

02. Geoprocessing — Daily Cycling Routes

1. Introduction

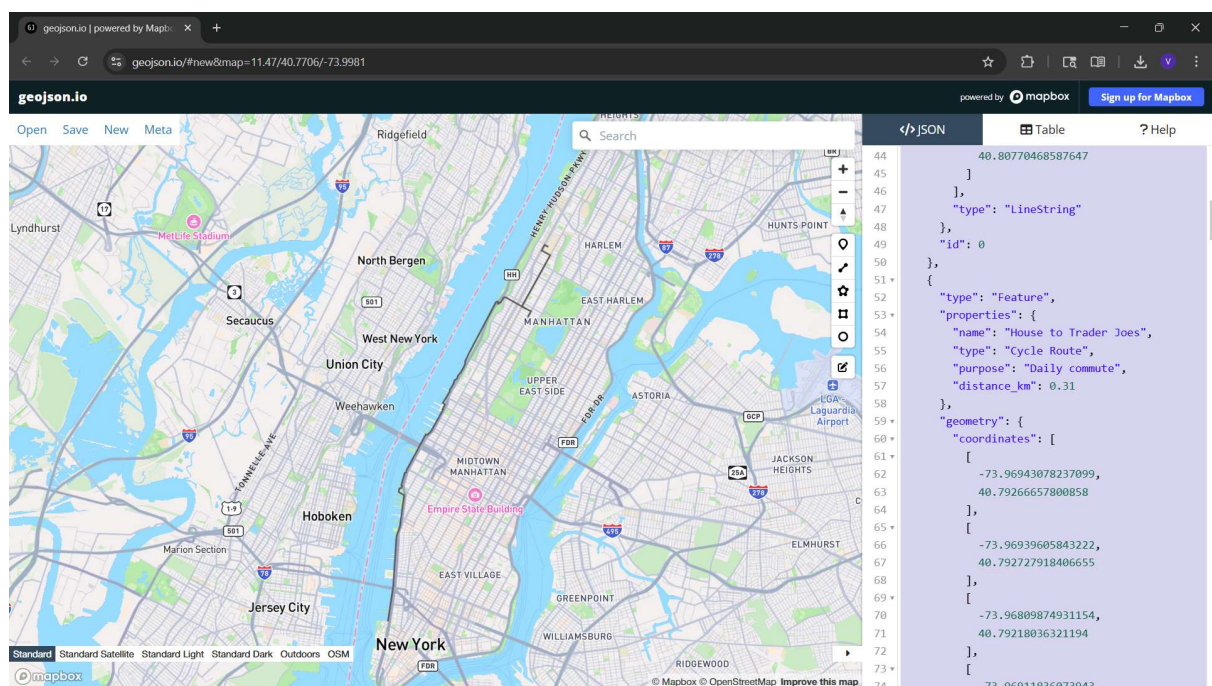
Cycling is my primary mode of transport in New York City. These routes represent my daily and weekend journeys, mapped to reflect my lived navigation patterns. By analysing them alongside NYC's official bike route dataset, I can assess route safety, infrastructure coverage, and possible optimisations.

2. Dataset 1 — My Daily Cycling Routes

File: daily and weekly_cycle_routes.geojson.geojson

Description: Three personal cycle routes traced manually in geojson.io based on real travel patterns:

1. **House to Columbia University** – Daily commute to campus.
2. **House to Trader Joe's** – Grocery shopping route.
3. **House to South Ferry via Riverside Pathway** – Weekend leisure ride.



3. Dataset 2 — Related Dataset

Source: [NYC Open Data — Bike Routes](#)

Description: The official New York City bike route network dataset, detailing protected lanes, shared lanes, and greenways across the five boroughs. This dataset provides a reference for assessing how closely my personal routes align with existing infrastructure.

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MULTILINE	2579	23c	6562	NA	Current	5	HYLAN BLV	HOLTEN AV	LUTEN AV	ON	II	II	
MULTILINE	5033	23c	4272		Current	5	MERRYMO	RICHMOND	ROCKLAND	ON	II	II	
MULTILINE	10186	23c	2107	NA	Current	5	CLOVE ROA	RICHMOND	FOREST AV	ON	III	III	
MULTILINE	20716	23c	942	NA	Current	3	5 AV	23 ST	50 ST	ON	III	III	
MULTILINE	126857	23c	951	NA	Current	3	6 AVENUE	67 ST	FT HAMILT	ON	III	III	
MULTILINE	235096	23c	1821	NA	Current	4	CROSS BAY	CHANNEL E	CROSS BAY	OFF	I	I	
MULTILINE	241492	23c	3037	NA	Current	2	MACOMBS	BRONX BOF	E 161 ST	OFF	L	L	
MULTILINE	241528	23c	3037	NA	Current	2	MACOMBS	BRONX BOF	E 161 ST	OFF	L	L	
MULTILINE	245184	23c	3025	NA	Current	1	RFK BR	MN QN BOL	HELL GATE	OFF	L	L	
MULTILINE	36279	23c	4376		Current	1	E 61 ST	1 AV	5 AV	ON	I	I	
MULTILINE	157029	23c	6038	1820	Current	4	CROSS BAY	W 22 RD	E 6 RD	ON	II	II	
MULTILINE	161341	23c	951	NA	Current	3	6 AVENUE	67 ST	FT HAMILT	ON	III	III	
MULTILINE	17299	23c	951	NA	Current	3	6 AVENUE	67 ST	FT HAMILT	ON	III	III	
MULTILINE	196697	23c	1338	NA	Current	3	ORIENTAL E	OCEAN AV	JEFFREY S	ON	II	II	
MULTILINE	188852	23c	4378		Current	1	ED KOCH Q	E 60 ST	E 61 ST	ON	I	I	
MULTILINE	234201	23c	2431	NA	Current	4	BEACH 73 E	SHORE FRC	ROCKAWAY	ON	II	II	
MULTILINE	329815	23c	4378		Current	1	ED KOCH Q	E 60 ST	E 61 ST	ON	I	I	
MULTILINE	329817	23c	4378		Current	1	ED KOCH Q	E 60 ST	E 61 ST	ON	I	I	
MULTILINE	350197	23c	759	NA	Retired	2	GRAND COI	E 161 ST	VAN CORTL	ON	II	II	
MULTILINE	135432	23c	6424	2036	Current	5	FR CAPODA	DRURY AV	LILY POND	ON	III	III	
MULTILINE	138998	23c	76	NA	Current	1	ADAM C PC	W 133 ST	W 150 ST	ON	III	III	
MULTILINE	138999	23c	76	NA	Current	1	ADAM C PC	W 133 ST	W 150 ST	ON	III	III	
MULTILINE	151922	23c	2037	NA	Current	5	FR CAPODA	LINCOLN A	MIDLAND A	ON	II	II	
MULTILINE	22919	23c	918	NA	Current	3	3 AV	DEAN ST	15 ST	ON	II	II	
MULTILINE	21623	23c	1090	NA	Current	3	COLUMBIA	BAY ST	COLUMBIA	ON	II	II	
MULTILINE	5318	23c	7224	NA	Current	5	FELTON STI	FAHY AV	LAMBERTS	ON	III	III	
MULTILINE	22902	23c	1268	NA	Current	3	LINCOLN PI	PLAZA ST V	5 AV	ON	II	II	
MULTILINE	22083	23c	1454	NA	Current	3	SMITH ST	BAY ST	HAMILTON	ON	III	III	
MULTILINE	24244	23c	4021	NA	Current	3	YORK ST	ADAMS ST	WASHINGT	ON	III	III	
MULTILINE	271532	23c	1195	NA	Retired	3	FT HAMILT	E 7 ST	E 5 ST	ON	I	I	

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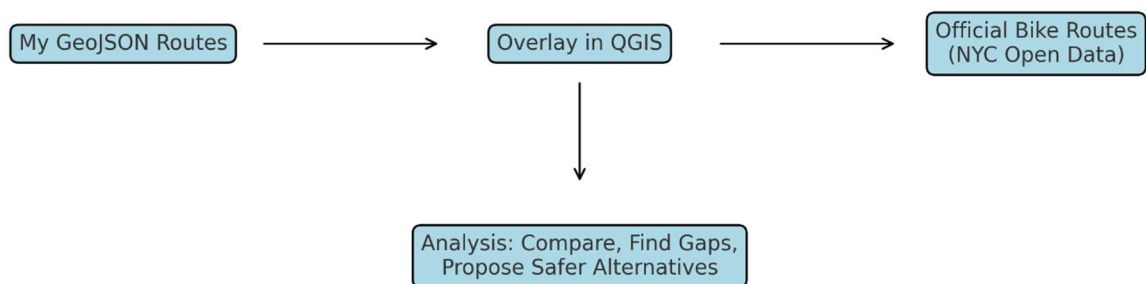
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4. Proposed Workflow

1. Import **daily_cycle_routes.geojson** into QGIS.
2. Import the **NYC Bike Routes** dataset from NYC Open Data.
3. Overlay personal routes on the official bike route layer.
4. Classify route segments into:
 - **Protected lanes**
 - **Shared lanes**
 - **Unprotected segments**
5. Identify high-risk segments and explore potential safer alternatives.



5. Expected Outcomes

- Identify the percentage of my cycling distance spent on official bike lanes.
- Highlight infrastructure gaps on my daily commute.
- Propose route modifications for improved safety and efficiency.
- Potentially advocate for new protected lanes in under-served areas.