WBS + API Changes
What you need to know

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WBS Integration Updates

Learn about changes and plan ahead for WBS and the associated API implications.

\+ What is WBS?

\+ What's Changing? Schema and Endpoint Examples

Are Integration Changes Required?

If you don't intend to use custom segments, no immediate action is necessary.

If you do opt to use custom segments, integration changes are required for added functionality.

+ Eventually all integrations will require updates to the new endpoint schema introduced by WBS.

+ Standard Cost Codes, Cost Codes, Cost Type, and financial line item endpoints (e.g. Budget Line Item) that use these values will continue to function as they do currently until at least Q1, 2023.

+ By the end of Q1 2023, integrations must be updated to use Segment, Segment Item, and WBS Code objects in lieu of Cost Codes, Cost Types, and Sub Jobs. At that point, financial line item endpoints will accept only ***wbs_code_id***.

General Background on WBS

Terminology and Product Functionality

Key Terminology

Segments

Segments are discrete categories by which an organization breaks down their work. Cost Code, Cost Type, Phase, Sub Job, etc. are all examples of segments. Segments are independent from one another.

Segment Items

Segment items are the discrete attributes within a given segment that will be tagged on financial line items. Segment items can either be flat (no hierarchy, like Cost Types) or tiered (with hierarchy, like Cost Codes).

Budget Code

The budget code represents how an organization's WBS manifests itself to the end user. It defines the order in which segments are represented and the delimiters between them.

Work Breakdown Structure is a platform release that will provide more flexibility, granularity and control over financial line items and streamline project set up

❖ Custom Segments
❖ Custom Budget Code Descriptions
❖ Faster Project Set Up
❖ Improved management of Cost Codes, Subjobs and Cost Types
❖ Reorder budget code pattern

PROCORE®

What are Custom Segments?

Currently in Procore, the budget code is limited to three "segments": sub job, cost code, and cost type. By allowing users to create custom segments, we are providing a significantly more flexible financial offering.

[XX]	[XXXX]	[X]
Sub Job	Cost Code	Cost Type

With WBS, users can create **custom segments**, which are added to the budget code for more granular tracking and reporting of data. For example, you could add custom segments of "Phase" and "Area", and not use Sub Jobs, and your budget code would look like this:

[XXX]	[XXXX]	[XXXX]	[X]
Phase	Area	Cost Code	Cost Type

How are Custom Segments used in the Product?

Custom segments are created, and all segments are managed, at the company level. This is handled through a new "Work Breakdown Structure" section in the Company Admin tool.

Segments can also be managed at the project level through a new similar "Work Breakdown Structure" section in the Project Admin tool. Custom segments are then available for data tagging and reporting across financial tools.

How are custom segments configured?

Company admins can create up to 10 custom segments at the company level. For each custom segment, you can provide a name, select the segment's structure (flat or tiered), and choose how project admins can interact with the segment at the project level.

Company admins can also customize the budget code pattern by defining the order that segments should appear in the budget code.
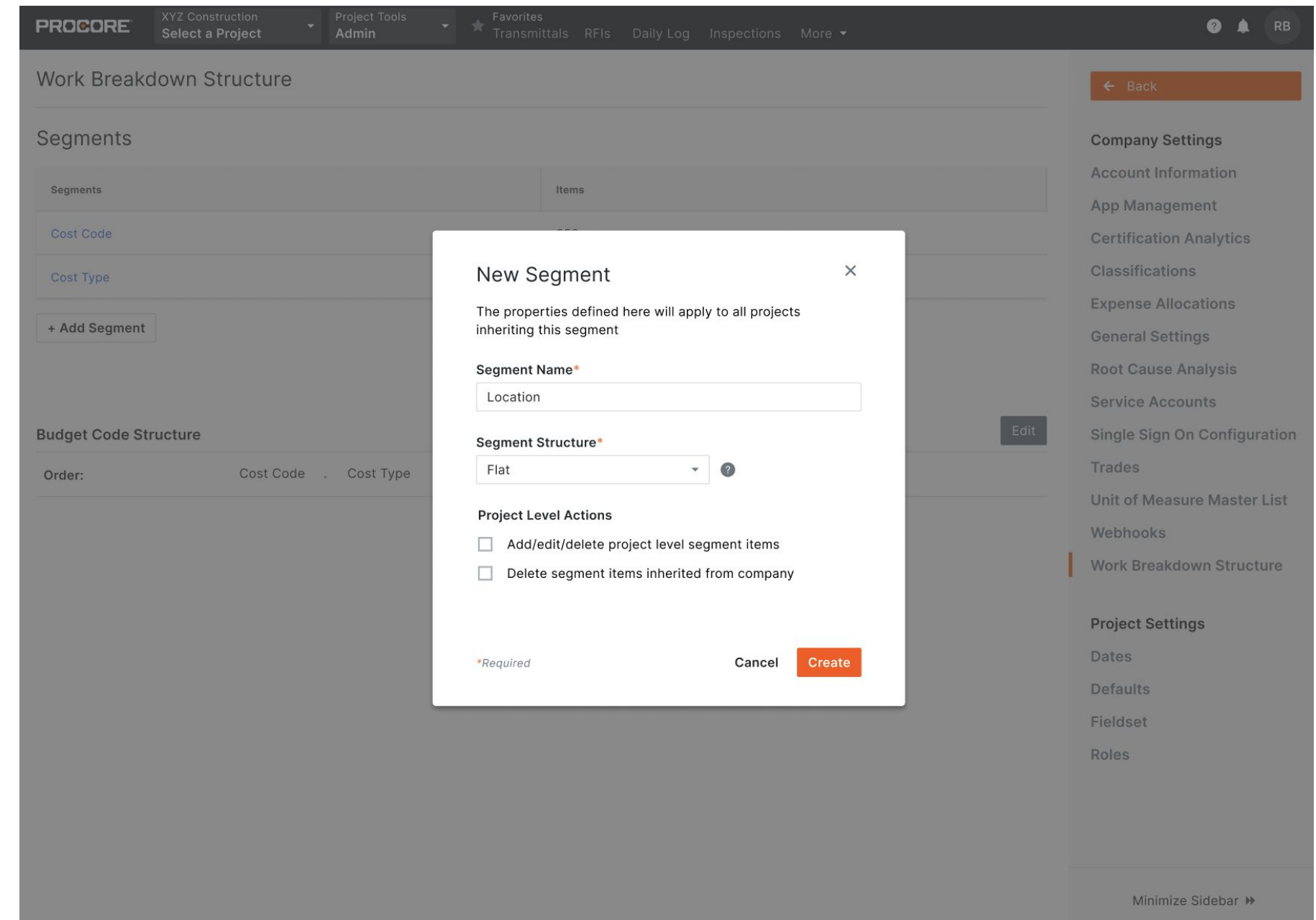
How are custom segments used?

Any custom segments that a user leverages on a project can be applied to all financial line items on that project.

Additionally, any time the user is running a report, custom segments are available as dimensions for grouping and filtering the data.
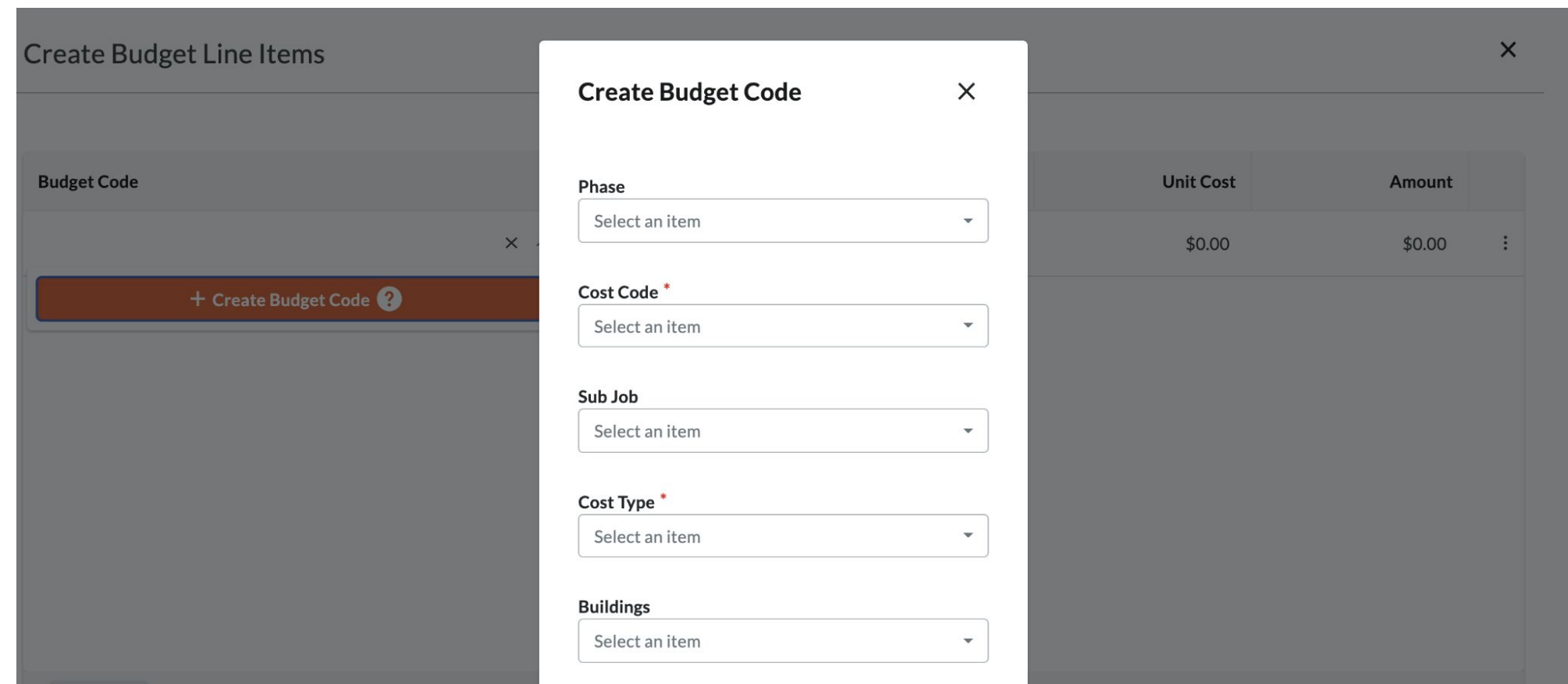
WBS + API Changes

What's Changing

Schema and Endpoint Examples

What's Changing - Cost Codes, Cost Type

Standard Cost Codes and Cost Types/Line Item Types

Instead of creating Standard Cost Codes and Cost Types/Line Item Types, create Segment Items within the 'Cost Codes' segment and 'Cost Types' segment.

Project Cost Codes

Instead of creating Project Cost Codes, create Segment Items within the 'Cost Codes' segment on the Project.

Note: Cost codes and Line Item Type endpoints will continue to work for some time. It is not necessary to immediately switch to the segment and segment items endpoints if you are not adding custom segments. Cost Type is the user-facing term used in the application. However, API documents will refer to the Line Item Type; these are the same object.

What's Changing - Budget Code

Budget Codes

Right now, the Procore application auto-creates a Budget Code when users create line items on any financial tools. Users were first introduced to the creation of Budget Codes in the web application in February of 2020. We will be releasing an API endpoint that allows for the creation of Budget Codes.

It is not required that integrations create the Budget Codes through the API; however, a Budget Code will be required to create a financial line item such as a Budget Line Item or Direct Cost Line Item, **therefore many integrations may require updates to add the Budget Code before creating financial line items.**

Note: Budget Code is the user-facing term used in the application. However, API documents will refer to the WBS Code; these are the same object.

What's Changing - Line Item Entities

Line Item Entities (for Contracts, Change Orders, Change Events, Budget, Direct Cost, etc)

API Endpoints returning Line Items will continue to return *cost_code_id* and *line_item_type_id* until we sunset Cost Codes and Line Item Types. *(end of Q1 2023)*

A *wbs_code_id* attribute will be added to the response that will encompass all of the segments on the *wbs_code_id*, which are Cost Code, Cost Type, and Sub Job right now.

Eventually we will remove the *line_item_type_id* and *cost_code_id* attributes from the line item responses.

What's Changing - Custom Segments, Patterns

Custom Segments

If you would like to utilize custom Segments, you will have the option to create a custom Segment and Segment Items through the web application at the company level, or through the API. Custom Segments will function very similarly to the current segments of Cost Code and Cost Type.

Patterns

There will be a pattern at the company level and a pattern for each project. Each project may choose to copy the company pattern, or select a subset of the company pattern. We will provide the ability to create and edit the Company and Project patterns through both the application and API.

Note: Custom Segments can be established in the Project pattern, however, they are not required on financial line items (similar to the way Sub Jobs work currently).

What's Changing - Getting to the Budget Line

	Sub Job	Cost Code	Cost Type	Budget Line Item
Current Example	[XX]	[XXXXXX]	[X]	Sub Job.Cost Code.Cost Type

Currently, a budget line item can be constructed in one of two ways:

+ Cost Code + Cost Type

+ Sub Job + Cost Code + Cost Type

What's Changing - Add the WBS Code First

|	Phase	Location	Sub Job	Cost Code	Cost Type	Budget Code	Budget Line Item
Example with WBS	[XXX]	[XXXX]	[XX]	[XXXXXX]	[X]	Phase.Location.Sub Job.Cost Code.Cost Type	Phase.Location.Sub Job.Cost Code.Cost Type
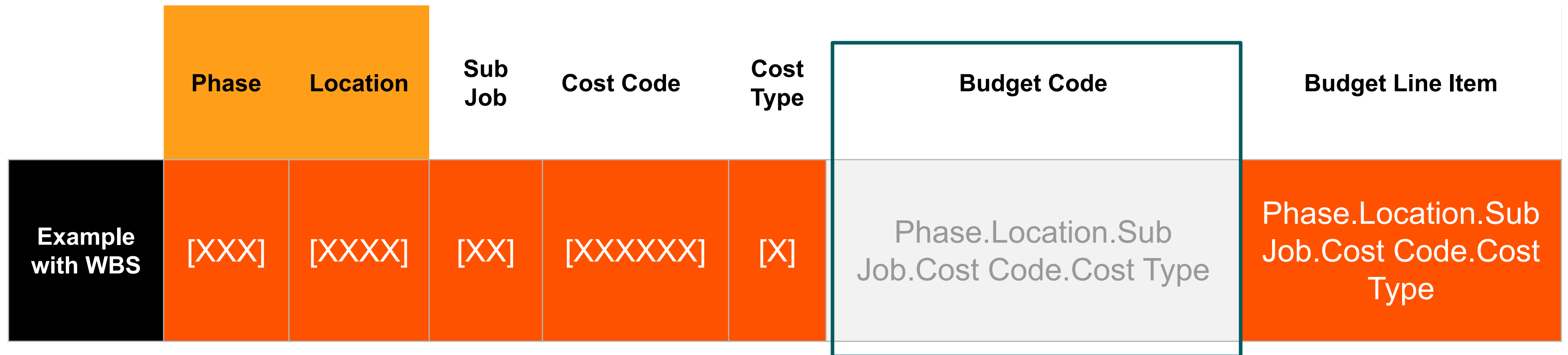
In this WBS example, a company has opted to add segments for Phase, and Location. With the addition of segments, we will now need to add a Budget Code before creating a Budget Line Item. This concept is detailed further on the next page.

What's Changing - Budget Line Example: Getting to the Line Item

*A comparison of the current and planned segment relationships to the Budget Code, and Financial Line Items. Note that the Budget Code now precedes creation of the Budget Line. This will be the new paradigm for all line items.*

Sub Job
Cost Codes → Budget Line
Cost Types

Phase
Location
Sub Job → WBS Budget Code → Budget Line
Cost Code
Cost Type
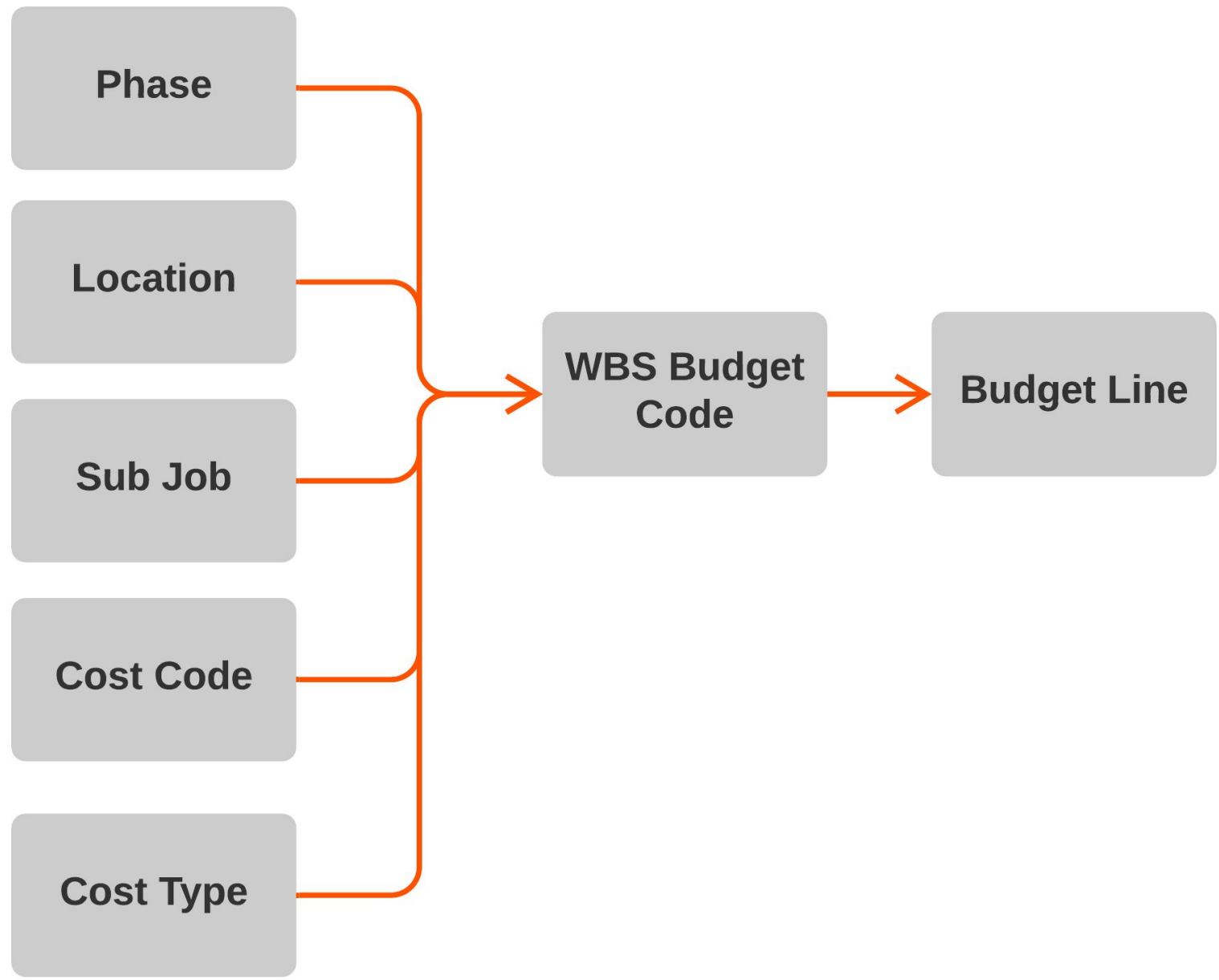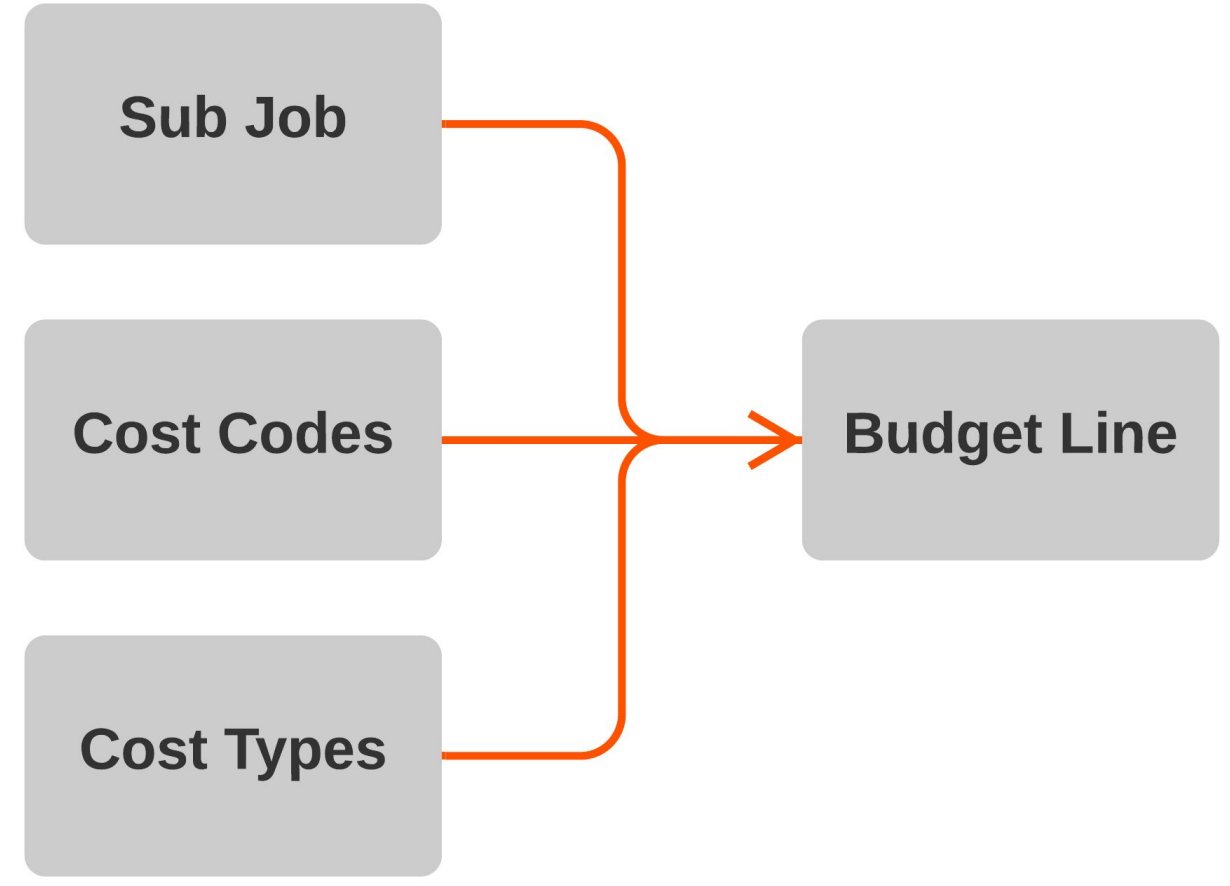
***In this example, a company has custom segments of "Phase" and "Location".**

What's Changing - Add the Company Pattern

With new segments and project specific flexibility, we'll need to consider Company and Project patterns. Here we see an example for the pattern, segments, and segment items at the company level.
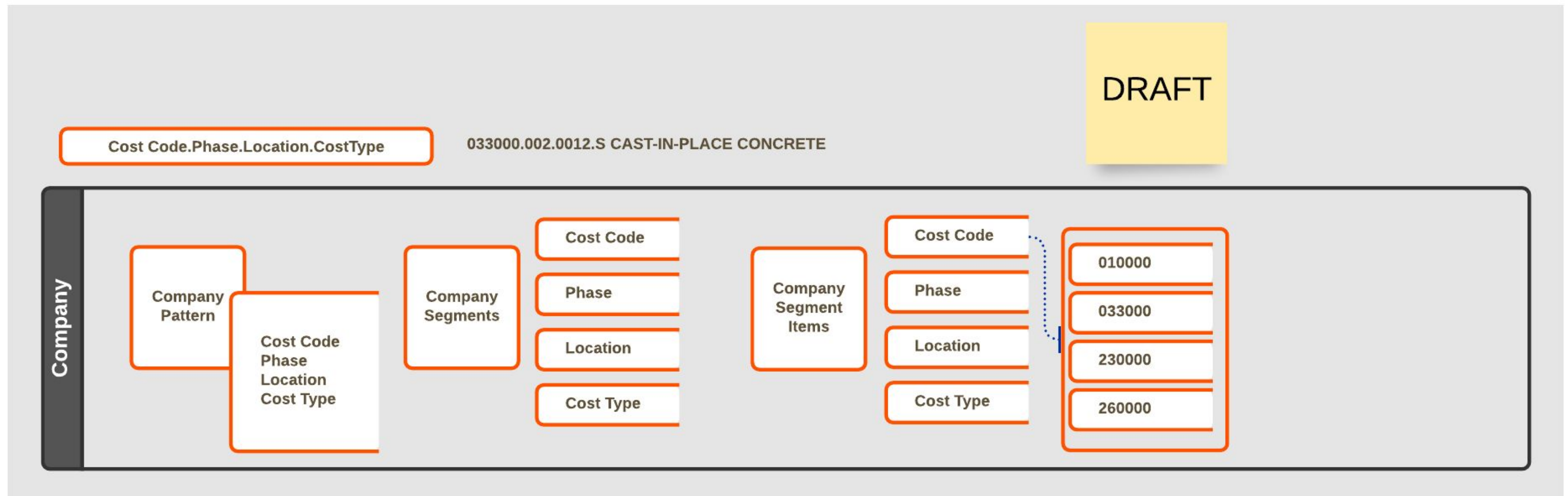
What's Changing - Add the Project Pattern

Projects can use a subset of the company segments to create a project specific pattern. The company pattern and segments dictate general rules for the project patterns, segments, and segment items.
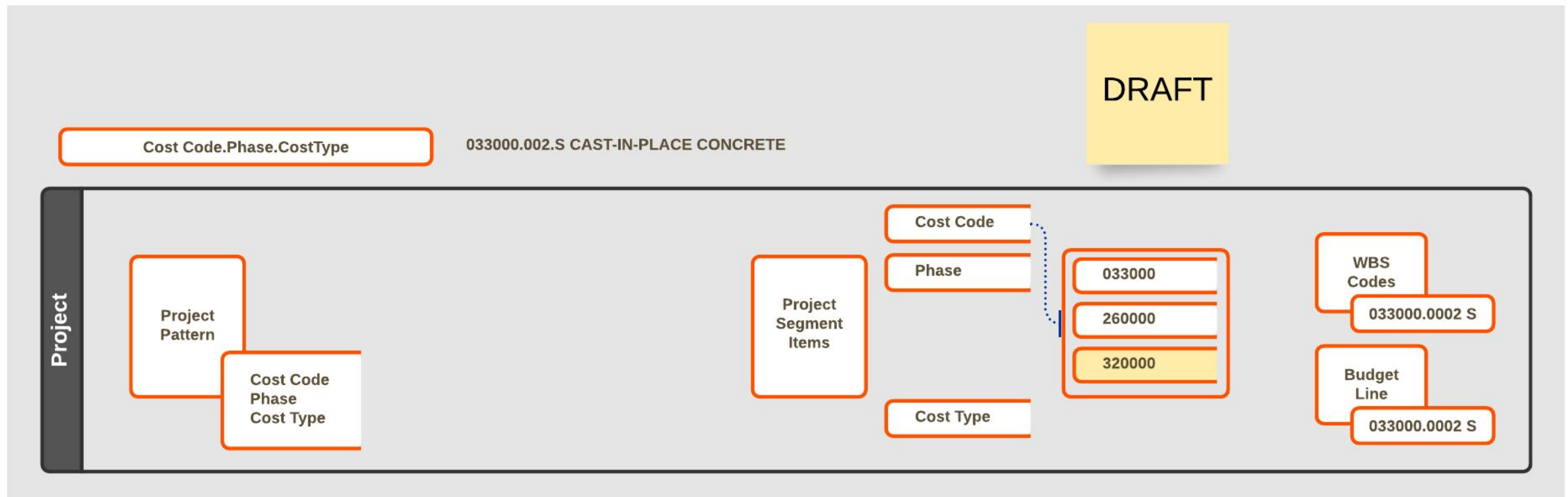
*In this example, a project specific cost code has been added.

What's Changing - Current Endpoints

Currently, each segment has its own endpoint. The Cost Code and Cost Type are used together for creation of financial line items (e.g. Budget Line Item, Direct Cost Line Item).

Cost Codes

Cost Types/Line Item Types

Sub Jobs

Financial Line Items; examples Budget Line Items, Direct Cost Line Items (Note: This refers to all financial line items using the objects noted above)

What's Changing - New Endpoints

Cost Codes, Cost Types, and new custom segments will all be available via WBS Segment and Segment Item Endpoints. All financial line items will accept the ***wbs_code_id***

[WBS Segments](#)

[WBS Segment Items](#)

[WBS Codes](#)

Financial Line Items; examples Budget Line Items, Direct Cost Line Items

Note: Cost codes and Line Item Type endpoints will continue to work for some time. It is not necessary to immediately switch to the segment and segment items endpoints if you are not adding custom segments.

WBS and Origin IDs

Many custom integrations use the **_origin_id_** field in Procore to store an external unique identifier for Cost Codes, Cost Types, and Sub Jobs. Learn more about External IDs and Data [here](#).

+ Cost Codes, Cost Types, and Sub Jobs will continue to have **_origin_id_** fields and the functionality will not change, through Q1 2023.

+ **_origin_id_** will **not** be available on Custom Segments or WBS Codes when the feature is released. We may add this functionality to some portions of WBS in the future

WBS and Field Productivity (Resource Management)

At the time of GA (March 2022) WBS custom segments will will be off by default

WBS Codes are made up of segments and compiled based on their unique combinations when budgeted at the project level. Today Production Quantities does not support these new WBS Codes and still leverage the legacy segments for subjob and cost code. As such budget imports, production quantities tabs as well as Timesheets & Change Management can not update or report on actuals including WBS custom segments until the concept of a WBS code is added to Production quantities and Timesheets & Change Events are updated to set WBS codes.

Our Field Productivity team is actively working on adding WBS Task codes in Timesheets to support the concept of WBS codes in time collection. This release will get us one step closer to fully supporting WBS in Field Productivity. However, in order to fully enable our customers to utilize WBS for time and production tracking we know we need to enable them to budget, update, and track actual production quantities against custom WBS segments to enhance the connection between our field productivity tools and financials. We plan to have the custom segment functionality on production quantities and rolled across change management field productivity by the end of 2022.

CAUTION: once you have created budget codes with new segments, the segment (ie Phase) can not be deleted because the data associated with it exists within Procore. We recommend using your sandbox instance, try that first or make sure that you name the segment something you will likely use again.

WBS and Origin IDs - Transition to External Data

When Standard Cost Code, Cost Code, Cost Type and Sub Job endpoints are sunset, the origin_id functionality will transition to the External Data paradigm.

+ The same reference relationship between the external data, or foreign key, will continue

+ The relationship will be made and retrieved in two steps in lieu of one, for example on a cost code creation;

    + Create a Segment Item with the Segment ID for Cost Code

    + Call the External Data Service endpoint and pass the Segment Item ID, the External Data type, and the External Data identifier (foreign key)

+ Origin_id's have been stored as External Data in Procore for some time

+ Sync functionality will no longer be supported. Integrations will need to check for new or updated records and select create or update endpoints accordingly.

WBS Updates for Custom Integrations

Example Walkthrough

Two Scenarios to Consider

Scenario 1: you **do** intend to use the new segment functionality for increased granularity, custom organization, and reporting on financial data. You **will** need to update your integration to consume the new custom segments leveraged in Procore.

Scenario 2: you **do not** intend to use the new custom segment functionality. No immediate changes are required for you to continue to operate as normal. **Note: All integrations will eventually require updates. Please keep sunset timelines in mind for existing endpoints and functionality.**

Example 1 - WBS Considerations

+ Although the project pattern indicates which segments are required to be in the project pattern, project WBS codes can be made from any valid segment on the project (similar to how sub jobs work currently). For example:

  + Project pattern: *phase.sub_job.cost_code.cost_type*

  + Valid Project WBS code examples:

    + *phase.sub_job.cost_code.cost_type*

    + *sub_job.cost_code.cost_type*

    + *cost_code.cost_type*

Example 1 - WBS Considerations

+ Configurable Options to Consider: Depending upon the Company level settings, projects may have the ability to reorder segments in the WBS pattern or add/edit/delete project level segment items or delete segment items inherited from the company.

You can determine a segments editability at the company or project pattern:

API Response

```
"project_can_modify_origin_project": true,
"project_can_delete_origin_company": true,
```

Web Application View

Project Level Actions

☐ Add/edit/delete project level segment items.

☐ Delete segment items inherited from company.

Example Scenario 1 - Current State

Your company's existing Project Cost Code has a single string value with the '.' delimiter to accommodate company segments in the ERP. You are currently use the Sync Cost Codes endpoint to create Project Cost Codes.

Example Scenario 1 - Plan for WBS

You intend to use WBS to create separate Segments for Phase and Location and incorporate a Company Pattern of **Cost Code.Phase.Location.Cost Type**.

In this example, we've opted to specify the period as the delimiter between each segment.

Example Scenario 1 - Handling Legacy Patterns

Your integration will need to consider legacy patterns on existing projects with financial transactions. New segments can be applied to existing projects, and project patterns can be updated. However, existing financial transactions will have legacy segments and patterns applied.

Note: If a patterns order is changed; the API response for the wbs flat code will be re-ordered as well.

+ Use the **List Project WBS Patterns** endpoint - This will show you all patterns in use for a given project. Keep in mind; if sub jobs are in use, there could be two valid legacy patterns, along with any new patterns introduced by WBS implementation. Examples:

  + *cost_code.cost_type (projects where sub jobs are not enabled)*

  + *sub_job.cost_code.cost_type (in this case sub job would be listed as* `"required"`: **false**

Example Scenario 1 - Create a Project Pattern

Company Pattern and Segments will be reachable via the API, however, we expect many customers will configure in the Procore application and begin interacting with the API for Project Patterns and Segment Items.

+ Use the **Add segment to the project pattern and Remove segment from the project pattern endpoints*** to adjust from the Company Pattern - We'll opt to include Cost Code, Phase, and Cost Type Segments only.

Customize Budget Code	
Example:	033000.002.S
Order:	Cost Code . Phase . Cost Type

*Note: If the project is created with a project_template_id, the pattern will be copied from that project template. If the project is created without a project_template_id, the pattern will be copied from the company.

Example Scenario 1 - Create Segment Items

Use the **Create Company and/or Project Segment Item Endpoints** to create Cost Codes.

```
Example Request Body

1  {
2      "code": 3,
3      "name": "concrete",
4      "segment_item_list_id": 12345,
5      "parent_id": 42
6  }
```

Example Scenario 1 - Create WBS Codes

Create WBS Codes to leverage them in other parts of the system, including on the Budget Line Item.

+ Use the **Create a WBS Code (or <u>Bulk Create</u>) Endpoint** and include Segment Information for Cost Code and Cost Type. In this example *segment_id* '1' is Cost Code and *segment_item_id* '2' refers to the specific Cost Code

Example Request Body

```
 1  {
 2    "bulk": [
 3      {
 4        "description": "foobar",
 5        "segment_items": [
 6          {
 7            "segment_id": 1,
 8            "segment_item_id": 1
 9          }
10        ]
11      }
12    ]
13  }
```

033000.002.S

Example Scenario 1 - Create Budget Line Items

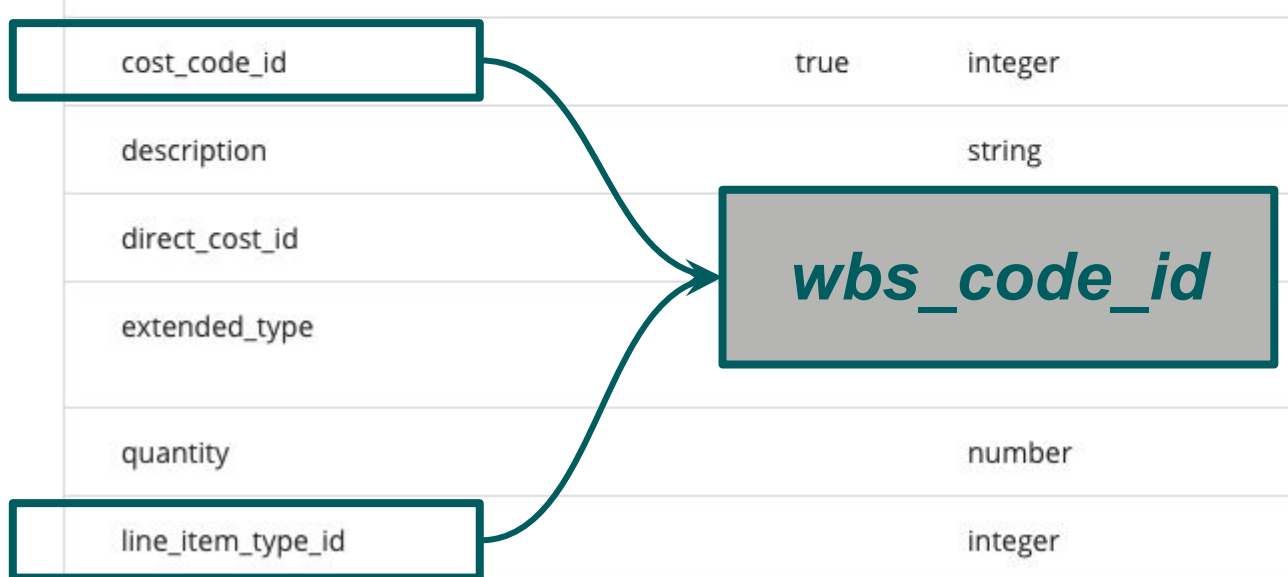Use *wbs_code_id* in lieu of *cost_code_id* and *line_item_type_id* in the Create Budget Line Item Endpoint

Budget Line Item

˅ Description	Cost Code	Cost Type
˅ South Campus Parking Garage		
˅ 03 - Concrete		
03-033000.002.0012 - Cast-In-Place Concrete: Com...	03-033000.002.00...	Commitment

Example Scenario 1 - Create a Direct Cost Line Item

Use *wbs_code_id* in lieu of *cost_code_id* and *line_item_type_id* in the Sync Direct Cost Line Item endpoint

Example Scenario 2 - Current State

Your company is currently using the following custom integrations. What needs to change prior to the sunset of current endpoints (Q1 2023 at the earliest) for integrations to keep functioning, even if you don't intend to use WBS?

Cost Codes	Budget	Subcontracts/POs	Change Orders	Direct Costs
PROCORE®				
↑	↑	↓	↓	↑
ERP				
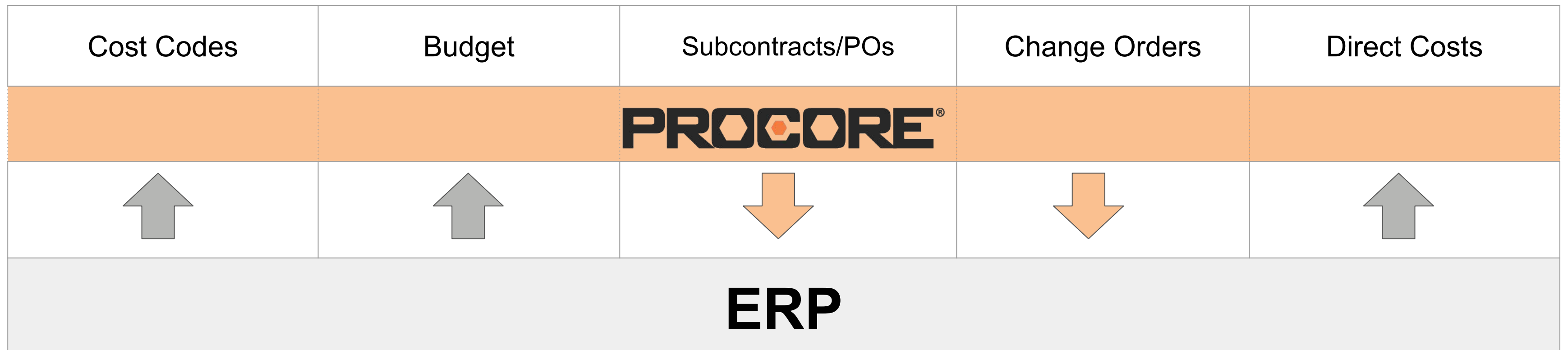
Note: No immediate action is necessary if you don't want to use custom segments. The following integration updates are necessary prior to sunset of the existing API endpoints, which will occur, at the earliest, in Q1 2023.

Example Scenario 2 - Create Segment Items

Use the **Create Segment Item Endpoint** to create Cost Codes.

```
Example Request Body

1  {
2    "code": 3,
3    "name": "concrete",
4    "segment_item_list_id": 12345,
5    "parent_id": 42
6  }
```

Example Scenario 2 - Create WBS Codes

A big change comes in the introduction of WBS Code endpoints. Create WBS Codes to leverage them in other parts of the system, including on the Budget Line Item.

+ Use the **Create a WBS Code (or Bulk Create) Endpoint** and include Segment Information for Cost Code and Cost Type. In this example *segment_id* 1 is Cost Code and *segment_item_id* is the specific Cost Code

Example Request Body

```
 1  {
 2    "bulk": [
 3      {
 4        "description": "foobar",
 5        "segment_items": [
 6          {
 7            "segment_id": 1,
 8            "segment_item_id": 1
 9          }
10        ]
11      }
12    ]
13  }
```

033000.S

Example Scenario 2 - Create Budget Line Items

Use *wbs_code_id* in lieu of *cost_code_id* and *line_item_type_id* in the Create Budget Line Item Endpoint

Budget Line Item

Description	Cost Code	Cost Type
⌄ South Campus Parking Garage		
⌄ 03 - Concrete		
03-033000.002.0012 - Cast-In-Place Concrete: Com...	03-033000.002.00...	Commitment

Example Scenario 2 - Create a Direct Cost Line Item

Use *wbs_code_id* in lieu of *cost_code_id* and *line_item_type_id* in the Create Direct Cost Line Item endpoint

Example Scenario 2 - Line Items

When retrieving financial line items; the

wbs_code_id and information on each segment

item will be included in the response.

Responses for WBS information vary by line

items.

```
Example from Direct Cost Line Item:


"wbs_code": {

            "description": null,

            "flat_code": "001.11-050.S",

            "id": 76693815

        },
```

Frequently Asked Questions

Question	Answer
Will the existing endpoints be deprecated? If so, when?	Yes, eventually. When WBS enabled endpoints are generally available, previous versions will be deprecated and work for at least one year.
What should we expect for projects created prior to WBS?	Existing financial transactions will have a set pattern. Projects will have the ability to adopt new segments on existing projects, and modify project patterns.
Will I be able to change my budget code pattern at the company level?	Yes, the budget code pattern can be changed at the company level or project level. When you change the budget code pattern at the company level, it will only affect NEW projects. All existing projects will keep their budget code pattern unless it is changed at the project level. The permission to change the budget code pattern at the project level is controlled by a setting at the company level.
Are there changes to Sub Jobs?	Sub Jobs cannot be disabled once turned on when WBS is in use. Otherwise, they function as they do currently.
Will there be *origin_id* values for WBS Segments, Segment Items, and WBS Codes and where will they be stored?	Origin_id ill not be available on Custom Segments or WBS Codes when the feature is released. We may add this functionality to some portions of WBS in the future
I am interested in the custom segment functionality, but I don't have imminent plans to use it. Do I need to make any immediate updates to my integration for things to continue to operate as expected?	No immediate updates are necessary. You will need to update integrations to use the new endpoint schema prior to sunset of the legacy endpoint structure (currently planned for Q1 2023).

Financial Endpoints Updated for WBS - Reference

Budget Line Items	Payment Application Line Items
Manual Forecast Line Items	Payment Applications
Budget Change	Requisition Change Order Items
Budget Details	Requisition Contract Detail Items
Budget View Detail Rows	Requisition Contract Items
Budget View Snapshot Detail Rows	Requisition Whole Change Order Items
Work Order Contracts	Direct Costs
Purchase Order Contracts	Change Events
Purchase Order Contract Line Items	Change Order Packages
Work Order Contract Line Items	Potential Change Order
Prime Contracts	Financial Markups
Prime Contract Line Items	

Note: This does not include new endpoints for WBS specifically (Codes, Patterns, Segment Item Lists, Segment Items, Segments). Please refer to the API reference documentation for complete information