

**Affinity for Revit can facilitate the process of comparing an existing Revit Design model to the Program, and provide crucial design-to-program compliance information to the project team throughout the design process.**

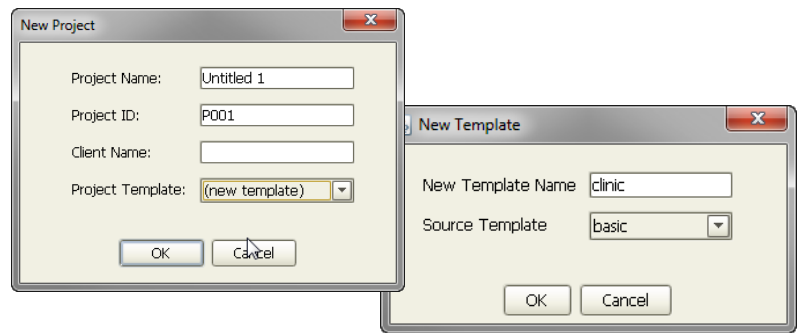
Typically, the program resides in Excel, and the Design in Revit, making the process of comparing rooms, room quantities, areas and departmental information difficult, especially with large, complex projects. This Use Case describes the process of loading an existing Revit design into Affinity, importing an existing Excel-based program into Affinity, and using Affinity to assess the design-to-program compliance – by keeping the design models synchronized, and providing a number of analyses and tools to resolve differences. This can help ensure that the design team know at any point in time what the differences are between the design and the program, and enable them to make the right decisions as early as possible in the design process to resolve those differences.

## 1. Importing the Excel PROGRAM

Affinity provides an easy-to-use facility to import a space program from Excel, making the full program available for updating and editing in Affinity, and for use as the basis for comparisons of the design to the program requirements.

### A. CREATE A NEW AFFINITY PROJECT

Launch Affinity and create a new project based on a new template. Use “basic” as the source template.



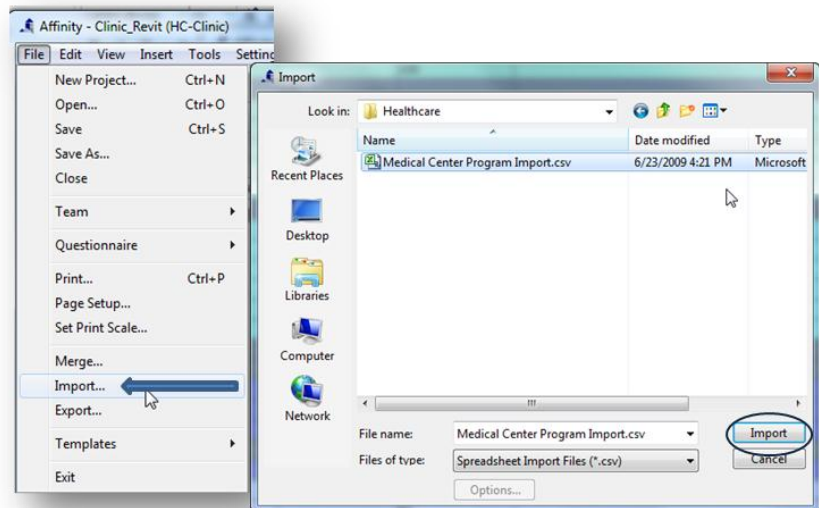
### B. RE-FORMAT

The Excel program is re-formatted into a “.csv” file format to prepare it for import into Affinity. All rooms should be of type **Generic Room** in this case.

	A	B	C	D	E
1	Group	Type	Item Name	Quantity	Area
2	Administration				
3	Administration	Generic Room	Chart Prep / Sort		80
4	Administration	Generic Room	Copy/Fax/Print	1	
5	Administration	Generic Room	Medical Records		250
6	Administration	Generic Room	Patient Billing	1	
7	Administration	Generic Room	Storage- Chart	1	
8	Administration	Generic Room	Storage- File	1	
9	Administration	Generic Room	Workstation	1	80
10	Administration.Staff				
11	Administration.Staff	Generic Room	Administrator	4	
12	Administration.Staff	Generic Room	Coordinator	2	
13	Administration.Staff	Generic Room	Director	1	

## C. IMPORT

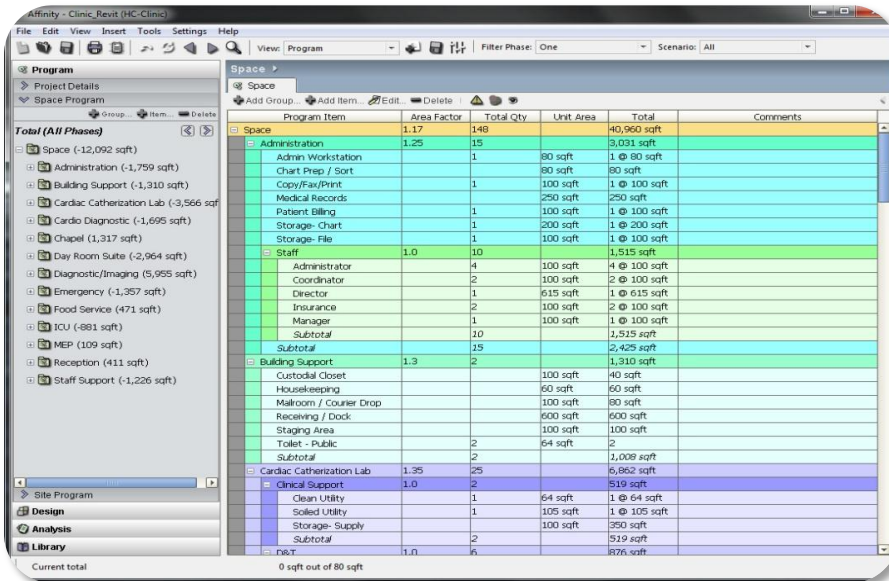
The program is then imported into Affinity from the .csv file.



## D. VIEW

The newly imported Program can be viewed and modified in the Program section of Affinity.

### Affinity Program



The screenshot shows the Affinity software interface with the 'Program' section selected. The main window displays a table of program items with the following columns: Program Item, Area Factor, Total Qty, Unit Area, Total, and Comments. The table is organized into a tree view on the left, showing the hierarchy of program items.

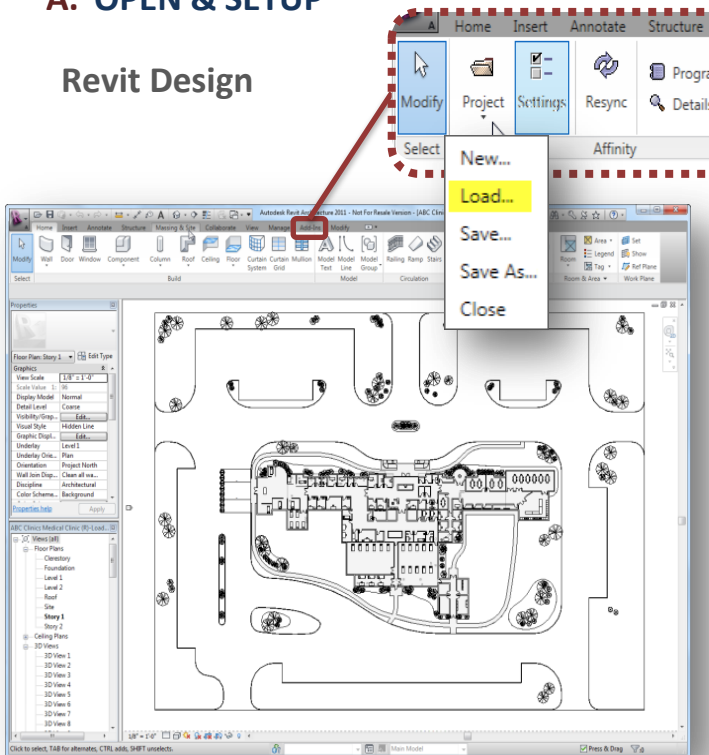
Program Item	Area Factor	Total Qty	Unit Area	Total	Comments
Space	1.17	148		40,960 sqft	
Administration	1.25	15		3,031 sqft	
Admin Workstation		1	80 sqft	1 @ 80 sqft	
Chart Prep / Sort		1	80 sqft	80 sqft	
Copy/Fax/Print		1	100 sqft	1 @ 100 sqft	
Medical Records		250	250 sqft	250 sqft	
Patient Billing		1	100 sqft	1 @ 100 sqft	
Storage-Chart		1	200 sqft	1 @ 200 sqft	
Storage-File		1	100 sqft	1 @ 100 sqft	
Staff	1.0	30		1,515 sqft	
Administrator		4	100 sqft	4 @ 100 sqft	
Coordinator		2	100 sqft	2 @ 100 sqft	
Director		1	615 sqft	1 @ 615 sqft	
Insurance		2	100 sqft	2 @ 100 sqft	
Manager		1	100 sqft	1 @ 100 sqft	
Subtotal		30		1,515 sqft	
Subtotal		15		2,425 sqft	
Building Support	1.3	2		1,310 sqft	
Custodial Closet			100 sqft	40 sqft	
Housekeeping			60 sqft	60 sqft	
Milkroom / Courier Drop			100 sqft	80 sqft	
Receiving / Counter			600 sqft	600 sqft	
Staging Area			100 sqft	100 sqft	
Toilet - Public		2	64 sqft	2	
Subtotal		2		1,008 sqft	
Cardiac Catheterization Lab	1.35	25		6,862 sqft	
Clinical Support	1.0	2		519 sqft	
Clean Utility		1	64 sqft	1 @ 64 sqft	
Solled Utility		1	105 sqft	1 @ 105 sqft	
Storage- Supply			100 sqft	363 sqft	
Subtotal		2		519 sqft	
n6.T.	1.0	6		876 sqft	

## 2. Importing the Revit DESIGN

The Affinity Revit plug-in easily allows the user to load an existing Revit Design into Affinity, using the Synchronization function. All buildings, stories, rooms/walls, room items and data properties associated with the rooms are loaded into Affinity Schematic Design, where they can be viewed in 2D and 3D.

### A. OPEN & SETUP

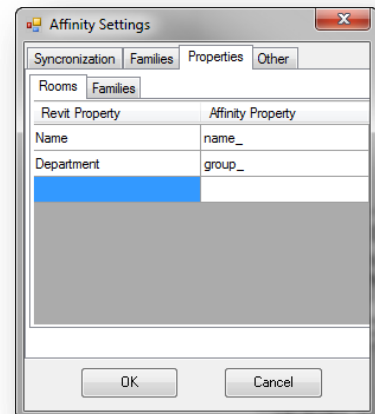
#### Revit Design



- Once the Revit project file is open, the Affinity plug-in commands can be accessed from the Add-Ins menu.
- Load the Affinity project file created in Step 1 to create a link to this Revit file.

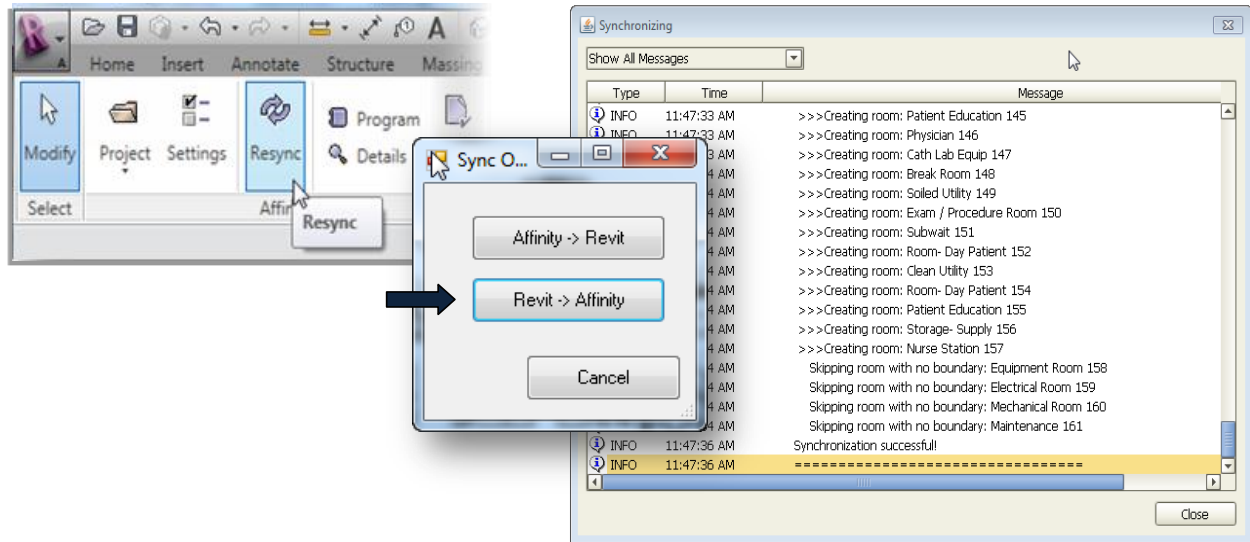
### B. ADJUST SETTINGS

Adjust settings to map properties for room name and department (group).



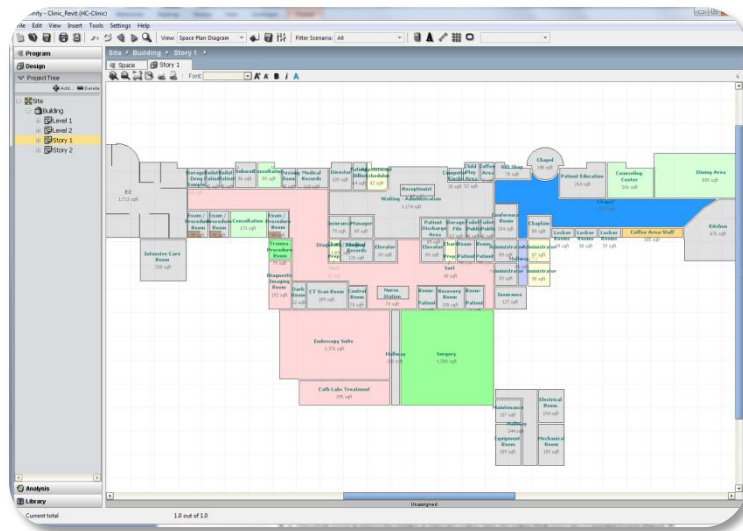
### C. SYNC

The Revit project design model is then loaded (synchronized) into the new Affinity project file.



### D. OPEN & VIEW

The Revit Design model can then be viewed in the Schematic Design section of the Affinity project file.



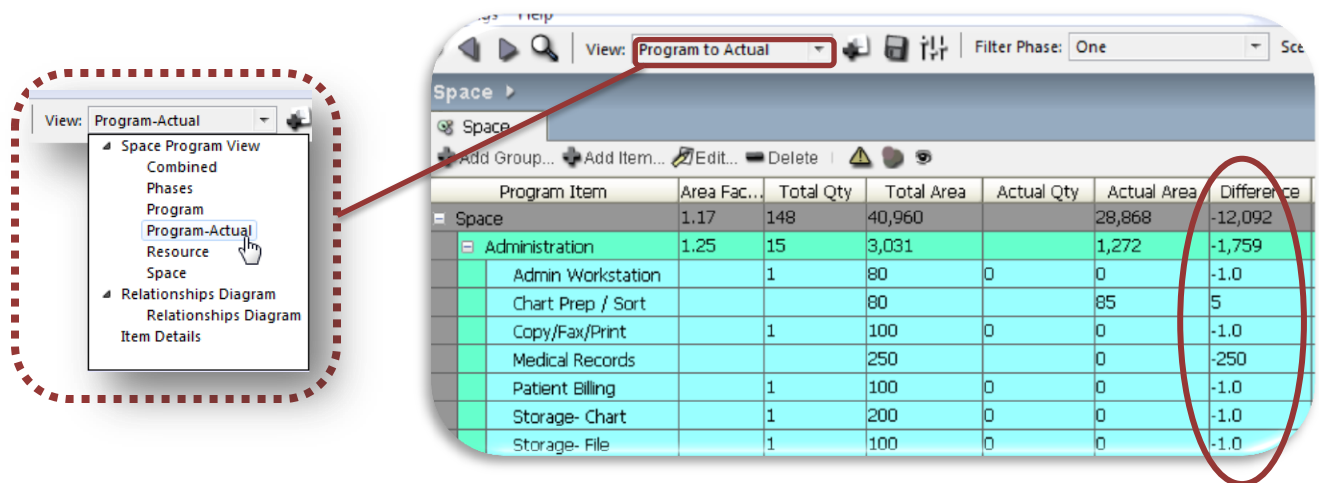
Affinity Design

### 3. Matching DESIGN to PROGRAM

Once the Design and Program have been loaded into Affinity, they can be compared in several different ways in order to identify differences. Often, elements of a design do not match the program due to different naming conventions used in the program and design, misspellings or abbreviations of room names and / or departments that do not match, as well as quantities of rooms in the design that are either over or under program requirements. Affinity can be used to correct naming or classification errors, and to highlight missing or excess rooms for subsequent correction in the Revit model.

#### A. VIEW PROGRAM-TO-ACTUAL

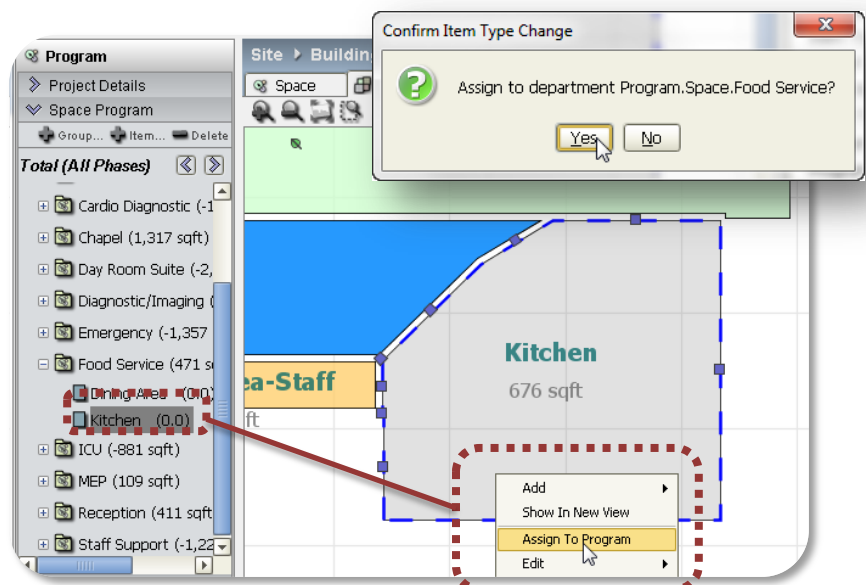
Affinity allows the user to view Program-to-Actual information in the Program view. This view displays the Program requirements (for example, quantities of rooms required in the Administration Department), and displays the actual *designed* quantities and areas, with a calculated Difference.



Program Item	Area Fac...	Total Qty	Total Area	Actual Qty	Actual Area	Difference
Space	1.17	148	40,960		28,868	-12,092
Administration	1.25	15	3,031		1,272	-1,759
Admin Workstation		1	80	0	0	-1.0
Chart Prep / Sort			80		85	5
Copy/Fax/Print		1	100	0	0	-1.0
Medical Records			250		0	-250
Patient Billing		1	100	0	0	-1.0
Storage- Chart		1	200	0	0	-1.0
Storage- File		1	100	0	0	-1.0

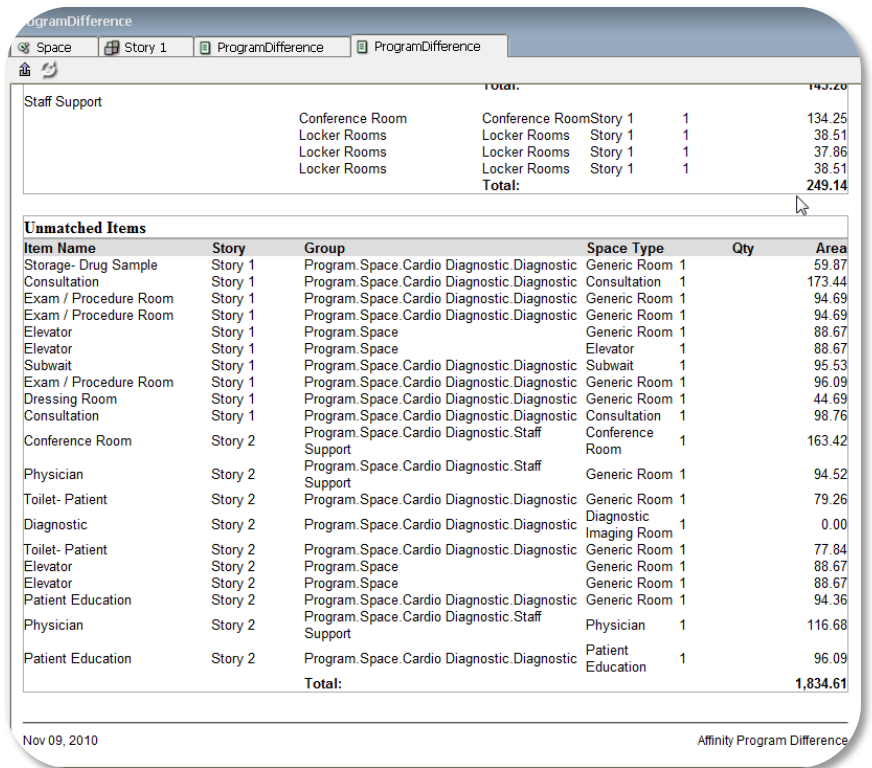
#### B. ASSIGN TO PROGRAM

In cases where rooms in the Design are not correctly assigned to the correct item and/or Department in the Program, the Affinity "Assign-to-Program" function can be used. This allows the user to view the Design model in Affinity, select a room to be assigned, select the correct, associated Program Item from the Program, and assign it with a couple mouse clicks. This same process enables the user to assign circulation, and other un-programmed rooms to specific Departments in the Program.



## C. RUN REPORT

Affinity provides a Program Difference report, which can also be used to analyze the Design model, compare it to the program, and produce a list of all rooms / items in the Design that cannot be matched to the program. This report, along with the above Affinity tools, can accelerate the process of analyzing design-to-program compliance for a project, and updating the design as needed to resolve the differences.



Item Name	Story	Group	Space Type	Qty	Area	
Staff Support					143.20	
		Conference Room	Conference Room	Story 1	1	134.25
		Locker Rooms	Locker Rooms	Story 1	1	38.51
		Locker Rooms	Locker Rooms	Story 1	1	37.86
		Locker Rooms	Locker Rooms	Story 1	1	38.51
		<b>Total:</b>				<b>249.14</b>
<b>Unmatched Items</b>						
Storage- Drug Sample	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	59.87
Consultation	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Consultation	1	173.44
Exam / Procedure Room	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	94.69
Exam / Procedure Room	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	94.69
Elevator	Story 1	Program.Space		Elevator	1	88.67
Elevator	Story 1	Program.Space		Elevator	1	88.67
Subwait	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Subwait	1	95.53
Exam / Procedure Room	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	96.09
Dressing Room	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	44.69
Consultation	Story 1	Program.Space.Cardio Diagnostic	Diagnostic	Consultation	1	98.76
Conference Room	Story 2	Program.Space.Cardio Diagnostic	Staff	Conference Room	1	163.42
Physician	Story 2	Program.Space.Cardio Diagnostic	Staff	Generic Room	1	94.52
Toilet- Patient	Story 2	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	79.26
Diagnostic	Story 2	Program.Space.Cardio Diagnostic	Diagnostic	Diagnostic Imaging Room	1	0.00
Toilet- Patient	Story 2	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	77.84
Elevator	Story 2	Program.Space		Generic Room	1	88.67
Elevator	Story 2	Program.Space		Generic Room	1	88.67
Patient Education	Story 2	Program.Space.Cardio Diagnostic	Diagnostic	Generic Room	1	94.36
Physician	Story 2	Program.Space.Cardio Diagnostic	Staff	Physician	1	116.68
Patient Education	Story 2	Program.Space.Cardio Diagnostic	Diagnostic	Patient Education	1	96.09
		<b>Total:</b>				<b>1,834.61</b>

## 4. SUMMARY

Affinity can be used to connect and compare two completely different types of data, a graphic design file from Revit and spreadsheet data from an Excel file. This Use Case walks through the steps to start with a space program in Excel. Create an Affinity project and import the Excel program. Open a Revit design, load the Affinity project and sync the Revit design to Affinity using the bi-directional integration. Then, using Affinity analysis tools and views, the user is able to identify where the design does not match the program requirements, and take steps to match the design spaces with program items.