



Base Year Calculator User Guide

May 2018

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I. Overview

The Base Year Calculator (BYC) is a key component of the System-Wide Analytics and Prediction (SWAP) suite of tools. The BYC assembles data from a community's Housing Inventory Count (HIC) and Homeless Management Information System (HMIS), as well as budget data from individual projects to create a "base year" of performance data that can be used to evaluate system performance and serve as a platform for modeling performance and population over the next few years. The base year of data is an invaluable source of information that communities can use to understand in depth how their existing system is configured, as well as what it is and is not accomplishing.

Significant data cleansing is often required prior to inputting data into the BYC. This guide will walk BYC users through exporting data from the community's HIC and HMIS, collecting budget data, cleansing and troubleshooting data, uploading data into the BYC, and obtaining BYC results. The data collection and cleansing steps may be performed in parallel, but to obtain accurate results, BYC users should access and complete the BYC upload in the order presented.

II. Tips for Getting Started

- The BYC is designed to use two consecutive years of data. Focus Strategies recommends using the most recent data available, but you are able to import data for any two years.
- The second year of data is considered the analysis year, and the first day of that year is considered your start date. All performance analyses use the second and most recent year of data. The first year of data is used to calculate returns within one year of exit.
- Some factors to consider when choosing the date range of your BYC data include:
 - How current is data in your HMIS? For example, if most projects enter data into HMIS monthly, consider choosing a date range that ends a month or two before you plan to extract data, to avoid missing data for some projects.
 - How will you use the data from the BYC? While the BYC allows you to select any start date you wish, many communities report based on quarterly, calendar year, or fiscal year cycles. Consider choosing a date range that aligns with your community's reporting practices.

III. Collecting and Cleansing Data

The first step in using the BYC is collecting and cleansing the data to use for analysis. The BYC uses three main data types: the Housing Inventory Count (HIC), Homeless Management Information System (HMIS) data, and Budget data. This section walks you through how to obtain and prepare all the necessary data for use in the BYC.

A. Housing Inventory Count (HIC)

The HIC forms the baseline for the project performance results generated by the BYC, so uploading a complete and accurate HIC is critical to obtaining meaningful outcomes. You will need to extract a custom HIC from HDX (see [Extracting the HIC from the HDX](#) below), conduct all necessary data cleanup steps (see [HIC Data Cleansing](#) below), and copy the cleansed HIC data into the HIC for BYC template (see [Using the HIC for BYC template](#) below) prior to uploading the HIC data.

1. Assumptions for the HIC in the BYC

Because homeless systems of care are varied and complex, three assumptions were made to ensure the SWAP tools, including the BYC, are appropriate for most communities. We recognize that some nuances in particular projects may not be fully captured in this tool.

- Homeless, child-only households are infrequently found staying on the streets; in most communities, projects serving this population represent a very small portion of the homeless system. Projects serving only children under 18 are not automatically analyzed in the BYC. If you wish to see performance outcomes for a child-only project, you can edit the HIC to show all child-only beds as adult beds. While project performance might be valuable information, Focus Strategies does not recommend comparing child-only projects against projects that serve other populations (e.g., single adults or families).
- Overflow beds are not considered separately in the BYC. If your project has overflow beds that are consistently available and should be included in the annual capacity, adjust the HIC prior to uploading to the BYC to add overflow beds to the total beds in the appropriate household category.
- The HIC does not request information about whether seasonal beds serve families or individuals. The BYC assumes that seasonal beds serve single adults. If your system has a significant number of seasonal beds for families, contact Focus Strategies for assistance.
- Seasonal beds are annualized to allow for comparison with beds that are available year-round. For example, a project with 100 adult beds that operates for 3 months will be reflected in the BYC as having 25 beds. (i.e., 3 months/12 months = .25; .25x100 beds = 25 annual beds).

2. Extracting the HIC from the HDX

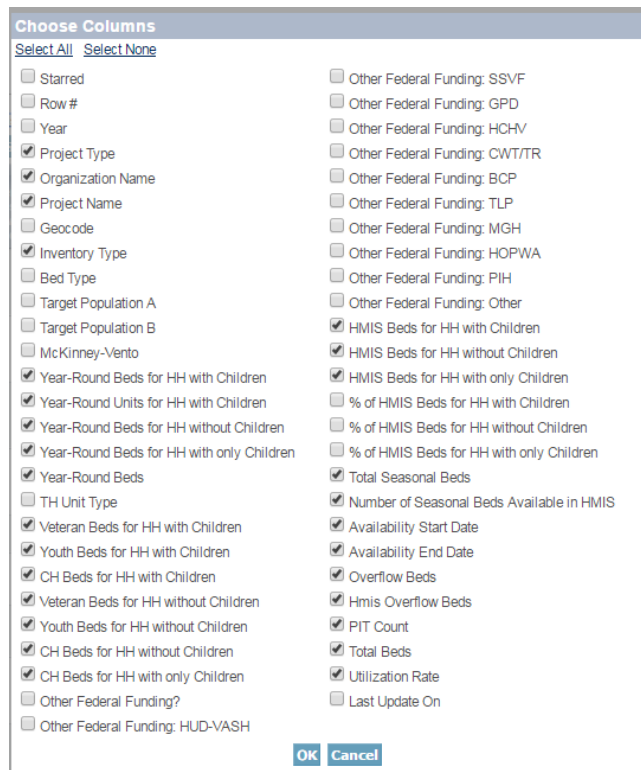
To import HIC data into the BYC, you must first export the HIC from HUD's Homeless Data Exchange (HDX) into Excel. This requires a custom HIC export from HDX to gather the necessary columns.

1. Log into HDX (<http://www.hudhdx.info/Login.aspx>) and choose the [HIC](#) tab. Make sure you are looking at the most recent HIC,¹ as noted by the [Date of the Housing Inventory Counts](#). Next to the date will be three options:
 - [Change Date](#)
 - [Choose Columns](#)
 - [Show more search options](#)
2. Select [Choose columns](#).

¹ If you chose to analyze historical data, select the HIC closest to the date range you are analyzing.



- When you select [Choose Columns](#), a window opens prompting you to select the columns to export. Please select the columns as shown below (and only these columns).



- Click [OK](#), then [Export to Excel](#), and HDX will create an Excel file containing the specified columns.

3. HIC Data Cleansing

Before importing the HIC into the BYC, it is critical to thoroughly review the HIC in Excel to ensure the information is complete and accurate. Keep in mind that limited changes can be made to the HIC once it is uploaded to the online BYC.

Please review and consider the following:

- Is the HIC complete?
 - All projects that the community wishes to include in the analysis should be listed.

2. *Do all projects for analysis have an inventory type of "C?"*
 - Only projects with an inventory type of "C" will be included in the analysis.
 - If a project is marked "N" (new) or "U" (under construction), but has HMIS data for the full two-year period chosen, change its inventory type to "C."
3. *Are project names distinct?*
 - All projects must have distinct names; for example, two projects cannot both be named "Transitional Housing."
 - If two projects have the same name, rename one of them or add a number at the end of the name to distinguish them from one another (ex. "Transitional Housing 1" and "Transitional Housing 2").
4. *Are all listed projects in HMIS?*
 - The BYC analysis relies on HMIS data, thus, if a project doesn't have data in HMIS, it should be removed from the HIC.
5. *Do all listed projects have HMIS data for the full two-year period chosen?*
 - Projects with only partial data should be removed from the HIC completely ***unless you do not plan to evaluate returns to homelessness following permanent housing exits***. All other measures require at least one year of complete data.
6. *Should any projects be merged?*
 - A single project may appear on multiple rows in the HIC extract, usually because the project was expanded or receives funding from more than one funding stream.
 - See [Consolidating HIC Projects](#) below for further explanation of how to determine if projects need to be consolidated, as well as how to consolidate them.
7. *Safe Haven (SH) projects must be reclassified as either emergency shelter (ES) or transitional housing (TH).*
 - Assign the project type that most accurately reflects how the given project operates.
8. *Sum columns for chronically homeless (CH), veteran, and youth beds.*
 - The HIC HDX export will have three columns for CH beds, two columns for veteran beds, and two columns for youth beds.
 - Sum the columns for each subpopulation and delete the extra columns.
 - There should be one column each for CH, veteran, and youth beds, and columns must align exactly with the HIC for BYC template (see [Using the HIC for BYC template](#) below).
9. *Are both your total capacity and total HMIS capacity correct?*
 - Total capacity and total HMIS capacity may be different; total HMIS capacity should accurately reflect the number of beds expected for that project in HMIS.
 - For projects that have family units, both "Beds HH w/ Children" and "Units HH w/ Children" should be populated.
 - All columns containing a count of beds and/or units (including those enumerating the count of beds/units for subpopulations (Vets, DV), columns E through R and U through X), must contain a value. If a project does not have beds/units for a subpopulation, enter "0" (zero) in the corresponding cell.
 - To be included in the analysis, a project must have a value greater than zero in at least one of the following columns:
 - "HMIS Beds HHs w/ Children," Column N
 - "HMIS Beds HHs w/o Children," Column O
 - "HMIS Beds HHs w/ only Children," Column P
 - "Seasonal Beds Available in HMIS," Column R

- “HMIS Overflow Beds,” Column V
10. *Seasonal projects must have dates in “Availability Start Date” and Availability End Date.”*
- Dates must be formatted as “Short Date” in Excel (mm/dd/yyyy).
 - These columns should be left blank for year-round projects.

Make any corrections to the HIC in the exported HIC file before copying into the HIC for BYC template. The HIC you input should accurately reflect the HMIS data you wish to analyze. You should not include projects on the HIC that are not also in your HMIS dataset. Nor should you have projects in your HMIS dataset that are not on the HIC. Be sure to follow HIC protocol for formatting and abbreviations – for example, a current project is designated with a capital “C” in the Inventory Type column.

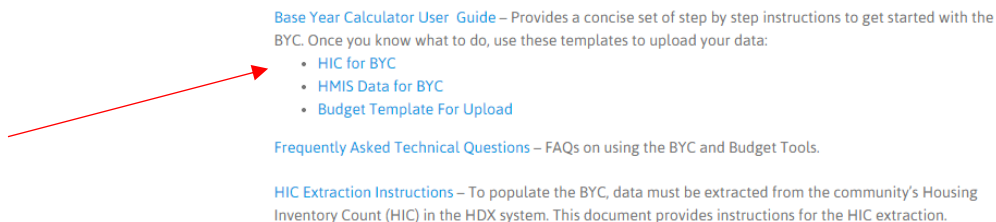
Consolidating HIC Projects

The BYC considers each row on the HIC as a separate project. If one project is represented in more than one row in the HIC, those rows should be consolidated into one row. Most commonly, this occurs when an existing project has expanded and some beds/units are in a row for the “current” inventory, while the “new” or “under construction” beds/units are in a second row. The user should collapse the project to one row in the HIC and edit the capacity to match the capacity in use during the date range chosen for analysis.

Once you’ve added or eliminated capacity during the analysis period, your HIC should reflect the capacity in operation for the majority of your analysis year. Keep in mind, capacity that was not in use for the full analysis year may affect your utilization rate. Focus Strategies can assist your community in deciding how to enter project capacity and interpreting your results.

4. Using the HIC for BYC template

Download the template for uploading your cleansed HIC data into the BYC from the Focus Strategies website (<http://focusstrategies.net/swap/base-year-calculator-byc/>), by clicking the link [HIC for BYC](#), then copy and paste your cleansed HIC data into this template for upload into the BYC. Note that the first row in the HIC contains column labels and the last row in the HIC is a sum row. Do **not** include these rows.



If your data does not align with the template, return to the previous sections to troubleshoot the data extraction and cleansing processes.

Once your data is copied into the HIC for BYC template, it is ready to upload to the web BYC.

B. Creating the HIC-HMIS Crosswalk

The BYC relies on an accurate HIC-HMIS Crosswalk to calculate project-based performance measures. The BYC's project list is defined as all HIC projects with an inventory type C. Remember, all information for a project is represented in one HIC entry; this may result in some projects having one HIC entry that corresponds to multiple HMIS projects. Using your finalized HIC, create a crosswalk document by adding a column for HMIS Project Name and entering the HMIS project(s) for which data should be attributed to each HIC project. Again, while one HIC project may correspond to multiple HMIS projects, each HMIS project should only correspond to one HIC project. Once data is uploaded to the BYC, you will use the HIC-HMIS Crosswalk to select the HIC project that matches each HMIS project during project name recoding. This tells the BYC which HMIS data to attribute to which HIC projects; incorrect project name recoding will result in inaccurate performance data for those projects. If you have trouble creating a HIC-HMIS Crosswalk, contact Focus Strategies for assistance.

C. Homeless Management Information System (HMIS)

The BYC uses HMIS data to generate performance measures for the projects listed on the HIC. As with the HIC, accurate, meaningful analysis depends on uploading HMIS data in the proper format.

1. *Extracting HMIS data*

The BYC uses eleven variables from HMIS, all but two of which are Project Descriptor Data Elements or required Universal Data Elements. The table below details those variables and their use in the BYC:

Variable	Data Standards			Variable Use Detail	Potential Data Quality Concern(s)
	2010	2014	2017		
Personal ID	3.14	3.13	5.8	A unique ID number should be used for all stays by the same person in HMIS.	Every record must have a Client ID or will be excluded from analysis.
Project Type	2.8	2.4	2.4	Used as basis of analysis – performance is reported by project type and/or project name but can also be displayed by organization.	Missing data in these fields is indicative of an error in data extraction. No record should be missing these descriptor elements.
Project Name	2.4	2.2	2.2		
Organization Name	2.2	2.1	2.1		
Prior Living	3.9	3.9	3.917	Used to establish rates of entry from various living situations; establishes the available spaces in projects for persons and families who are literally homeless.	Substantial numbers of missing or unknown responses will impact reliability of outcomes and future modeling.
Entry Date/ Project Start Date	3.12	3.10	3.10	Entry and exit dates establish length of stay in projects, sequential and simultaneous stays, and cost per person.	Records without entry dates will be excluded from analysis.

Variable	Data Standards			Variable Use Detail	Potential Data Quality Concern(s)
	2010	2014	2017		
Exit Date	3.13	3.11	3.11	Entry and exit dates establish length of stay in projects, sequential and simultaneous stays, and cost per person.	Exit dates (or missing exit dates) that create length of stay beyond the typical project allowances may indicate data quality issues.
Destination	4.10	3.12	3.12	Exit destinations are used for determining successful housing outcomes by project type.	Substantial numbers of exits to unknown destinations may indicate data quality issues.
Global Household ID	3.15	3.14	5.9 ²	Needed for aggregating data at the household level. <i>Household ID (HH ID) must be constant throughout system. Your system will have a HH ID assigned at each project entry (Data Element 5.9) as well as one that remains constant throughout the HH's life in the system (Data Element varies by HMIS vendor), the latter is the HH ID needed for this analysis.</i>	Required for all family HHs; Appendix B details how to create HH IDs for single adult HHs if the system does not do so.
Relationship to Head of Household	N/A	3.15	3.15	Used to confirm/review aggregation of data at the household level.	Records with incompatible values (e.g., a “spouse” in relationship to a HH of “single adult”) may indicate data quality issues.
DOB	3.3	3.3	3.3	Used to establish client age and then determine HH type (e.g. with children or without children and TAY HHs)	Records with dates of birth resulting in implausible ages (e.g., negative, over 90) may indicate data quality issues.

Use the HIC-HMIS Crosswalk to select HMIS projects that should be included in your dataset and extract all records that were open at any time during your selected two-year date range. For example, if your date range is October 1, 2015 through September 30, 2017, HMIS staff should pull all records with at least one day of a stay between (and inclusive of) October 1, 2015 and September 30, 2017. In other words, any client who spent one or more nights in any of the selected homeless projects between *and including* the dates of October 1, 2015 and September 30, 2017 should be included in the HMIS dataset.

² The Global Household ID is described in “Other System Issues” in the 2017 HMIS Data Standards Data Dictionary from March 2018. If your HMIS implementation does not include a Global Household ID, contact Focus Strategies for assistance.

The data should be extracted from HMIS into Excel (2007 or later). The first row should contain column headers and subsequent rows should each reflect a project stay by a single person.³

2. *HMIS Data Cleansing*

Local HMIS staff should review the Excel data for overall completeness, as well as to check for common issues that can occur during extraction. [Appendix A](#) contains an HMIS Data Extraction Checklist, which provides one way to review the data. A series of cleaning steps may be needed, depending on how data is organized and/or was extracted from HMIS. [Appendix B](#) contains detailed instructions on these steps. Before inputting the data into the BYC, the HMIS data must:

1. Have no additional characters or spaces.
2. Be in the correct column order.
3. Have no time stamps on dates.
4. Have dates formatted as “short date” in Excel (mm/dd/yyyy).
5. Have no duplicate records.⁴
6. Have numeric only client IDs for all records.
7. Have a numeric household ID for all records, regardless of household composition.
8. Have emergency shelter stays collapsed to project entry/exit (rather than bed night) stays.
9. Have all blank cells coded as “BLANK.”
10. Be sorted by entry date, oldest record first.

The order and approach to preparing the HMIS data for the BYC is critical. HMIS staff should review [Appendix B](#) for details on how Focus Strategies approaches this work, and either follow the steps listed or incorporate similar logic into the processes used to prepare the community’s data for the BYC.

D. Budget Data

Budget data used in the BYC should be collected directly from each organization for each individual project. ([Appendix C](#) contains detailed recommendations for collecting, reviewing and compiling budget information needed for the BYC at the project level.)

IV. Uploading Data to the BYC

Congratulations! You have all the data you need to use the BYC. The next step is to upload all of your data so the BYC can do its work. Follow the steps beginning on the following page to upload data.

³ The export of data from HMIS can be made through another program (such as Access), and the cleaning instructions in [Appendix B](#) provide detail on how to deal with common issues that arise when the data is passed through another program into Excel.

⁴ A record reflects a single client stay and should not be duplicated; clients, however, may be duplicated if they have more than one stay during the two-year period.

A. Creating a BYC model

1. Log in

Log into the [online SWAP tool](#) using your user ID and password⁵ to access and begin creating BYC models for your community.

2. Creating a new BYC Model

Once logged in, click on the [Community](#) tab and select [BYCs](#) to create a new BYC model.

The image shows two screenshots of the Focus Strategies SWAP interface. The first screenshot shows the main navigation tabs: [Community](#), [Base Year Calculator \(BYC\)](#), and [System Performance Predictor \(SPP\)](#). A red arrow points to the [Community](#) tab. Below the tabs is a table of options for the Base Year Calculator (BYC). A red arrow points to the [Update BYC Data](#) link in this table. The second screenshot shows the [Community Information Menu](#) for 'Anytown USA, Coc: 1234'. A red arrow points to the [BYCs](#) link in this menu. The table in the first screenshot is as follows:

Base Year Calculator (BYC)	
Manage Model Data	Select a Model: <input type="text" value="None Selected"/>
Update BYC Data	Upload BYC Data from Excel file to Database
Edit HIC Per User Data	Edit HIC PerUser values in database
Project Name Recoding	Project Name local syntax Recoding
Prior Living Recoding	Prior Living local syntax Recoding
Destination Recoding	Destination local syntax Recoding
Edit BYC Budget Data	Edit BYC Budget values in database
Calculate Outputs	Calculate all output data
HMIS Data Quality	Display, download HMIS Data Quality
Project Cost Detail	Display Project Cost Detail
Project Performance	Display Project Perf. Rpt. in web page
Edit Population Inputs	Edit BYC Population Inputs in database
Edit Population Assumptions	Edit BYC Population Assumptions in database
Export Raw Data	Export BYC Data from Database to Excel file

Enter a title, choose your community, write a brief description, enter the start date,⁶ and select [Add New](#). The new model will be added to the list.

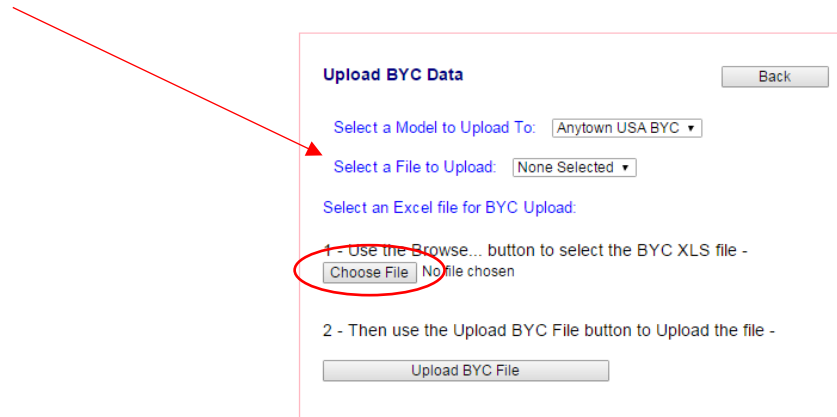
B. Uploading the HIC

Click [Base Year Calculator \(BYC\)](#) to access the main menu page for the BYC. This is where data is uploaded for the BYC, calculations are completed, and outcomes may be viewed. Follow the steps below to create a BYC.

⁵ If you have not logged in previously, contact Focus Strategies at info@focusstrategies.net for a User ID and Password.

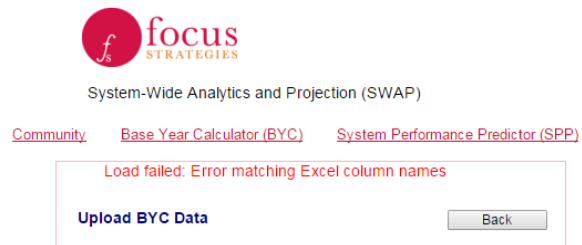
⁶ Start date should be the first day (mm/dd/yyyy) of the second year of your HMIS data. For example, if you want to evaluate your system's performance for Federal Fiscal Year 2017, you should enter 10/01/2016 as your start date.

1. Select the model created in previous steps from the [Manage Model Data](#) drop down menu.
2. [Update BYC Data](#) takes the user to another page where data is uploaded (see below).



3. The model chosen on the previous page will appear in the first drop down menu.
4. In the second drop down menu, select [HIC](#).
5. Click [Choose File](#) and select the final HIC template file from the [HIC](#) Section above. Click [Open](#).
6. Click [Upload BYC File](#) to upload your HIC.

If an error occurs while uploading the data, an error message will appear at the top of the screen. The most common errors are caused by incorrect formatting. Review the final HIC template and try again. Contact Focus Strategies at info@focusstrategies.net if you need further assistance.



Reviewing and Modifying the HIC in the BYC

The “Edit HIC Per User Data” option allows you to change the data entered on your HIC. Focus Strategies recommends making any changes to your HIC by updating the HIC template and uploading a new version, rather than using this feature. Focus Strategies also recommends keeping a copy of the uploaded HIC data outside of the BYC for reference when reviewing your BYC results.

C. Uploading HMIS Data

Follow the same instructions to upload the cleansed HMIS data to the BYC.

1. Make sure the first drop down menu shows the correct model name.
2. In the second drop down menu, select [HMIS](#)
3. Click [Choose File](#) and select the final HMIS template file from [HMIS](#) Section above. Click [Open](#).
4. Click [Upload BYC File](#) to upload your HMIS data.

If an error occurs while uploading the data, an error message will appear at the top of the screen. The most common errors are caused by incorrect formatting. Review the final HMIS template and try again. Contact Focus Strategies at info@focusstrategies.net if you need assistance.

D. Uploading Budget Data

Follow the same instructions to upload the cleansed Budget data to the BYC. You can skip this step if Budget data wasn't collected. You can also return to this step at any time after the HIC is uploaded. If you change budget data after calculating BYC outputs, click "Calculate Outputs" again to incorporate changes.

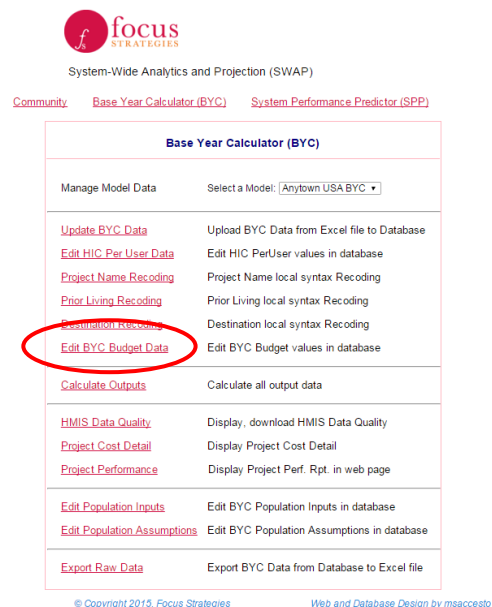
1. Ensure the first drop down menu shows the correct model name.
2. In the second drop down menu, select [Budget](#).
3. Click [Choose File](#) and select the final Budget template file from [Budget Data](#) Section above. Click [Open](#).
4. Click [Upload BYC File](#) to upload your Budget data.

If an error occurs in uploading the data, an error message will appear at the top of the screen. The most common errors are caused by incorrect formatting. Review the final Budget template and try again; all project names in the Budget data must be in the same order as and an exact match to project names in the HIC. Contact Focus Strategies at info@focusstrategies.net if you need further assistance.

1. Editing BYC Budget Data

Budget data can also be entered manually via the [Edit BYC Budget Data](#) page. Budget data contains the following inputs:

- **Total:** This is the entire project budget, inclusive of all public and private funds.
- **CoC:** This is the value of the entire CoC grant amount, if applicable.
- **ESG:** This is the value of the entire ESG grant amount, if applicable.
- **Other Public:** This is the value of all other public funding (exclusive of CoC and ESG), if applicable, including local, state and federal funding sources.
- **Other Private:** This is the value of all private funding, regardless of source.



Follow these steps to enter budget data:

1. Choose [Edit](#) to the left of the first row to input budget amounts for that project.
2. Enter whole dollar amounts into each yellow field. Fields cannot be left blank; if budget was not provided or a particular category does not apply (e.g., transitional housing projects are not likely to have any ESG money), enter 0 in the corresponding field.
3. Once all yellow fields are completed (including entering zeros), hit [Save](#) at the left of the row.

- Repeat steps 1-3 until all budget data has been entered.

The total amount entered in the first yellow column must equal the sum of the preceding four columns. If these amounts are not equal to the total amount, a red **X** will appear at the far right of the row, indicating an error has been made. Only continue to the next step if there are no red Xs on the budget page. Hit the [Back](#) button at the top of the page to return to the [Base Year Calculator \(BYC\) menu](#).

V. Recoding HMIS Data

HMIS data is recoded to standardize values to HUD HMIS Data Standard options, as well as to match HIC and HMIS project names. You may decide how non-standard answer choices used in your community will be interpreted in the performance analysis.

The Recoding pages work together to create new indicator variables and perform calculations to produce performance metrics for the “Base Year” of the dataset. ***It is critical to follow these steps in the order indicated so that the calculations happen as intended.*** All HMIS Values without a Recoded Value will be ignored in BYC analyses.

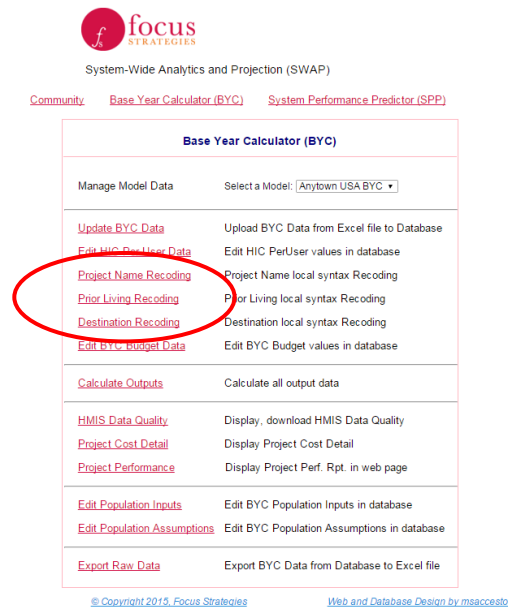
A. Project Name Recoding

Click [Project Name Recoding](#) to recode HMIS Project Names to match HIC Project Names. The Project Recoding page shows a list of all unique project names in the uploaded HMIS data on the left and blank cells on the right where you can select the matching project name from the uploaded HIC data. Follow the steps below to recode project names, using the HIC-HMIS Crosswalk document created earlier.

- Choose [Edit](#) for the first project.
- Choose the corresponding HIC project name from the drop-down list.
- Click [Save](#).
- Repeat this process until each HMIS project name is matched with a HIC project name.
- Once all HMIS project names have been matched, click the [Back](#) button to return to the [Base Year Calculator \(BYC\) menu](#). If a project is included in the HMIS data but should not be included in the BYC analysis, you can leave the Recoded Value blank for that project.

It is common for one HIC project to have multiple HMIS projects (e.g., Project X enters clients into HMIS based on grants and therefore has 3 projects in HMIS for one project in operation). Each HIC name in the drop-down menu can be matched to more than one HMIS project name.

Please contact Focus Strategies at info@focusstrategies.net for assistance troubleshooting Project Name Recoding steps.



B. Prior Living Recoding

Click [Prior Living Recoding](#) for the Prior Living Recoding page. This page shows a list of all unique prior living values in the uploaded HMIS data on the left and blank cells on the right where you can select the matching value from the 2017 HMIS Data Standards. Follow the steps below to recode prior living values:

1. Click [Run Smart Matching](#) at the top of the page. Although this will successfully match most of the HMIS values, it is important to double check that all were matched and matched correctly. Some edits may be needed to reflect system-specific differences.
2. Choose [Edit](#) for the first line at the top of the page.
3. Choose the corresponding HUD HMIS Standard value from the drop-down list. More than one HMIS value may have the same recoded value (e.g., HMIS data may have “BLANK” and “Missing” for missing values. Both values would be recoded to “Data not collected.”)
4. Click [Save](#).
5. Once all prior living values have been correctly matched, click the [Back](#) button to return to the [Base Year Calculator \(BYC\) menu](#).

C. Destination Recoding

Click [Destination Recoding](#) for the Destination Recoding page. This page shows a list of all unique destination values in the uploaded HMIS data on the left and blank cells on the right where you can select the matching value from the 2017 HMIS Data Standards. Follow the steps below to recode destination:

1. Click [Run Smart Matching](#) at the top of the page. Although this will successfully match most of the HMIS values, it is important to double check that all values were matched *and* matched correctly. Some edits may be needed to include unique values.
2. Choose [Edit](#) at the first line at the top of the page.
3. Choose the corresponding HUD HMIS Standard value from the drop-down list. More than one HMIS value may have the same recoded value (e.g., HMIS data may have “BLANK” and “Missing” for missing values. Both values would be recoded to “Data not collected.”)
4. Click [Save](#).
5. Once all destination values have been correctly matched, click the Back button to return to the [Base Year Calculator \(BYC\) menu](#).

VI. Calculating Outputs

Once HIC, HMIS, and Budget data have been successfully uploaded and all recoding is complete, hit [Calculate Outputs](#) on the BYC main menu page.

“Calculations Complete” will appear at the top of the menu when calculations have successfully run.

focus STRATEGIES
System-Wide Analytics and Projection (SWAP)

Community Base Year Calculator (BYC) System Performance Predictor (SPP)

Calculations Complete
Base Year Calculator (BYC)

Manage Model Data	Select a Model: User guide test
Update BYC Data	Upload BYC Data from Excel file to Database
Edit HIC Per User Data	Edit HIC PerUser values in database
Project Name Recoding	Project Name local syntax Recoding
Prior Living Recoding	Prior Living local syntax Recoding
Destination Recoding	Destination local syntax Recoding
Edit BYC Budget Data	Edit BYC Budget values in database
Calculate Outputs	Calculate all output data
HMIS Data Quality	Display, download HMIS Data Quality
Project Cost Detail	Display Project Cost Detail
Project Performance	Display Project Perf. Rpt. in web page
Edit Population Inputs	Edit BYC Population Inputs in database
Edit Population Assumptions	Edit BYC Population Assumptions in database
Export Raw Data	Export BYC Data from Database to Excel file

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If you update your HIC, HMIS, or Budget data after calculating outputs, you will need to click [Calculate Outputs](#) again to incorporate changes. This will override your previous data and generate results based on the new data.

VII. Understanding Outputs

A. HMIS Data Quality

HMIS Data Quality is the first of three pages that compile BYC data and present general project-level outcomes for review. These pages are formatted to view via the web and can be exported to Excel or PDF. The HMIS Data Quality page focuses on five common data quality issues associated with the data fields used and does not substitute for a complete analysis of HMIS data quality. Each of the five issues is described below.

1. *Missing Data*

This table summarizes, by project, the number and percent of missing data (indicated by a “BLANK” in the cell) for both years of data in each of three variables: prior living, destination, and date of birth. If data is missing in any one these variables, the record cannot contribute to any analysis that uses the variable. For example, if 100 records have exit dates, but only 80 have destinations, any analysis of exit rate to permanent housing destinations cannot possibly be more than 80%, as only 80 of the 100 records have a valid answer.

The table highlights the percent missing⁷ for each project as follows:

Green	Missing less than 5%
Yellow	Missing 5% - 9.99%
Red	Missing 10% or more

If a project has more than 10% missing records on any of these fields, Focus Strategies recommends improving data quality and repopulating the BYC. HMIS should have reports to help identify data quality issues, and further, the records or users contributing to the issue. If the HMIS data quality cannot be improved, the community may decide to continue with the BYC, keeping in mind that data quality may impact the results. Alternatively, CoC leadership may remove projects with the poorest data quality from the BYC and add them in the SPP as a “new” project. The latter approach minimizes the impact of data quality issues on the BYC output and allows the input of performance data generated elsewhere.

2. *Unknown Answers*

This table summarizes the number and percent of unknown values by project in both prior living and destination for the entire dataset. Unknown answers include missing data, as well as the answers “Don’t Know,” “Refused,” or “Other”. Although these are valid answers within the HMIS data standards, they do not allow for meaningful data analysis and present the same challenges as missing data. The BYC and SPP specifically analyze entries from and exits to unsheltered, sheltered, and permanent housing locations, so

⁷ The percent missing for destination is only of exited cases, while percent missing of prior living and date of birth is of all records.

unknown answers are not useful. Using the example from above, there are 100 records with exit dates, but only 80 have destinations (e.g. 20 are missing a destination), and an additional 50 have an unknown destination – there is a response, but it is “unknown.” In an analysis of rate of exits to permanent housing, the highest rate possible is 30%, as only 30 of the 100 possible records have a “useable” answer.

If any of the 20 missing or 50 unknown answers were in fact to permanent housing, the project’s permanent housing exit rate will be much lower in the analysis than reality.

The table highlights the percent unknown⁸ for each project as follows:

Green	Less than 5% unknown
Yellow	5.1 - 9.99% unknown
Red	10% or more unknown

In many communities, unknown answers are more common than missing data. Many communities have HMIS reporting capabilities to identify and fix missing data, and some are also able to determine the number of records with unknown answers. If a project has more than 10% unknown records in one or more of these fields, you may want to perform some additional data quality work and repopulate the BYC. Unknown answers can be harder to fix, outside of tracking down paper files and updating records one by one. However, especially as it relates to exit destinations, many positive exits (e.g. to a permanent housing location) can be lost in an unknown answer when clients stay only short periods of time and data is not correctly recorded in HMIS.

If the HMIS data quality cannot be improved, the community may decide to continue with the BYC, keeping in mind that data quality may impact the results. Alternatively, CoC leadership may remove projects with the poorest data quality from the BYC and add them in the SPP as a “new” project. The latter approach allows CoCs to focus on improving data quality, while avoiding eliminating a project from modelling in the SPP.

3. Length of Stay

This table presents the minimum, maximum, mean (average), and median (middle value) length of stay by project. A project’s average length of stay is used for many performance measures, including calculations of households served and exited. Shorter lengths of stay coupled with higher rates of exit to permanent housing lead to more efficient use of available community resources. Targeting funding to projects with short stays and positive exits may reduce the number of homeless people in the community without making new investments.

The HEARTH Act establishes the target that no person or family should be homeless longer than 30 days, emphasizing the importance of shortening lengths of stay in homeless projects. This means that the length of stay in emergency shelter and transitional housing projects should never be longer than 30 days. Current funding regulations, however, provide more leeway than this target and allow stays of up to 2 years in transitional housing.

⁸ The percent unknown for destination is only of exited cases, while percent missing of prior living and date of birth is of all records.

Therefore, the BYC uses the following HUD allowances as the maximum LOS per HUD goal:

30 days	Emergency Shelter
540 days	Rapid Rehousing
720 days	Transitional Housing
No max	Permanent Supportive Housing

Length of stay is only calculated for records that have exited. The length of stay for clients that are still enrolled in the project does not contribute to the project's average.

Additionally, any length of stay calculations (e.g., minimum and/or mean length of stay) that are negative are highlighted in red. **Lengths of stay cannot be negative**, and, if any project has a negative length of stay, it must be corrected before proceeding to the SPP.

4. Utilization Rates

This table compares each project's utilization rate as reported in the HIC with the utilization rate calculated using HMIS records. This step serves as a litmus test to ensure the number of HMIS records included for each project is appropriate. The BYC calculates utilization rate by determining the percentage of available bed nights that are used during the analysis year. The number of available bed nights equals the bed/unit capacity from the HIC times 365; each night that a household stays in a project is counted as a bed night used. Because the RRH model provides rental assistance for housing in the community for a non-fixed length of time, the BYC assumes that projects will serve the maximum number of clients possible with their available funding; RRH utilization is therefore set to 100%.

The calculated utilization rate (Column E) may vary substantially from the reported utilization rate (Column B). The impact of this difference can be dramatic, as evidenced by the calculated number of annual bed nights used each produces (Columns D and C, respectively). Column F shows the percentage difference in calculated bed nights using the two approaches and colors the outcome as follows:

Green	Less than 10% difference
Yellow	10% to 19% difference
Red	20% or greater difference

In some cases, a variance between the reported and calculated utilization rates can be expected. For example, right-to-shelter communities with large amounts of seasonal ES beds used only in the winter months may see significantly larger utilization rates reported in the HIC than calculated by the BYC. This is not indicative of poor data quality; it occurs because the BYC annualizes seasonal beds and calculates average utilization rate over the course of the entire analysis year, while the HIC captures utilization at the time of the annual Point in Time count in January. However, the SPP uses the calculated utilization rate to model project capacity, so if there are concerns that poor data quality is resulting in inaccurate results for this field, revisit the raw HMIS data to confirm that data is as accurate as possible before proceeding to modeling.

5. Annual Households Served

This table compares the number of households served by each project as counted from HMIS data and as calculated using PIT capacity, length of stay, and calculated utilization rates. The SPP uses the calculated annual capacity to compare the base year and subsequent years, and the calculated capacity may be different than a simple count from HMIS data. The difference may be related to use of an average length of stay that is skewed by a few very short or very long stays, or HMIS data that does not accurately reflect project entries or exits. The user should investigate and diagnose discrepancies of concern and make needed data corrections before moving on.

This table contains both the number of households served per HMIS and the “base year” annual households served as calculated by the BYC. The HMIS Households Served is a duplicated count of all the household stays in the analysis year. Conversely, the Calculated Households Served is equal to:

$$A \times ((365 \times B) \div C)$$

Where: A = Point in time capacity (per the HIC). If the project includes seasonal beds, the seasonal beds are annualized.

B = Calculated utilization rate (see above)

C = Average length of stay

The table also includes a calculated difference between these two values, including the percent difference between them as follows:

Green	Less than 10% difference
Yellow	10% to 19% difference
Red	20% or greater difference

The SPP uses the calculated number of HHs served to model project capacity, so if there are concerns that poor data quality is resulting in inaccurate results for this field, revisit the raw HMIS data to confirm that data is as accurate as possible before proceeding to modeling.

B. Project Cost Detail

Using HIC, HMIS, and Budget data, this page summarizes information on project cost and can be used as a project level overview of cost data. It is formatted to view on the web and can be exported to Excel or PDF. Each project is listed, with its total HMIS capacity (annualized if the project includes seasonal beds), summary budget, and cost figures.

The impact of under-utilization (or over-utilization) and length of stay is reflected in cost per exit and cost per permanent housing exit, because cost is spread amongst bed nights used per HMIS and those households that exit. The following details the calculations for Average Cost per HH and PH Exit:

$$\text{HH Cost} = ((\text{Total Budget}/A) \times B)$$

Average cost per HH exit = Average of all HH costs for HHs who exited

Average cost per PH exit = Average of all HH costs for HHs who exited to PH

Where: A = Number of bed nights used in analysis year per HMIS data

B = Household length of stay

C. Project Performance

This page summarizes project performance for all HIC projects included in the BYC analysis. It is formatted to view on the web and can be exported to Excel or PDF. Project Performance contains the following performance measures for each project:

- *Capacity – Beds for Single Adult HHs*
- *Capacity – Units for Family HHs*
- *HMIS Annual UR*
- *Total Annual HHs Served (Calculated)*
- *Total HH Exits (Calculated)*
- *Average LOS (Days)*
- *Permanent Housing Exits – % of all exits*
- *PH Exits that Return to Homelessness, All Years - % of all PH exits*
- *Household Entries from Homeless Prior Living - % unsheltered*
- *Household Entries from Homeless Prior Living - % ES*
- *Household Entries from Homeless Prior Living - % Homeless Entries (Unsh/ES)*
- *Household Entries from Homeless Prior Living - % TH*
- *Household Entries from Non-Homeless Prior Living - % Institutional*
- *Household Entries from Non-Homeless Prior Living - % Housing*
- *Household Entries from Non-Homeless Prior Living - % Friends/Family Temp*
- *Household Entries from Non-Homeless Prior Living - % Other*
- *Household Entries from Non-Homeless Prior Living - % Unknown*

D. Export Raw Data

Some data can be exported from the BYC in Excel format, but is not visible on the web. The options for exporting raw data from the BYC are described below.

1. *HMIS Data*

Select this option to export the HMIS data you uploaded, with columns added as part of the BYC analysis. In addition to the raw HMIS data, this export will contain the following information for each HMIS record:

- *Prior Living Value* – Recoded Prior Living Value selected
- *Prior Living #* - Numeric code for recoded Prior Living Value
- *Destination Value* – Recoded Destination Value selected
- *Destination #* – Numeric code for recoded Destination Value
- *HIC Project Name* – Recoded HIC Project Name selected
- *HoH?* – Indicator of whether the client is the Head of Household
- *HH Type* – Indicator of whether the record is for a family, adult only, or child only household; only populated for head of household
- *# ppl in HH* – Count of number of records with the same HH ID, entry and exit date, and project; only populated for head of household
- *HH LOS* – Length of stay for this record; only populated for head of household when household has exited

- *HH Exit in Analysis Year?* – Indicator of whether the household exited in the analysis year; only populated for head of household
- *Collapsed PL Value* – Category of Prior Living
- *Collapsed PL #* - Numeric code for category of Prior Living
- *Collapsed Dest. Value* – Category of Destination; only populated for exited households
- *Collapsed Dest. #* - Numeric code for category of Destination; only populated for exited households
- *HH Stay #* - Numeric code generated by the BYC to designate unique HH stays
- *Age at Entry* – Age of client on project Entry Date
- *Client LOS* – Length of stay for this record; only populated for exited clients
- *HH Served in Analysis Year?* – Indicator of whether the household was served during the analysis year; only populated for head of household
- *HH entry in Analysis Year?* – Indicator of whether the household entered in the analysis year; only populated for head of household
- *HH Return Date* – Entry date for the household’s first entry into a project after the current project entry, if the current entry resulted in a permanent housing exit; only populated for head of household
- *HH Return w/in a year?* – Indicator of whether the HH Return Date is within a year after the current project exit date; only populated for head of household with a return date
- *HH Return Prog Type* – The program type to which the household returned; only populated for head of household with a return within a year
- *Program Type* – Program type for the current stay
- *# Bed Nights in Analysis Year* – The number of bed nights of the current stay that occurred during the analysis year
- *Fully TAY HH?* – Indicator of whether all members of the household are 24 years old or younger at project entry

2. Project Cost Detail

Select this option to export the data shown on the Project Cost Detail screen, as described above.

3. Project Performance

Select this option to export the data shown on the Project Performance screen, as described above.

4. Program Data for Transfer

Select this option to export the data needed to populate the program performance data in the SPP.

5. Population Data for Transfer

Coming soon – Select this option to export the data needed to populate the population data in the SPP.

VIII. Appendices

Appendix A – HMIS Data Extraction Checklist

Data Extraction Checklist

The following checklist guides HMIS staff through confirming that their HMIS data is completed and formatted correctly for the Base Year Calculator. Focus Strategies recommends that HMIS staff complete this checklist after exporting HMIS data and transferring it to Excel. HMIS staff should review their findings with project staff to ensure that the dataset appears to be of the right size and proportion, given the projects selected for analysis. While the checklist provides some suggestions for using the data to identify possible export errors, these are only suggestions and must be considered alongside the size and type of projects in your community. If you answer “no” to any of the checklist questions, you may want to more carefully review the data for possible issues with extraction or data quality issues.

Instructions:

- Open the Excel file containing the HMIS data for the BYC.
- Turn filters on Row 1; you can use filter and count functions to complete most of the checklist items. Most of the checklist questions ask for counts of records or answer choices by project type (ES, TH, RRH, PSH).
- HMIS staff should first filter by Column B “Project Type” and then count records or answer choices in the field(s) being reviewed.
- Include OPH in PSH and SH as either ES or TH depending on program operation.

DATA EXTRACTION CHECKLIST

1	<p>Is the total number of client records in the data set in line with what you expected over a two year time frame?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">A</td> <td style="width: 45%;">Number of records in dataset:</td> <td style="width: 50%;"></td> </tr> <tr> <td style="text-align: center;">B</td> <td>Average records/year in dataset ($A \div 2$):</td> <td></td> </tr> </table>			A	Number of records in dataset:		B	Average records/year in dataset ($A \div 2$):		<input type="checkbox"/> Yes <input type="checkbox"/> No																		
A	Number of records in dataset:																											
B	Average records/year in dataset ($A \div 2$):																											
2	<p>Are there project records included in the dataset from <u>all</u> the projects in the most recent HIC?</p>			<input type="checkbox"/> Yes <input type="checkbox"/> No																								
3	<p>Is the total number of projects by type in line with the expected number?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 40%;">Project Type</th> <th style="width: 20%;"># of Projects</th> <th style="width: 35%;">% of all Projects</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td>Emergency Shelters</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">B</td> <td>Transitional Housing</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">C</td> <td>Permanent Supportive Housing</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">D</td> <td>Rapid Rehousing</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Total</td> <td></td> <td></td> </tr> </tbody> </table>				Project Type	# of Projects	% of all Projects	A	Emergency Shelters			B	Transitional Housing			C	Permanent Supportive Housing			D	Rapid Rehousing				Total			<input type="checkbox"/> Yes <input type="checkbox"/> No
	Project Type	# of Projects	% of all Projects																									
A	Emergency Shelters																											
B	Transitional Housing																											
C	Permanent Supportive Housing																											
D	Rapid Rehousing																											
	Total																											
4	<p>Is the total number of providers in line with the expected number?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;"></td> <td style="width: 55%;">Number of providers in dataset:</td> <td style="width: 40%;"></td> </tr> </table>				Number of providers in dataset:		<input type="checkbox"/> Yes <input type="checkbox"/> No																					
	Number of providers in dataset:																											

DATA EXTRACTION CHECKLIST

5	Are the earliest entry dates reasonable, given the project type?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Project Type	Earliest Entry Date	Guidelines		
	<i>Emergency Shelters</i>		<i>No more than 3 months <u>before</u> the beginning of the selected two year period</i>		
	<i>Transitional Housing</i>		<i>No more than 24 months <u>before</u> the beginning of the selected two year period</i>		
	<i>Permanent Supportive Housing</i>		<i>There should be significant numbers of entry dates well before the beginning of the selected two year period</i>		
	<i>Rapid Rehousing</i>		<i>No more than 18 months <u>before</u> the beginning of the selected two year period</i>		
<i>*Guidelines are based on typical project max stay rules of 90 days at ES, 24 months at TH and 18 months at RRH. Individual project rules may vary, but if there are a significant number of records outside these expectations, this could signal a data extraction error.</i>					
6	Are there records with entry dates and exit dates in all years of the dataset for all project types? In other words, can you find entry dates as well as exit dates in each included year among all project types?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are the number of “open” records (e.g. no exit date) reasonable, given the project type?				
		Project Type	# of records	# open records	% of records in type open
	<i>A</i>	<i>Emergency Shelters</i>			
	<i>B</i>	<i>Transitional Housing</i>			
	<i>C</i>	<i>Permanent Supportive Housing</i>			
	<i>D</i>	<i>Rapid Rehousing</i>			
	Total				
<i>*In general, the percent of open records should correspond with the average or expected length of stay in the project type. For example, the majority of PSH records should be open (no expectation of project time limits) while very few ES records should be open (expected 90 day max stay).</i>				<input type="checkbox"/> Yes <input type="checkbox"/> No	

DATA EXTRACTION CHECKLIST

6	<p>No analysis can be done if project(s) do not have an identified project type. Are there any records without a project type?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30px; text-align: center;"><i>A</i></td> <td style="padding: 2px;"><i>Number of records with no project type:</i></td> <td style="width: 150px;"></td> </tr> <tr> <td style="text-align: center;"><i>B</i></td> <td style="padding: 2px;"><i>Number of records in dataset:</i></td> <td></td> </tr> <tr> <td style="text-align: center;"><i>C</i></td> <td style="padding: 2px;"><i>% of records with no project type (A÷B):</i></td> <td style="background-color: #e0e0e0;"></td> </tr> </table>	<i>A</i>	<i>Number of records with no project type:</i>		<i>B</i>	<i>Number of records in dataset:</i>		<i>C</i>	<i>% of records with no project type (A÷B):</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>A</i>	<i>Number of records with no project type:</i>										
<i>B</i>	<i>Number of records in dataset:</i>										
<i>C</i>	<i>% of records with no project type (A÷B):</i>										
7	<p>There should not be many unaccompanied children in the dataset – records for most people under the age of 18 should be a part of a larger household. Are there significant numbers of unaccompanied children in the dataset?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> <tr> <td style="padding: 2px;"># of records of minor children (under age 18) at entry</td> <td></td> </tr> <tr> <td style="text-align: center; padding: 2px;"># unaccompanied *</td> <td></td> </tr> <tr> <td style="text-align: center; padding: 2px;">% of minor children who are unaccompanied</td> <td style="background-color: #e0e0e0;"></td> </tr> </table> <p style="font-size: small; margin-top: 10px;"><i>*Depending on your dataset, “unaccompanied” can be determined differently. For systems that do not create HH IDs for single individuals, the best way is to search for child records with no HH ID. For systems that do create HH ID for all records, you should sort first by HH ID and then by DOB and look for any HHs that have only child records.</i></p>			# of records of minor children (under age 18) at entry		# unaccompanied *		% of minor children who are unaccompanied		<input type="checkbox"/> Yes <input type="checkbox"/> No	
# of records of minor children (under age 18) at entry											
# unaccompanied *											
% of minor children who are unaccompanied											

Appendix B – Cleaning HMIS Data

The following appendix describes how to clean HMIS data in Excel prior to uploading to the BYC. Depending on your HMIS extract and the application used to clean data, some steps may not apply or may be performed differently.

Please note: The steps below are designed to be performed in the order listed. If taken out of order, specific details may differ.

1. Create Clean Excel Workbook

(Tab Name: Raw Data) This tab contains an unedited copy of the data as imported into Excel. Each subsequent tab will then contain the full data set with next cleaning step done and named accordingly (each step includes a recommended naming convention). Values resulting from one cleaning step should be copied and pasted into a new tab prior to beginning the next cleaning step. The final tab will be a dataset with all the cumulative changes.

2. Remove Leading Apostrophes

(Tab Name: No Apost) When Access is used as an intermediary between HMIS and Excel, leading apostrophes are often inserted in cells. They are typically only visible in the formula bar and not in the cells themselves. To remove these apostrophes, type =CLEAN(Raw Data!A1) into cell A1 of the second worksheet. Drag this formula all the way across to the last column of data in “Raw Data” and down to the last row of data in “Raw Data.” This will produce a duplicate dataset without leading apostrophes.

3. Ensure Data is in the Correct Column Order

(Tab Name: Reordered) Review the data to ensure that the variable order is the same column order as the variable order in the [data table](#) above. If the orders differ, the variables should be re-ordered to match the table. Remove any additional columns for variables that are not included in the [data table](#). If any variables are missing, insert columns for those variables with the appropriate column heading. Any resulting blank values will be addressed at a later step.

4. Remove Time Stamps on Dates

(Tab Name: Dates Fixed) Three variables are in date format: *entry date*, *exit date*, and *date of birth*. HMIS data often includes a timestamp in the date fields (this may not be visible in the cell but looks like 06/25/1976 07:25:16 in the formula bar). The time must be removed from the date so the BYC considers all dates on the same day as equal, regardless of time. Type “=Reordered!A1” into cell A1 of the “Dates Fixed” tab (if the preceding tab is not called “Reordered”, then substitute the appropriate name). Drag this formula across to last column of data and down to row 2 to populate the header row and one row of data. Replace the formula in cell F2 with “=IFERROR(INT(Reordered!F2),””)”. Do the same for cells G2 and K2, substituting G2 and K2 in place of F2 in the formula. If columns F, G, and K are not the three date columns, return to step c. Highlight cells A2 through K2 and drag these formulas down to the last row of data in “Reordered.”

5. Remove any Duplicate Records

(Tab Names: Dups Noted & Dups Removed) This step results in two tabs of data: one where the duplicate records are noted with an indicator (“Dups Noted”) and one where the duplicate records are removed (“Dups Removed”). Duplicates most often occur when data is extracted independently for each year, meaning a stay that includes dates in more than one calendar year has a complete record for each year the stay “touched.” Records are only considered duplicates when every variable is the same for two rows of data.

If a client stay has resulted in two rows of data, one containing “entry variables” and the second containing “exit variables,” these should be collapsed into one row of data. These are not considered duplicates. Follow the steps below to flag and remove duplicate records:

1. Copy the data from the “Dates Fixed” tab into the “Dups Noted” tab.
2. In the “Dups Noted” tab, insert two new columns to the left of column A (client ID will now be column C and the final column of data will be column M).
3. Label column A “Duplicate?” and column B “Unique Code.” Column B will contain a generated ID using the client ID, entry date, exit date and project name. Column A will contain a “Yes” for duplicates and blank for unique records, based on the ID in Column B.
4. Type “=CONCATENATE(C2,H2,I2,E2)” into cell B2 of the “Dups Noted” tab to generate the new ID. This ID will be unique for each client stay in a specific project at a specific time, but different for multiple stays by the same client ID, either in different projects or at different times. Drag this formula down as many rows as there are rows of data.
5. Sort the entire tab by column B (in ascending order from A-Z). Be sure to choose “expand the selection” when sorting.
6. Type “=IF(COUNTIF(\$B\$2:B2,B2)>1,“Yes”,“”)” into cell A2 of the “Dups Noted” tab. This will produce a “Yes” in column A for rows that are duplicative of a previous row. Drag the formula in cell A2 down as many rows of data as there are rows of data.
7. Copy the data from “Dups Noted” into the “Dups Removed” tab. Sort “Dups Removed” by column A (in ascending order from A-Z - be sure to choose “expand the selection” when sorting).
8. Highlight and delete the duplicate rows in “Dups Removed,” which should be at the bottom of the worksheet.
9. Delete columns A and B in “Dups Removed.”

6. Ensure all Client IDs are Numeric Only

(Tab Names: New ID work and New ID clean) This step results in two tabs of data: one where new IDs are generated (New ID work) and one where old IDs are replaced with new ones (New ID clean). The BYC requires numeric Client IDs. If Client IDs are alpha-numeric, generate new number-only Client IDs. Copy the data from “Dups Removed” into the “New ID work” tab. Insert a column to the right of column A (this creates a blank column B). Title this column “Number ID.” Type “=1” into cell B2 of “New ID work,” and

“=IF(VLOOKUP(A3,\$A\$2:\$A\$[last row of data],1,FALSE)=A2,B2,B2+1)”

into cell B3 (enter the number of the last row of data in place of [last row of data] in the formula). Drag B3 down as many rows as there are records. Copy the data in the "New ID work" tab and paste values into "New ID clean". Delete column A and rename your generated client ID row to ClientID.

7. *Ensure all Records have a HH ID*

(Tab Name: HH Identifier) In some cases, HMIS only generates HH IDs for households of more than one person, so individual households have no HH ID. BYC requires all records to have a HH ID, so HH IDs should be created for records without them.⁹ HH IDs must be numeric, so if your data contains alphanumeric HH IDs, convert those to numeric IDs using the same procedure described for Client IDs in the previous step. Follow the steps below to create HH IDs when needed:

1. Copy the data from the "New ID clean" tab into the "HH Identifier" tab.
2. In the "Data" menu, under the Sort and Filter section, choose "Sort."
3. A new sort window will pop up, allowing you to sort by multiple variables. In the first level, sort by HH ID (column I), values largest to smallest. Add a level to sort by Client ID (column A), values smallest to largest. This should result in a dataset with all blank HH IDs at the bottom and the lowest Client IDs first, ascending upwards through the list. Note the highest and lowest HH IDs in the dataset.
4. "Filter" the HH ID field to hide all but the blank values.
5. Count the number of records missing HH ID.
6. If there are fewer records with blank HH IDs than the lowest HH ID in the dataset, type 1 into the first blank HH ID cell. If there are more records with blank HH IDs than the lowest HH ID in the dataset, then input a number higher than the highest existing HH ID into the first blank HH ID cell.
7. In the next blank HH ID cell, input:

`"=IF(A4001=A4000,I4000,I4000+1)"`

Where: 4000 is the row number of the first record without a HH ID and 4001 is the row number in which you first enter the formula

8. Drag the formula down to last row of data.
9. Copy and paste values the back into the HH ID column.
10. Double check the work by counting the number of unique HH IDs among those that were originally blank (e.g. the single adult HHs). In a free cell, input the following:

`"=SUM(IF(FREQUENCY(A4000:A10000,A4000:A10000)>0,1))"`

Where: 4000 is the row number of the first record without a HH ID and 10000 is the row number of the last row of data

⁹ If missing HH IDs are related to any other set up or HMIS use convention, this step will not fix the issue. Contact Focus Strategies for an individualized solution if use of HH ID is inconsistent, spotty, or related to more than just vendor specifications for single person households.

The resulting number of unique values, or one less than the highest number assigned. You should get the same value if you run the formula on the HH ID column (change all As to Is).

8. Collapse Shelter Stays

(Tab Name: Collapsed Stays) This step requires creating a new workbook to manipulate the data, then pasting the cleaned data back into the original workbook. The cleaned data should be pasted into the “Collapsed Stays” tab at the completion of this step.

Some emergency shelters record stays as “services” and create a new record for each night in the shelter. Other shelters create a single record for each stay that contains all consecutive bed nights between project entry and exit.¹⁰ If, for example, a person stays in a shelter for five consecutive nights, the first approach results in five records for that person, each of one day duration, while the second approach has one stay of five days duration. The BYC quantifies length of stay as the difference between project entry and exit dates, therefore projects that record each service night as an individual stay need to collapse records for consecutive services into one project entry and exit. Follow the steps below to collapse records for consecutive services into a single stay:

The process for collapsing bed nights assumes that all other variables are the same, though it is possible that prior living only appears in the first stay and destination only appears in the last stay. In this case, take prior living from the first stay and destination from the last stay and apply those to all other stays before proceeding to collapse the records.

1. Copy all records, by project, needing to be collapsed into stays into separate worksheets in a new Excel file (i.e., each project should be pasted into its own sheet).
2. If stays are recorded as entry and exit on the same day, such as the following consecutive stays:¹¹

Client ID	Service Start	Service End
58	2/5/2013	2/5/2013
58	2/6/2013	2/6/2013
58	2/7/2013	2/7/2013

you will first need to replace the exit dates with the date one day later, so that they look like:

Client ID	Service Start	Service End
58	2/5/2013	2/6/2013
58	2/6/2013	2/7/2013
58	2/7/2013	2/8/2013

To do this, insert a new column (column L) and enter the following formula in cell L2:

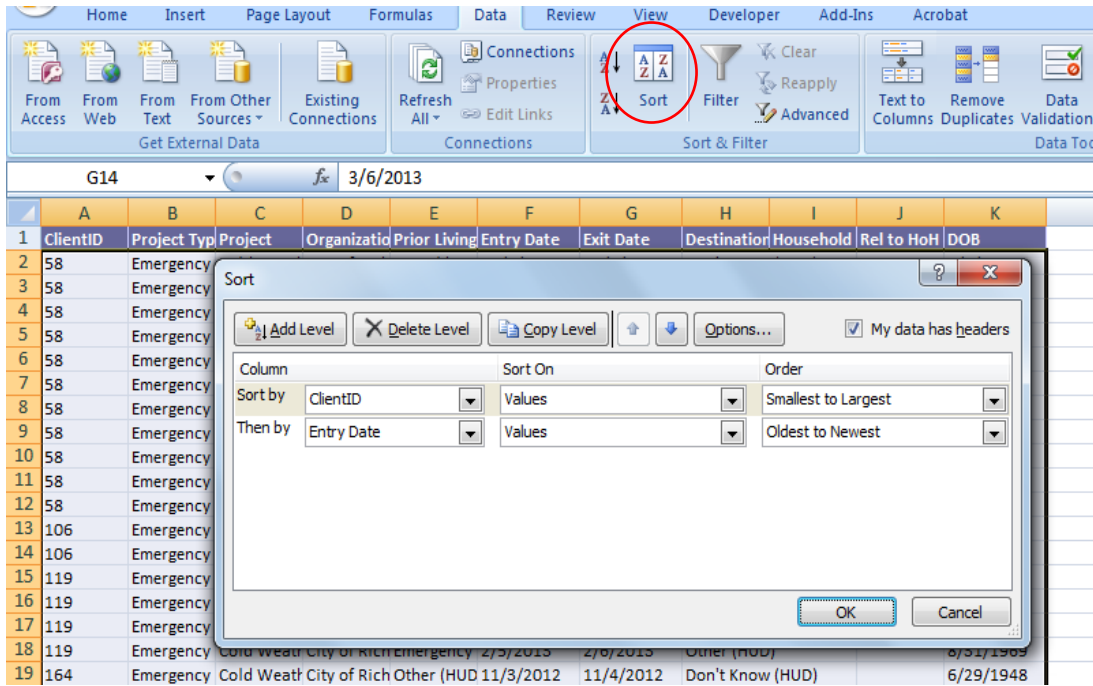
¹⁰ In Bowman, this occurs due to use of the Shelter Point system rather than Project Entry/Exit; in Adsystem, due to use of the Service Start/End dates rather than Project Entry/Exit. Other HMIS systems may have similar approaches.

¹¹ If these consecutive, same day entries and exits are valid (e.g. the person showed up three nights in a row but never actually stayed at the shelter), skip this step, but consider removing these records from the dataset.

"=IF(G2=F2,G2+1,G2)"

Drag this formula down as many rows as there are records. Be sure to format the cells as "short date" (in the "Home" ribbon under the "Number" section).

Copy and paste column L as values and then cut and paste the values into column G, replacing the old exit dates with the new, calculated versions.



3. Using the "Sort" function in the "Data" ribbon, "Sort and Filter" section, sort the data by client ID – smallest to largest, then by entry date – oldest to newest:
4. Create three new columns to the left of column A (Client ID) – Columns A, B and C:
 - a. Stay Number – this is the "actual" stay number (Column A)
 - (1) Enter the number one ("1") into cell A2.
 - (2) Enter this formula into cell A3:

$$=IF(D3<>D2,A2+1,IF(AND(G2=G3,J2=I3),A2,A2+1))$$
 - (3) Copy the formula in cell A3 down to last row of data
 - b. Part of Stay Number – this is the "part" of the actual stay number that the record represents
 - (1) Enter the number one ("1") into cell B2.
 - (2) Enter this formula into cell B3:

$$=IF(A3=A2,B2+1,1)$$
 - (3) Copy the formula in cell B3 down to last row of data
 - c. Last Part of Stay – this indicates, by record, how many "parts" there are in each stay (Column C)

- (1) Enter this formula into cell C2:¹²
`"={MAX(IF(A2:A1000=A2,B2:B1000))}"`
 Where: 1000 is the row number of the last row of data
- (2) Copy the formula in cell C2 down to last row of data

5. Title column P "New Exit." This column uses the information in columns A, B, and C to identify the "new" exit date for the record. In this formula, you want the starting point for the indexed and matched columns to change with the row of data (e.g. the formula should only search rows below the target cell, not above it). This formula fixes the bottom of the range using "\$," but moves the top of the range down a row with each row. If you did not sort your data in date order, this formula will not work correctly.

- a. Input in cell P2:¹³
`"={INDEX(J2:J1000,MATCH(1,(C2=B2:B1000)*(A2=A2:A1000),0))}"`
 Where: 1000 is the row number of the last row of data
- b. Copy the formula in cell P2 down to last row of data

6. Title Column O "New Entry." This column uses the information in columns A, B, and C to identify the "new" entry date for the record. In this formula, unlike the previous, you want the starting point and ending point for the indexed column to remain constant. This formula fixes both the top and bottom of the range.

- a. Input in cell O2:¹⁴
`"={INDEX(I2:I1000,MATCH(1,(A2=A2:A1000)*(1=B2:B1000),0))}"`
 Where: 1000 is the row number of the last row of data
- b. Copy the formula in cell O2 down to last row of data

7. Copy all data and paste as values into a new sheet. Delete the helper columns (A, B and C) and cut and paste the "new" entry and exit dates from columns O and P into the "old" entry and exit dates (columns I and J).

8. Follow the steps below to remove duplicates (e.g. a stay that used to be 5 one night stays will now have 5 duplicated records with a 5 day length of stay)

- a. Combined ID – This combines client ID, entry date, and exit date to identify unique and duplicate records and avoid deleting valid records when a client returned to a project multiple times (Column L)

- (1) Enter this formula in cell L2:
`"=CONCATENATE(A2,F2,G2)"`
- (2) Copy the formula in cell L2 down to last row of data

- b. Is Duplicate? – This column will display "Yes" for all duplicate records (Column M)

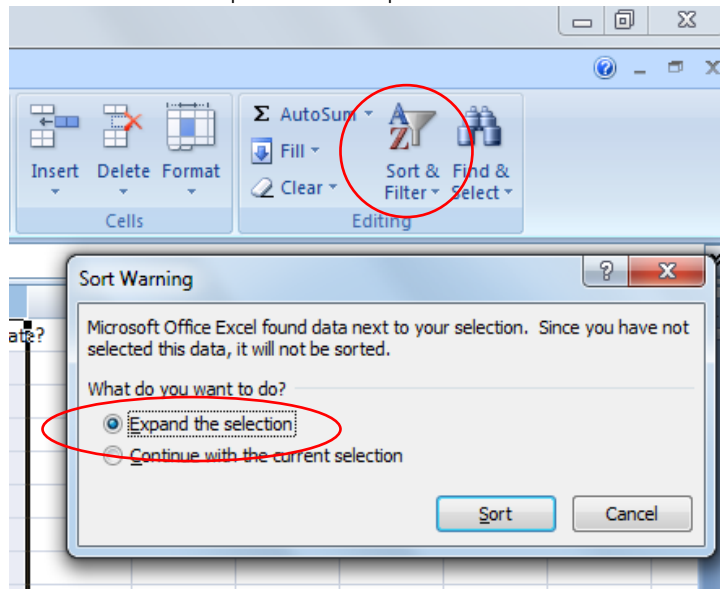
- (1) Enter this formula in cell M2:
`"=IF(COUNTIF(L2:L2,L2)>1,"Yes","")"`

¹² This is an array formula and must be entered by hitting "Control-Shift-Enter" at the same time. This formula may take some time to calculate.

¹³ This is an array formula and must be entered by hitting "Control-Shift-Enter" at the same time. This formula may take some time to calculate.

¹⁴ This is an array formula and must be entered by hitting "Control-Shift-Enter" at the same time. This formula may take some time to calculate.

- (2) Copy the formula in M2 down to last row of data
- c. Copy the data in columns L and M and paste as values to ensure no formulas are recalculated during the sort.
- d. Sort column M (“A to Z”). Be sure to choose “expand the selection” in the pop-up window. This will put all the duplicate records at the bottom.



- e. Select and delete all rows with “Yes” in column M.
- f. Delete columns L and M.
- g. Copy and paste the collapsed records back into the larger dataset in the original workbook, with all of the other cleaned records.

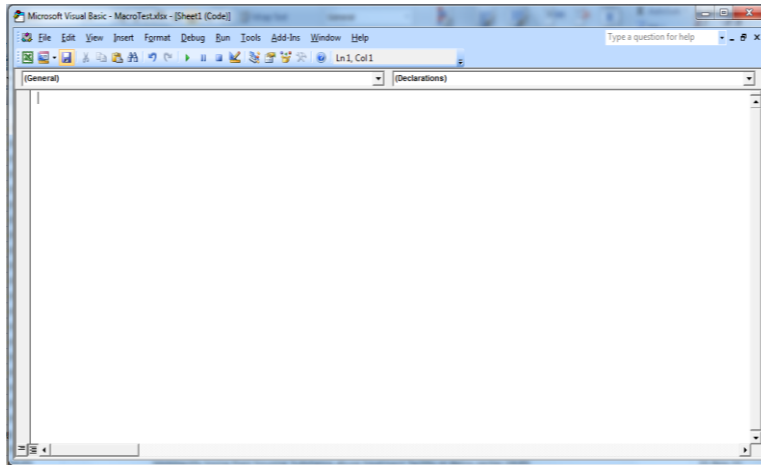
9. Recode Blank/Missing Cells

(Tab Name: No Blanks) Because missing values import differently from different HMIS systems, all missing/blank cells must be transformed to equal the word "BLANK" (without quotation marks). The Tool looks for this word as an indicator of missing values. To do this, select the entire set of values in the Excel file. Choose "Find and Select" from the "Home" tab and then "Replace." A window called "Find and Replace" will open. Make sure there is no value in the cell marked "Find what:," and type BLANK in the cell marked "Replace with:." Click "Replace All" to change all missing/empty cells with the word BLANK.

Other cells, such as those missing date values or containing spaces, may not be captured by the “Replace All” function. Check for missing date values by filtering date columns for invalid dates, such as 1/0/1900 or similar, then replace them with the word BLANK.

Also check for cells that appear empty but do not say BLANK; these cells likely contain spaces. The easiest way to remove leading spaces in Excel is with a macro:

1. Right click the tab name of the "No Blanks" tab and select "View Code". A new window titled "Microsoft Visual Basic" will pop up looking like this:



- Copy and paste the following into this window:

```
"Sub TrimXcessSpaces()
```

```
'Macro Purpose: To trim all excess spaces out of cells. This  
'eliminates issues where users have cleared the cell with a space,  
'and eliminates all extra spaces at the beginning or end of a string
```

```
Dim cl As Variant
```

```
'Loop through cells removing excess spaces
```

```
For Each cl In Selection
```

```
    If Len(cl) > Len(WorksheetFunction.Trim(cl)) Then
```

```
        cl.Value = WorksheetFunction.Trim(cl)
```

```
    End If
```

```
Next cl
```

```
End Sub"
```

- Keeping the macro window open, return to the main Excel sheet, and highlight the entire data set. With the data set highlighted, return to the macro window and select "run" using the green triangle button at the top of the window. The macro will run – allow a couple of minutes, depending on the size of the dataset. When the macro finishes, the spaces in the "blank" cells should now be truly blank. Re-run the find and replace step from above to insert BLANK into all visibly blank cells.

10. Final Clean

After the final cleaning effort, create a copy and paste the values from the "No Blanks" tab into a new tab called "Final Clean." Delete column A with the Number ID (if applicable). Sort this sheet data by entry date, oldest first. Save this file as "CommunityName_BYC_FinalData_Date." (insert your community name in the place of "CommunityName")

Appendix C – Collecting Budget Information

The Base Year Calculator (BYC) combines budget information with HMIS data to determine the cost of supporting clients in shelters, transitional housing, rapid rehousing, and permanent supportive housing (PSH) and compare the relative cost and outcomes among the various project types. Data from the BYC can be used to show performance information about the extent to which homeless projects in the community are ending homelessness of the individuals and families served by each agency and the community as a whole. The BYC data can then be transferred to the System Performance Predictor (SPP) to allow the community to model how changes to the homeless system could impact the overall extent of homelessness in their community.

Budget information should be collected at the project level directly from the organizations administering the projects. The *Provider Instructions for Project Budget Data Request*, which Focus Strategies uses to collect budget information, is included below. These customizable provider instructions and budget collection template are available on the Focus Strategies website (<http://focusstrategies.net/swap/budget-collection-tools/>).

[CoC] Homeless System Analysis

Provider Instructions for Project Budget Data Request
[date]

[CoC] is completing an in-depth analysis of homeless projects in [city]. This analysis will use data from a variety of sources to better understand system and project type performance in relation to the investments currently being made to address homelessness. The goal of the analysis is to inform the community about the extent to which homeless projects in [city] are helping to end the homelessness of individuals and families served.

Most performance data will come from the Homeless Management Information System (HMIS). In order to analyze cost effectiveness of system components, budget information for individual projects must also be collected. In this context, we use the term “budget” to refer to the project’s total operating budget for the most recently completed budgeting period. In other words, if someone wanted to recreate your project(s), how much would they need annually to operate the project? The budget data needed is at a very high level and includes only the total planned budget by revenue source (HUD, ESG, Other Public Funds, Private Funds); we do not need budget down to individual line items.

The attached Excel spreadsheet is designed to collect budget information about all of your agency’s projects included in the Housing Inventory Count (HIC). Information is requested for each project listed on the spreadsheet, for your most recently completed budgeting period.

Once collected, budget information will be combined with usage and exit data from HMIS to determine the cost of supporting clients in shelters, transitional housing, rapid rehousing, and permanent supportive housing, and to compare the relative cost and outcomes among the various project types. For projects not entering data into HMIS, budget information will be presented as part of the overall cost of your community's homeless system.

The spreadsheet has five tabs: One tab (green) is for project information, while four tabs (blue) are for budget information. Cells in each tab are colored yellow or grey; you may only enter information into yellow

cells. Grey cells are auto-completed with information from the HIC and cannot be edited. If any of the information in the grey cells is wrong, please note the mistake and correct information in the column labeled “Notes, Corrections, etc.”

The project’s total budget should be equal to the sum of all revenue sources. The “Total Budget” cell will be red until the sum of the sources is equal to the total you entered. If total budget cell remains red after you have entered all revenue sources, please correct the project budget information before proceeding! After you complete the worksheet, please save it with your agency’s name in the title as follows: “Budget_ExcelTemplate_[AgencyName]”. The Excel worksheet should then be sent to [Contact person (email)] who will review the data.

1. Project Information Tab

Begin on the green tab titled “Project Information”. Choose your organization’s name from the yellow drop-down menu. Rows will automatically populate with information on projects operated by your organization (note that the Excel file may “think” for up to 15 seconds, especially if you are a provider with more than one or two projects). The provider name, project name(s), and associated project type(s) will appear in grey cells in columns C, D, and E, respectively. This list comes from your community's most recent HIC. If homeless projects you operate are missing from this list please note this two ways: (1) make a comment in the budget template; and (2) include a note in your transmittal email listing the project names, type, and capacity.

Project Sub Type: Project type (shelter, transitional, etc.) is in the sheet in Column E, but you need to select the appropriate sub-type (i.e. scattered site, congregate, etc.) from the drop-down menu. When you click in the cell, a drop-down menu appears to aid in the selection of the project sub-type. Additional information on the project can be entered in the notes column – if you are unclear as to the sub-type of a project, please provide detailed notes on the project in the notes column.

2. Budget Information Tabs (ES, TH, RRH, PSH)

After completing the Project Information tab, continue to the blue “Budget Information” tabs. These tabs should have some information already in them based on entries in the previous page, and it is here that you enter capacity and budget information by project type. Tabs only pre-populate based on the project types you operate (e.g., if you do not operate Transitional Housing projects the Budget Information TH tab will be blank).

Further, budgets need to be project specific. Therefore, if you operate two separate shelter projects, they will show as two rows in the Budget Information ES tab, and you will complete the budget information separately for each of the projects. (Please note that Safe Haven projects are included on the Budget Information ES tab and Other Permanent Housing projects are included on the Budget Information PSH tab).

Capacity from the HIC is prepopulated in the grey cells following project type. If the project has a pre-populated capacity that you believe is not accurate, please make note of this in the notes column by indicating what the capacity should be. Please remember that the capacity should reflect what it was in January of [year].

The total annual project budget covers all costs including overhead and administration attributable to a specific project. The specific budget components requested are:

Total Project Budget. Please enter the total annual project budget amount, inclusive of all project costs and all private and public funding sources. If the sum of the budget parts entered does not equal the total budget entered, the total budget cell will be red indicating that an error has been made.

HUD CoC Grant. Please enter the amount of HUD funding budgeted from the CoC in the most recent award year, inclusive of administrative costs allowed by HUD. Note that this amount does not include other HUD funding (ESG, HOME, CDBG, HOPWA, HCV (Section 8), etc.) or any match.

ESG Grant. Please enter the total amount of HUD funding budgeted from the Emergency Solutions Grant (ESG), if any. Note that this amount should not include other HUD funding (CoC, HOME, CDBG, HOPWA, HCV (Section 8), etc.) or any match.

Other Public Funds. Please enter the total public dollars budgeted from all other sources, exclusive of CoC and ESG awards for the project. This column should include any local funding (general funds, local bond monies, behavioral health funds, etc.), state funding (State HOME, etc.) or federal funding (PATH, entitlement HOME, etc.) that is specifically allocated to the project. If your project has dedicated Veteran's beds, please include any VA or other Veterans funding.

Private Funds. Please enter the total amount of private dollars from any source budgeted for the project. This should include donations, foundation dollars, and any other grants from private sources. If your organization also receives in kind donations, only include the value of these donations if they are included in your annual operating budget.

Notes, Corrections, etc. Use this column to enter any changes to grey cells or anything else that Focus Strategies should know about the project budget.

3. Housing vs Services Budgets for Rapid Rehousing and Permanent Supportive Housing.

These project types include housing/rental assistance and services which may be provided by different agencies. In order to represent all costs for homeless projects, services and housing budgets must be collected for each project. Your agency may not be able to report budget figures for both aspects of operating the project (services or housing/rental assistance). Please indicate which component(s) your budget represents and, if applicable, which agency(s) can provide the remaining budget information.

Appendix D – HMIS Data Dictionary

The following are, by column number and column name, the values associated with the calculated green columns in the HMIS Data tab.

#	Name	Values	
M	Prior Living #	1	Emergency shelter, including hotel or motel paid for with emergency shelter voucher
		2	Foster care home or foster care group home
		3	Hospital or other residential non-psychiatric medical facility
		4	Hotel or motel paid for without emergency shelter voucher
		5	Jail, prison or juvenile detention facility
		6	Long-term care facility or nursing home
		7	Owned by client, no ongoing housing subsidy
		8	Owned by client, with ongoing housing subsidy
		9	Permanent housing (other than RRH) for formerly homeless persons
		10	Place not meant for habitation
		11	Psychiatric hospital or other psychiatric facility
		12	Rental by client, no ongoing housing subsidy
		13	Rental by client, with VASH subsidy
		14	Rental by client, with GPD TIP subsidy
		15	Rental by client, with other housing subsidy (including RRH)
		16	Residential project or halfway house with no homeless criteria
		17	Safe Haven
		18	Staying or living in a family member's room, apartment or house
		19	Staying or living in a friend's room, apartment or house
		20	Substance abuse treatment facility or detox center
		21	Transitional housing for homeless persons (including homeless youth)
		22	Other
		23	Client doesn't know
		24	Client refused
		25	Data not collected
		26	Interim Housing
O	Destination #	1	Deceased
		2	Emergency shelter, including hotel or motel paid for with emergency shelter voucher
		3	Foster care home or foster care group home
		4	Hospital or other residential non-psychiatric medical facility
		5	Hotel or motel paid for without emergency shelter voucher
		6	Jail, prison or juvenile detention facility
		7	Long-term care facility or nursing home
		8	Moved from one HOPWA funded project to HOPWA PH
		9	Moved from one HOPWA funded project to HOPWA TH
		10	Owned by client, no ongoing housing subsidy
		11	Owned by client, with ongoing housing subsidy
		12	Permanent housing (other than RRH) for formerly homeless persons
		13	Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside)
		14	Psychiatric hospital or other psychiatric facility
		15	Rental by client, no ongoing housing subsidy
		16	Rental by client, with VASH housing subsidy

#	Name	Values
		17 Rental by client, with GPD TIP housing subsidy 18 Rental by client, with other ongoing housing subsidy 19 Residential project or halfway house with no homeless criteria 20 Safe Haven 21 Staying or living with family, permanent tenure 22 Staying or living with family, temporary tenure (e.g., room, apartment or house) 23 Staying or living with friends, permanent tenure 24 Staying or living with friends, temporary tenure (e.g., room, apartment or house) 25 Substance abuse treatment facility or detox center 26 Transitional housing for homeless persons (including homeless youth) 27 Other 28 No exit interview completed 29 Client doesn't know 30 Client refused 31 Data not collected 32 Rental by client, with RRH or equivalent subsidy
V & W	Collapsed Prior Living	1 Unsheltered 2 ES 3 TH 4 Permanent Housing 5 Institutional 6 Friends/Family Temp 7 Other 8 Unknown
X & Y	Collapsed Destination	1 PSH 2 PH (subsidized) 3 PH (unsubsidized) 4 ES 5 TH 6 Unsheltered 7 Friends/Family Temp 8 Institution 9 Deceased 10 Other 11 Unknown

The following is a translation of the HMIS values for Prior Living (column M) and Destination (column O), along with their collapsed values (columns V, W, X and Y).

Prior Living

HMIS Value (Un-Collapsed)	Collapsed Value
1 Emergency shelter, including hotel or motel paid for with emergency shelter voucher	2 ES
2 Foster care home or foster care group home	5 Institutional
3 Hospital or other residential non-psychiatric medical facility	5 Institutional
4 Hotel or motel paid for without emergency shelter voucher	4 Housing
5 Jail, prison or juvenile detention facility	5 Institutional
6 Long-term care facility or nursing home	5 Institutional

7	Owned by client, no ongoing housing subsidy	4	Housing
8	Owned by client, with ongoing housing subsidy	4	Housing
9	Permanent housing (other than RRH) for formerly homeless persons	4	Housing
10	Place not meant for habitation	1	Unsheltered
11	Psychiatric hospital or other psychiatric facility	5	Institutional
12	Rental by client, no ongoing housing subsidy	4	Housing
13	Rental by client, with VASH subsidy	4	Housing
14	Rental by client, with GPD TIP subsidy	4	Housing
15	Rental by client, with other housing subsidy (including RRH)	4	Housing
16	Residential project or halfway house with no homeless criteria	5	Institutional
17	Safe Haven	7	Other
18	Staying or living in a family member's room, apartment or house	6	Friends/Family Temp
19	Staying or living in a friend's room, apartment or house	6	Friends/Family Temp
20	Substance abuse treatment facility or detox center	5	Institutional
21	Transitional housing for homeless persons (including homeless youth)	3	TH
22	Other	8	Unknown
23	Client doesn't know	8	Unknown
24	Client refused	8	Unknown
25	Data not collected	8	Unknown
26	Interim Housing	2	ES

Destination

HMIS Value (Un-Collapsed)		Collapsed Value	
1	Deceased	9	Deceased
2	Emergency shelter, including hotel or motel paid for with emergency shelter voucher	4	ES
3	Foster care home or foster care group home	8	Institution
4	Hospital or other residential non-psychiatric medical facility	8	Institution
5	Hotel or motel paid for without emergency shelter voucher	10	Other
6	Jail, prison or juvenile detention facility	8	Institution
7	Long-term care facility or nursing home	8	Institution
8	Moved from one HOPWA funded project to HOPWA PH	2	PH (subsidized)
9	Moved from one HOPWA funded project to HOPWA TH	5	TH
10	Owned by client, no ongoing housing subsidy	3	PH (unsubsidized)
11	Owned by client, with ongoing housing subsidy	2	PH (subsidized)
12	Permanent housing (other than RRH) for formerly homeless persons	1	PSH
13	Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside)	6	Unsheltered
14	Psychiatric hospital or other psychiatric facility	8	Institution
15	Rental by client, no ongoing housing subsidy	3	PH (unsubsidized)
16	Rental by client, with VASH housing subsidy	2	PH (subsidized)
17	Rental by client, with GPD TIP housing subsidy	2	PH (subsidized)
18	Rental by client, with other ongoing housing subsidy	2	PH (subsidized)
19	Residential project or halfway house with no homeless criteria	8	Institution
20	Safe Haven	10	Other

21	Staying or living with family, permanent tenure	3	PH (unsubsidized)
22	Staying or living with family, temporary tenure (e.g., room, apartment or house)	7	Friends/Family Temp
23	Staying or living with friends, permanent tenure	3	PH (unsubsidized)
24	Staying or living with friends, temporary tenure (e.g., room, apartment or house)	7	Friends/Family Temp
25	Substance abuse treatment facility or detox center	8	Institution
26	Transitional housing for homeless persons (including homeless youth)	5	TH
27	Other	10	Other
28	No exit interview completed	11	Unknown
29	Client doesn't know	11	Unknown
30	Client refused	11	Unknown
31	Data not collected	11	Unknown
32	Rental by client, with RRH or equivalent subsidy	2	PH (subsidized)