SciDept

**Sample Only**

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Reference Guide

Revision 7

**1. How the calculation works**

SciDept model determines the amount of investment the University would require annually and cumulatively to build and sustain a new science department. At the highest level, the model calculates the amount base on this formula:

 Required Investment = Total Expenses – Total Revenues

There are two components comprising Total Revenues. First component is Endowment Distribution and the second one is Sponsored Research Revenue.

Endowment distribution for a year is calculated by multiplying an average withdrawal rate on netted endowment market value at the beginning of that same year (same as the ending balance of prior year). Year end netted endowment market value is calculated by multiplying an average annual return to the endowment beginning balance net of distribution. The following formulas summarize the endowment growth and distribution model:

Distribution = Beginning Market Value × Withdrawal Rate

Year End Market Value = (Current Year Beginning Market Value – Distribution) ×

 (1 + Average Annual Return)

 = Current Year Beginning Market Value × (1-Withdraw Rate) ×

 (1 + Average Annual Return)

Endowment revenue model (EndowRev worksheet) assumes faculty only begins receiving distribution the year they are hired. As such, existing senior staffs receive distributions on year one but the year new recruits receive distribution depends on the hiring schedule. The model determines year end endowment market value for each staff using this general formula:

IF(Sr>0,

 MrtValueSr\*(1-DistributionRate)\*(1+EndowmentReturn),

 IF(Lt>0, Lt\*(1-DistributionRate)\*(1+EndowmentReturn), 0))

For year one, because there is not prior year value, the formula is modified to:

IF(Sr>0,

 MrtValueSr\*(1-DistributionRate)\*(1+EndowmentReturn),

 0)

In these formulas, Sr represents the hiring stream of a staff and MrtValueSr represents the initial endowment market value associated with this staff. DistributionRate and EndowmentReturn represent average annual distribution rate and investment return for endowment. All these input parameters are adjustable by users. Two important intermediate results generated are annual endowment distribution and cumulative endowment distribution. Both contribute to the final total annual revenue stream and cumulative revenue stream respectively.

Sponsored Research Revenue is the sum of two components: direct and indirect grant amount. Direct grant portion can only be used for covering direct costs whereas indirect grant portion can be used for covering both direct costs and indirect costs.

Direct grant amount is calculated by multiplying inflation adjusted grant amount analysis by faculty grants awarded analysis data. Faculty grants awarded analysis is an array (GrantsAwardedAnalysis) based on individual faculty average success rate of submitted grants (GrantSuccessAvg) and average number of grants application submitted (GrantsSubmittedAnalysis). The average projected number of grants application submitted is the result of array multiplication of average grants submitted and the proposed department’s cumulative hiring schedule. Inflation adjusted grant amount analysis is an array (GrantInflationAnalysis) calculated by applying historical average inflation rate (GrantInflation) on average grant amount (GrantAmountAvg), both are adjustable input parameters specified in InputsParameters. Sponsored research revenue model can be summarized by the following series of formulas:

TotalDirectGrantAmount = GrantInflationAnalysis × GrantsAwardedAnalysis

GrantsAwardedAnalysis = GrantSuccessAvg × GrantsSubmittedAnalysis

GrantsSubmittedAnalysis = GrantSubmittedAvg × CumFacRecruitStream

GrantInflationAnalysis = GrantAmountAvg × (1 + GrantInflation)

Indirect grant amount is the sum of two components: Facility Indirect and Administrative Indirect. Both values are calculated by applying fixed, negotiated federal indirect rate for facility and indirect rate for administrative respectively to total direct grant amount obtained from above:

Indirect Grant = Facility Indirect Grant + Administration Indirect Grant

 = Federal Indirect Rate for Facility × Total Direct Grant Amount +

 Federal Indirect Rate for Administration × Total Direct Grant Amount

Sponsored Research Revenue contributes to the final total revenue stream of the model.

Total expenses comprised of four components: faculty benefits, laboratory operations expenses, investment in spaces and administrative costs:

Total expenses = faculty benefits + laboratory operations expenses +

 Investment in space + administrative costs

Faculty benefits include both salaries and fringe and both are inflation adjusted. Senior and junior faculty have different hiring schedule and staring salary. Their initial (year 1) salaries are calculated by multiplying their starting salary and hiring schedules:

MMULT(TRANSPOSE(SrFacSalary),SrFacRec)

MMULT(TRANSPOSE(JrFacSalary),JrFacRec)

To calculate annual total salary and fringe expenses, the model first calculates starting salary for each staff as above. The starting salaries are then accumulating forward inflation adjusted:

ProjTotalSrFacStartingSalary+Lt\*ProjectedInflation

ProjTotalJrFacStartingSalary+Lt\*ProjectedInflation

Similar strategy is used for calculating annual total fringe benefits. Starting fringe benefits are calculated by applying an average rate on their starting annual salaries and then accumulating forward inflation adjusted. Starting salary and hiring schedules for faculty benefits model are defined in InputParameters worksheet. Outputs are total and cumulative benefits, used for calculating total expenses.

Total laboratory operation expense is a summation of four main components: senior faculty laboratory expenses, junior faculty laboratory expenses, department equipment expenses and start-up costs.

Senior faculty laboratory expenses include costs to acquire laboratory animals, laboratory personnel expenses (non-faculty) and other expenses such as supplies, publications and travel. Each category of costs is subject to different inflation separately adjustable in InputsParameters. Inflation adjusted animals, personnel and other costs are then multiply with cumulative senior faculty hiring stream and sum up together to obtain total and cumulative senior faculty laboratory expenses.

Junior faculty laboratory expenses calculation is simpler because cost data is a single lump-sum stream. It is obtained by an array multiplication of cumulative junior hiring stream (CumJrFacPY) and junior lab costs stream (JrFacLabCostStream) obtained from InputsParameters.

Department equipment expense per year is the actual cash outlay for that year rather than the value of equipment purchased. The cash outlay is the sum of cash (non-financed) portion of any purchases plus financial payment for accrued debt balanced:

Annual equipment expenses = Equipment cash expense during the year +

 Total debt payment for the year

Amount of equipment cash expense depends on whether the planned capital expenditure exceeds a predetermined threshold. If the expenditure exceed the threshold, portion of the expenditure will be debt-financed and the cash portion will be included in that year’s equipment expenses. If the expenditure is less than the threshold, the equipment will be paid by all cash. The model uses this formula to determine equipment purchase cash outlay during the year:

IF(DeptEqptPY>DebtFinThreshold,LabOpFinanced\*DeptEqptPY,DeptEqptPY)/1000

Annual payment for equipment purchased during the year is calculated using this formula:

PMT(LabOpDebtSrvc, EqptFinPeriods,-DeptEqptFinanced)

Annual debt payment, including unpaid portion from prior years, is calculated using this formula:

IF(YearRow>YearColumn-1,1,0)\*

 IF(YearColumn+EqptFinPeriods>YearRow,1,0)\*TRANSPOSE(DeptEqptPmtsPY)

Start-up expenses for faculty are calculated by spreading individual faculty start-up package amount over a number of years base on each member’s withdrawal rate. First, a withdrawal schedule based on faculty seniority is calculated using this formula:

IF(YearinPosition<StartUpYrsDeplete,StartUpDrawDownPY, IF(YearinPosition=CEILING(StartUpYrsDeplete,1),StartUpLastYrPay, IF(YearinPosition>CEILING(StartUpYrsDeplete,1),0)))

Then, this withdrawal schedule is applied to hiring streams. For existing faculty members, their actual withdrawal schedule is calculated using this formula:

OFFSET(StartUpAnalysisExist,0,0,4,12)

For new recruits, the withdrawal schedule is convolve with new senior and junior recruit hiring streams as follows:

CONVOLVE(TotalSrRecruitsPY,StartUpAnalysisSrRec)

CONVOLVE(TotalJrFacPY,StartUpAnalysisJrRec)

Space costs consist of investment required to acquire, maintain and renovate both wet space (i.e. laboratory) and dry space (i.e. office). Both wet and dry space expenses are the sum of renovation expenses, renewal expenses and maintenance costs. Renovation expense is a sum of cash outlay and finance payment. Renewal expense is calculated based on this equation:

IF (YearRow<Renewal, 0, INDEX(FutureDryRenewalInvest,(YearRow-Renewal+1)))

Maintenance cost is calculated by multiplying inflation adjusted maintenance cost analysis by cumulative space analysis.

Administrative costs are indirect costs expressed as a percentage of total expenses excluding cost of space:

Administrative costs = administrative cost rate × (total faculty benefits + total laboratory operation expenses)

Calculation of total faculty benefits and total laboratory operation expenses are outlined above. Administrative cost rate is user input parameter AdminCostsRate defined in InputsParameters worksheet. Administrative costs model generates two results, total administrative costs and cumulative administrative costs, used for calculating total expenses in Summary worksheet.

To summarize, required investment = (faculty benefits + lab operations expense + space expense + admin expense) – (sponsored research grants + endowment distribution)

**2. How to locate inputs, outputs and intermediate results**

SciDept uses names to represent inputs, outputs and intermediate results to aid users and maintainers to locate and customize the model. This section describes important names used by the model. A complete list of names and their purposes can be found in the appendix Table1. Beside names, visual cues are also used and they are described in next section.

SciDept worksheets are organized according to the components that make up the equation: required investment = (faculty benefits + lab operations expense + space expense + admin expense) – (sponsored research grants + endowment distribution)

All input streams and parameters for SciDept are stored in InputsParameters worksheet.

This worksheet organizes into sections in this order: faculty growth, faculty salary, space, laboratory operations, administrative costs, sponsored revenue and endowment revenue. Senior and junior faculty growth data are represented by SrFacRec and JrFacRec arrays respectively. Faculty salaries are individual cells storing individual faculty members’ starting salary. Following the starting salary inputs are the hard-funded benefits, fringe and benefit inflation rate, represented by SrFacSalHardRate, JrFacSalHardRate, Fringe and Inflation repectively. In Space Inputs section, SpaceStreamWet and SpaceStreamDry are ranges representing wet (laboratory) and dry (office) space required by the department in the projected period. Following SpaceStreamWet and SpaceStreamDry are other inputs required for calculating space expenses. Next input section is Lab. Operation Inputs. This section stores input for calculating laboratory operations expenses. Lab costs for existing faculty are named separately from those for senior and junior recruits. Start-up package for different faculty are named individually as well. Projected Department Equipment investment is named range DeptEqptPY.

AdminCostsRate is a percentage used for calculating administrative costs.

Sponsored Revenue Inputs stores input parameters for calculating sponsored research grants. GrantSucessAvg is the range for storing average success rate for senior and junior faculty. GrantAmount is the range for storing average number of grants submitted annually by senior and junior faculty. Finally GrantAmountAvg stores average grant amount received from sponsored annually. FederalIndirectRateFacility and FederalIndirectRateAdmin store annual negotiated Federal indirect rate for facility and administrative expenses respectively. GrantInflation stores assumed inflation rate for grant amount.

Endowment Revenue Inputs section stores initial endowment for individual faculty, projected annual return and distribution rates. EndowmentReturn stores return rate and DistributionRate stores distribution rate. EndowmentReturn is to be modified for different scenarios.

Faculty growth schedule is modeled in FacGrowth worksheet. Important intermediate results are total and cumulative hiring schedule for senior and junior faculty members, represented by TotalSrFacPY, CumSrFacPY, TotalJrFacPY and CumJrFacPY.

Faculty benefits are modeled in FacSal worksheet. SrFacSalary and JrFacSalary are salary scheme for faculty members. Two important intermediate results are total and cumulative inflation adjusted benefits, represented by AnnFacSalFringe and CumFacSalFringe respectively.

Laboratory operations expenses are modeled in LabOps worksheet. The worksheet breaks down into five sections. They are senior, junior faculty laboratory expenses, department equipment investment, startup expenses and summary. Summary section includes total and cumulative operations expenses which contribute to the total expenses in the Summary worksheet.

Space expenses are modeled in Space worksheet. Main inputs are specified in InputsParameters worksheet Space Inputs section. The worksheet breaks down into two sections for calculating wet (laboratory) space expenses and dry (office) space expenses with a summary section at the end. Space worksheet outputs TotalSpaceExp and CumSpaceExp as input to Summary page for calculating total expenses.

Administrative costs calculation is modeled in ‘Admin’ worksheet with two intermediate results: Total administrative costs and cumulative administrative costs. They are stored in named ranges TotalAdminCost and CumAdminCost respectively and are used for calculating total expenses in the Summary worksheet.

Sponsored research revenue is modeled in SponsoredRev worksheet. Main inputs for this model are sponsored revenue inputs from InputsParameters and faculty growth data from FacGrowth worksheet. Two important intermediate results are total annual and cumulative sponsored grant revenues, used by the Summary worksheet for calculating total revenues.

Endowment distribution is modeled in EndowRev worksheet. First year endowment market values for existing and new faculty are stored in MrtValueSr1, MrtValueSr2, MrtValueSr3, MrtValueSr4, MrtValueRecSr1 and MrtValueRecSr2. Two important intermediate results are annual and cumulativeendowment distribution represented by the ranges EndowmentDistribution and CumEndowmentDistribution. They are used by the Summary worksheet for calculating total revenues.

The Summary worksheet shows the final outputs of the model. It captures the three components of the model: total expenses – total revenues = total required investment in annual and cumulative perspective. For annual results, revenues, expenses and required investments are represented by the ranges TotalRevenue, TotalExpense and RequiredInvestment respectively. Cumulative results are represented by CumTotalRevenue, CumTotalExpense and ReqCumInvest.

Besides numerical output, Summary worksheet also contains charts to illustrate the relationships between outputs in a concise manner. Line charts titled ‘Projected Annual SciDept Budget’ and ‘Projected Cumulative SCiDept Budget’ are used to show the relationships between revenue, expenses and required investment in annual and cumulative cases. Stacked bar charts titled ‘Annual Expenses Allocation’ and ‘Cumulative Expenses Allocation’ are used to show the relative effect of different expense drivers of the model.

**3. Guide to visual cues and naming conventions**

The model uses visual cues to make locating data and formula easier. Maintainers of the model are encouraged to apply the same visual cues for all worksheets to maintain consistency in order to minimize the costs of maintenance.

|  |  |  |
| --- | --- | --- |
| Visual cue | Meaning | Example |
| Light Orange highlight | Important input parameter or stream intended to be changed for different scenarios | Endowment return rate (InputsParameters!EndowmentReturn) |
| Light Yellow highlight | Input parameter or stream that can be changed independently | Majority of data cells in InputsParameters worksheet |
| Lime highlight | Intermediate results used across worksheets | Annual faculty salary and fringe (FacSal!AnnFacSalFringe) |
| Pale Blue highlight | Final output of the model.  | Annual total and cumulative revenue, expenses and required investment on the Summary page. |
| Double line cell border | Distinguish a cell from the others on the row. Use mainly for indicating the cell contains initial value for a formula used by the rest of the row.  | First year endowment market value (EndowRev!C22:C27, C30 and C31) |

**4. How to make changes**

SciDept could be extended to accommodate different departmental needs. Common modifications include the size, combination and hiring schedule of faculty members; endowed professorships arrangement; different spaces needed; variable federal indirect rates throughout the periods; variable inflation rates.

To accommodate different faculty members’ combination and hiring schedule, first is to modify SrFacRec or JrFacRec in InputsParameters worksheet. Because SciDept structure ties closely with faculty make-up, all worksheets need to be reviewed and modified to reflect any changes in faculty.

SciDept uses certain assumptions that could be modified to reflect different operating environment. For example, LabOps model could be modified to accommodate variable equipment depreciation and financing terms. Likewise, the start-up package draw down rates could also be variable. Space investment uses certain assumptions that can be modified. For example, the interest rate and payment terms for financing most likely will change over a twelve years period. SciDept uses fixed Federal indirect rates to estimate facilities and administration related indirect costs. Realistically, these rates are negotiated and adjusted annual to better match near-term operating environment. SponsorRev could be modified to accommodate variable rate throughout the projected period by adding a row of indirect rate factors in the Indirect Grant Amount PY table and use it to apply to the total direct grant amount. Finally, endowment revenue model could be improved to accommodate variable endowment withdrawal and investment return rates throughout the projected period.

**Appendix**

The following table shows all the names used by the model. Note that ranges are completely absolute, ‘$’ signs are removed only for readability.

Table 1

|  |  |  |
| --- | --- | --- |
| **Name** | **Worksheet** | **Range** |
| CumAdminCost | Admin | D14:O14 |
| TotalAdminCost | Admin | D9:O9 |
| CumEndowmentDistribution | EndowRev | C31:N31 |
| EndowmentMktValue | EndowRev | C4:C9 |
| EndowmentDistribution | EndowRev | C30:N30 |
| FacHiring | EndowRev | C12:N17 |
| FacHiring1 | EndowRev | C12:C17 |
| FacHiring2 | EndowRev | D12:N17 |
| MrtValueRecSr1 | EndowRev | C8 |
| MrtValueRecSr2 | EndowRev | C9 |
| MrtValueSr1 | EndowRev | C4 |
| MrtValueSr2 | EndowRev | C5 |
| MrtValueSr3 | EndowRev | C6 |
| MrtValueSr4 | EndowRev | C7 |
| RecruitSr1 | EndowRev | C16:N16 |
| RecruitSr2 | EndowRev | C17:N17 |
| SRev1 | EndowRev | C12:N12 |
| SRev2 | EndowRev | C13:N13 |
| SRev3 | EndowRev | C14:N14 |
| SRev4 | EndowRev | C15:N15 |
| TotalSrRecruitPY | EndowRev | C18:N18 |
| CumJrFacPY | FacGrowth | C27:N27 |
| CumSrFacPY | FacGrowth | C13:N13 |
| TotalJrFacPY | FacGrowth | C26:N26 |
| TotalSrFacPY | FacGrowth | C12:N12 |
| CumFacSalFringe | FacSal | C42:N42 |
| CumJrFacFringe | FacSal | C38:N38 |
| CumJrFacHardSalaryFringe | FacSal | C44:N44 |
| CumJrFacSal | FacSal | C30:N30 |
| CumJrFacSalaryFringe | FacSal | C42:N41 |
| CumSrFacFringe | FacSal | C37:N37 |
| CumSrFacHardSalaryFringe | FacSal | C43:N43 |
| CumSrFacSal | FacSal | C29:N29 |
| CumSrFacSalaryFringe | FacSal | C40:N40 |
| JrFacSalary | FacSal | C11:C19 |
| ProjectedFringe | FacSal | C32:N32 |
| ProjectedInflation | FacSal | C28:N28 |
| ProjTotalJrFacStartingFringe | FacSal | C34:N34 |
| ProjTotalJrFacStartingSalary | FacSal | C25:N25 |
| ProjTotalSrFacStartingFringe | FacSal | C33:N33 |
| ProjTotalSrFacStartingSalary | FacSal | C24:N24 |
| SrFacSalary | FacSal | C3:C8 |
| TotalFacStartingFringe | FacSal | C35:N35 |
| TotalFacStartingSal | FacSal | C26:N26 |
| AdminCostsRate | InputsParameters | D119 |
| AnnDebtSrv | InputsParameters | D82 |
| AnnMaintDry | InputsParameters | D77 |
| AnnMaintWet | InputsParameters | D76 |
| ChairEndowment | InputsParameters | D137 |
| DebtFinThreshold | InputsParameters | D111 |
| Depreciation | InputsParameters | D110 |
| DeptEqptPY | InputsParameters | D107:O107 |
| DistributionRate | InputsParameters | D146 |
| DrwDnRtChair | InputsParameters | E99 |
| DrwDnRtJrRec | InputsParameters | E104 |
| DrwDnRtSr2 | InputsParameters | E100 |
| DrwDnRtSr3 | InputsParameters | E101 |
| DrwDnRtSr4 | InputsParameters | E102 |
| DrwDnRtSrRec | InputsParameters | E103 |
| EndowmentReturn | InputsParameters | D145 |
| EqptFinPeriods | InputsParameters | D114 |
| FederalIndirectRateAdmin | InputsParameters | D130 |
| FederalIndirectRateFacility | InputsParameters | D129 |
| Financed | InputsParameters | D81 |
| Fringe | InputsParameters | D43 |
| GrantAmount | InputsParameters | E125:E126 |
| GrantAmountAvg | InputsParameters | F125:F126 |
| GrantInflation | InputsParameters | D131 |
| GrantSubmittedAvg | InputsParameters | E125:E126 |
| GrantSuccessAvg | InputsParameters | D125:D126 |
| Inflation | InputsParameters | D44 |
| InflationAnimal | InputsParameters | G89 |
| InflationCnM | InputsParameters | D78 |
| InflationOther | InputsParameters | I89 |
| InflationPrsnl | InputsParameters | H89 |
| InitRenovCostDry | InputsParameters | D75 |
| InitRenovCostWet | InputsParameters | D74 |
| JrFacLabCostStream | InputsParameters | D96:O96 |
| JrFacRec | InputsParameters | D17:O25 |
| JrFacSalHardRate | InputsParameters | D40:O40 |
| JrRecDrawDownRt | InputsParameters | E104 |
| JrRecEndowment | InputsParameters | D142 |
| LabOpDebtSrvc | InputsParameters | D113 |
| LabOpFinanced | InputsParameters | D112 |
| PmtPeriodsCnR | InputsParameters | D83 |
| Renewal | InputsParameters | D79 |
| RenewalInvest | InputsParameters | D80 |
| SalChair | InputsParameters | D31 |
| SalExtSr2 | InputsParameters | D32 |
| SalExtSr3 | InputsParameters | D33 |
| SalExtSr4 | InputsParameters | D34 |
| SalNewJr | InputsParameters | D36 |
| SalNewSr | InputsParameters | D35 |
| SpaceStreamDry | InputsParameters | D68:O71 |
| SpaceStreamWet | InputsParameters | D50:O65 |
| Sr2Endowment | InputsParameters | D138 |
| Sr3Endowment | InputsParameters | D139 |
| Sr4Endowment | InputsParameters | D140 |
| SrAnimalY1 | InputsParameters | D89:D92 |
| SrDrawDownRt | InputsParameters | E99:E102 |
| SrFacRec | InputsParameters | D8:O13 |
| SrFacSalHardRate | InputsParameters | D39:O39 |
| SrLabPrsnlY1 | InputsParameters | E89:E92 |
| SrOtherY1 | InputsParameters | F89:F92 |
| SrRcrtAnimal | InputsParameters | D93 |
| SrRcrtLabPrsnl | InputsParameters | E93 |
| SrRcrtOther | InputsParameters | F93 |
| SrRecDrawDownRt | InputsParameters | E103 |
| SrRecEndowment | InputsParameters | D141 |
| Startup | InputsParameters | D99:D104 |
| StartUpDrawDownRate | InputsParameters | E99:E104 |
| StartUpPkgChair | InputsParameters | D99 |
| StartUpPkgJrRec | InputsParameters | D104 |
| StartUpPkgSr2 | InputsParameters | D100 |
| StartUpPkgSr3 | InputsParameters | D101 |
| StartUpPkgSr4 | InputsParameters | D102 |
| StartUpPkgSrRec | InputsParameters | D103 |
| AdjSrRcrtAnimals | LabOps | D23:O23 |
| AdjSrRcrtOther | LabOps | D45:O45 |
| AdjSrRcrtPrsnl | LabOps | D34:O34 |
| CumJrLabExp | LabOps | D72:O72 |
| CumJRRecruits | LabOps | D65:O65 |
| CumLabOpExp | LabOps | D141:O141 |
| CumSrLabAnimals | LabOps | D26:O26 |
| CumSrLabPrsnl | LabOps | D37:O37 |
| CumSrOther | LabOps | D48:O48 |
| CumSrRecruits | LabOps | D15:O15 |
| DeptEqptFinanced | LabOps | D82:O82 |
| DeptEqptPmtsPY | LabOps | D83:O83 |
| EqptCashExpPY | LabOps | D80:O80 |
| StartUpAnalysisExist | LabOps | D113:O116 |
| StartUpAnalysisJrRec | LabOps | D118:O118 |
| StartUpAnalysisSrRec | LabOps | D117:O117 |
| StartUpDrawDownPY | LabOps | F104:F109 |
| StartUpLastYrPay | LabOps | H104:H109 |
| TotalDeptEqptExps | LabOps | D138:O138 |
| TotalDeptEqptInvestPY | LabOps | D97:O97 |
| TotalJrLabExps | LabOps | D71:O71 |
| TotalLabOpExp | LabOps | D140:O140 |
| TotalSrLabExp | LabOps | D136:O136 |
| TotalStartUpPY | LabOps | D128:O128 |
| TotSrLabAnimals | LabOps | D25:O25 |
| TotSrLabPrsnl | LabOps | D36:O36 |
| TotSrOther | LabOps | D47:O47 |
| AdjAnnMaintDry | Space | D108:O108 |
| AdjAnnMaintWet | Space | D59:O59 |
| AdjRenovCostDry | Space | D77:O77 |
| AdjRenovCostWet | Space | D28:O28 |
| AnnMaintCostStreamDry | Space | D109:O109 |
| AnnMaintCostStreamWet | Space | D60:O60 |
| AnnualDebtService | Space | D82 |
| AnnualFinPmP1000 | Space | D51 |
| CashOutRenovDry | Space | D79:O79 |
| CashOutRenovWet | Space | D30:O30 |
| CumDrySpace | Space | D72:O72 |
| CumMaintCostDry | Space | D110:O110 |
| CumMaintCostWet | Space | D61:O61 |
| CumPmtDry | Space | D96:O96 |
| CumSpaceExp | Space | D133:O133 |
| CumWetSpace | Space | D23:O23 |
| CumWetSpaceExpensePY | Space | D120:O120 |
| DryRenovCostStream | Space | D78:O78 |
| DrySpaceRenewal | Space | D102:O102 |
| FutureDryRenewalInvest | Space | D101:O101 |
| FutureRenewalInvest | Space | D52:O52 |
| NewDrySpacePY | Space | D71:O71 |
| NewWetSpacePY | Space | D22:O22 |
| PmtWetPY | Space | D32:O32 |
| RenovDebtStreamDry | Space | D80:O80 |
| RenovDebtStreamWet | Space | D31:O31 |
| TotalDryPmtPY | Space | D94:O94 |
| TotalDrySpaceExpPY | Space | D126:O126 |
| TotalDrySpaceRenovExp | Space | D95:O95 |
| TotalSpaceExp | Space | D132:O132 |
| TotalWebPmtPY | Space | D45:O45 |
| TotalWebSpaceExpPY | Space | D119:O119 |
| WetPmtYear1 | Space | D33:O33 |
| WetPmtYear10 | Space | D42:O42 |
| WetPmtYear11 | Space | D43:O43 |
| WetPmtYear12 | Space | D44:O44 |
| WetPmtYear2 | Space | D34:O34 |
| WetPmtYear3 | Space | D35:O35 |
| WetPmtYear4 | Space | D36:O36 |
| WetPmtYear5 | Space | D37:O37 |
| WetPmtYear6 | Space | D38:O38 |
| WetPmtYear7 | Space | D39:O39 |
| WetPmtYear8 | Space | D40:O40 |
| WetPmtYear9 | Space | D41:O41 |
| WetRenovCostStream | Space | D29:O29 |
| WetSpaceRenewal | Space | D53:O53 |
| WetSpaceRenovCum | Space | D47:O47 |
| WetSpaceRenovExpPY | Space | D46:O46 |
| YearColumn | Space | P33:P44 |
| YearColumnDry | Space | P82:P93 |
| YearRow | Space | D50:O50 |
| YearRowDry | Space | D75:O75 |
| CumDirRev | SponsoredRev | C52:N52 |
| CumFacRecruitStream | SponsoredRev | C17:N18 |
| CumIndirRev | SponsoredRev | C53:N53 |
| CumTotalSponsoredRevenue | SponsoredRev | C54:N54 |
| GrantInflationAnalysis | SponsoredRev | C33:N34 |
| GrantsAwardedAnalysis | SponsoredRev | C28:N29 |
| GrantsSubmittedAnalysis | SponsoredRev | C23:N24 |
| TotalDirectGrantAmountPY | SponsoredRev | C39:N39 |
| TotalIndirectGrant | SponsoredRev | C44:N44 |
| TotalSponsoredRevenue | SponsoredRev | C49:N49 |
| TotDirRev | SponsoredRev | C47:N47 |
| TotIndirRev | SponsoredRev | C48:N48 |
| CumAdminCost | Summary | C59:N59 |
| CumEndowmentDistribution | Summary | C52:N52 |
| CumLabExp | Summary | C60:N60 |
| CumSalFringe | Summary | C61:N61 |
| CumSpaceExp | Summary | C58:N58 |
| CumSponsoredGrantRevenue | Summary | C53:N53 |
| CumTotalExpense | Summary | C62:N62 |
| CumTotalRevenue | Summary | C54:N54 |
| EndowmentDistribution | Summary | C5:N5 |
| RequiredInvestment | Summary | C18:N18 |
| ReqCumInvest | Summary | C65:N65 |
| TotalAdminCost | Summary | C12:N12 |
| TotalExpense | Summary | C15:N15 |
| TotalLabExp | Summary | C13:N13 |
| TotalRevenue | Summary | C7:N7 |
| TotalSalFringe | Summary | C14:N14 |
| TotalSpaceExp | Summary | C11:N11 |
| TtlSponGrantRev | Summary | C6:N6 |