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# The Use of Traffic Count Data for Official Transport Statistics

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*UNECE Working Party on Transport Statistics*

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# Our Objectives



## Big Data:

- To demonstrate the feasibility of efficient production of official statistics using big data sources



## Maritime Statistics:

- To produce timely port call statistics

## Traffic Count Data:

- To produce timely traffic volume analysis



## Faster Indicators:

- To develop a transport dashboard for flash estimates



# The Role of Big Data in Official Statistics

- ✓ Reduced respondent burden through automated data collection
- ✓ Opportunity to generate real-time information products
- ✓ Better granularity, coverage, and accessibility





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# Traffic Count

# Data Source

Transport Infrastructure Ireland  
(TII) – Traffic Count Data

Over 300 working and approved  
Traffic Monitoring Units  
(TMU's)

Vehicles are detected by passing  
over loops embedded in the  
road surface

TMU's are located on a range of  
Road types: Motorways,  
National Roads and Regional  
Roads

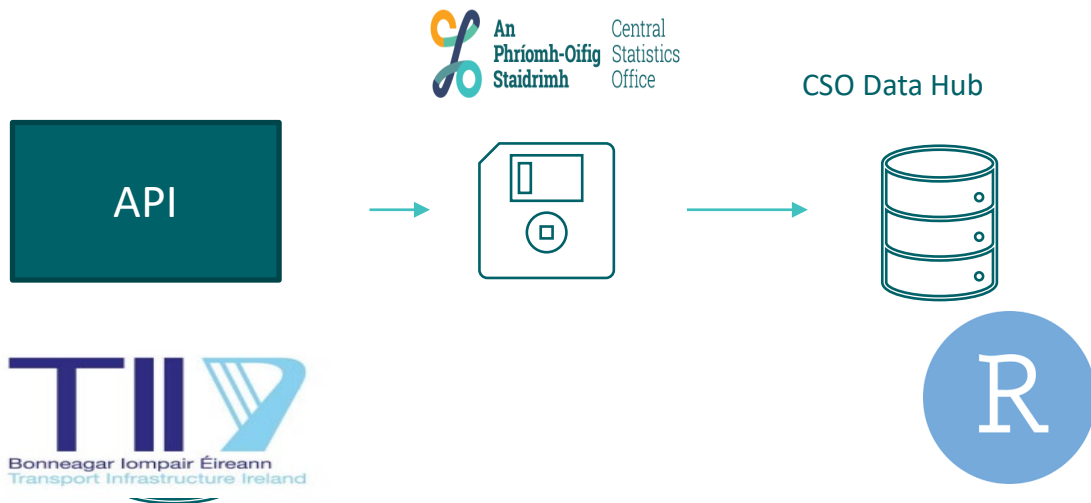


Source: Transport Infrastructure Ireland



# Data Access

- Memorandum of Understanding between the Central Statistics Office and Transport Infrastructure Ireland (TII)

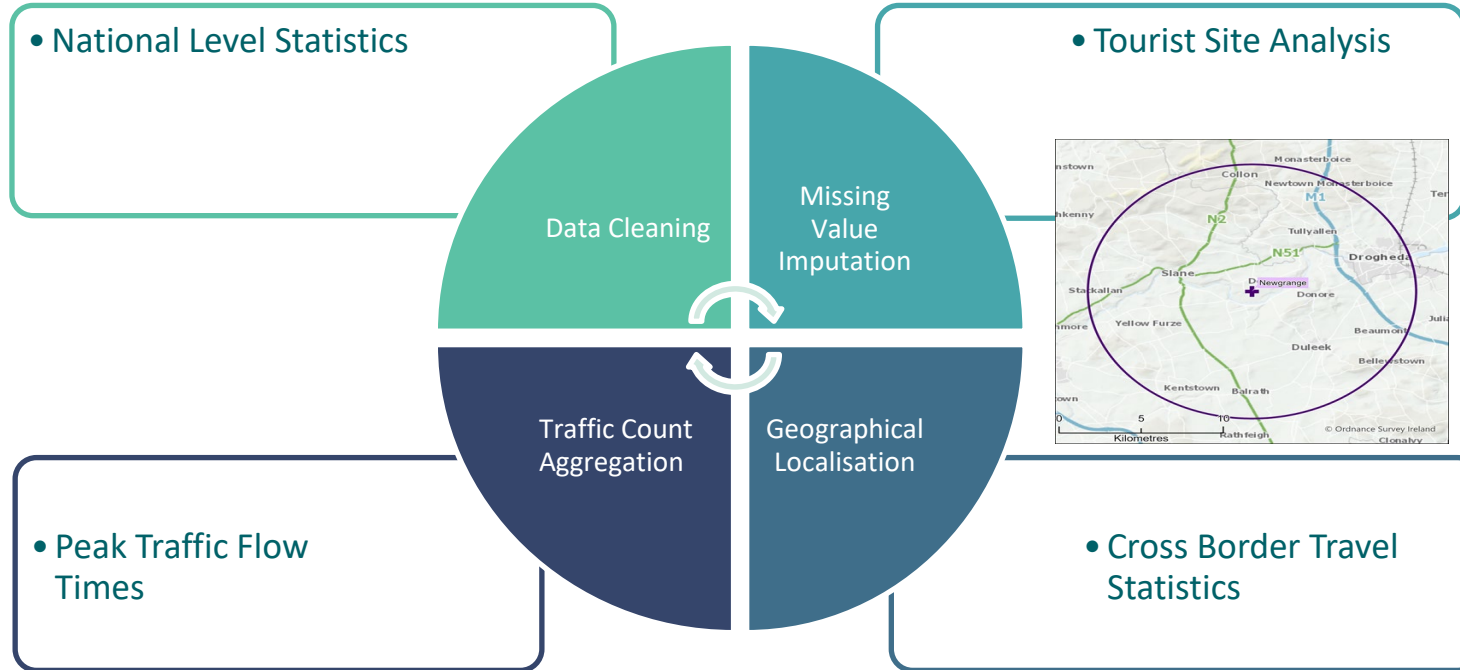


# Quality Assurance

- For the CSO, a key question was how the quality of potentially new official statistics can be guaranteed:
  - ✓ Robust methodologies
  - ✓ Benchmarking against official statistics
  - ✓ Testing and validation exercises



# Methods & Data Preparation





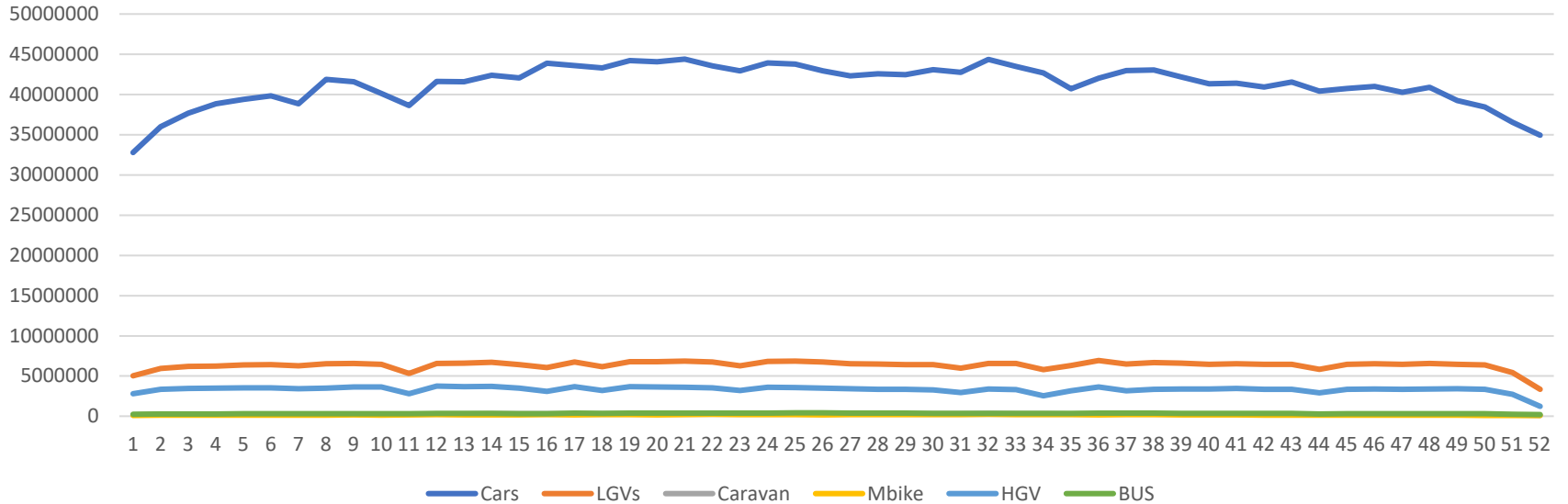


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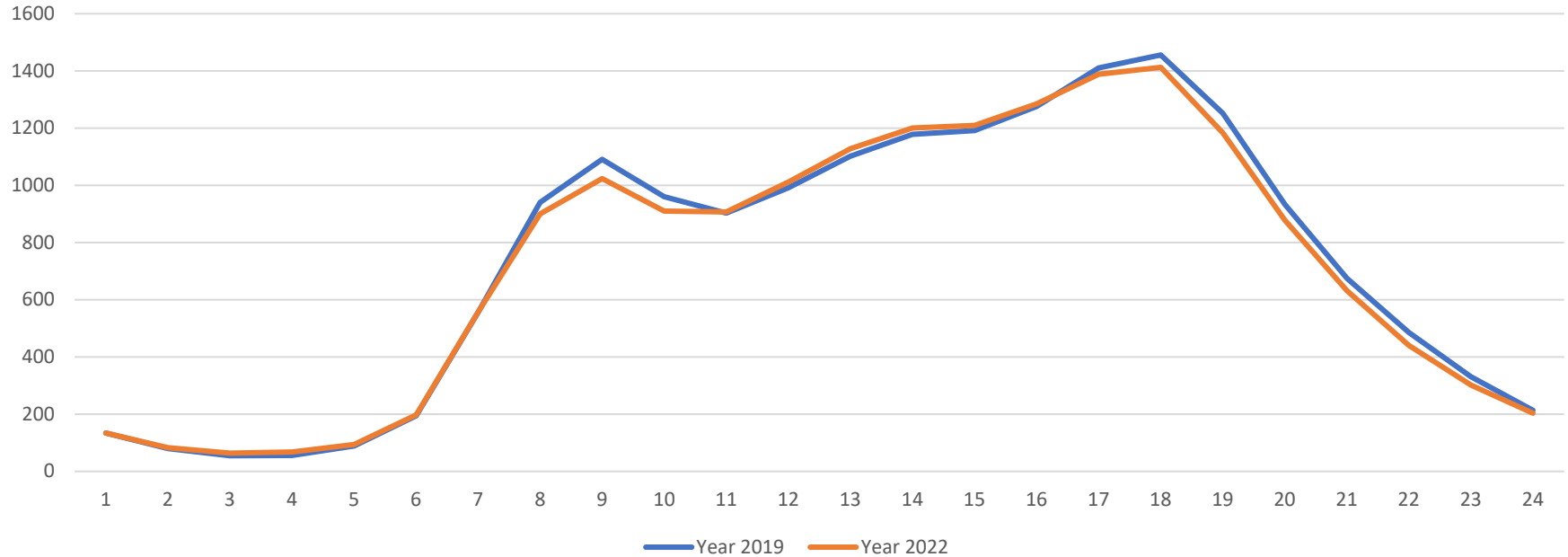
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# Results

# Average Daily Traffic, 2022

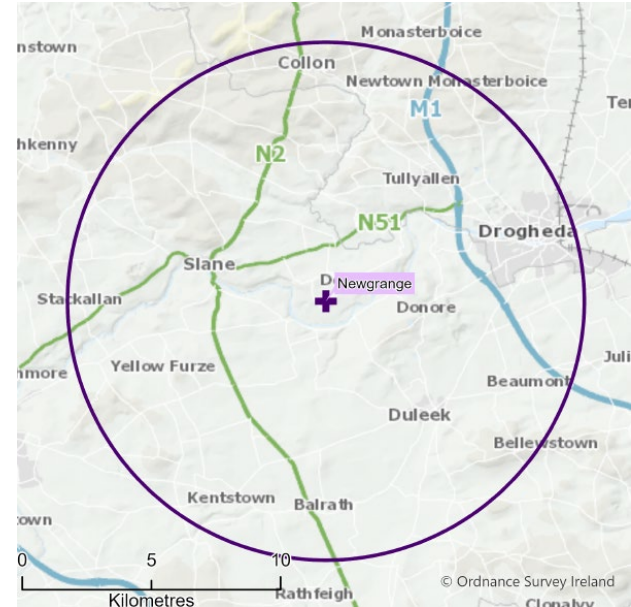


# Average Hourly Car Volumes, 2019 & 2022 (Monday - Friday)



# Tourist Locations

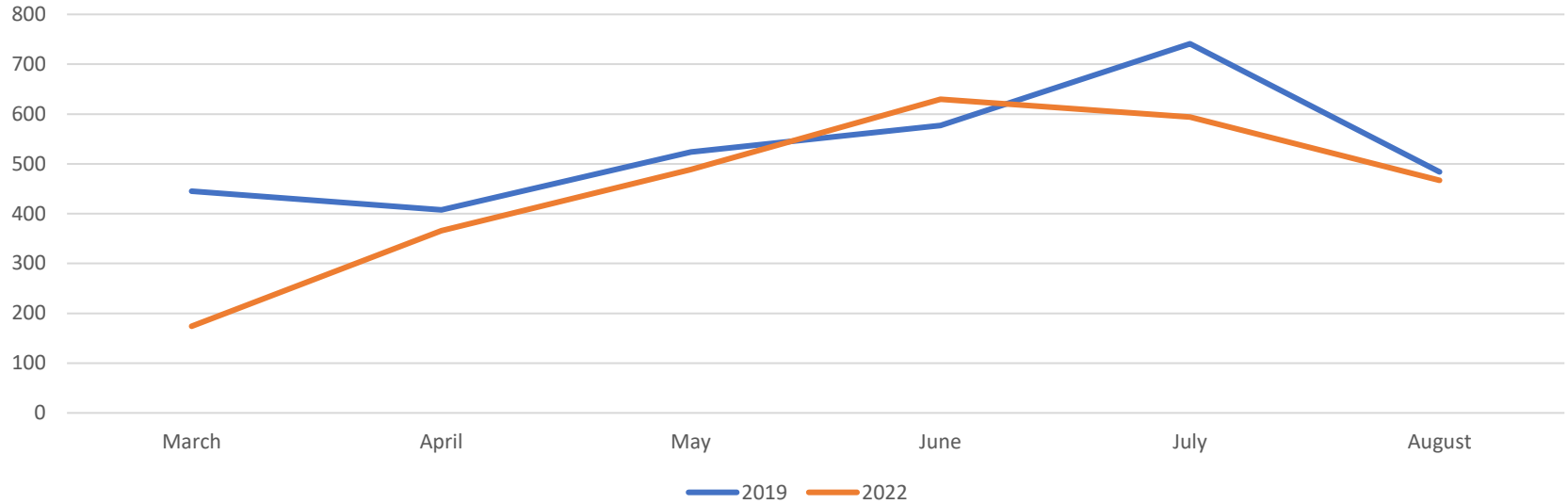
- TMUs within a 10km radius of selected tourist sites were identified for the bus traffic analysis
- The tourist locations were selected based on visitor counts published by Fáilte Ireland as part of their **Annual Visitor Attractions Survey** which included 2021 attendances at a large variety of tourist attractions



# Cliffs of Moher



# Bus Volumes at Cliffs of Moher



# Cross-border Traffic Analysis

- Cross-border traffic analysis has the potential to provide relevant statistics to inform policy in areas such as transport and tourism, and also provide a broad indication of cross-border economic activity
- In this case the cross-border traffic data was used to create an index with January 2019 selected as a pre-COVID-19 base month
  - This allowed for the comparison of monthly volumes during 2019 and 2022
- The index showed that cross-border traffic volumes for 2022 were in general, lower than the corresponding month in 2019 with the exceptions of August, September when traffic volumes exceeded 2019 levels



# Conclusion

- ✓ This is the first time the Central Statistics Office (CSO) has used national level Traffic Count Data to produce statistics on a timelier basis
- ✓ Hourly aggregated daily Traffic Count Data can be used to accurately describe peak traffic patterns
- ✓ Traffic volumes were used generate cross-border travel statistics and tourist activity around selected tourist locations
- ✓ Overall, the findings of this work confirms that TII data could can be used to produce valid estimates of traffic counts and illustrates the potential of big data for official statistics







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# Next Steps



# Way Forward

- Finalize methodology
- Development of Faster Indicators Transport Dashboard
- Map out concentration of HGV flows throughout the country, i.e. by highlighting TMU counters that show high, medium, low HGV counts
- Map the locations where HGVs enter cities, i.e. what TMU sites on the boundaries of cities have highest HGV counts
  - This gives the DoT insights as to where distribution hubs should be located. The idea being that goods can be distributed within cities by electric light good vehicles from these hubs





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