<https://gemini.google.com/u/1/app/b76d14705d5101f9?is_sa=1&android-min-version=301356232&ios-min-version=322.0&campaign_id=bkws&utm_source=google&utm_medium=cpc&utm_campaign=2024enUS_gemfeb&pt=9008&mt=8&ct=p-growth-sem-bkws>

<https://gemini.google.com/u/1/app/42a77d08d7a45bcb>

### 3\. Updated Production-Ready Specification

\* \* \* \* \*

Production-Ready Specification: public.curated\_itinerary\_segments Table

Version: 2.1 (V2.1 Checklist REV 05-18-25-A Applied)

Date: May 18, 2025

1\. Purpose & Primary Use-Cases

Defines the ordered sequence of specific path segments that constitute each curated itinerary, assigning each segment to a particular day and an order within that day. This table acts as the "playlist" or "recipe" that constructs an itinerary from foundational segment data. Crucially, it also triggers updates to aggregate statistics on the parent `routes` table.

\*Key User-Story Touchpoints:\*

- Pilgrim (Anna): Enables the day-by-day breakdown of curated itineraries (A2 & A7); essential for offline packaging (A10).

- Platform Administrator (Admin Team) / Regional Content Manager (Sofia): Core to constructing and defining curated itineraries (D2).

- Application Logic: DML operations on this table trigger updates to aggregated statistics on parent `routes` table.

2\. Schema

| Column | Data Type | Constraints | Description (Translatable fields marked) |

| `id` | `bigint` | Primary Key, Generated always as identity | Unique identifier for this itinerary-segment link. |

| `itinerary\_id` | `bigint` | Foreign Key to `curated\_itineraries(id)` ON DELETE CASCADE, Not Null | The curated itinerary this entry belongs to. |

| `segment\_id` | `bigint` | Foreign Key to `segments(id)` ON DELETE RESTRICT, Not Null | The specific segment that is part of this itinerary. ON DELETE RESTRICT prevents segment deletion if used. |

| `day\_number\_in\_itinerary` | `integer` | Not Null, `CHECK (day\_number\_in\_itinerary > 0)` | Assigns this segment to a specific "day" within the itinerary (e.g., Day 1). |

| `order\_of\_segment\_within\_day` | `integer` | Not Null, Default 1, `CHECK (order\_of\_segment\_within\_day > 0)` | If a "day" comprises multiple segments, this defines their sequence for that day. |

| `notes\_for\_segment\_in\_itinerary` | `text` | Nullable | Contextual notes for this segment as it appears in this specific itinerary and day (Base language: English). (Translatable) |

| `is\_optional\_segment\_for\_day` | `boolean` | Not Null, Default `false` | Flags if this segment is an optional side trip or alternative for this particular day. |

| `created\_at` | `timestamp with time zone` | Not Null, Default `now()` | Timestamp of record creation. |

| `created\_by\_profile\_id` | `uuid` | Foreign Key to `public.profiles(id)` ON DELETE SET NULL, Nullable | Profile ID of the user who created this link. |

| `updated\_at` | `timestamp with time zone` | Not Null, Default `now()` | Timestamp of last update (auto-updated by trigger). |

| `updated\_by\_profile\_id` | `uuid` | Foreign Key to `public.profiles(id)` ON DELETE SET NULL, Nullable | Profile ID of user who last updated this record. |

| | | `UNIQUE (itinerary\_id, day\_number\_in\_itinerary, order\_of\_segment\_within\_day)` | Ensures each segment has a unique ordered position within a specific day of an itinerary. |

3\. PostgreSQL DDL

SQL

```

CREATE TABLE public.curated\_itinerary\_segments (

id BIGINT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,

itinerary\_id BIGINT NOT NULL REFERENCES public.curated\_itineraries(id) ON DELETE CASCADE,

segment\_id BIGINT NOT NULL REFERENCES public.segments(id) ON DELETE RESTRICT, -- Corrected type to BIGINT

day\_number\_in\_itinerary INTEGER NOT NULL CHECK (day\_number\_in\_itinerary > 0),

order\_of\_segment\_within\_day INTEGER NOT NULL DEFAULT 1 CHECK (order\_of\_segment\_within\_day > 0),

notes\_for\_segment\_in\_itinerary TEXT, -- (Translatable)

is\_optional\_segment\_for\_day BOOLEAN NOT NULL DEFAULT FALSE,

created\_at TIMESTAMPTZ NOT NULL DEFAULT now(),

created\_by\_profile\_id UUID REFERENCES public.profiles(id) ON DELETE SET NULL,

updated\_at TIMESTAMPTZ NOT NULL DEFAULT now(),

updated\_by\_profile\_id UUID REFERENCES public.profiles(id) ON DELETE SET NULL,

CONSTRAINT uq\_itinerary\_day\_segment\_sequence UNIQUE (itinerary\_id, day\_number\_in\_itinerary, order\_of\_segment\_within\_day)

);

-- Indexes

CREATE INDEX IF NOT EXISTS idx\_curated\_itinerary\_segments\_itinerary\_id ON public.curated\_itinerary\_segments(itinerary\_id);

CREATE INDEX IF NOT EXISTS idx\_curated\_itinerary\_segments\_segment\_id ON public.curated\_itinerary\_segments(segment\_id);

-- Composite index for ordering, uq\_itinerary\_day\_segment\_sequence also creates an index

CREATE INDEX IF NOT EXISTS idx\_curated\_itinerary\_segments\_day\_order ON public.curated\_itinerary\_segments(itinerary\_id, day\_number\_in\_itinerary, order\_of\_segment\_within\_day);

CREATE INDEX IF NOT EXISTS idx\_curated\_itinerary\_segments\_created\_by ON public.curated\_itinerary\_segments(created\_by\_profile\_id) WHERE created\_by\_profile\_id IS NOT NULL;

CREATE INDEX IF NOT EXISTS idx\_curated\_itinerary\_segments\_updated\_by ON public.curated\_itinerary\_segments(updated\_by\_profile\_id) WHERE updated\_by\_profile\_id IS NOT NULL;

-- Comments

COMMENT ON TABLE public.curated\_itinerary\_segments IS 'Defines the ordered sequence of specific segments that constitute each curated itinerary, assigning each to a day and order. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.id IS 'PK. Unique identifier for this itinerary-segment link. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.itinerary\_id IS 'The curated itinerary this entry belongs to. FK to public.curated\_itineraries.id. ON DELETE CASCADE. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.segment\_id IS 'The specific segment that is part of this itinerary. FK to public.segments.id. ON DELETE RESTRICT. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.day\_number\_in\_itinerary IS 'Assigns this segment to a specific "day" within the itinerary (e.g., Day 1, Day 2). Must be > 0. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.order\_of\_segment\_within\_day IS 'If a "day" comprises multiple segments, this defines their sequence for that day (e.g., Part 1, Part 2 of Day 1). Must be > 0. Default 1. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.notes\_for\_segment\_in\_itinerary IS 'Contextual notes for this segment as it appears in this specific itinerary and day (Base language: English). Translatable via public.translations (using curated\_itinerary\_segments.id). Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.is\_optional\_segment\_for\_day IS 'Flags if this segment is an optional side trip or alternative for this particular day within this itinerary. Default false. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.created\_at IS 'Timestamp of record creation. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.created\_by\_profile\_id IS 'Profile ID of the user who created this link. FK to public.profiles.id. ON DELETE SET NULL. Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.updated\_at IS 'Timestamp of last update (auto-updated by trigger). Version 2.1.';

COMMENT ON COLUMN public.curated\_itinerary\_segments.updated\_by\_profile\_id IS 'Profile ID of the user who last updated this record. FK to public.profiles.id. ON DELETE SET NULL. Version 2.1.';

COMMENT ON CONSTRAINT uq\_itinerary\_day\_segment\_sequence ON public.curated\_itinerary\_segments IS 'Ensures each segment has a unique ordered position within a specific day of an itinerary. Version 2.1.';

```

4\. Triggers/Functions

- Audit Metadata Trigger:

SQL

```

-- Using a generic linking table audit trigger. Ensure it exists or create it:

-- CREATE OR REPLACE FUNCTION public.set\_linking\_table\_audit\_meta()... (as defined in previous fix)

CREATE TRIGGER trigger\_set\_curated\_itinerary\_segments\_audit\_meta

BEFORE INSERT OR UPDATE ON public.curated\_itinerary\_segments

FOR EACH ROW

EXECUTE FUNCTION public.set\_linking\_table\_audit\_meta();

```

\*Comment on Trigger\*: Manages `created\_at`, `updated\_at`, `created\_by\_profile\_id`, and `updated\_by\_profile\_id` columns.

- Orphaned Translation Cleanup Trigger:

SQL

```

CREATE OR REPLACE FUNCTION public.cleanup\_curated\_itinerary\_segments\_translations()

RETURNS TRIGGER AS $$

BEGIN

DELETE FROM public.translations

WHERE table\_identifier = 'curated\_itinerary\_segments'

AND row\_foreign\_key = OLD.id::text; -- Using the surrogate PK 'id'

RETURN OLD;

END;

$$ LANGUAGE plpgsql SECURITY DEFINER;

ALTER FUNCTION public.cleanup\_curated\_itinerary\_segments\_translations() SET search\_path = public;

CREATE TRIGGER trigger\_cleanup\_curated\_itinerary\_segments\_translations

AFTER DELETE ON public.curated\_itinerary\_segments

FOR EACH ROW

EXECUTE FUNCTION public.cleanup\_curated\_itinerary\_segments\_translations();

```

\*Comment on Trigger\*: After a `curated\_itinerary\_segments` record is deleted, this trigger removes any associated translations for `notes\_for\_segment\_in\_itinerary`.

- Route Aggregates Trigger (Reference):

- This table's DML operations should trigger `public.update\_route\_aggregates\_from\_segments()` AFTER INSERT OR UPDATE OR DELETE on `public.route\_segments` (if `curated\_itinerary\_segments` directly impacts `routes` table stats, which it doesn't seem to based on the current context where `route\_segments` is the direct link for route stats). If `curated\_itineraries` also needs its own aggregate stats based on these segments, a similar trigger would be needed. For now, assuming this table does not directly update `routes` or `curated\_itineraries` aggregate fields. The provided `route\_segments.docx` (doc 2.5) handles `routes` table aggregates.

5\. JSON Schema Mirror

JSON

```

{

"title": "curated\_itinerary\_segment\_link",

"description": "Defines the ordered sequence of specific segments that make up each curated\_itinerary, assigning each to a day and order. Version 2.1.",

"type": "object",

"properties": {

"id": {

"type": "integer",

"format": "int64",

"readOnly": true,

"description": "PK. Unique identifier for this itinerary-segment link. Version 2.1."

},

"itinerary\_id": {

"type": "integer",

"format": "int64",

"description": "The curated itinerary this entry belongs to. FK to public.curated\_itineraries.id. Version 2.1."

},

"segment\_id": {

"type": "integer",

"format": "int64", /\* Corrected from original "integer" to "int64" to match BIGINT \*/

"description": "The specific segment that is part of this itinerary. FK to public.segments.id. Version 2.1."

},

"day\_number\_in\_itinerary": {

"type": "integer",

"minimum": 1,

"description": "Assigns this segment to a specific \"day\" within the itinerary. Must be > 0. Version 2.1."

},

"order\_of\_segment\_within\_day": {

"type": "integer",

"minimum": 1,

"default": 1,

"description": "If a \"day\" comprises multiple segments, this defines their sequence for that day. Must be > 0. Default 1. Version 2.1."

},

"notes\_for\_segment\_in\_itinerary": {

"type": ["string", "null"],

"description": "Contextual notes for this segment as it appears in this itinerary and day (Base language: English). Translatable via public.translations. Version 2.1."

},

"is\_optional\_segment\_for\_day": {

"type": "boolean",

"default": false,

"description": "Flags if this segment is an optional side trip or alternative for this day. Default false. Version 2.1."

},

"created\_at": {

"type": "string",

"format": "date-time",

"readOnly": true,

"description": "Timestamp of record creation. Read-only. Version 2.1."

},

"created\_by\_profile\_id": {

"type": ["string", "null"],

"format": "uuid",

"description": "Profile ID of the user who created this link. FK to public.profiles.id. Read-only. Version 2.1.",

"readOnly": true

},

"updated\_at": {

"type": "string",

"format": "date-time",

"readOnly": true,

"description": "Timestamp of last update (auto-updated by trigger). Read-only. Version 2.1."

},

"updated\_by\_profile\_id": {

"type": ["string", "null"],

"format": "uuid",

"description": "Profile ID of user who last updated this record. FK to public.profiles.id. Read-only. Version 2.1.",

"readOnly": true

}

},

"required": [

"itinerary\_id",

"segment\_id",

"day\_number\_in\_itinerary",

"order\_of\_segment\_within\_day",

"is\_optional\_segment\_for\_day",

"created\_at",

"updated\_at"

],

"primary\_key": ["id"],

"unique\_constraints": [

{

"columns": ["itinerary\_id", "day\_number\_in\_itinerary", "order\_of\_segment\_within\_day"],

"name": "uq\_itinerary\_day\_segment\_sequence"

}

]

}

```

6\. Relationships & Integrity

- `itinerary\_id` -> `public.curated\_itineraries(id)`: `ON DELETE CASCADE`.

- `segment\_id` -> `public.segments(id)`: `ON DELETE RESTRICT`.

- Audit FKs -> `public.profiles(id)`: `ON DELETE SET NULL`.

- Surrogate PK: `id BIGINT`.

- Unique Constraint: `uq\_itinerary\_day\_segment\_sequence (itinerary\_id, day\_number\_in\_itinerary, order\_of\_segment\_within\_day)`.

- Mermaid ER Snippet:

Code snippet

```

erDiagram

curated\_itineraries {

bigint id PK

}

segments {

bigint id PK

}

profiles {

uuid id PK

}

curated\_itinerary\_segments {

bigint id PK

bigint itinerary\_id FK

bigint segment\_id FK

integer day\_number\_in\_itinerary

integer order\_of\_segment\_within\_day

uuid created\_by\_profile\_id FK

uuid updated\_by\_profile\_id FK

UNIQUE (itinerary\_id, day\_number\_in\_itinerary, order\_of\_segment\_within\_day)

}

translations { bigint id PK }

curated\_itineraries ||--|{ curated\_itinerary\_segments : "defines sequence for (CASCADE)"

segments ||--o{ curated\_itinerary\_segments : "is part of (RESTRICT)"

curated\_itinerary\_segments }o--|| profiles : "created\_by (SET NULL)"

curated\_itinerary\_segments }o--|| profiles : "updated\_by (SET NULL)"

curated\_itinerary\_segments ||..o| translations : "has\_translation\_for\_notes (via id)"

```

7\. Multilingual Strategy

- Translatable Field: `notes\_for\_segment\_in\_itinerary`. Base language (English) stored directly.

- Translations via `public.translations` linked by `table\_identifier = 'curated\_itinerary\_segments'`, `column\_identifier = 'notes\_for\_segment\_in\_itinerary'`, and `row\_foreign\_key = curated\_itinerary\_segments.id::TEXT`.

8\. Role-Based Workflow & RLS Notes

- Workflow Fields: Audit columns. Lifecycle tied to parent `curated\_itineraries`.

- RLS Policies (Conceptual): Mirror access rights for the parent `curated\_itineraries` table.

- Admins/Content Managers with Itinerary Edit Rights: Full CUD access.

- Authenticated/Anonymous Users: `SELECT` access if parent itinerary is published and not deleted.

9\. ENUM vs Lookup Discussion

- ⚪ N/A directly.

10\. UI/UX Enablement

- Core for ordering/grouping segments into daily stages.

- `notes\_for\_segment\_in\_itinerary` provides context.

- `is\_optional\_segment\_for\_day` flags optional parts.

- Indexes support efficient fetching.

11\. Auditing & Lifecycle Management

- Audit Columns: `created\_at`, `updated\_at`, `created\_by\_profile\_id`, `updated\_by\_profile\_id`.

- Lifecycle: No soft delete; tied to parent `curated\_itineraries` (CASCADE) or explicit link deletion.

12\. Scalability & Future-Proofing

- `id` as `bigint`.

- Indexes for performance.

- No soft deletion directly on this table.

13\. Seed Data

- ⚪ N/A - Transactional linking data.

14\. Next-Action Checklist

- 🔴 Implement DDL: Execute `CREATE TABLE` for `public.curated\_itinerary\_segments` with corrected `segment\_id` type, audit columns, constraints, and indexes.

- 🔴 Implement Audit Trigger: Create and apply `public.set\_linking\_table\_audit\_meta`.

- 🔴 Implement Orphaned Translation Cleanup Trigger: Create and apply `public.cleanup\_curated\_itinerary\_segments\_translations`.

- 🟠 Verify FK Data Types: Confirm `curated\_itineraries.id` is `bigint`, `segments.id` is `bigint`, and `profiles.id` is `uuid`.

- 🟠 Implement RLS Policies and any helper functions.

- 🟢 Review Application Logic for `order\_in\_route` management.

- 🟢 Test `ON DELETE CASCADE` from `curated\_itineraries` and `ON DELETE RESTRICT` for `segments`.

\* \* \* \* \*