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|  |  |  |  |
| Subject |  | Project Name |  |
| Attention | Finola O’Driscoll |  |  |
| From |  |  |  |
| Date |  |  |  |
| Copies to | Sarah McDonagh, Colin Wylie | | |
|  |  |  |  |

The final deliverable dataset for Bike Life 2021 consists of a shapefile of data from Bike Life 2019 merged with newly surveyed data captured in 2021. Where the ’21 survey data surveyed routes captured in the ’19 data, these routes were removed from the ’19 dataset prior to merging.

The route length calculation consisted of 2 parts:

1. Calculation of length of historic ’19 data
2. Calculation of length of data surveyed in ‘21

This was done as the ’19 data was captured as road centrelines, while the ’21 data was captured as lines on either side of road to identify cycle infrastructure.

**Length calculation ’19 data**

To stay consistent with the ’19 iteration of Bike Life, the methodology developed by Compass was used to calculate the length of different route types in the ’19 data.

The Compass methodology uses an .sql query to interrogate whether the following cdo short names are on one or both sides of the road: segregated cycle lane; cycle lane; bus lane; shared use; signed route; surface change. If neither of the Boolean values ‘oneside’ or ‘twoway\_single’ are true, the length of the segment is multiplied by two. Every segment of the specified cdo type is then selected and the lengths summed.

The following is an example .sql query based on the Compass methodology:

WITH *type*\_oneside as (

select

round(sum(st\_length(geometry)/1000)::numeric ,2)

as length\_one

from

gda.dublin\_metro\_bikelife

WHERE

in\_metro = TRUE

AND

*routetype* = TRUE

AND

(oneside = TRUE OR twoway\_single = TRUE)

),

*type*\_bothsides as (

select

round((sum(st\_length(geometry)/1000)\*2)::numeric ,2)

as length\_both

from

gda.dublin\_metro\_bikelife

WHERE

in\_metro = TRUE

AND

*routetype* = TRUE

AND NOT

(oneside = TRUE OR twoway\_single = TRUE)

)

SELECT

' *routetype* ' as cdo\_category,

a.length\_one + b.length\_both AS length

FROM

*type*\_oneside a,

*type*\_bothsides b;

**Length Calculation ’21 Data**

For the survey data captured in ’21 route lengths were calculated by selecting all route segments of a specified cdo short name and summing the lengths. No multiplication was required, as the survey captured lines representing infrastructure on both sides of the road.

The exceptions to this method were the ‘surface change’ and ‘buslane’ cdo types. These cdo types can exist concurrently with any other cdo type, so were identified with a separate Boolean attribute field. For both ‘surface change’ and ‘buslane’, if the Boolean value was true, the route segment was selected and the lengths summed.

To get the final route lengths, the values for the cdo short names from the ’19 and ’21 data were summed. Final results are available in the following table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Bike Life Category** | **2019 Distance (km)** | **2021 Distance (km)** | **Change (km)** |
| Surface Change | 224.13 | 225.62 | 1.49 |
| Bus Lane | 188.17 | 187.51 | -0.66 |
| Segregated Cycle Lane | 84.35 | 117.55 | 33.20 |
| Cycle Lane | 368.03 | 350.71 | -17.32 |
| Shared Use | 115.74 | 118.87 | 3.13 |
| Signed Route | 1.2 | 1.92 | 0.72 |
| Traffic Free | 86.25 | 94.94 | 8.69 |
| **Total** | **1067.87** | **1097.12** | **29.25** |