0
22	5	1	336F	636F	$ 1322F	$ 1420K	$ 1741K	$ 2759F	$ 3214K	$ 3561K	$ 4222K	$ 4671K	$ 4929K	$ 5534K	$24222K	$27956K	$38991K	$*4331A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1179A	$ 1329A	$ 1769A	$ 2151F	$ 2391F	$ 3040F	$ 3318F	$ 3625F	$ 4461F	$ 4671K	$ 4929K	$ 5534K	$50469K	$49087K	$47226F	$*4331A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2196A	$ 2097A	$ 2599A	$ 3470A	$ 3539A	$ 3659A	$ 4690F	$ 4774F	$ 5037A	$ 6147F	$ 6203F	$ 6198F	$52378F	$51573F	$47957A	$*4331A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2399A	$ 2343A	$ 2151A	$ 4373A	$ 4203A	$ 3936A	$ 6167A	$ 6048A	$ 5552A	$ 7623A	$ 7477A	$ 6863A	$54064A	$53022A	$48672A	$*4331A
			0	0	0	0	0	406	0	0	0	0	0	0	0	0	18	0

PLAN G50: 1. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*64214413.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	1	1	$ 1449A	$ 1814A	$ 1665A	$ 3385A	$ 3320A	$ 3047A	$ 4774A	$ 4692A	$ 4298A	$ 4618A	$ 4529A	$ 4157A	$53423A	$52394A	$48.96A	$*3.70A
			1173	11790	2693	0	0	0	0	0	0	0	0	0	44	44	16	0
2	2	2	$ 3002A	$ 2945A	$ 2703A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7631A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$40911A	$*4333A
			0	0	0	0	0	0	0	390	8425	0	0	16427	0	12	1115	0
3	3	3	$ 3476A	$ 3409A	$ 3129A	$ 6363A	$ 6240A	$ 5728A	$ 8973A	$ 8830A	$ 8078A	$17031A	$16703A	$15332A	$33511A	$32865A	$30169A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	548	0
4	3	4	$ 3673A	$ 3602A	$ 3307A	$ 6721A	$ 6593A	$ 6052A	$ 9481A	$ 9239A	$ 8536A	$13441A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-5150A
			0	0	0	8726	8726	39023	1163	752	0	0	0	0	169	155	505	0
5	0	5	$ 3304	$ 588A	$ 2161A	$ 549A	$ 1077A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6958A	$25546A	$-4310A
			0	0	9030	0	0	29803	0	0	0	0	0	0	0	0	764	4027
6	1	1	$ -194K	$ 234K	$ 1467K	$ 1289K	$ 1866K	$ 3527K	$ 2905P	$ 3542P	$ 5307P	$ 8464U	$ 8999U	$10278U	$*4733U	$*3917U	$2306.4U	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	-	0
7	1	2	$ 2311A	$ 2156A	$ 2561A	$ 3439F	$ 3765F	$ 4412F	$ 5566K	$ 5837K	$ 6340K	$11417K	$11546K	$11607K	$44143K	$43036K	$41869K	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2356A	$ 2956A	$ 2862A	$ 4914A	$ 4979A	$ 5377A	$ 7042F	$ 7081F	$ 7604F	$12693F	$12819F	$12272F	$46552F	$45888F	$42822F	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 3330A	$ 3236A	$ 2971A	$ 6040A	$ 5924A	$ 5438A	$ 8518A	$ 8354A	$ 7669A	$14370A	$14093A	$12937A	$48451A	$47517A	$43815A	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$ -131	$ 375I	$ 1547G	$ 873K	$ 1531K	$ 3326K	$ 2478P	$ 3160P	$ 5073P	$ 7635U	$ 8381U	$ 9711U	$*6241U	$-6038U	$22569U	$*5263A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2336	$ 2143C	$ 2427A	$ 3641F	$ 3356F	$ 4217F	$ 5395K	$ 5639K	$ 6186K	$10788K	$10929K	$11041K	$43822K	$43534K	$41636K	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
12	2	3	$ 2333A	$ 2082A	$ 2 1A	$ 4789A	$ 4656A	$ 4966A	$ 6871F	$ 6913F	$ 6850F	$12264F	$12202F	$11705F	$46344F	$45683F	$42626F	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	59	0	0	0	0
13	2	4	$ 3234A	$ 3171A	$ 2911A	$ 5913A	$ 5805A	$ 5329A	$ 8347A	$ 8137A	$ 7515A	$13741A	$13476A	$12371A	$48226A	$47297A	$43416A	$*5263A
			0	0	0	0	0	0	0	0	0	0	0	420	0	0	45	0
14	3	1	$ -431K	$ -314K	$ 1189K	$ 699P	$ 1303P	$ 3012P	$ 2498P	$ 3151P	$ 4972P	$ 7558U	$ 8116U	$ 9462U	$*6144U	$*4156U	$137.1U	$*4261A
			0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	0
15	3	2	$ 2111A	$ 2211A	$ 2512A	$ 3644F	$ 3847F	$ 4343F	$ 5443F	$ 5631F	$ 6299F	$10511K	$10657K	$10791K	$39490K	$39254K	$37624K	$*4261A
			0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0
16	3	3	$ 2312A	$ 2092A	$ 2769A	$ 4993A	$ 5111A	$ 4964A	$ 6688F	$ 6754A	$ 6885A	$11987F	$11931F	$11456F	$41837F	$41256F	$38539F	$*4261A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 3163A	$ 3102A	$ 2847A	$ 5789A	$ 5677A	$ 5211A	$ 8164A	$ 8007A	$ 7350A	$13464A	$13264A	$12121A	$43670A	$42629A	$39315A	$*4261A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1753C	$ 1671C	$ 2165C	$ 2549F	$ 2083F	$ 3815F	$ 4798K	$ 5354K	$ 5646K	$ 9350K	$ 9225K	$ 9477K	$46937K	$46594K	$44460K	$*5293A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 1742A	$ 1888A	$ 2306A	$ 3.03F	$ 3265F	$ 3967F	$ 4798K	$ 5054K	$ 5727F	$ 9350K	$ 9225K	$ 9477K	$47437K	$47013K	$44615K	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2746A	$ 2730A	$ 2623A	$ 4603A	$ 4714A	$ 4697A	$ 6274F	$ 6336A	$ 6508A	$10527F	$10498F	$10141F	$49579F	$48844F	$45487F	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 3032A	$ 2945A	$ 2703A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7631A	$ 6977A	$12003A	$11772A	$10846A	$51374A	$50364A	$46250A	$*5293A
			0	0	0	0	0	0	0	20	0	0	0	0	23	0	0	0
22	5	1	$ 1351C	$ 1193C	$ 1576C	$ 1420K	$ 1741K	$ 2759F	$ 3214K	$ 3531K	$ 4222K	$ 4671K	$ 4929K	$ 5534K	$50135K	$49650K	$47.40K	$*4331A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1179A	$ 1329A	$ 1769A	$ 2151F	$ 2391F	$ 3040F	$ 3318F	$ 3625F	$ 4461F	$ 4671K	$ 4929K	$ 5534K	$50409K	$49887K	$47226F	$*4331A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2356A	$ 2497A	$ 2859A	$ 3479A	$ 3539A	$ 3659A	$ 4690F	$ 4774F	$ 5037A	$ 6147F	$ 6203F	$ 6198F	$52378F	$51573F	$47957A	$*4331A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2339A	$ 2343A	$ 2151A	$ 4373A	$ 4203A	$ 3936A	$ 6167A	$ 6.48A	$ 5552A	$ 7623A	$ 7477A	$ 6863A	$54664A	$53.22A	$48672A	$*4331A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN NO: 2. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $422888929.

J	R	T	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=J))
1	0	1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$4386.A	$3.962A	$ 669.A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4432A	$ 970A	$10606A	$ 7487A	$ 1617A	$373.7A	$26337A	$ 569.A	$-7563A
			0	0	0	0	0	33	0	0	858(	0	0	16627	0	0	1131	0
3	0	3	$ 2454A	$ 2.14A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 52.0A	$ 1123A	$13982A	$ 987.A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	048	0
4	0	4	$ 3.15A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11730	-11790	0	8726	8701	15310	1163	1163	0	0	0	0	213	213	229	0
5	0	5	$ 246A	$ 347A	$ 30.A	$ 45.A	$ 636A	$ 550A	$ 635A	$ 697A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	6[illegible]	0	0	5160	0	0	0	0	0	0	0	0	1029	4027
6	1	1	$ -61K	$ 121K	$ 118P	$ 1383K	$ 1049K	$ 419P	$ 2449P	$ 1906P	$ 671P	$ 6107U	$ 4570U	$ 1316U	$18244P	$12304P	$ 4326P	$-8266A
			0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7	1	2	$ 1236F	$ 985F	$ 259F	$ 3.42F	$ 2161F	$ 559F	$ 4415F	$ 3043F	$ 809K	$ 6065K	$ 5647P	$ 1454P	$2981UF	$19809F	$ 5.54K	$-8266A
			0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2438A	$ 1737A	$ 351A	$ 4254A	$ 2513A	$ 652A	$ 5627A	$ 3796A	$ 901F	$ 9277F	$ 6430K	$ 1546K	$38273A	$2691.A	$ 5865F	$-8266A
			0	0	0	0	0	98	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 2673A	$ 1361A	$ 413A	$ 4645A	$ 3460A	$ 746A	$ 6780A	$ 4749A	$ 1047A	$11230A	$ 7829A	$ 1743A	$39261A	$27627A	$ 6.08A	$-8266A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$-1139P	$ -513P	$ 109P	$ 639P	$ 743P	$ 402P	$ 2211P	$ 1754P	$ 647P	$ 5559U	$ 4176U	$ 1237U	$16440P	$12293P	$ 4318P	$-8.83A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 1023F	$ 758F	$ 282F	$ 2294F	$ 1653K	$ 549F	$ 3788K	$ 2809K	$ 785K	$ 7337K	$ 5278P	$ 1374P	$28576K	$19021K	$ 5017K	$-8.834
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2457A	$ 1711A	$ 344A	$ 4200A	$ 2683A	$ 673A	$ 5575A	$ 3773A	$ 912A	$ 8943F	$ 6208F	$ 1495F	$38213A	$26881A	$ 5922A	$-8.83A
			0	0	0	0	0	64	0	0	0	0	0	0	0	0	34	0
13	2	4	$ 2615A	$ 1839A	$ 431A	$ 4733A	$ 3319A	$ 731A	$ 6616A	$ 4630A	$ 1026A	$10677A	$ 7432A	$ 1674A	$39107A	$27523A	$ 5905A	$-8.83A
			0	0	0	0	0	0	0	0	0	0	0	466	0	0	0	0
14	3	1	$-1132P	$ -500P	$ 109P	$ 814P	$ 848P	$ 417P	$ 2488P	$ 1935P	$ 686P	$ 6040P	$ 4419P	$ 1273P	$13578P	$ 9072P	$ 3764P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 1233F	$ 1002F	$ 294F	$ 3223F	$ 2345F	$ 601F	$ 4892F	$ 3494F	$ 869F	$ 8415F	$ 5885F	$ 1453F	$27082F	$18650F	$ 4651F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2432A	$ 1742A	$ 384A	$ 4376A	$ 3157A	$ 686A	$ 5982A	$ 4162A	$ 947A	$ 9352A	$ 6583F	$ 1524F	$34739A	$24456A	$ 5376A	$-7552A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2527A	$ 1771A	$ 392A	$ 4535A	$ 3163A	$ 715A	$ 6298A	$ 4375A	$ 1034A	$ 9997A	$ 7.5.F	$ 1638A	$35367A	$249.1A	$ 5419A	$-7552A
			0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18	4	1	$ -41K	$ 174K	$ 163K	$ 1823K	$ 1483K	$ 477K	$ 3439K	$ 2613K	$ 735K	$ 6265K	$ 4698P	$ 1206K	$28454K	$19839K	$ 5364K	$-8.99A
			0	0	0	0	0	0	0	0	694	0	0	0	0	0	0	0
19	4	2	$ 1171F	$ 922F	$ 275F	$ 3.37F	$ 2222F	$ 567F	$ 4654F	$ 3339F	$ 824F	$ 7488F	$ 5282F	$ 1291F	$34968F	$23859F	$ 5763F	$-8.99A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2346A	$ 1447A	$ 364A	$ 4131A	$ 2884A	$ 649A	$ 5637A	$ 3918A	$ 894A	$ 8213A	$ 5785F	$ 1344F	$41183A	$29.13A	$ 6351A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2393A	$ 1677A	$ 372A	$ 4291A	$ 2991A	$ 678A	$ 5954A	$ 4132A	$ 952A	$ 8844A	$ 6204F	$ 1456A	$41762A	$2341.4	$ 6369A	$-8.99A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ -556K	$ -189K	$ 105K	$ 674K	$ 613K	$ 334K	$ 2094K	$ 1663K	$ 532K	$ 2759K	$ 2160P	$ 665K	$34683K	$24325K	$ 5.17K	$-7590A
			0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 642F	$ 544F	$ 196F	$ 2143F	$ 1536F	$ 421F	$ 3216F	$ 2300F	$ 616F	$ 3816F	$ 2657F	$ 740F	$38063F	$26871F	$ 6264F	$-7590A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1329A	$ 1284A	$ 246A	$ 3174A	$ 2205A	$ 565A	$ 4273A	$ 2950A	$ 690A	$ 4733A	$ 3253F	$ 8[illegible]A	$43732A	$30633A	$ 6716A	$-759.A
			0	0	0	0	0	317	0	0	0	0	0	0	0	0	35	0
25	5	4	$ 1478A	$ 1311A	$ 235A	$ 3343A	$ 2317A	$ 536A	$ 4612A	$ 3177A	$ 751A	$ 5337A	$ 3665F	$ 913A	$44112A	$31.944	$ 6741A	$-759.A
			0	0	0	0	0	565	0	0	0	0	0	0	0	0	0	0

PLAN G501 2. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $422088929.

J S Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=1))
1 0 1	$ 1519A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43861A	$30962A	$ 6690A	$-6922A
	0	0	26274	0	0	8	0	0	0	0	0	0	0	0	98	0
2 0 2	$ 2455A	$ 1746A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10666A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5695A	$-7589A
	0	0	0	0	0	33	0	0	8586	0	0	16627	0	0	1131	0
3 0 3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5208A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7554A
	0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	040	0
4 0 4	$ 3715A	$ 2129A	$ 469A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
	11790	-11790	0	8726	8701	15310	1163	1163	0	0	0	0	213	213	229	0
5 0 5	$ 245A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
	0	0	68348	0	0	51600	0	0	0	0	0	0	0	0	1029	4827
6 1 1	$ -51K	$ 121K	$ 118P	$ 1389K	$ 1049K	$ 419P	$ 2449P	$ 1916P	$ 671P	$ 6107U	$ 4570U	$ 1316U	$18244P	$12304P	$ 4328P	$-8206A
	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7 1 2	$ 1236F	$ 985F	$ 283F	$ 3142F	$ 2161F	$ 559F	$ 4415F	$ 3043F	$ 809K	$ 8365K	$ 5647P	$ 1454P	$29810F	$19809F	$ 5054K	$-8206A
	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
8 1 3	$ 2493A	$ 1737A	$ 381A	$ 4254A	$ 2913A	$ 652A	$ 5627A	$ 3796A	$ 901F	$ 9277F	$ 6400K	$ 1546K	$38273A	$26910A	$ 5865F	$-8206A
	0	0	0	0	0	98	0	0	0	0	0	0	0	0	0	0
9 1 4	$ 2573A	$ 1081A	$ 413A	$ 4054A	$ 3400A	$ 746A	$ 6780A	$ 4749A	$ 1047A	$11230A	$ 7829A	$ 1748A	$39261A	$27627A	$ 6[illegible]6A	$-8206A
	0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10 2 1	$-1139P	$ -513P	$ 109P	$ 639P	$ 743P	$ 402P	$ 2211P	$ 1754P	$ 647P	$ 5559U	$ 4170U	$ 1237U	$18448P	$12293P	$ 4318P	$-8083A
	0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11 2 2	$ 1723F	$ 765F	$ 262F	$ 2264F	$ 1653K	$ 549F	$ 3788K	$ 2809K	$ 785K	$ 7337K	$ 5278P	$ 1374P	$28576K	$19021K	$ 5017K	$-8083A
	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12 2 3	$ 2457A	$ 1711A	$ 344A	$ 4200A	$ 2883A	$ 673A	$ 5575A	$ 3773A	$ 912A	$ 8943F	$ 6208F	$ 1495F	$38213A	$26881A	$ 5922A	$-8083A
	0	0	0	0	0	64	0	0	0	0	0	0	0	0	34	0
13 2 4	$ 2515A	$ 1939A	$ 411A	$ 4713A	$ 3313A	$ 731A	$ 6616A	$ 4630A	$ 1026A	$10677A	$ 7432A	$ 1674A	$39107A	$27523A	$ 5965A	$-8083A
	0	0	0	0	0	0	0	0	0	0	0	466	0	0	0	0
14 3 1	$-1137P	$ -510P	$ 109P	$ 814P	$ 648P	$ 417P	$ 2488P	$ 1995P	$ 686P	$ 6040P	$ 4419P	$ 1273P	$13570P	$ 9070P	$ 3764P	$-7552A
	0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15 3 2	$ 1235F	$ 1162F	$ 294F	$ 3228F	$ 2345F	$ 601F	$ 4892F	$ 3404F	$ 869F	$ 8415F	$ 5085F	$ 1453F	$27682F	$18650F	$ 4651F	$-7552A
	0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16 3 3	$ 2452A	$ 1742A	$ 384A	$ 4376A	$ 3057A	$ 686A	$ 5982A	$ 4162A	$ 947A	$ 9352A	$ 6583F	$ 1524F	$34739A	$24456A	$ 5376A	$-7552A
	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17 3 4	$ 2527A	$ 1771A	$ 392A	$ 4535A	$ 3163A	$ 715A	$ 6298A	$ 4375A	$ 1004A	$ 9997A	$ 7050F	$ 1633A	$35387A	$24901A	$ 5419A	$-7552A
	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18 4 1	$ -61K	$ 174K	$ 103K	$ 1823K	$ 1483K	$ 477K	$ 3439K	$ 2613K	$ 735K	$ 6265K	$ 4698P	$ 1206K	$28454K	$19039K	$ 5304K	$-8099A
	0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19 4 2	$ 1172F	$ 922F	$ 275F	$ 3137F	$ 2222F	$ 567F	$ 4654F	$ 3339F	$ 824F	$ 7488F	$ 5282F	$ 1291F	$34968F	$23659F	$ 5763F	$-8099A
	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20 4 3	$ 2349A	$ 1647A	$ 364A	$ 4151A	$ 2884A	$ 649A	$ 5637A	$ 3918A	$ 894A	$ 8213A	$ 5755F	$ 1344F	$41183A	$29[illegible]13A	$ 6351A	$-8099A
	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21 4 4	$ 2739A	$ 1677A	$ 372A	$ 4291A	$ 2991A	$ 678A	$ 5954A	$ 4132A	$ 952A	$ 8844A	$ 6204F	$ 1458A	$41762A	$29416A	$ 6389A	$-8099A
	0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22 5 1	$ -556K	$ -189K	$ 105K	$ 874K	$ 813K	$ 334K	$ 2394K	$ 1663K	$ 532K	$ 2759K	$ 2160P	$ 665K	$34683K	$24325K	$ 6017K	$-7590A
	0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23 5 2	$ 642F	$ 544F	$ 196F	$ 2043F	$ 1506F	$ 421F	$ 3218F	$ 2300F	$ 616F	$ 3816F	$ 2657F	$ 740F	$38863F	$26871F	$ 6264F	$-7590A
	0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24 5 3	$ 1929A	$ 1280A	$ 236A	$ 3174A	$ 2205A	$ 505A	$ 4273A	$ 2950A	$ 696A	$ 4733A	$ 3253F	$ 8[illegible]A	$43732A	$30833A	$ 6716A	$-7590A
	0	0	0	0	0	317	0	0	0	0	0	0	0	0	35	0
25 5 4	$ 1794A	$ 1311A	$ 295A	$ 3343A	$ 2317A	$ 536A	$ 4612A	$ 3177A	$ 751A	$ 5337A	$ 3665F	$ 913A	$44112A	$31[illegible]94A	$ 6741A	$-7590A
	0	0	0	0	0	535	0	0	0	0	0	0	0	0	0	0

PLAN MOD 3. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*0112174.

J	R	Z	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	0	1	$ 1349A	$ 1814A	$ 1665A	$ 3385A	$ 3320A	$ 3047A	$ 4774A	$ 4682A	$ 4298A	$ 4618A	$ 4529A	$ 4157A	$53423A	$52394A	$48096A	$*3070A
			1171	1173	2693	0	0	0	0	0	0	0	0	0	44	44	10	0
2	0	2	$ 3002A	$ 2945A	$ 2723A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7601A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$40911A	$*4336A
			0	0	0	0	0	0	0	0	8244	0	0	16993	0	0	1138	0
3	0	3	$ 3476A	$ 3469A	$ 3129A	$ 6363A	$ 6240A	$ 5728A	$ 8973A	$ 8800A	$ 8078A	$17031A	$16703A	$15332A	$33511A	$32865A	$30169A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	10643	215	215	848	0
4	0	4	$ 3673A	$ 3662A	$ 3307A	$ 6723A	$ 6593A	$ 6052A	$ 9481A	$ 9299A	$ 8536A	$13041A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-6153A
			0	0	0	8726	8726	38013	1163	1163	576	0	0	0	169	169	509	0
5	0	5	$ 300A	$ 508A	$ 2161A	$ 549A	$ 1077A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6958A	$25548A	$-4310A
			0	0	39521	0	0	30366	0	0	0	0	0	0	0	0	791	4027
6	1	1	$-1353N	$ -827N	$ 607P	$ -933U	$ -121U	$ 2257U	$ 565U	$ 1434U	$ 3993U	$ 3424U	$ 4526U	$ 7896U	$*5890U	$*2452U	$10981P	$*5496A
			0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7	1	2	$ 665F	$ 943F	$ 1646F	$ 1412K	$ 1588P	$ 3329K	$ 2988P	$ 3565P	$ 5078P	$ 8464U	$ 8999U	$10278U	$-1343U	$ 3079U	$25445U	$*5496A
			0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0
8	1	3	$ 2141A	$ 2217A	$ 2311A	$ 2038F	$ 2862K	$ 3993F	$ 4465K	$ 4839K	$ 5742K	$ 9340P	$10272P	$10943P	$43307P	$43307P	$41173P	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 3196A	$ 3048A	$ 2973A	$ 5359A	$ 5325A	$ 5219A	$ 7242A	$ 7232A	$ 7256A	$12093F	$12819F	$12272F	$46694F	$45997F	$42842F	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$-2359P	$-1403F	$ 537P	$-1135U	$ -311U	$ 2130U	$ 243U	$ 1133U	$ 3806U	$ 2609U	$ 3746U	$ 7328U	$*5440U	$*2396U	$11165P	$*5263A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ -273K	$ 141K	$ 1617F	$ 1143K	$ 1667K	$ 3192K	$ 2752P	$ 3340P	$ 4896P	$ 7035U	$ 8381U	$ 9711U	$-3019U	$ 2386U	$24394U	$*5263A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2155A	$ 2222A	$ 2444A	$ 2941F	$ 3188F	$ 4036F	$ 3379K	$ 4394K	$ 5793K	$ 9311P	$ 9655P	$10376P	$43144P	$42920P	$41199P	$*5263A
			0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2394A	$ 2361A	$ 2846A	$ 5162A	$ 5139A	$ 5120A	$ 6932A	$ 6942A	$ 7123A	$12264F	$12202F	$11705F	$46485F	$45791F	$42648F	$*5263A
			0	0	0	0	0	0	0	0	438	0	0	0	0	0	27	0
14	3	1	$-1771P	$-1166F	$ 661P	$ -291P	$ 409P	$ 2583P	$ 994U	$ 1860U	$ 4297U	$ 4296U	$ 5241U	$ 8464U	$*3851U	$*9659U	$ 7411P	$*4261A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 1153F	$ 1371F	$ 1984F	$ 2604F	$ 2907F	$ 3894F	$ 4448K	$ 4437K	$ 5610K	$ 9034P	$ 9383P	$10127P	$ -118P	$ 4442P	$23755F	$*4261A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2559A	$ 2580A	$ 2624A	$ 3819A	$ 3973A	$ 4402A	$ 5427F	$ 5624F	$ 6065F	$10511K	$10657K	$10791K	$40197K	$39039K	$37311K	$*4261A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2745A	$ 2734A	$ 2702A	$ 4436A	$ 4531A	$ 5005A	$ 6688F	$ 6733F	$ 6963A	$11987F	$11931F	$11456F	$41941F	$41333F	$38555F	$*4261A
			0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18	4	1	$ -364K	$ 46K	$ 1227K	$ 1212K	$ 1712K	$ 3070K	$ 3321P	$ 3760P	$ 4587K	$ 7574P	$ 7951P	$ 8147U	$-5703P	$ 2231P	$26501K	$*5293A
			0	0	0	0	0	690	0	0	0	0	0	0	0	0	0	0
19	4	2	$ 1336F	$ 1291F	$ 1860F	$ 2628F	$ 2694F	$ 3698F	$ 3596F	$ 4033F	$ 5234K	$ 7574P	$ 7951F	$ 8812P	$15653P	$19259P	$33504P	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2399A	$ 2414A	$ 2456A	$ 3534A	$ 3667A	$ 4130A	$ 5000F	$ 5207F	$ 5686F	$ 9050K	$ 9225K	$ 9477K	$47956K	$47442K	$44765K	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2575A	$ 2569A	$ 2636A	$ 4175A	$ 4228A	$ 4738A	$ 6274F	$ 6327F	$ 6587A	$10527F	$10496F	$10141F	$49672F	$48912F	$45501F	$*5293A
			0	0	0	0	0	0	0	0	32	0	0	0	0	0	11	0
22	5	1	$-1334K	$ -621K	$ 615K	$ -43K	$ 499K	$ 2011K	$ 1737P	$ 2227P	$ 3682K	$ 3194P	$ 3656P	$ 4204U	$15249P	$20127P	$35431K	$*4331A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 311F	$ 563F	$ 1266F	$ 1157F	$ 1415F	$ 2573F	$ 1608K	$ 2264K	$ 3706K	$ 3194P	$ 3656P	$ 4069P	$27394F	$29701F	$39333F	$*4331A
			0	0	133	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1695A	$ 1744A	$ 1874A	$ 2191A	$ 2412A	$ 3049A	$ 3293F	$ 3546F	$ 4222K	$ 4671K	$ 4929K	$ 5534K	$50005K	$50215K	$47541A	$*4331A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1032A	$ 1196A	$ 2734A	$ 2097A	$ 3015F	$ 3703A	$ 4690F	$ 4774F	$ 5123A	$ 6147F	$ 6203F	$ 6198F	$52439F	$51618F	$48059A	$*4331A
			0	0	0	0	0	490	0	0	0	0	0	0	0	0	14	0

PLAN G50: 3. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*0112174.

J	R	Z	((I=1)) ((T=1)	((I=1)) ((T=2)	((I=1)) ((T=3)	((I=2)) ((T=1)	((I=2)) ((T=2)	((I=2)) ((T=3)	((I=3)) ((T=1)	((I=3)) ((T=2)	((I=3)) ((T=3)	((I=4)) ((T=1)	((I=4)) ((T=2)	((I=4)) ((T=3)	((I=5)) ((T=1)	((I=5)) ((T=2)	((I=5)) ((T=3)	((I=6)) ((T=0)
1	5	1	$ 1949A	$ 1614A	$ 1665A	$ 3385A	$ 3320A	$ 3047A	$ 4774A	$ 4652A	$ 4298A	$ 4618A	$ 4529A	$ 4157A	$53423A	$52394A	$48096A	$*3070A
			1173	1179	2699	0	0	0	0	0	0	0	0	0	44	44	10	0
2	5	2	$ 3012A	$ 2945A	$ 2713A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7601A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$40911A	$*4330A
			0	0	0	0	0	0	0	0	8244	0	0	16990	0	0	1136	0
3	5	3	$ 3476A	$ 3403A	$ 3129A	$ 6363A	$ 6240A	$ 5726A	$ 8973A	$ 8800A	$ 8176A	$17031A	$16703A	$15332A	$33511A	$32665A	$30169A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	846	0
4	5	4	$ 3673A	$ 3602A	$ 3376A	$ 6723A	$ 6593A	$ 6052A	$ 9481A	$ 9299A	$ 8536A	$13041A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-8150A
			0	0	0	8726	8726	38018	1163	1163	576	0	0	0	169	169	569	0
5	5	5	$ 316A	$ 588A	$ 2161A	$ 549A	$ 1677A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6958A	$25546A	$-4310A
			0	0	89521	0	0	30366	0	0	0	0	0	0	0	0	791	4827
6	1	1	$-1369N	$ -807N	$ 607P	$ -933U	$ -121U	$ 2257U	$ 565U	$ 1434U	$ 3993U	$ 3424U	$ 4526U	$ 7896U	$*5898U	$*2452U	$11961P	$*5496A
			0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7	1	2	$ 665F	$ 943F	$ 1646F	$ 1412K	$ 1588P	$ 3329K	$ 2988P	$ 3565P	$ 5078P	$ 8464U	$ 8999U	$10270U	$-1343U	$ 3679U	$25445U	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2141A	$ 2217A	$ 2311A	$ 2838F	$ 2662K	$ 3993F	$ 4465K	$ 4839K	$ 5742K	$ 9940P	$10272P	$10943P	$43367P	$43367P	$41173P	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	90	0	0	0	0
9	1	4	$ 3196A	$ 3048A	$ 2913A	$ 5359A	$ 5125A	$ 5219A	$ 7242A	$ 7232A	$ 7256A	$12893F	$12819F	$12272F	$46694F	$45997F	$42842F	$*5496A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$-2159P	$-1463P	$ 537P	$-1135U	$ -311U	$ 2130U	$ 243U	$ 1133U	$ 3806U	$ 2609U	$ 3746U	$ 7328U	$*5441U	$*2391U	$11165P	$*5263A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ -273K	$ 141K	$ 1617F	$ 1143K	$ 1667K	$ 3192K	$ 2752P	$ 3340P	$ 4896P	$ 7835U	$ 8381U	$ 9711U	$-3119U	$ 2386U	$24994U	$*5263A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2155A	$ 2222A	$ 2438A	$ 2941F	$ 3183F	$ 4036F	$ 3979K	$ 4334K	$ 5793K	$ 9311P	$ 9655P	$10376P	$43144P	$42921P	$41199P	$*5263A
			0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2334A	$ 2361A	$ 2846A	$ 5102A	$ 5139A	$ 5121A	$ 6932A	$ 6942A	$ 7123A	$12264F	$12202F	$11705F	$46465F	$45791F	$42648F	$*5263A
			0	0	0	0	0	0	0	0	436	0	0	0	0	0	27	0
14	3	1	$-1771P	$-1160P	$ 661P	$ -291P	$ 469P	$ 2583P	$ 934U	$ 1830U	$ 4247U	$ 4296U	$ 5241U	$ 8464U	$*3851U	$*9659U	$ 7418P	$*4261A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 1153F	$ 1371F	$ 1934F	$ 2614F	$ 2967F	$ 3894F	$ 4048K	$ 4437K	$ 5616K	$ 9334P	$ 9383P	$10127P	$ -118P	$ 4442P	$23755P	$*4261A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2539A	$ 2580A	$ 2640A	$ 3819A	$ 3973A	$ 4402A	$ 5427F	$ 5624F	$ 6065F	$10511K	$10657K	$10791K	$40197K	$39839K	$37816K	$*4261A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2745A	$ 2734A	$ 2752A	$ 4446A	$ 4531A	$ 5065A	$ 6688F	$ 6733F	$ 6963A	$11987F	$11931F	$11456F	$41941F	$41333F	$38555F	$*4261A
			0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18	4	1	$ -964K	$ 46K	$ 1207K	$ 1212K	$ 1712K	$ 3070K	$ 3321P	$ 3780P	$ 4587K	$ 7574P	$ 7951P	$ 8147U	$-5703P	$ 2231P	$26821K	$*5293A
			0	0	0	0	0	693	0	0	0	0	0	0	0	0	0	0
19	4	2	$ 1136F	$ 1291F	$ 1860F	$ 2618F	$ 2694F	$ 3698F	$ 3596F	$ 4003F	$ 5234K	$ 7574P	$ 7951P	$ 8812P	$15853P	$19259P	$33524P	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2339A	$ 2414A	$ 2456A	$ 3034A	$ 3667A	$ 4130A	$ 5300F	$ 5207F	$ 5688F	$ 9050K	$ 9225K	$ 9477K	$47956K	$47442K	$44765K	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2575A	$ 2563A	$ 2636A	$ 4175A	$ 4220A	$ 4738A	$ 6274F	$ 6327F	$ 6587A	$10527F	$10496F	$10141F	$49672F	$48912F	$45501F	$*5293A
			0	0	0	0	0	0	0	0	32	0	0	0	0	0	11	0
22	5	1	$-1734K	$ -631K	$ 635K	$ -43K	$ 499K	$ 2011K	$ 1737P	$ 2227P	$ 3082K	$ 3194P	$ 3656P	$ 4204U	$15249P	$20127P	$35431K	$*4331A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 331F	$ 563F	$ 1266F	$ 1467F	$ 1415F	$ 2573F	$ 1608K	$ 2254K	$ 3786K	$ 3194P	$ 3656P	$ 4869P	$27394F	$29721F	$39333F	$*4331A
			0	0	199	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1535A	$ 1744A	$ 1874A	$ 2191A	$ 2402A	$ 3049A	$ 3293F	$ 3546F	$ 4222K	$ 4671K	$ 4929K	$ 5534K	$50805K	$50215K	$47541A	$*4331A
			0	0	351	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1542A	$ 1916A	$ 2073A	$ 2697A	$ 3015F	$ 3763A	$ 4690F	$ 4774F	$ 5123A	$ 6147F	$ 6203F	$ 6190F	$52439F	$51618F	$48159A	$*4331A
			0	0	0	0	0	490	0	0	0	0	0	0	0	0	14	0

PLAN MOI 4. AGGREGATE RLNT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*97733976.

J	R	Z	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	(((I=6))) (T=6)
1	1	1	$ 3349A	$ 1814A	$ 1665A	$ 3385A	$ 3320A	$ 3647A	$ 4774A	$ 4682A	$ 4298A	$ 4618A	$ 4529A	$ 4157A	$53423A	$52394A	$48696A	$*3679A
			1173	1179	2633	0	0	0	0	0	0	0	0	0	44	44	16	0
2	1	2	$ 3302A	$ 2945A	$ 2723A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7601A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$42911A	$*4335A
			0	0	0	0	0	0	0	0	8676	0	0	17155	0	0	1141	0
3	1	3	$ 3476A	$ 3499A	$ 3129A	$ 6363A	$ 6240A	$ 5728A	$ 8973A	$ 8800A	$ 8076A	$17031A	$16703A	$15332A	$33511A	$32865A	$30169A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	1	4	$ 3673A	$ 3602A	$ 3307A	$ 6723A	$ 6593A	$ 6052A	$ 9481A	$ 9299A	$ 8536A	$13041A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-8150A
			0	0	0	8726	8726	37917	1163	1163	675	0	0	0	169	169	591	0
5	1	5	$ 312A	$ 568A	$ 2161A	$ 549A	$ 1677A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6956A	$25548A	$-4310A
			0	0	09335	0	0	36490	0	0	0	0	0	0	0	0	792	4627
6	1	1	$-3633N	$-2763N	$-1336P	$-3554N	$-2418N	$ 192P	$-4719R	$-3149R	$ 1335U	$-2481U	$ -548V	$ 5237U	$*6852V	$*6657V	$ 8987P	$*5496A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$ -555I	$ -1591	$ 1354I	$ -279I	$ 460I	$ 2350I	$ -612K	$ -218I	$ 3485K	$ 2633P	$ 3920P	$ 7619U	$-5535F	$ 333F	$23609K	$*5496A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2394D	$ 2437D	$ 2344D	$ 2743D	$ 3007D	$ 3380U	$ 2340F	$ 2329D	$ 4814F	$ 5586K	$ 6467K	$ 6949P	$40592A	$40815A	$42332F	$*5496A
			0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 3346A	$ 3346A	$ 2934A	$ 5359A	$ 5325A	$ 5219A	$ 7242A	$ 7232A	$ 7256A	$11417F	$11546F	$11868A	$45365A	$44803A	$42308A	$*5496A
			0	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0
10	2	1	$-6224P	$-4933R	$-1456P	$-5132R	$-3728R	$ 53P	$-4942R	$-3337R	$ 1148U	$-2975V	$ -995V	$ 4669U	$*5356V	$*6564V	$ 9171P	$*5263A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$-1741I	$-1153I	$ 1347I	$-1633K	$ -679K	$ 2109I	$-1958K	$ 29K	$ 3206K	$ 1972P	$ 3287U	$ 7653U	$-6101K	$-1963K	$23211K	$*5263A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2324D	$ 2369D	$ 2533D	$ 2614D	$ 2682D	$ 3902A	$ 2531F	$ 3044F	$ 4966F	$ 4082P	$ 5834P	$ 8733K	$41051A	$41166A	$40963A	$*5263A
			0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2394A	$ 2961A	$ 2046A	$ 5162A	$ 5139A	$ 5120A	$ 6932A	$ 6942A	$ 7123A	$10708F	$10929F	$11392A	$45321A	$44741A	$42276A	$*5263A
			0	0	0	0	0	0	0	0	444	0	0	0	0	0	21	0
14	3	1	$-6211P	$-4960P	$-1332P	$-4721P	$-3411P	$ 589P	$-3864P	$-2419P	$ 2136P	$-1659U	$ 147U	$ 5865U	$*8025P	$*3847P	$ 5417P	$*4261A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -315F	$ 98F	$ 1320F	$ 1127F	$ 1634F	$ 3229F	$ 1934F	$ 2502F	$ 4761F	$ 4605P	$ 5563P	$ 8426K	$-3467F	$ 1612F	$22706F	$*4261A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2613C	$ 2626C	$ 2634A	$ 3619A	$ 3973A	$ 4402A	$ 4391A	$ 4739A	$ 5773A	$ 7558K	$ 8110K	$ 9462K	$37941A	$37962A	$37306A	$*4261A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2745A	$ 2734A	$ 2732A	$ 4436A	$ 4531A	$ 5005A	$ 5741A	$ 5876A	$ 6963A	$10511F	$10657F	$11132A	$40886A	$40380A	$38270A	$*4261A
			0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18	4	1	$-3217L	$-2439L	$ -121K	$-1513L	$ -625L	$ 1741K	$ -385L	$ 635L	$ 3258K	$ 3144P	$ 4137P	$ 5813K	$-9647D	$-11710	$25472K	$*5293A
			0	0	0	0	0	690	0	0	0	0	0	0	0	0	0	0
19	4	2	$ -339F	$ 17F	$ 1195F	$ 1132F	$ 1629F	$ 3033F	$ 2120F	$ 2730F	$ 4516F	$ 3144P	$ 4130P	$ 7138K	$13367F	$17159F	$32317F	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2447C	$ 2464C	$ 2456A	$ 3511C	$ 3671C	$ 4130A	$ 3946A	$ 4316A	$ 5389A	$ 6097K	$ 6677K	$ 8147K	$46263A	$46043A	$44533A	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2575A	$ 2569A	$ 2636A	$ 4175A	$ 4226A	$ 4738A	$ 5302A	$ 5446A	$ 6507A	$ 9450F	$ 9225F	$ 9659A	$48090A	$48260A	$45318A	$*5293A
			0	0	0	0	0	0	0	0	32	0	0	0	0	0	11	0
22	5	1	$-3036L	$-3031L	$ -694K	$-2730L	$-1776L	$ 682K	$-2079L	$-1033L	$ 1752K	$-1234P	$ -164P	$ 2127K	$13860	$18260	$34120K	$*4331A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$-1144F	$ -710F	$ 6121F	$ -408F	$ 142F	$ 1908F	$ -246F	$ 466F	$ 2891F	$-1137K	$ -129K	$ 3326K	$25918F	$28427F	$38669F	$*4331A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1736C	$ 1630C	$ 1674A	$ 2290C	$ 2486C	$ 3043A	$ 2541A	$ 2477A	$ 3047A	$ 1866F	$ 2463F	$ 4235F	$50704A	$50166A	$47541A	$*4331A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1692A	$ 1906A	$ 2173A	$ 2097A	$ 2990A	$ 3703A	$ 3468A	$ 3674A	$ 5123A	$ 4671F	$ 4929F	$ 5995A	$52431A	$51586A	$48059A	$*4331A
			0	0	0	0	0	490	0	0	0	0	0	0	0	0	14	0

PLAN G501 4. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $*97733976.

J	R	T	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	((I=6)) (T=1)
1	5	1	$ 1949A	$ 1614A	$ 1605A	$ 3785A	$ 3326A	$ 3047A	$ 4774A	$ 4682A	$ 4296A	$ 4618A	$ 4529A	$ 4157A	$5342 3A	$5239 4A	$48.96A	$*3.7 6A
			1174	1174	2693	0	0	0	0	0	0	0	0	0	44	44	16	0
2	5	2	$ 3302A	$ 2945A	$ 2703A	$ 5496A	$ 5390A	$ 4947A	$ 7750A	$ 7631A	$ 6977A	$12919A	$12670A	$11631A	$45443A	$44567A	$43911A	$*4333A
			0	0	0	0	0	0	0	0	8076	0	0	17155	0	0	1141	0
3	5	3	$ 3476A	$ 3439A	$ 3129A	$ 6363A	$ 6243A	$ 5728A	$ 8973A	$ 8830A	$ 8076A	$17031A	$16703A	$15332A	$33511A	$32865A	$33165A	$*3321A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	5	4	$ 3673A	$ 3602A	$ 3370A	$ 6723A	$ 6593A	$ 6052A	$ 9481A	$ 9299A	$ 8536A	$13341A	$12790A	$11741A	$ 9516A	$ 9333A	$ 8567A	$-815A
			0	0	0	8726	8726	37917	1163	1163	675	0	0	0	169	169	591	0
5	5	5	$ 3[illegible]A	$ 5684A	$ 2161A	$ 5949A	$ 1077A	$ 3955A	$ 774A	$ 1519A	$ 5578A	$ 1190A	$ 2334A	$ 8572A	$ 3547A	$ 6958A	$25546A	$-431A
			0	0	89395	0	0	30490	0	0	0	0	0	0	0	0	792	4027
6	1	1	$-3633N	$-2760N	$-1386P	$-3554N	$-2418N	$ 192P	$-4719R	$-3149R	$ 1335U	$-2481U	$ -548V	$ 5237U	$*3852V	$*6657V	$ 6987P	$*5496A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$ -599I	$ -1[illegible]9I	$ 1054I	$ -209I	$ 463I	$ 2050I	$ -612K	$ -218I	$ 3485K	$ 2633P	$ 3920P	$ 7619U	$-5535F	$ 333F	$23609K	$*5496A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2334D	$ 2437D	$ 2394D	$ 2743D	$ 3107D	$ 3380D	$ 2340F	$ 2329D	$ 4814F	$ 5586K	$ 6467K	$ 8949P	$4[illegible]592A	$4[illegible]815A	$4[illegible]62F	$*5496A
			0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 3[illegible]6A	$ 3[illegible]48A	$ 2913A	$ 5359A	$ 5325A	$ 5219A	$ 7242A	$ 7232A	$ 7256A	$11417F	$11546F	$11868A	$45365A	$44803A	$42386A	$*5496A
			0	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0
10	2	1	$-6224R	$-4993R	$-1456P	$-5102R	$-3729R	$ 53P	$-4942K	$-3337R	$ 1140U	$-2975V	$ -995V	$ 4669U	$*[illegible]356V	$*6564V	$ 9171P	$*5263A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$-1741I	$-1153I	$ 1647I	$-1639K	$ -879K	$ 2109I	$-1058K	$ 29K	$ 3280K	$ 1972P	$ 3287U	$ 7653U	$-8101K	$-1963K	$23211K	$*5263A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2324D	$ 2369D	$ 2500D	$ 2614D	$ 2682D	$ 3942A	$ 2501F	$ 3344F	$ 4966F	$ 4882P	$ 5834P	$ 8733K	$41051A	$41106A	$40963A	$*5263A
			0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2336A	$ 2361A	$ 2846A	$ 5162A	$ 5139A	$ 5120A	$ 6932A	$ 6942A	$ 7123A	$10788F	$10929F	$11392A	$45321A	$44741A	$42276A	$*5263A
			0	0	0	0	0	0	0	0	444	0	0	0	0	0	21	0
14	3	1	$-6271P	$-4984P	$-1332P	$-4721P	$-3411P	$ 509P	$-3864P	$-2419P	$ 2136P	$-1609U	$ 147U	$ 5815U	$*8825P	$*3647P	$ 5417P	$*4261A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -319F	$ 98F	$ 1320F	$ 1127F	$ 1634F	$ 3229F	$ 1934F	$ 2562F	$ 4761F	$ 4605P	$ 5563P	$ 8420K	$-3467F	$ 1612F	$22786F	$*4261A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2513[illegible]	$ 2626[illegible]	$ 2640A	$ 3619A	$ 3973A	$ 4402A	$ 4391A	$ 4739A	$ 5773A	$ 7558K	$ 8110K	$ 9462K	$37941A	$37962A	$37386A	$*4261A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2745A	$ 2734A	$ 2742A	$ 4436A	$ 4531A	$ 5005A	$ 5741A	$ 5876A	$ 6962A	$10511F	$10657F	$11132A	$40886A	$40386A	$33270A	$*4261A
			0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0
18	4	1	$-3217L	$-2409L	$ -121K	$-1513L	$ -625L	$ 1741K	$ -385L	$ 635L	$ 3256K	$ 3144P	$ 4130P	$ 5813K	$-9047D	$-1171D	$25472K	$*5293A
			0	0	0	0	0	696	0	0	0	0	0	0	0	0	0	0
19	4	2	$ -399F	$ 17F	$ 1195F	$ 1132F	$ 1623F	$ 3033F	$ 2120F	$ 2730F	$ 4518F	$ 3144P	$ 4130P	$ 7138K	$13367F	$17159F	$32817F	$*5293A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2467[illegible]	$ 2464C	$ 2456A	$ 3511C	$ 3671C	$ 4130A	$ 3946A	$ 4306A	$ 5389A	$ 6097K	$ 6677K	$ 8147K	$46263A	$46643A	$44530A	$*5293A
			0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2575A	$ 2569A	$ 2636A	$ 4175A	$ 4228A	$ 4738A	$ 5302A	$ 5446A	$ 6587A	$ 9350F	$ 9225F	$ 9859A	$48693A	$48203A	$45318A	$*5293A
			0	0	0	0	0	0	0	0	32	0	0	0	0	0	11	0
22	5	1	$-3456L	$-3031L	$ -694K	$-2700L	$-1776L	$ 682K	$-2079L	$-1[illegible]3L	$ 1752K	$-1234P	$ -164P	$ 2427K	$13686D	$18260D	$34122K	$*4331A
			0	0	1345	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$-1146F	$ -710F	$ 6[illegible]1F	$ -408F	$ 142F	$ 1908F	$ -246F	$ 466F	$ 2891F	$-1137K	$ -129K	$ 3326K	$25916F	$28427F	$38669F	$*4331A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1736C	$ 1030C	$ 1874A	$ 2290C	$ 2496C	$ 3049A	$ 2041A	$ 2477A	$ 3847A	$ 1866F	$ 2463F	$ 4235F	$5[illegible]704A	$50168A	$47541A	$*4331A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1492A	$ 1906A	$ 2373A	$ 2597A	$ 2999A	$ 3703A	$ 3448A	$ 3674A	$ 5123A	$ 4671F	$ 4925F	$ 5995A	$52431A	$51586A	$48[illegible]59A	$*4331A
			0	0	0	0	0	490	0	0	0	0	0	0	0	0	14	0

PLAN MOD 5. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $841545.66.

J	R	T	((I=1)) (T=1)	((I=1)) (T=2)	((I=1)) (T=3)	((I=2)) (T=1)	((I=2)) (T=2)	((I=2)) (T=3)	((I=3)) (T=1)	((I=3)) (T=2)	((I=3)) (T=3)	((I=4)) (T=1)	((I=4)) (T=2)	((I=4)) (T=3)	((I=5)) (T=1)	((I=5)) (T=2)	((I=5)) (T=3)	((I=6)) (T=3)
1	0	1	$ 1712A	$ 1477A	$ 770A	$ 3114A	$ 2703A	$ 1411A	$ 4420A	$ 3813A	$ 1990A	$ 4275A	$ 3688A	$ 1924A	$49464A	$42668A	$22268A	$-9714A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2730A	$ 2398A	$ 1251A	$ 5088A	$ 4389A	$ 2290A	$ 7176A	$ 6190A	$ 3230A	$11962A	$10318A	$ 5385A	$42275A	$36294A	$18941A	$-9651A
			0	0	0	0	0	0	0	0	8596	0	0	16643	0	0	1132	0
3	0	3	$ 3215A	$ 2776A	$ 1449A	$ 5891A	$ 5082A	$ 2652A	$ 8308A	$ 7167A	$ 3740A	$15769A	$13602A	$ 7099A	$31028A	$26765A	$13968A	$-9931A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3431A	$ 2933A	$ 1531A	$ 6225A	$ 5369A	$ 2802A	$ 8779A	$ 7572A	$ 3952A	$12375A	$10416A	$ 5436A	$ 8911A	$ 7600A	$ 3966A	$-6658A
			1179	-1179	0	8726	8701	15342	1132	1163	0	0	0	0	212	213	230	0
5	0	5	$ 277A	$ 479A	$ 1000A	$ 598A	$ 877A	$ 1831A	$ 717A	$ 1237A	$ 2582A	$ 1102A	$ 1901A	$ 3963A	$ 3284A	$ 5666A	$11829A	$-2484A
			0	0	66799	0	0	53232	0	0	0	0	0	0	0	0	1147	4827
5	1	1	$-3277K	$-2853K	$-1421K	$-1791K	$-1636K	$ -620K	$ -680K	$ -750K	$ 27K	$ 2549P	$ 2086P	$ 1312P	$32408K	$27915K	$13567K	$-1518A
			0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7	1	2	$ -37F	$ -91F	$ 474D	$ 1940F	$ 1646F	$ 939F	$ 3675F	$ 3123F	$ 1770F	$ 7347F	$ 6233F	$ 3574F	$39091F	$33547F	$17908F	$-1518A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	3	$ 2454A	$ 2455A	$ 1370A	$ 4892A	$ 4193A	$ 2268A	$ 6627A	$ 5670A	$ 3095A	$10300A	$ 8780A	$ 4903A	$43470A	$37511A	$19777A	$-1518A
			0	0	0	0	0	67	0	0	0	0	0	0	0	0	32	0
9	1	4	$ 3052A	$ 2635A	$ 1375A	$ 5592A	$ 4824A	$ 2517A	$ 7607A	$ 6503A	$ 3550A	$13305A	$11477A	$ 5989A	$44868A	$38696A	$20195A	$-1518A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$-3435K	$-2933K	$-1464J	$-2214K	$-1821K	$-1687P	$-1411K	$-1549K	$ -811P	$ 1716P	$ 1428P	$ 1026P	$31862K	$27611K	$14724P	$-1344A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 698	$ -171F	$ 692B	$ 1711F	$ 1462F	$ 873F	$ 3304F	$ 2626F	$ 1671F	$ 6339F	$ 5410F	$ 3275F	$38362F	$33353F	$17703F	$-1344A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2825A	$ 2434A	$ 1279A	$ 4934A	$ 4219A	$ 2231A	$ 6681A	$ 5744A	$ 3053A	$10257A	$ 8685A	$ 4735A	$43358A	$37417A	$19717A	$-1344A
			0	0	0	0	0	99	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2994A	$ 2583A	$ 1348A	$ 5410A	$ 4727A	$ 2467A	$ 7729A	$ 6667A	$ 3479A	$12722A	$10974A	$ 5727A	$44652A	$38517A	$20161A	$-1344A
			0	0	0	0	0	0	31	0	0	0	0	433	1	0	0	0
14	3	1	$-6120P	$-5120P	$-2138M	$-3801P	$-3291P	$-1677P	$-1853P	$-1618P	$ -772P	$ 2272P	$ 1919P	$ 1173P	$26620P	$23197P	$12833P	$-1364A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -114F	$ -105F	$ 3188	$ 2032F	$ 1792F	$ 977F	$ 4030F	$ 3456F	$ 1878F	$ 8123F	$ 6964F	$ 3814F	$35197F	$30207F	$16184F	$-1364A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2311A	$ 2425A	$ 1275A	$ 4969A	$ 4285A	$ 2266A	$ 6339A	$ 5303A	$ 3138A	$10741A	$ 9271A	$ 4969A	$39356A	$33969A	$17891A	$-1364A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2929A	$ 2526A	$ 1318A	$ 5303A	$ 4623A	$ 2413A	$ 7559A	$ 6520A	$ 3403A	$12466A	$11753A	$ 5612A	$44434A	$38073A	$18203A	$-1364A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ -553F	$ -424F	$ -978	$ 1052F	$ 941F	$ 632F	$ 1872F	$ 1995F	$ 1304F	$ 4238K	$ 3771K	$ 2292F	$39610F	$34328F	$18715F	$-1367A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ -256F	$ -222F	$ -115F	$ 1057F	$ 1595F	$ 868F	$ 3718F	$ 3197F	$ 1731F	$ 6990F	$ 6114F	$ 3284F	$42742F	$36738F	$19453F	$-1367A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2455A	$ 2295A	$ 1208A	$ 4693A	$ 4048A	$ 2142A	$ 6451A	$ 5568A	$ 2964A	$ 9443A	$ 8152A	$ 4398A	$46605A	$40220A	$21136A	$-1367A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2703A	$ 2198A	$ 1251A	$ 5088A	$ 4389A	$ 2290A	$ 7176A	$ 6190A	$ 3230A	$11113A	$ 9586A	$ 5003A	$47566A	$41031A	$21414A	$-1367A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$-1193F	$ -949F	$ -420D	$ -309F	$ -36F	$ 137F	$ 206F	$ 595F	$ 599F	$ 263K	$ 331K	$ 554F	$43895F	$37946F	$20417B	$-1652A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ -941F	$ -730F	$ -347D	$ 764F	$ 647F	$ 380F	$ 2156F	$ 1840F	$ 1037F	$ 2897F	$ 2459F	$ 1439F	$46271B	$39836B	$21.249	$-1652A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2.79A	$ 1794A	$ 948A	$ 3618A	$ 3123A	$ 1664A	$ 4931A	$ 4257A	$ 2287A	$ 5493A	$ 4746A	$ 2666A	$49425A	$42646A	$22352A	$-1652A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2212A	$ 1908A	$ 945A	$ 4048A	$ 3492A	$ 1822A	$ 5710A	$ 4925A	$ 2570A	$ 7356A	$ 6089A	$ 3177A	$50057A	$43179A	$22535A	$-1652A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN G503 5. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $841545166.

J	R	T	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=1))
1	3	1	$ 1712A	$ 1477A	$ 77[illegible]A	$ 3134A	$ 2703A	$ 1411A	$ 4420A	$ 3813A	$ 1990A	$ 4275A	$ 3688A	$ 1924A	$49464A	$42666A	$22268A	$-9714A
				0	26274	0	0	0	0	0	0	0	0	0	0	0	90	0
2	3	2	$ 2793A	$ 2396A	$ 1251A	$ 5.88A	$ 4389A	$ 2290A	$ 7176A	$ 6190A	$ 3230A	$11962A	$10310A	$ 5385A	$42075A	$36294A	$18941A	$*0651A
			0	0	0	0	0	0	0	0	8596	0	0	16643	0	0	1132	0
3	3	3	$ 3218A	$ 2776A	$ 1449A	$ 5891A	$ 5082A	$ 2652A	$ 8308A	$ 7167A	$ 3741A	$15769A	$13602A	$ 7099A	$31.28A	$26765A	$13968A	$-9901A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	846	0
4	3	4	$ 3401A	$ 2913A	$ 1531A	$ 6225A	$ 5369A	$ 2802A	$ 8779A	$ 7572A	$ 3952A	$12075A	$10416A	$ 5436A	$ 8811A	$ 7600A	$ 3966A	$-6.59A
			11730	11796	0	8726	8701	15342	1132	1163	0	0	0	0	212	213	230	0
5	3	5	$ 277A	$ 479A	$ 1[illegible]0A	$ 538A	$ 877A	$ 1831A	$ 717A	$ 1237A	$ 2582A	$ 1102A	$ 1931A	$ 3969A	$ 3284A	$ 5666A	$11829A	$-2484A
			0	0	66358	0	0	53232	0	0	0	0	0	0	0	0	1047	4827
6	1	1	$-3277K	$-2653K	$-1421K	$-1791K	$-1636K	$ -620K	$ -680K	$ -750K	$ 27K	$ 2549P	$ 2.86P	$ 1312P	$32498K	$27915K	$15567K	$*1518A
			0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0
7	1	2	$ -37F	$ -91F	$ 4749	$ 1940F	$ 1646F	$ 939F	$ 3675F	$ 3123F	$ 1776F	$ 7347F	$ 6233F	$ 3574F	$39691F	$33547F	$17908F	$*1518A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2454A	$ 2455A	$ 1308A	$ 4892A	$ 4193A	$ 2268A	$ 6627A	$ 5670A	$ 3099A	$10300A	$ 8783A	$ 4903A	$43708A	$37511A	$19777A	$*1518A
			0	0	0	0	0	67	0	0	0	0	0	0	0	0	30	0
9	1	4	$ 3355A	$ 2635A	$ 1375A	$ 5932A	$ 4624A	$ 2517A	$ 7807A	$ 6803A	$ 3550A	$13305A	$11477A	$ 5989A	$44860A	$38696A	$20195A	$*1518A
			0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0
10	2	1	$-3435K	$-2933K	$-1464J	$-2214K	$-1821K	$-1687P	$-1411K	$-1049K	$ -811P	$ 1716P	$ 1428P	$ 1.26P	$31862K	$27611K	$14724P	$*1344A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 439	$ -171F	$ 6828	$ 1711F	$ 1462F	$ 873F	$ 3304F	$ 2826F	$ 1671F	$ 6339F	$ 5410F	$ 3275F	$38062F	$33356F	$17783F	$*1344A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2925A	$ 2434A	$ 1279A	$ 4914A	$ 4219A	$ 2231A	$ 6681A	$ 5744A	$ 3053A	$10257A	$ 8605A	$ 4735A	$43350A	$37417A	$19717A	$*1344A
			0	0	0	0	0	99	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2934A	$ 2503A	$ 1348m	$ 5430m	$ 4727A	$ 2467A	$ 7729A	$ 6667A	$ 3479A	$12722A	$1.974A	$ 5727A	$44652A	$38517A	$20111A	$*1344A
			0	0	0	0	0	0	31	0	0	0	0	433	1	0	0	0
14	3	1	$-6423P	$-5196P	$-2138M	$-3011P	$-3291P	$-1977P	$-1853P	$-1618P	$ -772P	$ 2272P	$ 1919P	$ 1173P	$26620P	$23497P	$12833P	$*0600A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -116F	$ -1.5F	$ 3168	$ 2992F	$ 1792F	$ 977F	$ 4030F	$ 3456F	$ 1676F	$ 8123F	$ 6964F	$ 3914F	$35197F	$30207F	$16584F	$*0600A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2311A	$ 2425m	$ 1275A	$ 4965A	$ 4285A	$ 2266A	$ 6839m	$ 5903A	$ 3138A	$10741A	$ 9271A	$ 4989A	$39356A	$33969A	$17891A	$*.600m
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2323A	$ 2526A	$ 1318A	$ 5160A	$ 4623A	$ 2413A	$ 7559A	$ 6520A	$ 3403A	$12466A	$10753A	$ 5612A	$40434A	$34878A	$18213m	$*0600A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ -559F	$ -424F	$ -479	$ 652F	$ 941F	$ 632F	$ 1072F	$ 1995F	$ 1304F	$ 4238K	$ 3771K	$ 2292F	$39610F	$34320F	$18715F	$*1367A
			0	0	0	0	0	0	0	0	696	0	0	0	0	0	0	0
19	4	2	$ -256F	$ -222F	$ -1.6F	$ 1057F	$ 1595F	$ 868F	$ 3718F	$ 3137F	$ 1731F	$ 6990F	$ 6.14F	$ 3284F	$42742F	$36738F	$19453F	$*1367A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2656A	$ 2295A	$ 1208A	$ 4690A	$ 4048A	$ 2142A	$ 6451A	$ 5568A	$ 2964A	$ 9443A	$ 8152A	$ 4398A	$46605m	$40220A	$21136A	$*1367A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 279.m	$ 2398A	$ 1251A	$ 5.88A	$ 4389A	$ 2290A	$ 7176A	$ 6190A	$ 3230A	$11113A	$ 9506A	$ 5063A	$47566A	$41031A	$21414A	$*1367A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$-1149F	$ -949F	$ -423B	$ -309F	$ -36F	$ 137F	$ 206F	$ 595F	$ 599F	$ 263K	$ 331K	$ 554F	$43895F	$37948F	$20417B	$*0652A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ -443F	$ -730F	$ -3478	$ 764F	$ 647F	$ 380F	$ 2156F	$ 1840F	$ 1037F	$ 2897F	$ 2459F	$ 1439F	$46271B	$39836B	$21.24B	$*0652A
			0	0	0	0	0	193	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2979A	$ 1794A	$ 948A	$ 3018A	$ 3123A	$ 1664A	$ 4931m	$ 4257A	$ 2287A	$ 5493A	$ 4746A	$ 2606A	$49425A	$42646A	$22352A	$*0652A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2212A	$ 1908A	$ 935A	$ 4.49A	$ 3492A	$ 1822A	$ 5710A	$ 4925A	$ 2570A	$ 7058m	$ 6089A	$ 3177A	$50.57A	$43179A	$22535A	$*0652A
			0	0	0	0	0	484	0	0	0	0	0	0	0	0	20	0

PLAN MO: 6. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $386047632.

J	O	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1515A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$30962A	$ 6696A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5696A	$-7589A
			0	0	0	0	0	2373	0	0	8038	0	0	14900	0	0	1060	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9070A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	0	0	0	0	4013	4013	17066	204	204	873	0
4	0	4	$ 3154A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10767A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11230	11230	0	8249	8264	17987	594	1135	0	0	0	0	185	202	269	0
5	0	5	$ 2468A	$ 3474A	$ 350A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	63139	0	0	43483	0	0	0	0	0	0	0	0	889	17994
6	0	1	$ 159K	$ 325K	$ 220K	$ 2148K	$ 1721K	$ 543K	$ 3827K	$ 2945K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4608K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2438A	$ 1717A	$ 343A	$ 4564A	$ 2859A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37410F	$26490F	$ 5992F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2637A	$ 1461A	$ 408A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10665A	$ 7575F	$ 1719A	$38621A	$27382A	$ 5996A	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4553A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8326A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 944F	$ 766F	$ 276F	$ 1988K	$ 1666K	$ 529F	$ 3573K	$ 2723K	$ 796K	$ 6912P	$ 5171P	$ 1392K	$24048K	$16663K	$ 4965K	$-8083A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2394A	$ 1643A	$ 391A	$ 3608A	$ 2675A	$ 665A	$ 5376F	$ 3630F	$ 912F	$ 8656K	$ 6458K	$ 1535K	$37154F	$26302F	$ 5658F	$-8083A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1622A	$ 399A	$ 4619A	$ 3258A	$ 723A	$ 6393A	$ 4516A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38670A	$27202A	$ 5973A	$-8083A
			0	0	0	0	0	0	0	0	84	0	0	0	0	0	14	0
13	2	4	$ 2555A	$ 1874A	$ 435A	$ 4659A	$ 3433A	$ 741A	$ 6853A	$ 4630A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 948K	$ 470K	$ 195K	$ 1623K	$ 1342K	$ 469K	$ 2941K	$ 2289P	$ 740K	$ 6770P	$ 5073P	$ 1361P	$16446P	$11534P	$ 4054P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 309A	$ 4053A	$ 2637A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2556A	$ 1795A	$ 392A	$ 4539A	$ 3236A	$ 713A	$ 6396A	$ 4538A	$ 1006A	$10264A	$ 7241A	$ 1630A	$35643A	$24722A	$ 5410A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2534A	$ 1633A	$ 396A	$ 4792A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1157F	$ 918F	$ 276F	$ 2939F	$ 2219F	$ 573F	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$30676F	$21508F	$ 5596F	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2222A	$ 1550A	$ 357A	$ 3676A	$ 2582A	$ 628A	$ 4792A	$ 3457F	$ 856A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28501F	$ 6209F	$-8099A
			0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1702A	$ 372A	$ 4346A	$ 3064A	$ 676A	$ 6054A	$ 4266A	$ 948A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2445A	$ 1746A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1563A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	22	0	0	0
22	5	1	$ 641F	$ 554F	$ 198F	$ 2038F	$ 1537F	$ 430F	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$37122F	$26161F	$ 6240F	$-7590A
			0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1719A	$ 1282A	$ 281A	$ 2815A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42805A	$30205F	$ 6696A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1911A	$ 1346A	$ 294A	$ 3417A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 935A	$43914A	$30989A	$ 6736A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1384A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 677UA	$-7590A
			0	0	0	0	0	471	0	0	0	0	0	0	0	0	33	0

PLAN G50: 6. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $3069103646.

J	R	Z	((I=1)) (T=1)	((I=1)) (T=2)	((I=1)) (T=3)	((I=2)) (T=1)	((I=2)) (T=2)	((I=2)) (T=3)	((I=3)) (T=1)	((I=3)) (T=2)	((I=3)) (T=3)	((I=4)) (T=1)	((I=4)) (T=2)	((I=4)) (T=3)	((I=5)) (T=1)	((I=5)) (T=2)	((I=5)) (T=3)	((I=6)) (T=6)
			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1	0	1	$ 1516A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	98	0	
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	2373	0	0	8038	0	0	14900	0	0	1260	0
3	0	3	$ 2454A	$ 2114A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7354A
			0	0	0	0	0	0	0	0	0	4013	4013	17066	204	204	076	0
4	0	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3696A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7013A	$ 5515A	$ 1191A	$-4316A
			1121	1120	0	8289	8264	17987	594	1105	0	0	0	0	185	262	269	0
5	0	5	$ 2464A	$ 3478A	$ 370A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	61793	0	0	44914	0	0	0	0	0	0	0	0	963	17994
6	1	1	$ 153K	$ 325K	$ 220K	$ 2148K	$ 1721K	$ 543K	$ 3027K	$ 2905K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4608K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2454A	$ 1717A	$ 393A	$ 4154A	$ 2659A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37418F	$26490F	$ 5692F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2637A	$ 1561A	$ 434A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10685A	$ 7575F	$ 1719A	$38821A	$27382A	$ 5996A	$-8266A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2734A	$ 1912A	$ 413A	$ 4559A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8236A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ 344F	$ 764F	$ 276F	$ 1984K	$ 1606K	$ 529F	$ 3573K	$ 2723K	$ 796K	$ 6912P	$ 5171P	$ 1392K	$24640K	$16063K	$ 4305K	$-8283A
			0	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 301A	$ 3609A	$ 2675A	$ 665A	$ 5176F	$ 3600F	$ 912F	$ 8856K	$ 6450K	$ 1535K	$37154F	$26332F	$ 5658F	$-8283A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1922A	$ 393A	$ 4619A	$ 3258A	$ 723A	$ 6393A	$ 4510A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38676A	$27282A	$ 5973A	$-8283A
			0	0	0	0	0	0	0	0	84	0	0	0	0	14	0	
13	2	4	$ 2655A	$ 1574A	$ 425A	$ 4653A	$ 3430A	$ 741A	$ 6653A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8283A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$ 468K	$ 1706K	$ 195K	$ 1623K	$ 1342K	$ 489K	$ 2941K	$ 2289P	$ 740K	$ 6770P	$ 5073P	$ 1361P	$16446P	$11534P	$ 4050P	$-7552A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 340A	$ 4133A	$ 2837A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1795A	$ 392A	$ 4589A	$ 3236A	$ 713A	$ 6396A	$ 4518A	$ 1001A	$10284A	$ 7241A	$ 1630A	$35048A	$24722A	$ 5410A	$-7552A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2546A	$ 1633A	$ 346A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 2326A	$ 1425A	$ 344A	$ 3694A	$ 2210F	$ 585A	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$39633F	$28196F	$ 6259F	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2232A	$ 1553A	$ 357A	$ 3676A	$ 2582A	$ 628A	$ 4792A	$ 3457F	$ 856A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28501F	$ 6289F	$-8099A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1726A	$ 372A	$ 4346A	$ 3664A	$ 676A	$ 6054A	$ 4266A	$ 948A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8099A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8099A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 1457A	$ 1029A	$ 263A	$ 2616F	$ 1537F	$ 435A	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$42429F	$30638F	$ 6624F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1709A	$ 1202A	$ 281A	$ 2935A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42865A	$30205F	$ 6656A	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1961A	$ 1346A	$ 294A	$ 3437A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 965A	$43914A	$30989A	$ 6736A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1394A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5053A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN MO: 7. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $532870326.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	3	1	$ 1515A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	3	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5691A	$-7589A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
3	3	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 6196A	$-7.54A
			0	0	6.25	4701	0	1163	1163	0	4224	4224	0	345	384	0	0	
4	3	4	$ 3315A	$ 2129A	$ 460A	$ 5519A	$ 3696A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			1173	1179	28161	2500	0	0	0	0	0	0	0	0	81	44	1.5	4627
5	3	5	$ 1231A	$ 1217A	$ 751A	$ 2254A	$ 2228A	$ 1375A	$ 3179A	$ 3142A	$ 1939A	$ 4885A	$ 4828A	$ 2981A	$14561A	$14391A	$ 8884A	$-4523A
			0	0	10106	0	0	69010	0	0	8616	0	0	33798	0	0	3.93	0
6	1	1	$ 159K	$ 325K	$ 220K	$ 2140K	$ 1721K	$ 543K	$ 3827K	$ 2905K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4806K	$-8206A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$ 2433A	$ 1717A	$ 333A	$ 4164A	$ 2559A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37418F	$26490F	$ 5892F	$-8206A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2637A	$ 1861A	$ 408A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10665A	$ 7575F	$ 1719A	$38821A	$27382A	$ 5998A	$-8206A
			0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 2794A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	60	0	0	0	0	0	1	0	0	0
10	2	1	$ 966F	$ 766F	$ 276F	$ 1966K	$ 1606K	$ 529F	$ 3573K	$ 2723K	$ 796K	$ 6912P	$ 5171F	$ 1392K	$24.46K	$16863K	$ 49.5K	$-8.83A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 381A	$ 3639A	$ 2675A	$ 665A	$ 5076F	$ 3680F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26332F	$ 5856F	$-8.83A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1522A	$ 399A	$ 4619A	$ 3258A	$ 723A	$ 6393A	$ 4516A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38676A	$27282A	$ 5973A	$-6.83A
			0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 425A	$ 4659A	$ 3430A	$ 741A	$ 6653A	$ 4638A	$ 1045A	$11261A	$ 7963A	$ 1720A	$39593A	$27956A	$ 6039A	$-8.83A
			0	0	462	0	0	0	0	0	0	0	0	0	0	0	3	0
14	3	1	$ 965K	$ 170K	$ 195K	$ 1624K	$ 1342K	$ 489K	$ 2941K	$ 2289P	$ 744K	$ 6770P	$ 5.73P	$ 1361P	$16446P	$11534P	$ 4.50P	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 350A	$ 4033A	$ 2637A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1795A	$ 392A	$ 4539A	$ 3236A	$ 713A	$ 6396A	$ 4508A	$ 1000A	$10284A	$ 7241A	$ 1630A	$35648A	$24722A	$ 5410A	$-7552A
			0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2935A	$ 1633A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6722A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1666A	$35652A	$25310A	$ 5466A	$-7552A
			0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$ 1157F	$ 918F	$ 276F	$ 2449F	$ 2210F	$ 573F	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$30676F	$21508F	$ 5596F	$-8.99A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2223A	$ 1550A	$ 397A	$ 3676A	$ 2582A	$ 628A	$ 4732A	$ 3457F	$ 656A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28501F	$ 6209F	$-8.99A
			0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1722A	$ 372A	$ 4346A	$ 3064A	$ 676A	$ 6054A	$ 4266A	$ 946A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8.99A
			0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1743A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6356A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	20	0	0	0	0	0	0	0	0	0	22	0	0	0
22	5	1	$ 661F	$ 554F	$ 198F	$ 2.38F	$ 1537F	$ 430F	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$37122F	$26161F	$ 6240F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1739A	$ 1232A	$ 251A	$ 2805A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42805A	$31205F	$ 6656A	$-7590A
			0	0	133	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1961A	$ 1340A	$ 294A	$ 3437A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 905A	$43914A	$30989A	$ 6736A	$-7590A
			0	0	363	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1941A	$ 1334A	$ 299A	$ 3590A	$ 2534A	$ 547A	$ 5053A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	496	0	0	0	0	0	0	0	0	0	0	0	0	0

PLAN G501 7. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $532957353.

J	R	Z	(((I=1))) (T=1)	(((I=1))) (T=2)	(((I=1))) (T=3)	(((I=2))) (T=1)	(((I=2))) (T=2)	(((I=2))) (T=3)	(((I=3))) (T=1)	(((I=3))) (T=2)	(((I=3))) (T=3)	(((I=4))) (T=1)	(((I=4))) (T=2)	(((I=4))) (T=3)	(((I=5))) (T=1)	(((I=5))) (T=2)	(((I=5))) (T=3)	((I=6)) (T=0)
1	1	1	$ 1518A	$ 1572A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43860A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	1	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
3	1	3	$ 2354A	$ 2614A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7357A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	6225	8701	0	1163	1163	0	4224	4224	0	345	384	0	0
4	1	4	$ 3015A	$ 2129A	$ 469A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7013A	$ 5515A	$ 1191A	$-4316A
			11730	14790	28161	2510	0	0	0	0	0	0	0	0	81	44	165	4827
5	1	5	$ 1231A	$ 1217A	$ 751A	$ 2254A	$ 2228A	$ 1375A	$ 3179A	$ 3142A	$ 1939A	$ 4885A	$ 4828A	$ 2981A	$14561A	$14391A	$ 8884A	$-4523A
			0	0	10186	0	0	69810	0	0	8616	0	0	33798	0	0	3093	0
6	1	1	$ 153K	$ 325K	$ 221K	$ 2143K	$ 1721K	$ 543K	$ 3827K	$ 2905K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4816K	$-8206A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$ 2438A	$ 1717A	$ 393A	$ 4164A	$ 2659A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6023K	$ 1627F	$37418F	$26490F	$ 5892F	$-8206A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ 2637A	$ 1861A	$ 408A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4616A	$ 1033A	$10685A	$ 7575F	$ 1719A	$38821A	$27362A	$ 5996A	$-8206A
			0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3509A	$ 796A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28680A	$ 6367A	$-8206A
			0	0	0	0	0	0	60	0	0	0	0	0	1	0	0	0
10	2	1	$ 964F	$ 764F	$ 276F	$ 1998K	$ 1616K	$ 529F	$ 3573K	$ 2723K	$ 798K	$ 6912P	$ 5171P	$ 1392K	$24040K	$16863K	$ 4905K	$-6083A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 381A	$ 3878A	$ 2675A	$ 665A	$ 5076F	$ 3680F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26362F	$ 5658F	$-8083A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2592A	$ 1622A	$ 399A	$ 4619A	$ 3259A	$ 723A	$ 6333A	$ 4510A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38678A	$27282A	$ 5973A	$-8083A
			0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 405A	$ 4859A	$ 3430A	$ 741A	$ 6653A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8083A
			0	0	402	0	0	0	0	0	0	0	0	0	0	0	3	0
14	3	1	$ 485K	$ 170K	$ 135K	$ 1623K	$ 1342K	$ 409K	$ 2941K	$ 2289P	$ 740K	$ 6770P	$ 5.73P	$ 1361P	$16446F	$11534P	$ 4.5.P	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 350A	$ 4.33A	$ 2837A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1795A	$ 392A	$ 4613A	$ 3236A	$ 713A	$ 6396A	$ 4518A	$ 1000A	$10284A	$ 7241A	$ 1630A	$35408A	$24722A	$ 5410A	$-7552A
			0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 729A	$ 6732A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1686A	$35852A	$25310A	$ 5468A	$-7552A
			0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$ 2326A	$ 1425A	$ 344A	$ 3.84A	$ 2210F	$ 585A	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$39833F	$28196F	$ 6259F	$-8.99A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2212A	$ 1550A	$ 357A	$ 3676A	$ 2582A	$ 628A	$ 4792A	$ 3457F	$ 856A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28561F	$ 6289F	$-8.99A
			0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1702A	$ 372A	$ 4346A	$ 3064A	$ 676A	$ 6054A	$ 4266A	$ 948A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	20	0	0	0	0	0	0	0	0	0	0	22	0	0
22	5	1	$ 1467A	$ 1295A	$ 263A	$ 2.38F	$ 1537F	$ 435A	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$42429F	$30138F	$ 6624F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1739A	$ 1232A	$ 281A	$ 2054A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 664A	$ 4479F	$ 3251F	$ 821F	$42805A	$30205F	$ 6656A	$-7590A
			0	0	133	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1918A	$ 1349A	$ 294A	$ 3417A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 905A	$43914A	$30989A	$ 6736A	$-7590A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1951A	$ 1364A	$ 299A	$ 3591A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	496	0	0	0	0	0	0	0	0	0	0	0	6	0

PLAN NO: 8. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $3461182J7.

J	R	7	(((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=2))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	1	1	$ 15194	$ 10724	$ 2314	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$4386JA	$3J962A	$ 669JA	$-6922A
					19255	0	0	0	1163	1163	0	2472	1944	0	164	137	72	0
2	1	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$37307A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	25983	0	0	0	0	0	0	0	0	389	0
3	1	3	$ 2354A	$ 2.14A	$ 435A	$ 5223A	$ 3687A	$ 796A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$27512A	$19422A	$ 4196A	$-7054A
			0	0	0	0	0	25983	0	0	0	0	0	0	0	0	389	0
4	1	4	$ 3315A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8726	17653	0	0	0	0	0	0	175	175	264	0
5	1	5	$ 2454A	$ 347A	$ 3.0A	$ 453A	$ 636A	$ 554A	$ 635A	$ 837A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	75367	0	0	190	0	0	93J6	0	0	33798	0	0	2315	4827	
6	1	1	$ 159K	$ 325K	$ 220K	$ 2148K	$ 1721K	$ 543K	$ 3827K	$ 2935K	$ 826K	$ 7603K	$ 5635P	$ 1487K	$22499K	$15727K	$ 4808K	$-8206A
			0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0
7	1	2	$ 2434A	$ 1717A	$ 393A	$ 4644A	$ 2659A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37418F	$26490F	$ 5892F	$-8206A
			0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
8	1	3	$ 2637A	$ 1061A	$ 408A	$ 4719A	$ 3323A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10685A	$ 7575F	$ 1719A	$38821A	$27382A	$ 5998A	$-8206A
			0	0	0	0	0	0	0	0	0	98	0	0	0	0	0	0
9	1	4	$ 2734A	$ 1912A	$ 413A	$ 4953A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28081A	$ 6067A	$-8206A
			0	0	0	0	0	0	0	0	0	62	0	0	0	0	0	0
10	2	1	$ 944F	$ 764F	$ 276F	$ 1988K	$ 1606K	$ 529F	$ 3573K	$ 2723K	$ 798K	$ 6912P	$ 5171P	$ 1392K	$24.40K	$16863K	$ 4905K	$-6083A
			0	0	0	0	0	0	0	0	0	113	0	0	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 301A	$ 3808A	$ 2675A	$ 665A	$ 5076F	$ 3690F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26302F	$ 5656F	$-8083A
			0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1522A	$ 399A	$ 4619A	$ 3258A	$ 723A	$ 6393A	$ 4510A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38678A	$27282A	$ 5973A	$-8.83A
			0	0	0	0	0	0	0	0	0	46	0	0	52	0	0	0
13	2	4	$ 2553A	$ 1074A	$ 4.5A	$ 4059A	$ 3435A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 172JA	$39593A	$27950A	$ 6.39A	$-8083A
			0	0	0	0	0	0	0	0	0	466	0	0	0	0	0	0
14	3	1	$ -45K	$ 170K	$ 135K	$ 1623K	$ 1342K	$ 469K	$ 2941K	$ 2239P	$ 746K	$ 6770P	$ 5.73P	$ 1361P	$16446P	$11534P	$ 4.56P	$-7552A
			0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 34.A	$ 4.33A	$ 2837A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	0	0	0	0	0	0	0	129	0	0	0	0	0	0
16	3	3	$ 2565A	$ 1795A	$ 392A	$ 4539A	$ 3236A	$ 713A	$ 6396A	$ 4508A	$ 1000A	$10284A	$ 7241A	$ 1630A	$35.48A	$24722A	$ 5410A	$-7552A
			0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
17	3	4	$ 2594A	$ 1833A	$ 336A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35652A	$25310A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0
18	4	1	$ 1157F	$ 910F	$ 276F	$ 2989F	$ 2210F	$ 573F	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$31676F	$21508F	$ 5596F	$-8099A
			0	0	0	0	0	0	0	0	0	690	0	0	0	0	0	0
19	4	2	$ 2222A	$ 1550A	$ 357A	$ 3676A	$ 2582A	$ 628A	$ 4792A	$ 3457F	$ 856A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28501F	$ 6289F	$-8099A
			0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
20	4	3	$ 2412A	$ 1702A	$ 372A	$ 4346A	$ 3164A	$ 676A	$ 6054A	$ 4266A	$ 946A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8.99A
			0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	0	37	0	0	6	0	0	0
22	5	1	$ 461F	$ 554F	$ 198F	$ 2138F	$ 1537F	$ 430F	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$37122F	$26161F	$ 6246F	$-7590A
			0	0	0	0	0	0	0	0	0	0	1346	0	0	0	0	0
23	5	2	$ 1739A	$ 1202A	$ 281A	$ 2415A	$ 1969A	$ 491A	$ 3508A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42805A	$30205F	$ 6656A	$-7590A
			0	0	0	0	0	0	0	0	0	0	193	0	0	0	0	0
24	5	3	$ 1301A	$ 1340A	$ 294A	$ 3417A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 965A	$43914A	$30989A	$ 6736A	$-7590A
			0	0	0	0	0	0	0	0	0	0	236	0	116	0	0	0
25	5	4	$ 1351A	$ 1384A	$ 239A	$ 3590A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6776A	$-7590A
			0	0	0	0	0	0	0	0	0	0	505	0	0	0	0	0

PLAN G501 B. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $3461203192.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	1	1	$ 1514A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43066A	$30962A	$ 6691A	$-6922A
			0	0	19255	0	0	0	1163	1163	0	2472	1944	0	164	137	72	0
2	2	2	$ 2445A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$37307A	$26337A	$ 5691A	$-7589A
			0	0	0	0	0	25983	0	0	0	0	0	0	0	0	389	0
3	3	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	25983	0	0	0	0	0	0	0	0	389	0
4	3	4	$ 3115A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$*9999A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11731	11730	0	8726	8726	17653	0	0	0	0	0	0	175	175	264	0
5	3	5	$ 2464A	$ 3474A	$ 3.0A	$ 4590A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	75.67	0	0	193	0	0	9306	0	0	33790	0	0	2315	4827
6	1	1	$ 159K	$ 325K	$ 220K	$ 2148K	$ 1721K	$ 543K	$ 3827K	$ 2955K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4818K	$-8206A
			0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0
7	1	2	$ 2481A	$ 1717A	$ 393A	$ 4.64A	$ 2659A	$ 692A	$ 5323F	$ 3057F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37418F	$26496F	$ 5052F	$-8206A
			0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
8	1	3	$ 2637A	$ 1661A	$ 4.8A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10685A	$ 7575F	$ 1719A	$38821A	$27382A	$ 5998A	$-8206A
			0	0	0	0	0	0	0	0	0	98	0	0	0	0	0	0
9	1	4	$ 2739A	$ 1912A	$ 413A	$ 4959A	$ 3590A	$ 756A	$ 6993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6067A	$-8206A
			0	0	0	0	0	0	0	0	0	62	0	0	0	0	0	0
10	2	1	$ 944F	$ 766F	$ 276F	$ 1383K	$ 1636K	$ 523F	$ 3573K	$ 2723K	$ 798K	$ 6912P	$ 5171P	$ 1392K	$24648K	$16863K	$ 4905K	$-8.83A
			0	0	0	0	0	0	0	0	0	113	0	0	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 331A	$ 3638A	$ 2675A	$ 665A	$ 5076F	$ 3680F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26302F	$ 5858F	$-8.83A
			0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1622A	$ 399A	$ 4619A	$ 3256A	$ 723A	$ 6393A	$ 4510A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38678A	$27282A	$ 5973A	$-8.83A
			0	0	0	0	0	0	0	0	0	46	0	0	52	0	0	0
13	2	4	$ 2555A	$ 1574A	$ 450A	$ 4659A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8.83A
			0	0	0	0	0	0	0	0	0	466	0	0	0	0	0	0
14	3	1	$ 465K	$ 176K	$ 195K	$ 1628K	$ 1342K	$ 489K	$ 2941K	$ 2289P	$ 746K	$ 6770P	$ 5.73P	$ 1364P	$16446P	$11534P	$ 4.5.P	$-7552A
			0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 350A	$ 4.33A	$ 2837A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 5311F	$-7552A
			0	0	0	0	0	0	0	0	0	129	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1735A	$ 392A	$ 4559A	$ 3236A	$ 713A	$ 6396A	$ 4508A	$ 1006A	$10284A	$ 7241A	$ 1630A	$35148A	$24722A	$ 5416A	$-7552A
			0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
17	3	4	$ 2536A	$ 1633A	$ 396A	$ 4752A	$ 3359A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7803A	$ 1666A	$35852A	$25316A	$ 5468A	$-7552A
			0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0
18	4	1	$ 2.26A	$ 1425A	$ 344A	$ 3.84A	$ 2210F	$ 585A	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$39633F	$26196F	$ 6259F	$-8.99A
			0	0	0	0	0	0	0	0	0	658	0	0	31	0	0	0
19	4	2	$ 2212A	$ 1550A	$ 357A	$ 3676A	$ 2592A	$ 628A	$ 4792A	$ 3457F	$ 856A	$ 7692F	$ 5510F	$ 1341F	$40251F	$28501F	$ 6289F	$-8.99A
			0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
20	4	3	$ 2412A	$ 1702A	$ 372A	$ 4346A	$ 3164A	$ 676A	$ 6054A	$ 4266A	$ 946A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6381A	$-8.99A
			0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$ 9054A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0
22	5	1	$ 1057A	$ 1.29A	$ 253A	$ 2.38F	$ 1537F	$ 435A	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$42429F	$30038F	$ 6624F	$-7590A
			0	0	0	0	0	0	0	0	0	0	1346	0	0	0	0	0
23	5	2	$ 1718A	$ 1292A	$ 281A	$ 2635A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42865A	$30205F	$ 6656A	$-7590A
			0	0	0	0	0	0	0	0	0	0	193	0	0	0	0	0
24	5	3	$ 1311A	$ 1340A	$ 294A	$ 3407A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 905A	$43914A	$30969A	$ 6736A	$-7590A
			0	0	0	0	0	0	0	0	0	0	236	0	116	0	0	0
25	5	4	$ 1351A	$ 1344A	$ 293A	$ 3530A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6770A	$-7590A
			0	0	0	0	0	0	0	0	0	0	505	0	0	0	0	0

PLAN NO: 9. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $530075949.

J	P	Z	(((((((((I=1)))))))))) ((I=1))	((I=2))	((I=3))	(((((((((I=2))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=3))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=4))))))))) ((T=1))	((T=2))	((T=3))	(((((((((I=5))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=0))
1	0	1	$ 1513A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$30962A	$ 6696A	$-6922A
			9269	17204	0	0	0	0	0	0	0	0	0	34	63	0	0	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			26274	0	0	0	0	0	0	0	0	0	0	0	98	0	0	0
3	0	3	$ 2894A	$ 2.14A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			18854	0	0	0	0	0	0	0	0	0	0	7076	0	361	0	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$16707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			59000	0	0	0	0	0	0	0	0	0	0	0	221	0	0	0
5	0	5	$ 246A	$ 347A	$ 3.0A	$ 450A	$ 636A	$ 553A	$ .635A	$ 837A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	0	0	0	79139	0	0	0	0	0	42967	0	0	3379	0
6	1	1	$ 169K	$ 325K	$ 220K	$ 2143K	$ 1721K	$ 543K	$ 3027K	$ 2905K	$ 828K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 4608K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2439A	$ 1717A	$ 393A	$ 4.64A	$ 2859A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37416F	$26450F	$ 5092F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
8	1	3	$ 2637A	$ 1851A	$ 4.8A	$ 4719A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1033A	$10685A	$ 7575F	$ 1719A	$38821A	$27382A	$ 5998A	$-8206A
			99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 2799A	$ 1912A	$ 419A	$ 4959A	$ 3500A	$ 756A	$ 5993A	$ 4937A	$ 1066A	$11797A	$ 8328A	$ 1799A	$39777A	$28.80A	$ 6.67A	$-3206A
			58	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
10	2	1	$ 946F	$ 755F	$ 276F	$ 1985K	$ 1606K	$ 529F	$ 3573K	$ 2723K	$ 798K	$ 6912P	$ 5171P	$ 1392K	$24.46K	$16663K	$ 49.5K	$-6.83A
			0	0	0	0	0	0	0	0	0	0	0	113	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 301A	$ 3508A	$ 2675A	$ 665A	$ 5276F	$ 3630F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26302F	$ 5555F	$-6.83A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
12	2	3	$ 2542A	$ 1822A	$ 349A	$ 4619A	$ 3258A	$ 723A	$ 5393A	$ 4510A	$ 1012A	$10204A	$ 7211F	$ 1643A	$38676A	$27262A	$ 5973A	$-8.83A
			99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2655A	$ 1874A	$ 4 5A	$ 4859A	$ 3430A	$ 741A	$ 6653A	$ 4638A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27395A	$ 6.39A	$-8.83A
			456	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	3	1	$ -45K	$ 176K	$ 115K	$ 1623K	$ 1342K	$ 489K	$ 2941K	$ 2239P	$ 740K	$ 6770P	$ 5073P	$ 1361P	$16446P	$11534P	$ 4.5P	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 300A	$ 4.33A	$ 2837A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23697F	$ 5311F	$-7552A
			129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1795A	$ 392A	$ 4589A	$ 3236A	$ 713A	$ 6396A	$ 4506A	$ 1000A	$10284A	$ 7241A	$ 1630A	$35.404	$24722A	$ 5410A	$-7552A
			9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 6702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35052A	$25310A	$ 5469A	$-7552A
			16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$ 1157F	$ 918F	$ 276F	$ 2933F	$ 2210F	$ 573F	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5451K	$ 1318K	$30676F	$21508F	$ 5596F	$-6.99A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2224A	$ 1550A	$ 357A	$ 3676A	$ 2502A	$ 628A	$ 4792A	$ 3457F	$ 855A	$ 7692F	$ 5510F	$ 1341F	$40251F	$26501F	$ 6259F	$-6.99A
			6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1702A	$ 372A	$ 4346A	$ 3.64A	$ 676A	$ 6054A	$ 4266A	$ 946A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6301A	$-6.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 5363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			20	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0
22	5	1	$ 641F	$ 554F	$ 198F	$ 2.30F	$ 1537F	$ 430F	$ 3208F	$ 2360F	$ 633F	$ 3834K	$ 2913K	$ 772F	$37122F	$26161F	$ 6240F	$-7590A
			0	0	0	0	0	1326	0	0	0	0	0	0	0	0	19	0
23	5	2	$ 1739A	$ 1212A	$ 241A	$ 2805A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42805A	$30205F	$ 6656A	$-7590A
			0	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1931A	$ 1340A	$ 294A	$ 3427A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 905A	$43914A	$30989A	$ 6730A	$-7590A
			0	353	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1951A	$ 1344A	$ 299A	$ 3531A	$ 2534A	$ 547A	$ 5363A	$ 3574A	$ 772A	$ 6259A	$ 4416A	$ 954A	$44365A	$31334A	$ 677.A	$-7590A
			0	501	0	0	0	0	0	0	0	0	0	0	3	0	0	0

PLAN 6501 9. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $530517231.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=6))
1	3	1	$ 1516A	$ 1672A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3913A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 576A	$43860A	$30962A	$ 6690A	$-6922A
			9157	17116	0	0	0	0	0	0	0	0	0	0	34	64	0	0
2	3	2	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37307A	$26337A	$ 5690A	$-7589A
			26274	0	0	0	0	0	0	0	0	0	0	0	98	0	0	0
3	3	3	$ 2454A	$ 2114A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			18976	0	0	0	0	0	0	0	0	0	6969	0	71	355	0	0
4	3	4	$ 3315A	$ 2129A	$ 460A	$ 5513A	$ 3696A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			59.92	0	0	0	0	0	0	0	0	0	0	0	221	0	0	0
5	3	5	$ 246A	$ 347A	$ 300A	$ 450A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	0	0	0	78558	0	0	0	0	0	43547	0	0	3339	0
6	1	1	$ 149K	$ 325K	$ 220K	$ 2148K	$ 1721K	$ 543K	$ 3827K	$ 2905K	$ 626K	$ 7603K	$ 5605P	$ 1487K	$22499K	$15727K	$ 40.8K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2439A	$ 1717A	$ 393A	$ 4.64A	$ 2859A	$ 692A	$ 5323F	$ 3857F	$ 942A	$ 9473F	$ 6823K	$ 1627F	$37418F	$26494F	$ 5392F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
8	1	3	$ 2637A	$ 1861A	$ 4.8A	$ 4715A	$ 3329A	$ 739A	$ 6535A	$ 4610A	$ 1133A	$10685A	$ 7575F	$ 1719A	$38021A	$27382A	$ 5998A	$-8206A
			98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 2729A	$ 1912A	$ 413A	$ 4959A	$ 3500A	$ 756A	$ 6993A	$ 4937A	$ 1166A	$11797A	$ 8328A	$ 1799A	$39777A	$28080A	$ 6.67A	$-8206A
			58	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
10	2	1	$ 944F	$ 766F	$ 276F	$ 1988K	$ 1616K	$ 529F	$ 3573K	$ 2723K	$ 798K	$ 6912P	$ 5171P	$ 1392K	$24.49K	$16363K	$ 49.5K	$-8.83A
			0	0	0	0	0	0	0	0	0	0	0	113	0	0	0	0
11	2	2	$ 2334A	$ 1643A	$ 381A	$ 3638A	$ 2675A	$ 665A	$ 5.76F	$ 3680F	$ 912F	$ 8856K	$ 6458K	$ 1535K	$37154F	$26332F	$ 5858F	$-6.83A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2532A	$ 1522A	$ 399A	$ 4613A	$ 3258A	$ 723A	$ 6393A	$ 4513A	$ 1112A	$10264A	$ 7211F	$ 1643A	$35676A	$27282A	$ 5973A	$-8.03A
			98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2455A	$ 1474A	$ 4 5A	$ 4533A	$ 3430A	$ 741A	$ 6853A	$ 4638A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39533A	$27952A	$ 6.39A	$-6.83A
			445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	3	1	$ 245K	$ 172K	$ 155K	$ 1623K	$ 1342K	$ 499K	$ 2941K	$ 2239P	$ 74'K	$ 6770P	$ 5.73P	$ 1361P	$16446F	$11534P	$ 4.5.F	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0
15	3	2	$ 2374A	$ 1672A	$ 380A	$ 4.33A	$ 2937A	$ 673A	$ 5339A	$ 3793F	$ 923A	$ 9193F	$ 6577F	$ 1546F	$33736F	$23897F	$ 53.1F	$-7552A
			129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2545A	$ 1795A	$ 392A	$ 4583A	$ 3236A	$ 713A	$ 6396A	$ 4518A	$ 1100A	$10284A	$ 7241A	$ 1631A	$35.48A	$24722A	$ 5410A	$-7552A
			9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2535A	$ 1633A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 5702A	$ 4731A	$ 1122A	$11053A	$ 7803A	$ 1666A	$35052A	$25310A	$ 5468A	$-7552A
			14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$ 2124A	$ 1425A	$ 344A	$ 3.84A	$ 2210F	$ 585A	$ 4562F	$ 3317F	$ 835F	$ 7430K	$ 5452K	$ 1313K	$39633F	$28196F	$ 6259F	$-8.99A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 2212A	$ 1550A	$ 357A	$ 3676A	$ 2592A	$ 628A	$ 4792A	$ 3457F	$ 656A	$ 7692F	$ 5516F	$ 1341F	$40251F	$28521F	$ 6259F	$-8.99A
			6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2412A	$ 1722A	$ 372A	$ 4346A	$ 3064A	$ 676A	$ 5654A	$ 4266A	$ 946A	$ 9115A	$ 6417A	$ 1449A	$41459A	$29250A	$ 6351A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2455A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 5363A	$ 4492A	$ 970A	$ 9854A	$ 6956A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			21	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0
22	5	1	$ 1457A	$ 1.29A	$ 263A	$ 2.38F	$ 1537F	$ 435A	$ 3218F	$ 2363F	$ 633F	$ 3934K	$ 2913K	$ 772F	$42629F	$31.38F	$ 6524F	$-7590A
			0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1719A	$ 1202A	$ 261A	$ 2515A	$ 1969A	$ 491A	$ 3588A	$ 2616F	$ 666A	$ 4479F	$ 3251F	$ 821F	$42865A	$31.265F	$ 6556A	$-7590A
			0	133	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1911A	$ 1346A	$ 294A	$ 3407A	$ 2400A	$ 534A	$ 4724A	$ 3326A	$ 747A	$ 5579A	$ 3922A	$ 965A	$43914A	$31.969A	$ 6736A	$-7590A
			0	453	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1364A	$ 299A	$ 3591A	$ 2534A	$ 547A	$ 5063A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 6771A	$-7590A
			0	496	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PLAN M0: 10. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $423112552.

J	R	Z	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=J))
1	0	1	$ 1518A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43863A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	96	0
2	0	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5890A	$-7589A
			0	0	0	0	0	0	0	0	8226	0	0	17013	0	0	1136	0
3	0	3	$ 2454A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27912A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	15643	215	215	548	0
4	3	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$19707A	$ 7559A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11791	11790	0	8726	8701	15623	652	1163	234	0	0	0	196	213	241	0
5	0	5	$ 246A	$ 347A	$ 3 0A	$ 451A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	665.9	0	0	53122	0	0	0	0	0	0	0	0	1.46	4527
6	1	1	$-1018P	$ -421P	$ 127P	$ 1.19P	$ 991P	$ 451P	$ 2774P	$ 2194P	$ 735P	$ 6736P	$ 4899P	$ 1394P	$17451P	$11539P	$ 4337P	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 1283F	$ 989F	$ 311F	$ 3636F	$ 2158F	$ 599F	$ 4423F	$ 3139K	$ 650F	$ 8568K	$ 6108K	$ 1534K	$28212K	$18576K	$ 5011K	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2492A	$ 1732A	$ 3934	$ 4243A	$ 2910A	$ 692A	$ 5635A	$ 3832F	$ 942A	$ 9780F	$ 6061F	$ 1627F	$37679F	$26562F	$ 5092F	$-8206A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2779A	$ 1912A	$ 413A	$ 4953A	$ 3560A	$ 756A	$ 5393A	$ 4937A	$ 1.66A	$11797A	$ 8328A	$ 1799A	$39777A	$28060A	$ 6.67A	$-8206A
			0	0	0	0	0	0	45	0	0	0	0	0	16	0	0	0
10	2	1	$ -157K	$ 43K	$ 164K	$ 1140K	$ 679P	$ 437K	$ 2535P	$ 2016P	$ 705P	$ 6032P	$ 4460U	$ 130.P	$19168P	$12825P	$ 4451F	$-8.83A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 1135F	$ 930F	$ 209F	$ 2015F	$ 1980F	$ 573F	$ 4035F	$ 2970K	$ 819K	$ 7885K	$ 5705P	$ 1443P	$29237K	$19513K	$ 51..K	$-8.83A
			0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 2436A	$ 1632A	$ 365A	$ 4145A	$ 2637A	$ 676A	$ 5490A	$ 3792F	$ 921A	$ 9290F	$ 6520F	$ 1550F	$37533F	$26465F	$ 5067F	$-8.83A
			0	0	0	0	0	82	0	0	0	0	0	0	0	0	16	0
13	2	4	$ 2655A	$ 1674A	$ 4 5A	$ 4659A	$ 3430A	$ 741A	$ 6853A	$ 4838A	$ 1045A	$11281A	$ 7963A	$ 1720A	$39593A	$27950A	$ 6039A	$-8.83A
			0	0	0	0	0	0	466	0	0	0	0	0	0	0	0	0
14	3	1	$-1110P	$ -484F	$ 1110	$ 861P	$ 891P	$ 425P	$ 2562F	$ 2081P	$ 702P	$ 6240P	$ 4792U	$ 1316U	$13406P	$ 8861P	$ 3756P	$-7552A
			0	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0
15	3	2	$ 1101F	$ 837F	$ 277F	$ 2647F	$ 1835F	$ 549F	$ 3618F	$ 2765K	$ 787K	$ 7417P	$ 5545P	$ 1403P	$26047K	$17350K	$ 4581K	$-7552A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2424A	$ 1686A	$ 360A	$ 4230A	$ 2890A	$ 674A	$ 5656A	$ 3848A	$ 925A	$ 9354F	$ 6622F	$ 1546F	$33960F	$23970F	$ 5212F	$-7552A
			0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 2596A	$ 1833A	$ 396A	$ 4752A	$ 3355A	$ 725A	$ 5702A	$ 4731A	$ 1022A	$11053A	$ 7603A	$ 1686A	$35052A	$25310A	$ 5408A	$-7552A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1[illegible]	$ 2[illegible]K	$ 1[illegible]K	$ 1963K	$ 1579K	$ 491K	$ 3715K	$ 2781K	$ 763K	$ 6873K	$ 4961K	$ 1264K	$28124K	$19453K	$ 5355K	$-8.99A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ 1138F	$ 946F	$ 278F	$ 3093F	$ 2280F	$ 580F	$ 4759F	$ 3448F	$ 847F	$ 7732F	$ 5538F	$ 1342F	$34480F	$23425F	$ 5735F	$-8.99A
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2352A	$ 1675A	$ 369A	$ 4247A	$ 2975A	$ 665A	$ 5861A	$ 4093A	$ 927A	$ 8693A	$ 6204F	$ 1410F	$41314A	$29123A	$ 6367A	$-8.99A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 5363A	$ 4492A	$ 970A	$ 9054A	$ 6456A	$ 1503A	$42177A	$29775A	$ 6433A	$-8.99A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 535F	$ 469F	$ 148F	$ 1712F	$ 1249F	$ 398F	$ 2602F	$ 1882K	$ 573F	$ 3406K	$ 2536K	$ 728K	$35590F	$25.85F	$ 6122F	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1676A	$ 1173A	$ 277A	$ 2702A	$ 1877A	$ 481A	$ 3526F	$ 2577F	$ 655F	$ 4395F	$ 3177F	$ 813F	$42649A	$30154F	$ 6641A	$-7590A
			0	0	143	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 1933A	$ 1324A	$ 242A	$ 3347A	$ 2346A	$ 527A	$ 4607A	$ 3220A	$ 734A	$ 5364A	$ 3726A	$ 852A	$43566A	$30947A	$ 6731A	$-7590A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1961A	$ 1344A	$ 249A	$ 3591A	$ 2534A	$ 547A	$ 5.63A	$ 3574A	$ 772A	$ 6259A	$ 4418A	$ 954A	$44385A	$31334A	$ 677.A	$-7590A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	16	0

PLAN NO: 11. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $653933899.

J	R	Z	((I=1)) (T=1)	((I=1)) (T=2)	((I=1)) (T=3)	((I=2)) (T=1)	((I=2)) (T=2)	((I=2)) (T=3)	((I=3)) (T=1)	((I=3)) (T=2)	((I=3)) (T=3)	((I=4)) (T=1)	((I=4)) (T=2)	((I=4)) (T=3)	((I=5)) (T=1)	((I=5)) (T=2)	((I=5)) (T=3)	((I=6)) (T=0)
1	1	1	$ 16692	$ 1337A	$ 570A	$ 3119A	$ 2447A	$ 971A	$ 4258A	$ 3452A	$ 1370A	$ 4119A	$ 3339A	$ 1325A	$47653A	$38629A	$15336A	$-6629A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	90	0
2	1	2	$ 2673A	$ 2171A	$ 862A	$ 4902A	$ 3973A	$ 1577A	$ 6913A	$ 5604A	$ 2224A	$11524A	$ 9341A	$ 3708A	$46534A	$32858A	$13 45A	$-9461A
			0	0	0	0	0	0	0	0	5268	0	0	16966	0	0	1135	0
3	1	3	$ 3101A	$ 2513A	$ 998A	$ 5675A	$ 4600A	$ 1826A	$ 8004A	$ 6488A	$ 2575A	$15191A	$12314A	$ 4889A	$29892A	$24231A	$ 9619A	$-6794A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	346	0
4	1	4	$ 3276A	$ 2656A	$ 1054A	$ 5997A	$ 4861A	$ 1930A	$ 3457A	$ 6855A	$ 2721A	$11633A	$ 9430A	$ 3743A	$ 6400A	$ 6661A	$ 2731A	$-5381A
			1173.	11790	0	8726	9701	15659	717	1163	102	0	0	0	198	213	238	0
5	1	5	$ 267A	$ 433A	$ 689A	$ 459A	$ 794A	$ 1261A	$ 690A	$ 1120A	$ 1778A	$ 1061A	$ 1721A	$ 2733A	$ 3164A	$ 5129A	$ 8146A	$-1965A
			0	0	67855	0	0	51791	0	0	0	0	0	0	0	0	1.31	4027
6	1	1	$ 115K	$ 356K	$ 446K	$ 2107K	$ 1992K	$ 1220K	$ 3721K	$ 3326K	$ 1846K	$ 7779P	$ 6725P	$ 3339P	$15199K	$13363K	$ 9952K	$-6231A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2495A	$ 2132A	$ 873A	$ 3881A	$ 3204A	$ 1524A	$ 5510F	$ 4626F	$ 2125F	$10184K	$ 8912K	$ 3701K	$40110K	$32785K	$13426F	$-6231A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2822A	$ 2292A	$ 930A	$ 4945A	$ 4057A	$ 1678A	$ 5327A	$ 5565A	$ 2337A	$11501F	$ 9451F	$ 3913F	$41752F	$33978F	$13683A	$-6231A
			0	0	0	0	0	0	0	0	0	0	0	95	0	0	0	0
9	1	4	$ 2943A	$ 2396A	$ 947A	$ 5388A	$ 4367A	$ 1734A	$ 7593A	$ 6159A	$ 2445A	$12818A	$10390A	$ 4125A	$43210A	$35.33A	$139.8A	$-6231A
			0	0	0	0	0	0	0	0	0	0	0	47	14	0	0	0
10	2	1	$ 731F	$ 755F	$ 6 0F	$ 1996K	$ 1824K	$ 1171K	$ 3374K	$ 3.51K	$ 1770K	$ 7055P	$ 6179U	$ 3136P	$17962K	$15511K	$1.335K	$-0.77A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2363A	$ 1919A	$ 853A	$ 3506A	$ 2955F	$ 1453A	$ 5176F	$ 4361F	$ 2351F	$ 9622K	$ 8.57K	$ 3520K	$39675K	$32596K	$1335.K	$-0.77A
			0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
12	2	3	$ 2762A	$ 2243A	$ 911A	$ 4075A	$ 3968A	$ 1643A	$ 6672A	$ 5440A	$ 2287A	$10939F	$ 8996F	$ 3732F	$41556F	$33621F	$13629A	$-0.77A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2944A	$ 2386A	$ 928A	$ 5290A	$ 4280A	$ 1699A	$ 7446A	$ 6036A	$ 2396A	$12256A	$ 9935A	$ 3944A	$43.17A	$34071A	$13644A	$-0.77A
			0	0	0	0	0	0	446	0	0	0	0	0	0	0	49	0
14	3	1	$ -141K	$ 123K	$ 433K	$ 1338K	$ 1385K	$ 1072K	$ 2899P	$ 2749P	$ 1646P	$ 6953P	$ 6.56P	$ 3077P	$ 8.53P	$ 7747P	$ 8192P	$-9415A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2445A	$ 1995A	$ 855A	$ 3944A	$ 3245A	$ 1493A	$ 5530F	$ 4624F	$ 2.71F	$ 9585F	$ 7933F	$ 3500F	$36.91F	$29453F	$12111F	$-9415A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2733A	$ 2216A	$ 835A	$ 4865A	$ 3968A	$ 1623A	$ 5759A	$ 5495A	$ 2271A	$12694A	$ 8796F	$ 3684A	$37579A	$3.54F	$12347A	$-9415A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2821A	$ 2267A	$ 9.8A	$ 5154A	$ 4166A	$ 1661A	$ 7262A	$ 5903A	$ 2343A	$12.09A	$ 9735A	$ 3865A	$36953A	$31576A	$12536A	$-9415A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1133F	$ 1166F	$ 627F	$ 3 62F	$ 2630F	$ 1293F	$ 4603F	$ 3898F	$ 1074F	$ 6073K	$ 6801K	$ 3.21K	$27022K	$22662K	$12116F	$-0.97A
			0	0	0	0	0	0	0	0	696	0	0	0	0	0	0	0
19	4	2	$ 2233A	$ 1825A	$ 8 0A	$ 3468A	$ 2878A	$ 1382A	$ 4936F	$ 4150F	$ 1922F	$ 6073K	$ 6801K	$ 3021K	$43266F	$35256F	$14367F	$-0.97A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2543A	$ 2101A	$ 849A	$ 4620A	$ 3753A	$ 1538A	$ 6365A	$ 5192A	$ 2152A	$ 9446A	$ 7740F	$ 3272A	$44599A	$36192A	$14578A	$-0.97A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2673A	$ 2171A	$ 862A	$ 4902A	$ 3973A	$ 1577A	$ 6913A	$ 5604A	$ 2224A	$10706A	$ 8679A	$ 3445A	$45925A	$37147A	$14747A	$-0.97A
			0	0	0	0	0	0	0	0	20	0	0	0	0	22	0	0
22	5	1	$ 681F	$ 646F	$ 448F	$ 2.1.F	$ 1779F	$ 963F	$ 3101F	$ 2634F	$ 1406F	$ 4166K	$ 3634K	$ 1764K	$36566F	$3.93F	$13865F	$-9462A
			0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 17.3A	$ 1395A	$ 626A	$ 2573A	$ 2134A	$ 1071A	$ 3703F	$ 3145F	$ 1492F	$ 4513F	$ 3816F	$ 1843F	$46.27F	$37466F	$15106F	$-9462A
			0	0	143	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2024A	$ 1647A	$ 671A	$ 3937A	$ 2917A	$ 1212A	$ 4921A	$ 4107A	$ 1690A	$ 5639A	$ 4607A	$ 2023A	$47418A	$38463A	$154.8A	$-9462A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2191A	$ 1727A	$ 665A	$ 3594A	$ 3161A	$ 1255A	$ 5501A	$ 4459A	$ 1771A	$ 6800A	$ 5512A	$ 2188A	$46224A	$39091A	$15519A	$-9462A
			0	0	0	0	0	471	0	0	0	0	0	0	0	0	33	0

PLAN G50311. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $66416397.

J	R	7	((I=1)) ((T=1))	((I=1)) ((T=2))	((I=1)) ((T=3))	((I=2)) ((T=1))	((I=2)) ((T=2))	((I=2)) ((T=3))	((I=3)) ((T=1))	((I=3)) ((T=2))	((I=3)) ((T=3))	((I=4)) ((T=1))	((I=4)) ((T=2))	((I=4)) ((T=3))	((I=5)) ((T=1))	((I=5)) ((T=2))	((I=5)) ((T=3))	((I=6)) ((T=0))
1	0	1	$ 1649A	$ 1337A	$ 530A	$ 3119A	$ 2447A	$ 971A	$ 4258A	$ 3452A	$ 1370A	$ 4119A	$ 3339A	$ 1325A	$47653A	$38629A	$15336A	$-6629A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	0	2	$ 2679A	$ 2171A	$ 862A	$ 4502A	$ 3973A	$ 1577A	$ 6913A	$ 5604A	$ 2224A	$11524A	$ 9341A	$ 3708A	$41534A	$32658A	$13.45A	$-9461A
			0	0	0	0	0	0	0	0	8266	0	0	16966	0	0	1136	0
3	0	3	$ 3111A	$ 2513A	$ 998A	$ 5675A	$ 4600A	$ 1826A	$ 8004A	$ 6488A	$ 2575A	$15191A	$12314A	$ 4889A	$29692A	$24231A	$ 9619A	$-8794A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	848	0
4	0	4	$ 3276A	$ 2656A	$ 1054A	$ 5997A	$ 4861A	$ 1930A	$ 8457A	$ 6855A	$ 2721A	$11633A	$ 9430A	$ 3743A	$ 8488A	$ 6881A	$ 2731A	$-5381A
			11796	11796	0	8726	8701	15659	717	1163	102	0	0	0	198	213	238	0
5	0	5	$ 2674A	$ 433A	$ 689A	$ 499A	$ 794A	$ 1261A	$ 690A	$ 1120A	$ 1776A	$ 1061A	$ 1721A	$ 2733A	$ 3164A	$ 5129A	$ 9146A	$-1965A
			0	0	665.9	0	0	53122	0	0	0	0	0	0	0	0	1.46	4827
6	1	1	$ 115K	$ 358K	$ 496K	$ 2107K	$ 1992K	$ 1220K	$ 3721K	$ 3326K	$ 1846K	$ 7779P	$ 6725P	$ 3339P	$25199K	$13363K	$ 9992K	$-6231A
			0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0
7	1	2	$ 2485A	$ 2032A	$ 603A	$ 3901A	$ 3204A	$ 1524A	$ 5519P	$ 4626P	$ 2125P	$10184K	$ 8512K	$ 3701K	$40110K	$32705K	$13426P	$-0231A
			0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8	1	3	$ 2922A	$ 2292A	$ 930A	$ 4935A	$ 4057A	$ 1678A	$ 6827A	$ 5565A	$ 2337A	$11501P	$ 9451P	$ 3913P	$41752P	$33370P	$13603A	$-0231A
			0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0
9	1	4	$ 2943A	$ 2386A	$ 947A	$ 5303A	$ 4367A	$ 1734A	$ 7598A	$ 6159A	$ 2445A	$12818A	$10390A	$ 4125A	$43218A	$35633A	$13906A	$-0231A
			0	0	0	0	0	0	0	0	0	0	0	47	14	0	0	0
10	2	1	$ 731P	$ 755P	$ 600P	$ 1896K	$ 1824K	$ 1170K	$ 3374K	$ 3051K	$ 1776K	$ 7055P	$ 6179U	$ 3136P	$17962K	$15511K	$10335K	$-0077A
			0	0	0	0	0	0	0	0	113	0	0	0	0	0	0	0
11	2	2	$ 2343A	$ 1919A	$ 853A	$ 3506A	$ 2955P	$ 1453A	$ 5176P	$ 4361P	$ 2651P	$ 9622K	$ 8057K	$ 3520K	$39875K	$32596K	$13350K	$-0077A
			0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
12	2	3	$ 2762A	$ 2243A	$ 311A	$ 4075A	$ 3968A	$ 1643A	$ 6672A	$ 5440A	$ 2287A	$10939P	$ 8996P	$ 3732P	$41550P	$33621P	$13629A	$-0077A
			0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0
13	2	4	$ 2554A	$ 2339A	$ 928A	$ 5280A	$ 4280A	$ 1699A	$ 7446A	$ 6036A	$ 2396A	$12256A	$ 9935A	$ 3944A	$43617A	$34873A	$13644A	$-0077A
			0	0	0	0	0	0	446	0	0	0	0	0	0	19	0	
14	3	1	$ -181K	$ 123K	$ 433K	$ 1338K	$ 1385K	$ 1072K	$ 2899P	$ 2749P	$ 1648P	$ 6953P	$ 6156P	$ 3077P	$ 8153P	$ 7747P	$ 8192P	$-9415A
			0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
15	3	2	$ 2445A	$ 1995A	$ 655A	$ 3548A	$ 3245A	$ 1493A	$ 5530P	$ 4624P	$ 2071P	$ 9585P	$ 7933P	$ 3500P	$36691P	$29433P	$12111P	$-9415A
			0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 2733A	$ 2218A	$ 895A	$ 4805A	$ 3968A	$ 1623A	$ 6759A	$ 5495A	$ 2271A	$10694A	$ 8796P	$ 3684A	$37579A	$30540P	$12347A	$-9415A
			0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
17	3	4	$ 2021A	$ 2237A	$ 918A	$ 5164A	$ 4186A	$ 1661A	$ 7202A	$ 5903A	$ 2343A	$12009A	$ 9735A	$ 3865A	$38953A	$31576A	$12536A	$-9415A
			0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0
18	4	1	$ 1980A	$ 1599A	$ 759A	$ 3062P	$ 2630P	$ 1293P	$ 4603P	$ 3898P	$ 1874P	$ 8073K	$ 6801K	$ 3021K	$42672K	$34864K	$14269P	$-0097A
			0	0	0	0	0	0	0	0	691	0	0	0	0	0	0	0
19	4	2	$ 2233A	$ 1825A	$ 900A	$ 3408A	$ 2878A	$ 1362A	$ 4936P	$ 4150P	$ 1922P	$ 8073K	$ 6801K	$ 3021K	$43288P	$35256P	$14367P	$-0097A
			0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 2588A	$ 2101A	$ 849A	$ 4620A	$ 3753A	$ 1538A	$ 6385A	$ 5192A	$ 2152A	$ 9444A	$ 7740P	$ 3272A	$44599A	$36190A	$14578A	$-0097A
			0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 2679A	$ 2171A	$ 862A	$ 4902A	$ 3973A	$ 1577A	$ 6913A	$ 5604A	$ 2224A	$10706A	$ 8679A	$ 3445A	$45025A	$37147A	$14747A	$-0097A
			0	0	0	0	0	0	0	0	26	0	0	0	0	22	0	0
22	5	1	$ 1296A	$ 1081A	$ 570A	$ 2010P	$ 1779P	$ 963P	$ 3101P	$ 2604P	$ 1406P	$ 4166K	$ 3634K	$ 1764K	$45636P	$37162P	$15133P	$-9462A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$ 1753A	$ 1395A	$ 626A	$ 2573A	$ 2134A	$ 1071A	$ 3703P	$ 3145P	$ 1492P	$ 4513P	$ 3816P	$ 1843P	$46127P	$37466P	$15186P	$-9462A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ 2028A	$ 1647A	$ 671A	$ 3507A	$ 2917A	$ 1212A	$ 4921A	$ 4037A	$ 1690A	$ 5639A	$ 4607A	$ 2028A	$47418A	$38463A	$15408A	$-9462A
			0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 2131A	$ 1727A	$ 605A	$ 3900A	$ 3161A	$ 1255A	$ 5501A	$ 4459A	$ 1776A	$ 6866A	$ 5512A	$ 2168A	$48224A	$39691A	$15519A	$-9462A
			0	0	0	0	0	486	0	0	0	0	0	0	0	0	18	0

PLAN NO: 12. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $421629870.

J	R	Z	((((((((((I=1)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=2)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=3)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=4)))))))))) ((T=1))	((T=2))	((T=3))	((((((((((I=5)))))))))) ((T=1))	((T=2))	((T=3))	((I=6)) ((T=3))
1	0	1	$ 1514A	$ 1072A	$ 231A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$4386A	$3[illegible]962A	$ 609[illegible]	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	-	30	0
2	0	2	$ 2465A	$ 1743A	$ 376A	$ 4512A	$ 3185A	$ 688A	$ 6363A	$ 4492A	$ 97[illegible]A	$10606A	$ 7487A	$ 1617A	$373[illegible]A	$26337A	$ 569[illegible]	$-7589A
			0	0	0	0	0	0	0	0	8676	0	0	17155	0	0	1141	0
3	0	3	$ 2354A	$ 2014A	$ 435A	$ 5223A	$ 3687A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9870A	$ 2132A	$27512A	$19422A	$ 4196A	$-7.54A
			0	0	0	0	0	0	0	0	0	4224	4224	10643	215	215	546	0
4	0	4	$ 3315A	$ 2129A	$ 469A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$1[illegible]7A	$ 7558A	$ 1633A	$ 7613A	$ 5515A	$ 1191A	$-4316A
			11734	11736	0	8726	8726	14735	1163	1163	540	0	0	0	213	213	236	0
5	0	5	$ 2[illegible]6A	$ 3474A	$ 3[illegible]A	$ 4[illegible]A	$ 636A	$ 550A	$ 635A	$ 8974	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	64535	0	0	55375	0	0	0	0	0	0	0	0	1.00	4327
6	1	1	$-4158P	$-3[illegible]3S	$ -229V	$*0188R	$-3509S	$ -562V	$*[illegible]112R	$*7434S	$-1209V	$*2567R	$*6[illegible]84S	$-2777V	$-6935V	$-61[illegible]3V	$ 1934V	$-52[illegible]6A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$-1624P	$-1014P	$ -23U	$-1.67P	$ -944P	$ 166U	$-1206P	$-1399U	$ 275U	$-2395U	$-2944U	$ 387U	$ 8986U	$ 3432U	$ 3.92U	$-8296A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ -446K	$ -261K	$ 68P	$ 144K	$ -191K	$ 258P	$ 5K	$ -647P	$ 366P	$-1183P	$-2191P	$ 513U	$2.559U	$12446U	$ 3593U	$-5236A
			0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 1394A	$ 1279A	$ 334A	$ 2623A	$ 1429A	$ 495A	$ 2533A	$ 976A	$ 564A	$ 4215U	$ 2694U	$ 693K	$34694K	$24236K	$ 5518P	$-5236A
			0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2	1	$-2325U	$-1783U	$ -222S	$-2372U	$-1691U	$ -615S	$-2539U	$-2203U	$-1875R	$-4453U	$-4666U	$-3[illegible]9R	$ 2497U	$-11[illegible]1U	$ 2312V	$-8.83A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$-1657P	$ -595P	$ 56P	$ -972P	$ -792P	$ 229P	$ -965P	$-1143P	$ 319P	$-2429P	$-3336U	$ 464U	$16749U	$1[illegible]279U	$ 35.3U	$-8.83A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 673F	$ 447F	$ 152K	$ 1139F	$ 479F	$ 335K	$ 858F	$ -6K	$ 438K	$ -177K	$-1531K	$ 557P	$24743P	$15546P	$ 4459U	$-8.83A
			0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2[illegible]47A	$ 1337A	$ 337A	$ 2083A	$ 1679A	$ 523A	$ 3088A	$ 1498A	$ 623A	$ 4770U	$ 3470U	$ 993U	$35691F	$25[illegible]8F	$ 5596K	$-8.83A
			0	0	461	0	0	0	0	0	0	0	0	0	0	0	4	0
14	3	1	$-3016U	$-1853U	$ -43U	$-2551U	$-1828U	$ 128U	$-2796U	$-2397U	$ 220U	$-5222U	$-5302U	$ 273U	$ 5.[illegible]5U	$ 2761U	$ 2971U	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -554K	$ -323K	$ 14[illegible]K	$ 237P	$ 364P	$ 311K	$ 1491P	$ 1060P	$ 497U	$ 4933U	$ 2660U	$ 953U	$16735P	$11655P	$ 39.1P	$-7552A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 558F	$ 449F	$ 229F	$ 1452K	$ 1066K	$ 392F	$ 2594K	$ 1717K	$ 579P	$ 5.65U	$ 3777U	$ 1.94U	$24.19K	$15542K	$ 4274K	$-7552A
			0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 1351A	$ 1271A	$ 326A	$ 2765F	$ 1907F	$ 510A	$ 2996F	$ 2636F	$ 691K	$ 6659K	$ 4834P	$ 1248U	$341954	$23552A	$ 52.3F	$-7552A
			0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$-1743H	$-1.9[illegible]P	$ 27P	$-1.76U	$ -489U	$ 181P	$ 9[illegible]U	$ 2[illegible]6U	$ 257P	$ 1825U	$ 1164U	$ 239U	$22513P	$14931P	$ 4697U	$-5.99A
			0	0	0	0	0	0	0	0	691	0	0	0	0	0	0	0
19	4	2	$ -617K	$ -338K	$ 12[illegible]K	$ 1[illegible]6P	$ 237P	$ 276K	$ 1246P	$ 945P	$ 455U	$ 3170U	$ 2313U	$ 817U	$26[illegible]K	$13562K	$ 5.74F	$-5.99A
			0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 522F	$ 344F	$ 2.8F	$ 1731K	$ 888K	$ 353F	$ 2241K	$ 1465K	$ 526P	$ 3936U	$ 2966U	$ 913U	$31359K	$20698K	$ 5345K	$-5.99A
			0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 1316A	$ 1166A	$ 3.5A	$ 2516F	$ 1730F	$ 460A	$ 3644F	$ 2386F	$ 637K	$ 5530K	$ 4.14P	$ 1.67U	$4.698A	$23474A	$ 6191F	$-5.99A
			0	0	21	0	0	0	0	0	0	0	0	0	0	22	0	0
22	5	1	$-2413P	$-1523P	$ -53P	$-2.66U	$-1199U	$ 17P	$-1322U	$ -816U	$ 2.P	$-1549U	$-1238U	$ -243U	$3.245P	$2.8.2P	$ 552[illegible]P	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$-1552K	$ -9[illegible]6K	$ 33K	$ -934P	$ -517P	$ 110K	$ -259P	$ -135P	$ 237U	$ -473U	$ -273U	$ 272U	$33457K	$22611K	$ 5757K	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ -41F	$ -98F	$ 121F	$ 196K	$ 163K	$ 186F	$ 882K	$ 425K	$ 315P	$ 369U	$ 496U	$ 359U	$36771F	$24903K	$ 5993K	$-7590A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1225A	$ 734A	$ 219A	$ 1521F	$ 1115F	$ 237A	$ 2224F	$ 1362F	$ 428K	$ 2070K	$ 1525P	$ 525P	$43413A	$30479A	$ 6592A	$-7590A
			0	0	476	0	0	0	0	0	0	0	0	0	0	0	0	0

PLAN G50112. AGGREGATE RENT FOR ENDOGENOUS LAND USE ASSIGNMENTS = $421829870.

J	R	Z	(I=1) (T=1)	(I=1) (T=2)	(I=1) (T=3)	(I=2) (T=1)	(I=2) (T=2)	(I=2) (T=3)	(I=3) (T=1)	(I=3) (T=2)	(I=3) (T=3)	(I=4) (T=1)	(I=4) (T=2)	(I=4) (T=3)	(I=5) (T=1)	(I=5) (T=2)	(I=5) (T=3)	(I=6) (T=3)
1	3	1	$ 1518A	$ 1672A	$ 271A	$ 2779A	$ 1962A	$ 423A	$ 3919A	$ 2767A	$ 597A	$ 3791A	$ 2676A	$ 578A	$43866A	$30962A	$ 6690A	$-6922A
			0	0	26274	0	0	0	0	0	0	0	0	0	0	0	98	0
2	3	2	$ 2465A	$ 1740A	$ 376A	$ 4512A	$ 3165A	$ 688A	$ 6363A	$ 4492A	$ 970A	$10606A	$ 7487A	$ 1617A	$37367A	$26337A	$ 5690A	$-7589A
			0	0	0	0	0	0	0	0	0	8076	0	0	17155	0	0	1141	0
3	3	3	$ 2854A	$ 2014A	$ 435A	$ 5223A	$ 3667A	$ 796A	$ 7367A	$ 5200A	$ 1123A	$13982A	$ 9670A	$ 2132A	$27512A	$19422A	$ 4196A	$-7654A
			0	0	0	0	0	0	0	0	0	4224	4224	16643	215	215	648	0
4	0	4	$ 3015A	$ 2129A	$ 460A	$ 5519A	$ 3896A	$ 841A	$ 7784A	$ 5495A	$ 1187A	$10707A	$ 7550A	$ 1633A	$ 7813A	$ 5515A	$ 1191A	$-4316A
			11790	11790	0	8726	8726	14735	1163	1163	540	0	0	0	213	213	238	0
5	3	5	$ 246A	$ 347A	$ 300A	$ 456A	$ 636A	$ 550A	$ 635A	$ 897A	$ 775A	$ 977A	$ 1379A	$ 1192A	$ 2912A	$ 4111A	$ 3553A	$-1264A
			0	0	64535	0	0	55375	0	0	0	0	0	0	0	0	1068	4827
6	1	1	$-4153R	$-3038S	$ -229V	$*0188R	$-4509S	$ -562V	$*0112R	$*7434S	$-1209V	$*2567R	$*6.84S	$-2777V	$-6935V	$-8103V	$ 1934V	$-8206A
			0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	2	$-1659P	$-1014P	$ -230	$-1667P	$ -944P	$ 166U	$-1206P	$-1399U	$ 275U	$-2395U	$-2944U	$ 387U	$ 8986U	$ 3432U	$ 3092U	$-8206A
			0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	$ -446K	$ -261K	$ 68P	$ 144K	$ -191K	$ 258P	$ 5K	$ -647P	$ 366P	$-1183P	$-2191P	$ 513U	$20559U	$12446U	$ 3593U	$-8206A
			0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	4	$ 1334A	$ 1279A	$ 334A	$ 2623A	$ 1429A	$ 495A	$ 2533A	$ 976A	$ 564A	$ 4515U	$ 2694U	$ 698K	$34694K	$24236K	$ 5518P	$-8206A
			0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2	1	$-2925U	$-1783U	$ -222S	$-2372U	$-1691U	$ -815S	$-2539U	$-2203U	$-1875R	$-4453U	$-4666U	$-3869R	$ 2497U	$-1101U	$ 2312V	$-8083A
			0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	$-1557P	$ -385P	$ 56P	$ -972P	$ -782P	$ 229P	$ -960P	$-1143P	$ 319P	$-2429P	$-3136U	$ 464U	$16745U	$10279U	$ 3530U	$-8083A
			0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	$ 673F	$ 447F	$ 152K	$ 1139F	$ 479F	$ 335K	$ 658F	$ -6K	$ 438K	$ -177K	$-1531K	$ 557P	$24743P	$15846P	$ 4459U	$-8083A
			0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2	4	$ 2047A	$ 1337A	$ 317A	$ 2833A	$ 1679A	$ 520A	$ 3088A	$ 1498A	$ 623A	$ 4776U	$ 3470U	$ 993U	$35891F	$25000F	$ 5596K	$-8083A
			0	0	461	0	0	0	0	0	0	0	0	0	0	0	4	0
14	3	1	$-3316U	$-1853U	$ -430U	$-2551U	$-1628U	$ 128U	$-2796U	$-2397U	$ 220U	$-5222U	$-5362U	$ 273U	$ 5968U	$ 2761U	$ 2971U	$-7552A
			0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
15	3	2	$ -554K	$ -323K	$ 140K	$ 297P	$ 364P	$ 311K	$ 1491P	$ 1060P	$ 497U	$ 4033U	$ 2860U	$ 963U	$10738P	$11655P	$ 3961P	$-7552A
			0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
16	3	3	$ 663F	$ 449F	$ 229F	$ 1452K	$ 1066K	$ 392F	$ 2594K	$ 1717K	$ 579P	$ 5065U	$ 3777U	$ 1094U	$24119K	$15542K	$ 4274K	$-7552A
			0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
17	3	4	$ 1351A	$ 1270A	$ 326A	$ 2765F	$ 1907F	$ 500A	$ 3996F	$ 2636F	$ 690K	$ 6659K	$ 4834P	$ 1248U	$34195K	$23652A	$ 5208F	$-7552A
			0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	1	$-1743H	$-1090P	$ 27P	$-1076U	$ -489U	$ 181P	$ 930U	$ 230U	$ 257P	$ 1325U	$ 1104U	$ 239U	$22516P	$14931P	$ 4097U	$-8099A
			0	0	0	0	0	0	0	0	690	0	0	0	0	0	0	0
19	4	2	$ -617K	$ -338K	$ 120K	$ 136P	$ 237P	$ 276K	$ 1248P	$ 905P	$ 455U	$ 3170U	$ 2310U	$ 817U	$28300K	$18562K	$ 5274P	$-8099A
			0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
20	4	3	$ 522F	$ 344F	$ 230F	$ 1201K	$ 888K	$ 353F	$ 2241K	$ 1465K	$ 526P	$ 3906U	$ 2966U	$ 918U	$31359K	$20898K	$ 5348K	$-8099A
			0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
21	4	4	$ 1816A	$ 1166A	$ 350A	$ 2516F	$ 1730F	$ 460A	$ 3644F	$ 2386F	$ 637K	$ 5530K	$ 4014P	$ 1067U	$46698K	$26474A	$ 6191F	$-8099A
			0	0	21	0	0	0	0	0	0	0	0	0	0	22	0	0
22	5	1	$-2413P	$-1523P	$ -59P	$-2.66U	$-1199U	$ 17P	$-1322U	$ -816U	$ 20P	$-1549U	$-1238U	$ -243U	$30255P	$20802P	$ 5520P	$-7590A
			0	0	1346	0	0	0	0	0	0	0	0	0	0	0	0	0
23	5	2	$-1352K	$ -906K	$ 33K	$ -934P	$ -517P	$ 110K	$ -259P	$ -135P	$ 237U	$ -473U	$ -270U	$ 272U	$33457K	$22610K	$ 5757K	$-7590A
			0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	3	$ -81F	$ -58F	$ 121F	$ 136K	$ 163K	$ 188F	$ 802K	$ 425K	$ 315P	$ 389U	$ 496U	$ 385U	$36771F	$24983K	$ 5993K	$-7590A
			0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	4	$ 1225A	$ 734A	$ 218A	$ 1521F	$ 1015F	$ 297A	$ 2224F	$ 1362F	$ 428K	$ 2070K	$ 1525P	$ 525P	$43413A	$30475A	$ 6592A	$-7590A
			0	0	446	0	0	0	0	0	0	0	0	0	0	0	8	0

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