

# DEVELOPMENT OF TRAFFIC INDICES FOR NATIONAL ROADS

*Overview and Initial  
Results*

*Susie Crawford*





*Background*

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# Background

- Source data collected at Traffic Monitoring Units (TMU) or 'counters'
- New contract awarded in 2012 to upgrade the system
- No. counters 130 → 300 and a better geographical spread
- [www.nratrafficdata.ie](http://www.nratrafficdata.ie)



The screenshot shows a web browser window displaying the TII Traffic Data Site. The URL is [https://www.nratrafficdata.ie/c2/gmapbasic.asp?sgid=ZvyVmXU8jBt9PJES\\$c7UXt6](https://www.nratrafficdata.ie/c2/gmapbasic.asp?sgid=ZvyVmXU8jBt9PJES$c7UXt6). The page features a navigation menu with the following items: ABOUT THE WEBSITE, MAP INTERFACE, SITE LIST, SEARCH FUNCTION, SITE DATA, EXPLANATION OF REPORTS, and IMPORTANT NOTICE. The main content area displays a map of Ireland with numerous green dots representing traffic monitoring units. The map includes a search bar and a list of sites. The map data is attributed to ©2015 GeoBasis-DE/BKG (©2009), Google.

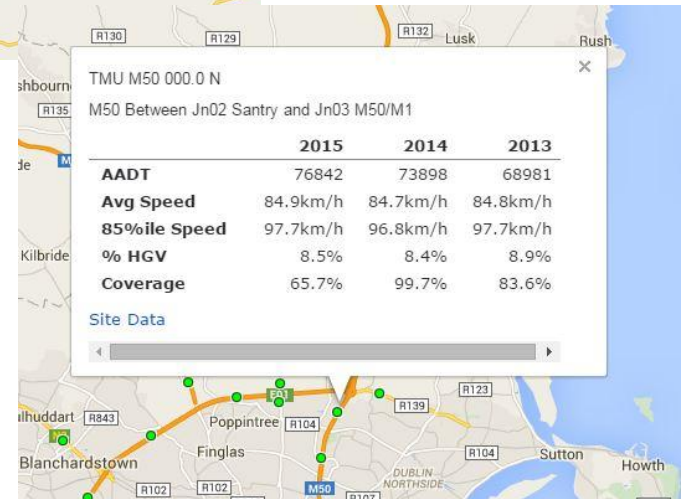
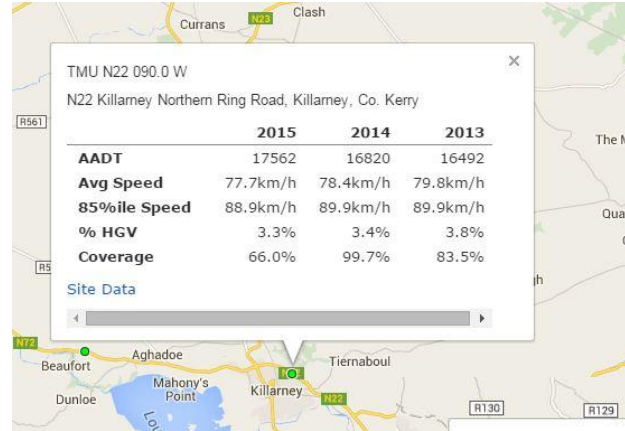


TII Traffic Data Site

Transport Infrastructure Ireland  
Parkgate Business Centre  
Parkgate Street  
Dublin 8  
D08 YFF1  
datainfo@tii.ie  
P: +353 1 6602511  
F: +353 1 6680009

# New Counter Data

- Vastly detailed dataset from early 2013
- AADT (annual average daily traffic) for each counter
- Excellent data quality





# Current Uses

- National Transport Model forecasts transport demand
- Calibrated using TMU data
- Annual 'Light touch' updates
- The NTpM is now more accurate than ever



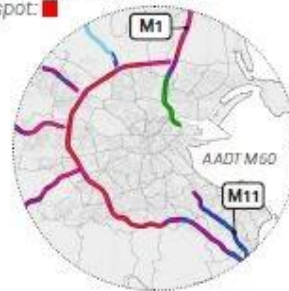
## NATIONAL ROADS AUTHORITY NATIONAL ROAD NETWORK INDICATORS 2013



- 'National Road Indicators Report': road usage, levels of service and more

### TRAVEL HOTSPOTS:

M50 Dublin area:  
130,000+ vehicles per day  
Hotspot: ■



### LEVEL OF SERVICE:

Morning rush hour: Free flow to → forced or breakdown flow





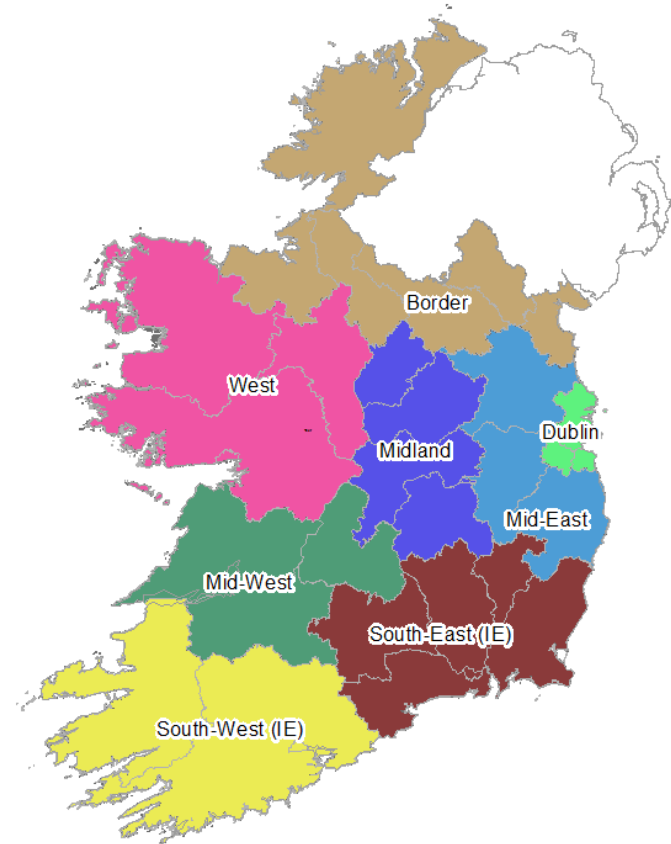
## *Development of Traffic Indices*

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# Indices Developed

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- All National Roads Index  
(incl. Mw+T1, NP, NS)
- Trends by road type:
  - Motorway (incl. T1 dual carriageways)
  - National Primary
  - National Secondary
- Regional (NUTS Level 3)
- Ten-T networks
- M50, N40
- National radials (50km from Dublin)
  
- Series starting from Q3'13

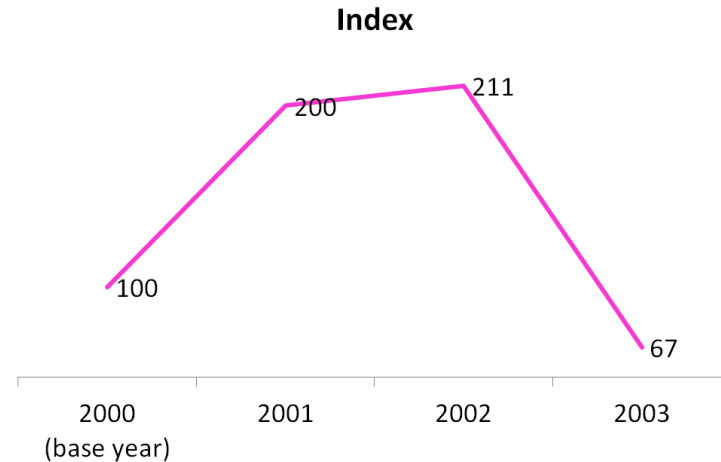
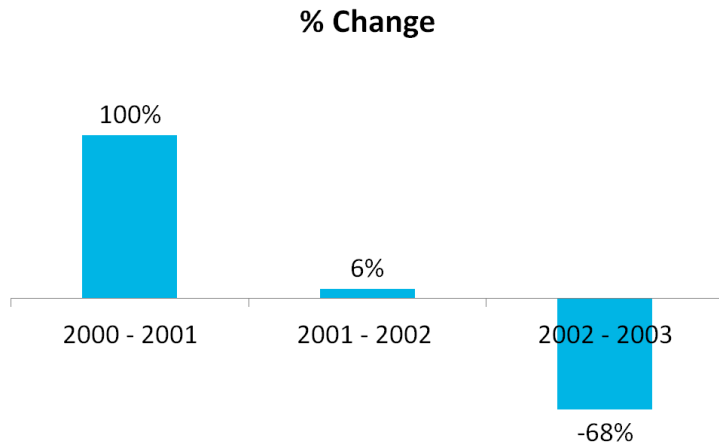


# Indices

## Track change over time

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- Consumer Price Index: weighted average % change in price of a 'basket of goods'
- Traffic index: weighted average % change in count for a set of TMUs
- Set at 100 in the base period
- Track changes relative to the base period





# Development

Aim to track true changes in traffic

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- Quarterly average % change for each set of counters
- Include: weather, sporting events  
Exclude: vandalised TMUs
- What change is too extreme to be plausible?
- For each index: allowable ranges around the average % change
- Seasonality and tourism



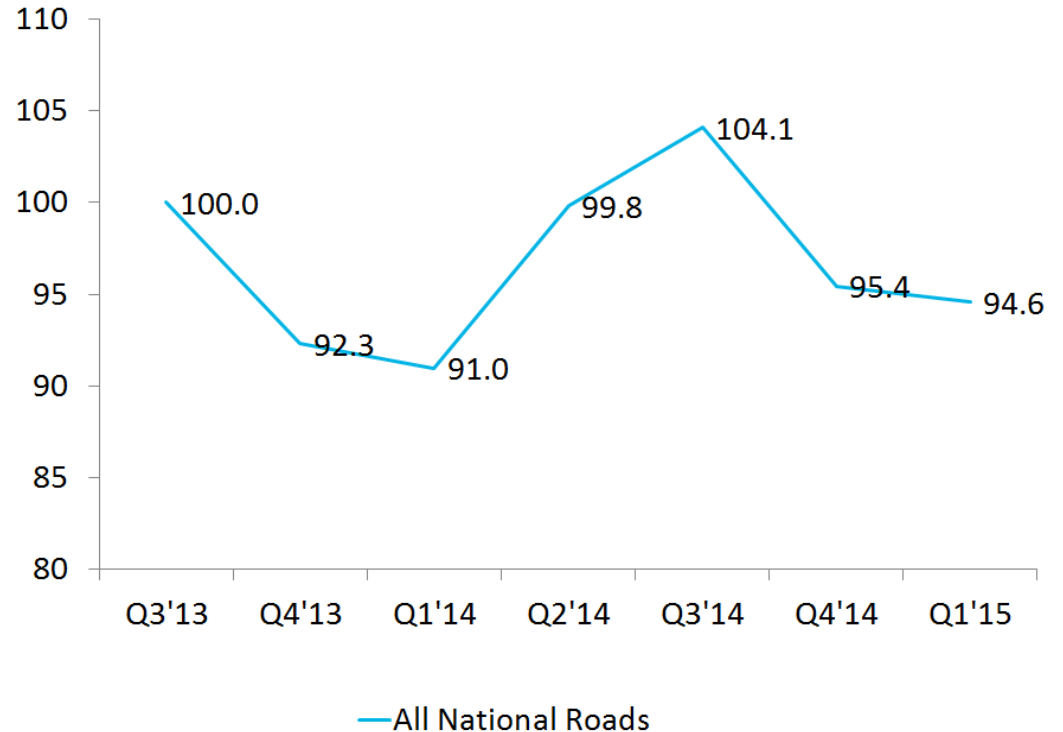


## *Initial Results*

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# All National Roads Index

- Seasonal pattern emerging as expected
- Year on year increase: +3.9% from Q1 2014 to Q1 2015
- GDP increased 4.1% over the same period



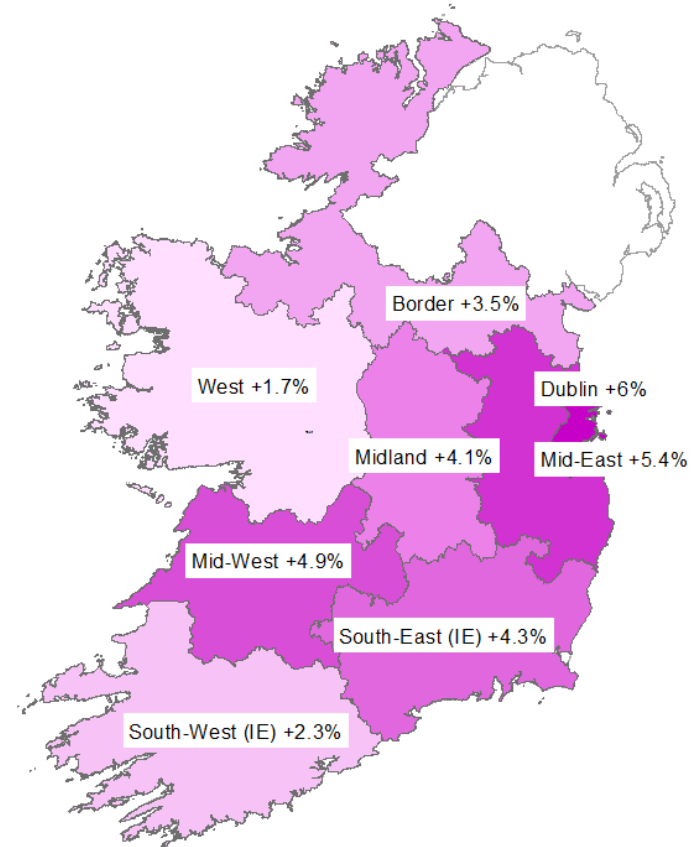
# Regional Traffic Growth

% Change: Q1'14 – Q1'15

- 6% growth in Dublin
- Mid-West growth looks high due to low traffic volumes in Q1'14



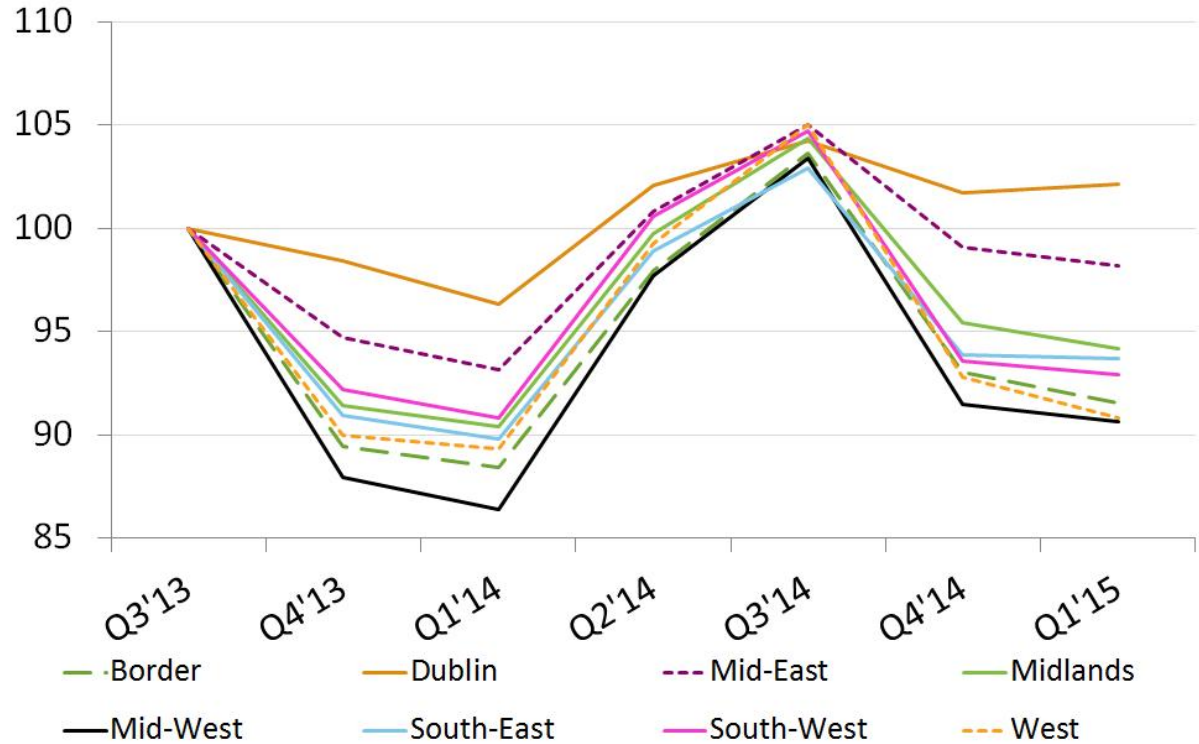
Source: *The Clare People*





# Regional Indices

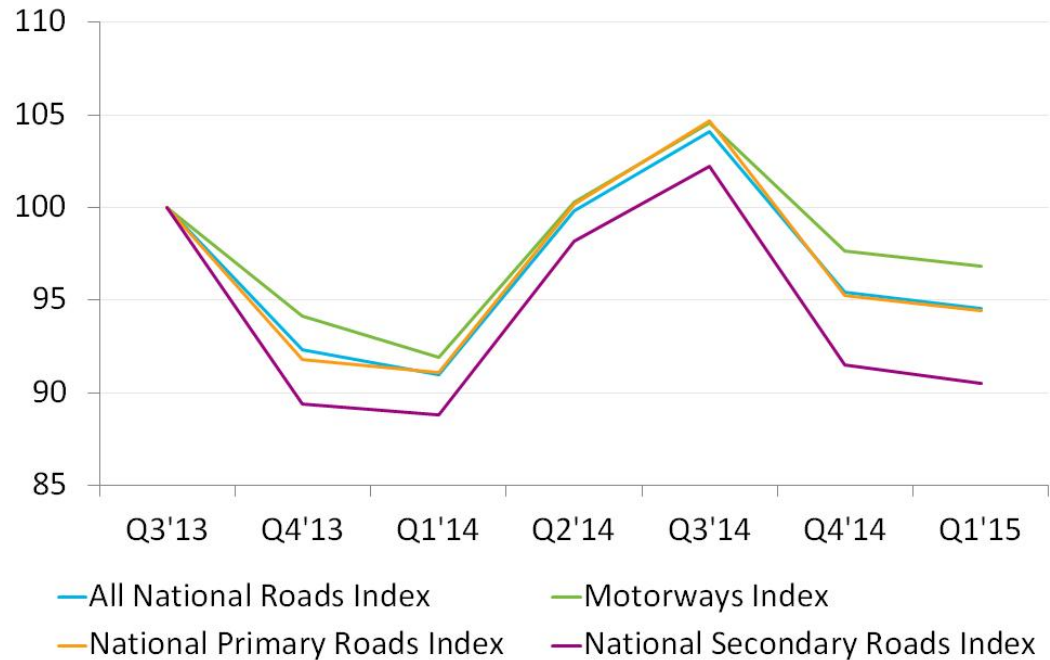
- Seasonality is reasonably consistent between regions
- Dublin & Mid-East trend is a little different
- Mid-West dropped significantly in early 2014



# Road Type Indices

Q1'14 – Q1'15 % Change:

- Motorways (including T1 dual carriageway)  
+5.4%
- National Primary  
+3.6%
- National Secondary  
+1.9%






*Next Steps*

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# Next Steps

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- Publication
- Developing other indices as required 
- Relatively novel data - discover new uses!
- Are changes in fuel prices reflected in traffic growth?
- Relationship between consumer spending and traffic?



*Thank You*

