



Ordnance
Survey
Ireland

Product Generation- Ciara Beddy

Quality Knowledge Exchange Network

4th-6th December 2018



OSI Vs OSM



- ❖ Fully **automated**/ National Comparison
- ❖ Focused on **spatial accuracy** and **completeness**
- ❖ **Flexible** i.e can be used against other network datasets with minimal adaption
- ❖ Built with Safe Software's FME Desktop v 2018



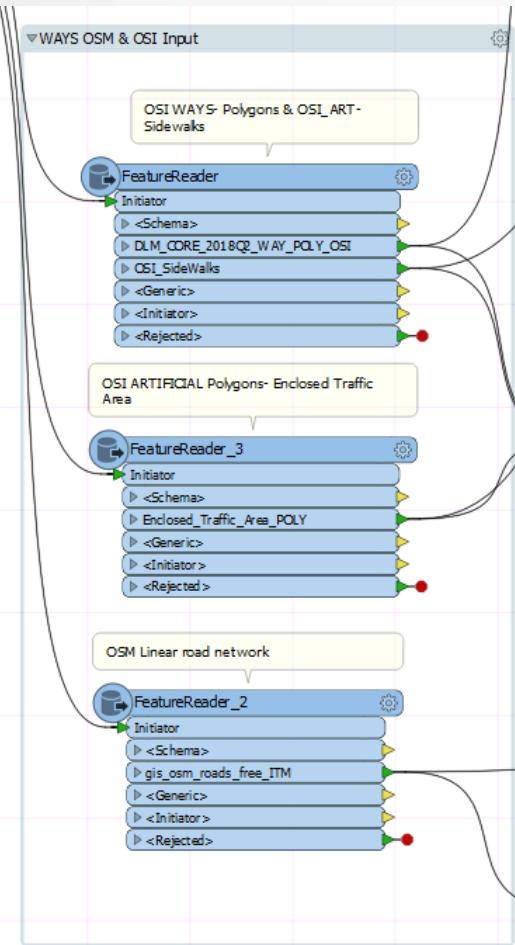
**Comparison &
Reporting**

Using FME Desktop (ETL)

Workflow- How do we do it?

READ IN DATA

WAYS

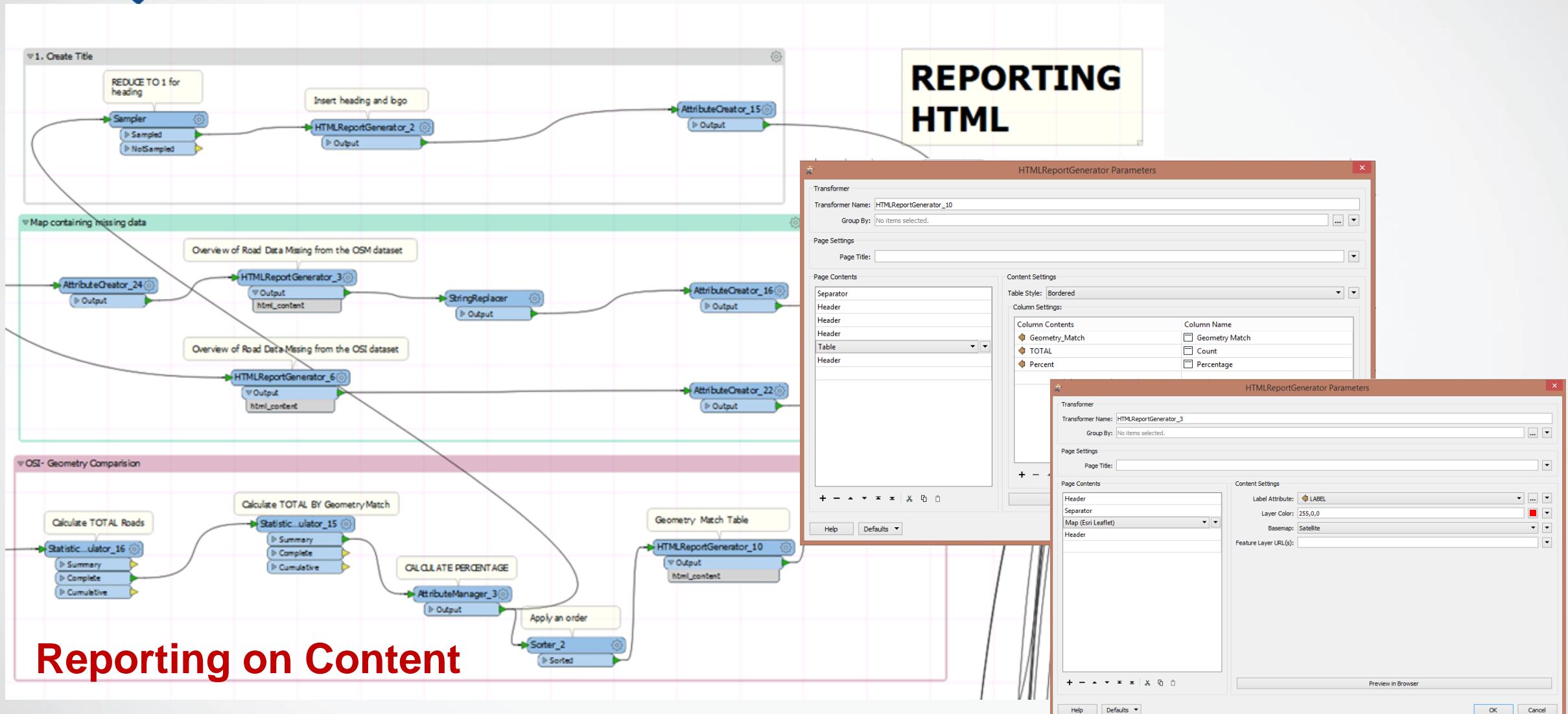


OSI- POLYGONS
OSM- LINEAR

Comparison



Workflow Reporting HTML



Results for OSM- What are they Missing?

OSI Comparison: Total Roads 15650

Geometry Match	Count	Percentage
Geometry Match	9067	57%
No Match	6583	42%

This references the data that is missing from the OSM dataset but captured by OSI

Visual Overview of Road Data Missing from the OSM dataset



Click on the feature in the map to identify the form

OSI Breakdown of Roads missing from the OSM dataset

Categorisation of the roads missing from the OSM Dataset but present in OSI Dataset- Please note we have only taken features OSI considers to be part of the OSI road network into account. For example Footpaths are not categorized by our WAY_POLY feature but available as a separate feature.

Form	Function	Count Value	Percentage
Man-made Surface	Sidewalk	3856	24%
Tractor Road	Seventh Class	681	4%
Walk General	Eighth Class	606	3%
Single Carriageway	Fourth Class	485	3%
Driveway	Sixth Class	417	2%
Lane	Sixth Class	311	1%
Tractor Road	Sixth Class	248	1%
Man-made Surface	Enclosed Traffic Area	137	0%
Single Carriageway	Fifth Class	14	0%
Bicycle Road	Eighth Class	5	0%
Single Carriageway	Third Class	5	0%
Roundabout	Third Class	2	0%
Walk Unmarked	Eighth Class	2	0%
Single Carriageway	Second Class	1	0%
Tow Path	Eighth Class	1	0%



Urban Areas Vs Rural Areas OSI

Breakdown of Matches in Urban Areas- OSI Data

Count Urban	Geom Match	Percentage
7436	Geometry Match	59%
5100	No Match	40%

This references the Urban data that is missing from the OSM dataset

Breakdown of Matches in Rural Areas-OSI Data

Count Rural	Geom Match	Percentage
6434	Geometry Match	53%
5696	No Match	47%

This references the Rural data that is missing from the OSM dataset

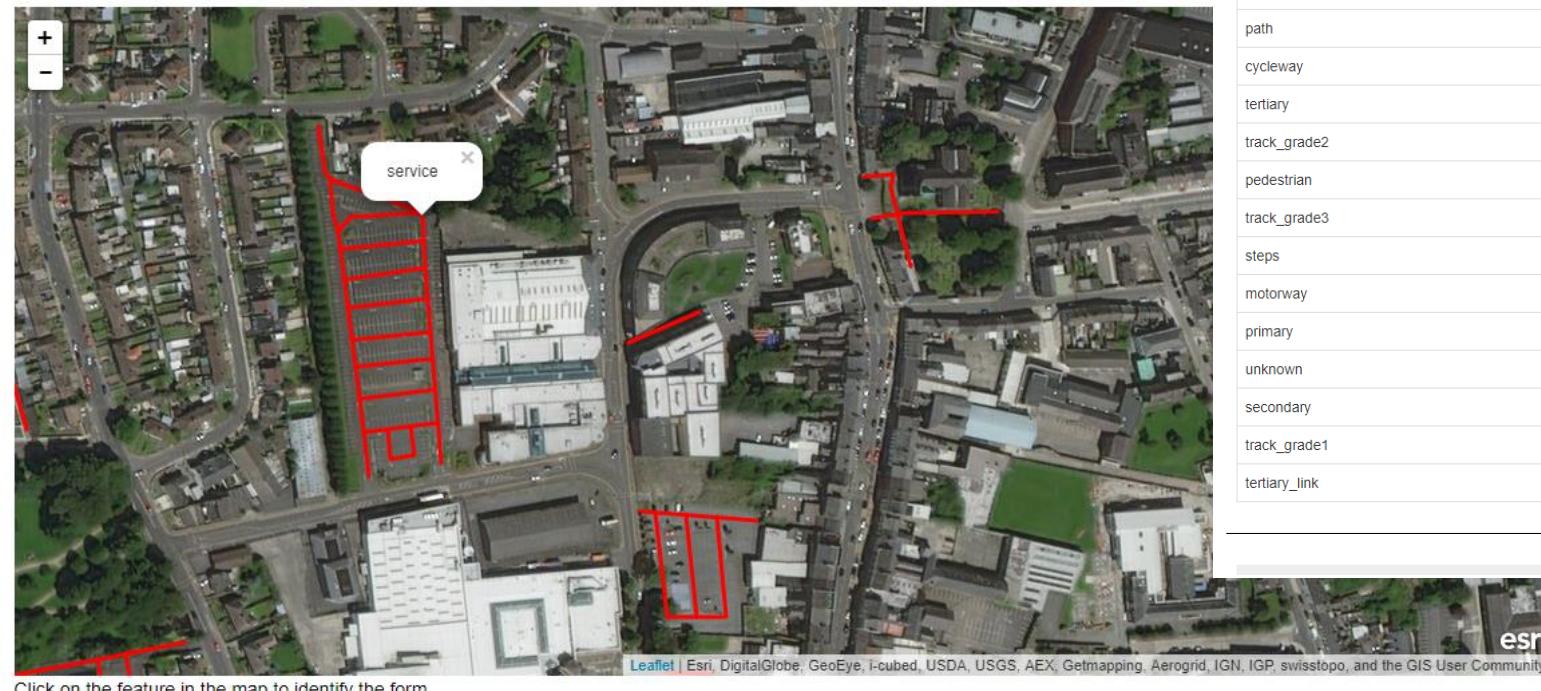
Results OSI- What are we Missing?

OSM Comparison: Total Roads 41081

Geometry Match	Count	Percentage
Geometry Match	37759	
Matched outside tolerance of OSI WAY	1340	
No Match	1982	

This references the data that is missing from the OSI dataset but captured by OSM

Visual Overview of Road Data Missing from the OSI dataset

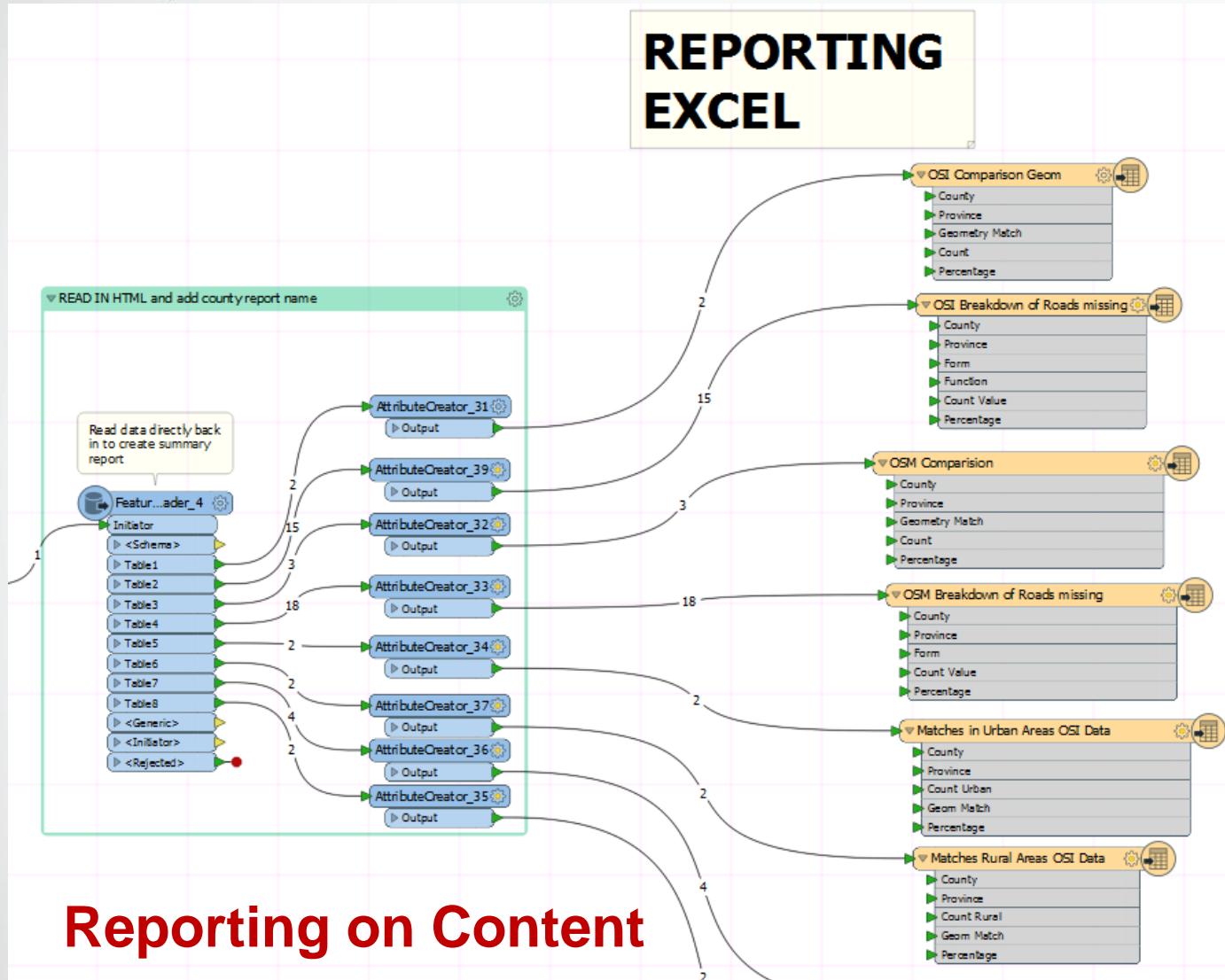


OSM Breakdown of Roads missing from the OSI dataset

Categorisation of the roads missing from the OSI Dataset but present in the OSM. Please note we have included features OSI does not consider to be part of the OSI road network into account in order to mimic the OSM road dataset. For example Sidewalks and Enclosed Traffic Areas are not categorized by our WAY_POLY feature but available as ARTIFICIAL_POLY. Both of these features are included in this analysis

Form	Count	Value	Percentage
service	1242		3%
footway	257		0%
track	203		0%
unclassified	107		0%
residential	105		0%
path	90		0%
cycleway	16		0%
tertiary	14		0%
track_grade2	10		0%
pedestrian	8		0%
track_grade3	7		0%
steps	4		0%
motorway	3		0%
primary	3		0%
unknown	3		0%
secondary	2		0%
track_grade1	2		0%
tertiary_link	1		0%

Workflow Reporting Excel



A	B	C	D	E
County	Geometry Match	Count	Percentage	
Carlow	Geometry Match	4906	55%	Leinster
Carlow	No Match	3872	44%	Leinster
Cavan	Geometry Match	10342	51%	Ulster
Cavan	No Match	9568	48%	Ulster
Clare	Geometry Match	14437	52%	Munster
Clare	No Match	13017	47%	Munster
Cork	Geometry Match	56936	60%	Munster
Cork	No Match	37225	39%	Munster
Dublin	Geometry Match	64220	65%	Leinster
Dublin	No Match	33722	34%	Leinster
Galway	Geometry Match	26469	62%	Connaught
Galway	No Match	15787	37%	Connaught
Kerry	Geometry Match	20196	56%	Munster
Kerry	No Match	15500	43%	Munster
Kildare	Geometry Match	15791	65%	Leinster
Kildare	No Match	8189	34%	Leinster
Kilkenny	Geometry Match	9851	58%	Leinster
Kilkenny	No Match	6857	41%	Leinster
Laois	Geometry Match	8046	57%	Leinster
Laois	No Match	5900	42%	Leinster
Leitrim	Geometry Match	6113	50%	Connaught
Leitrim	No Match	5949	49%	Connaught
Louth	Geometry Match	9067	57%	Leinster
Louth	No Match	6583	42%	Leinster
Longford	Geometry Match	5015	54%	Leinster
Longford	No Match	4228	45%	Leinster
Mayo	Geometry Match	23634	62%	Connaught
Mayo	No Match	14157	37%	Connaught

Reporting on Content

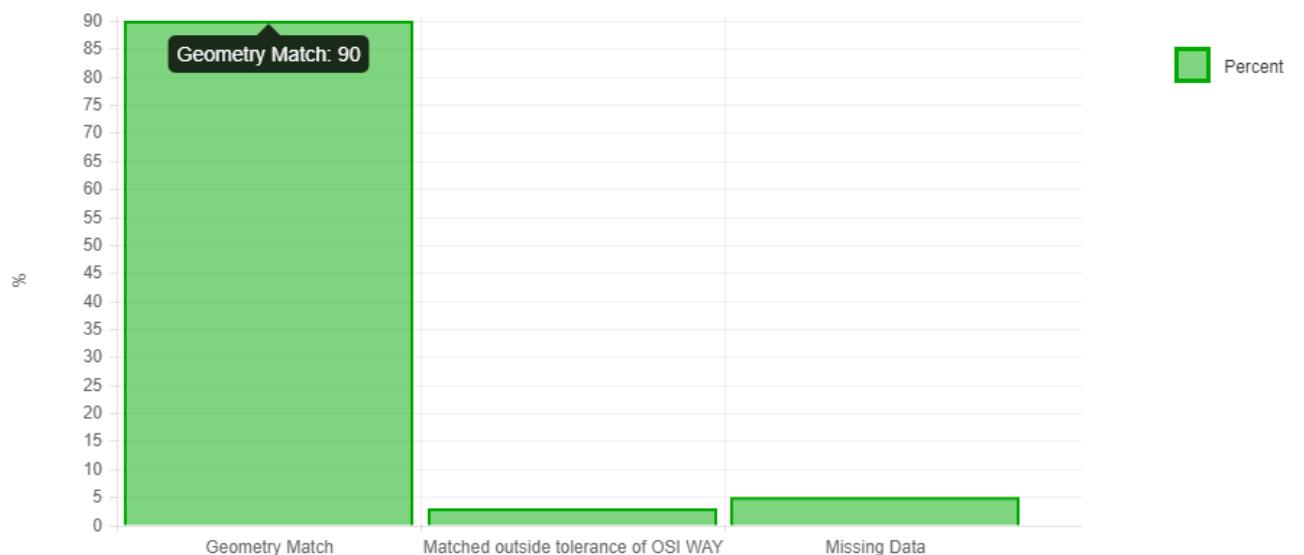


OSI V OSM National Comparison

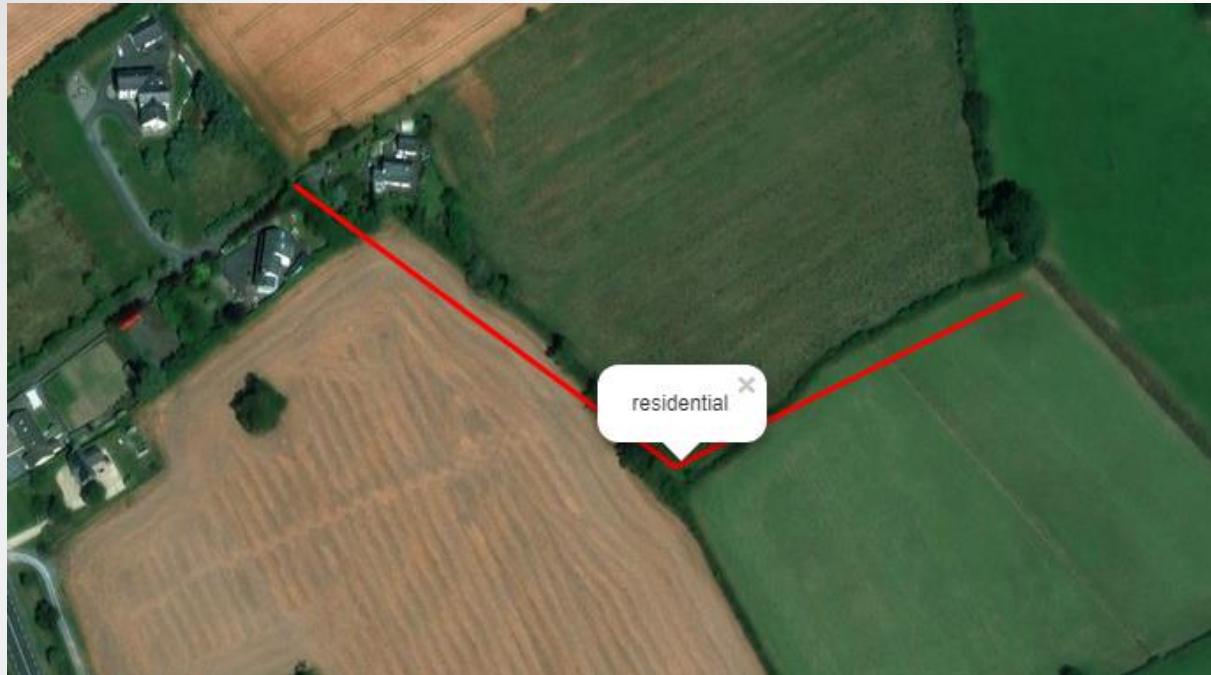
Geometry Match	Percentage
Geometry Match	90%
Matched outside tolerance of OSI WAY	3%
Missing Data	5%

This references the data that is missing from the OSI dataset but captured by OSM

*Outside Tolerance indicates there is a OSI Way Polygon within a 4m buffer of an OSM road- potential match with OSM accuracy issues



Missing Data OSI



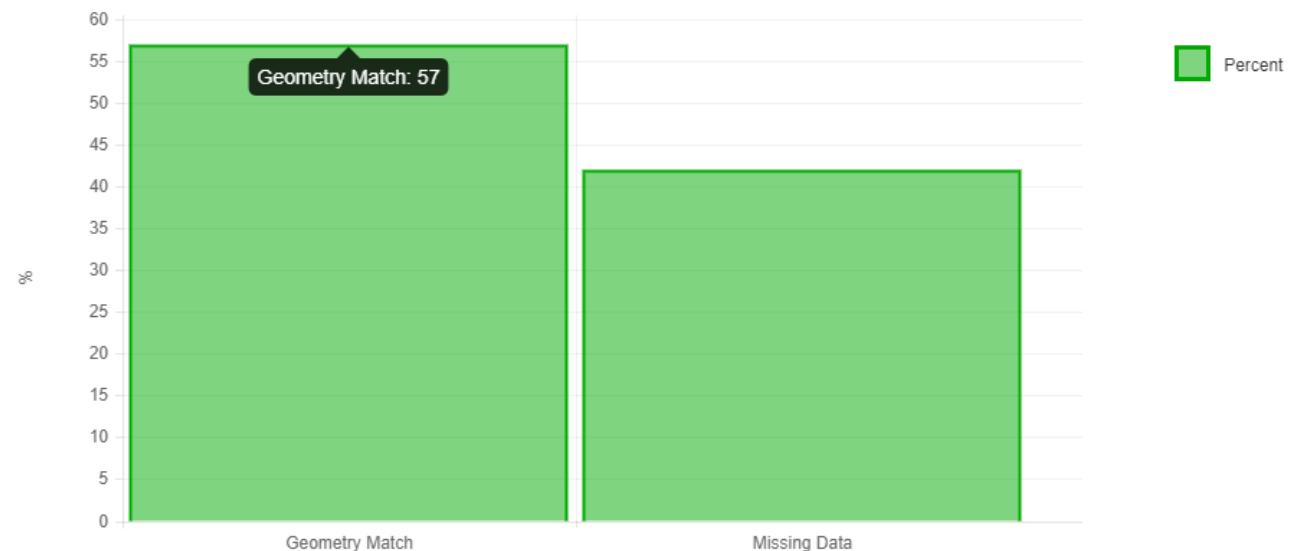
High Level Results National OSI



OSM V OSI National Comparison

Geometry Match	Percentage
Geometry Match	57%
Missing Data	42%

This references the data that is missing from the OSM dataset but captured by OSI





Wrap Up

57% of OSI Network has been captured by OSM. Significant loss of data in rural areas , 6th class roads and above

95% of OSM Network has been captured by OSI. Minimal missing data, majority is Service Roads on residential property and Tracks in Forestry/Mountain areas.

The quality of OpenStreetMap can vary largely between locations this is evident when reviewing the data on a county by county basis.

By the very nature of the wiki-style process there is no guarantee of accuracy of any kind. OpenStreetMap assumes good faith in their editors- we need to question the accuracy of what is deemed as “Missing”.

Same process can be applied to other features with minimal updating.