

# The Impact on COVID-19 on commuting in the GDA

23<sup>rd</sup> of June 2021

# Safety Moment

# Safety Moment – Hydration

## – Hydration Risk

- Increased temperature
- Exercises/Outdoor activity
- Drinking Alcohol
- Feeling of dizziness/high heart beat/tiredness



## – How much water to drink












- Minimum 2 litres ( 7 IKEA Glasses) per day
- Spare Bottles of Water in Car
- Pack water when travelling to site or out of house
- Start with small sips especially if you are feeling unwell



# Project Background

# Why?

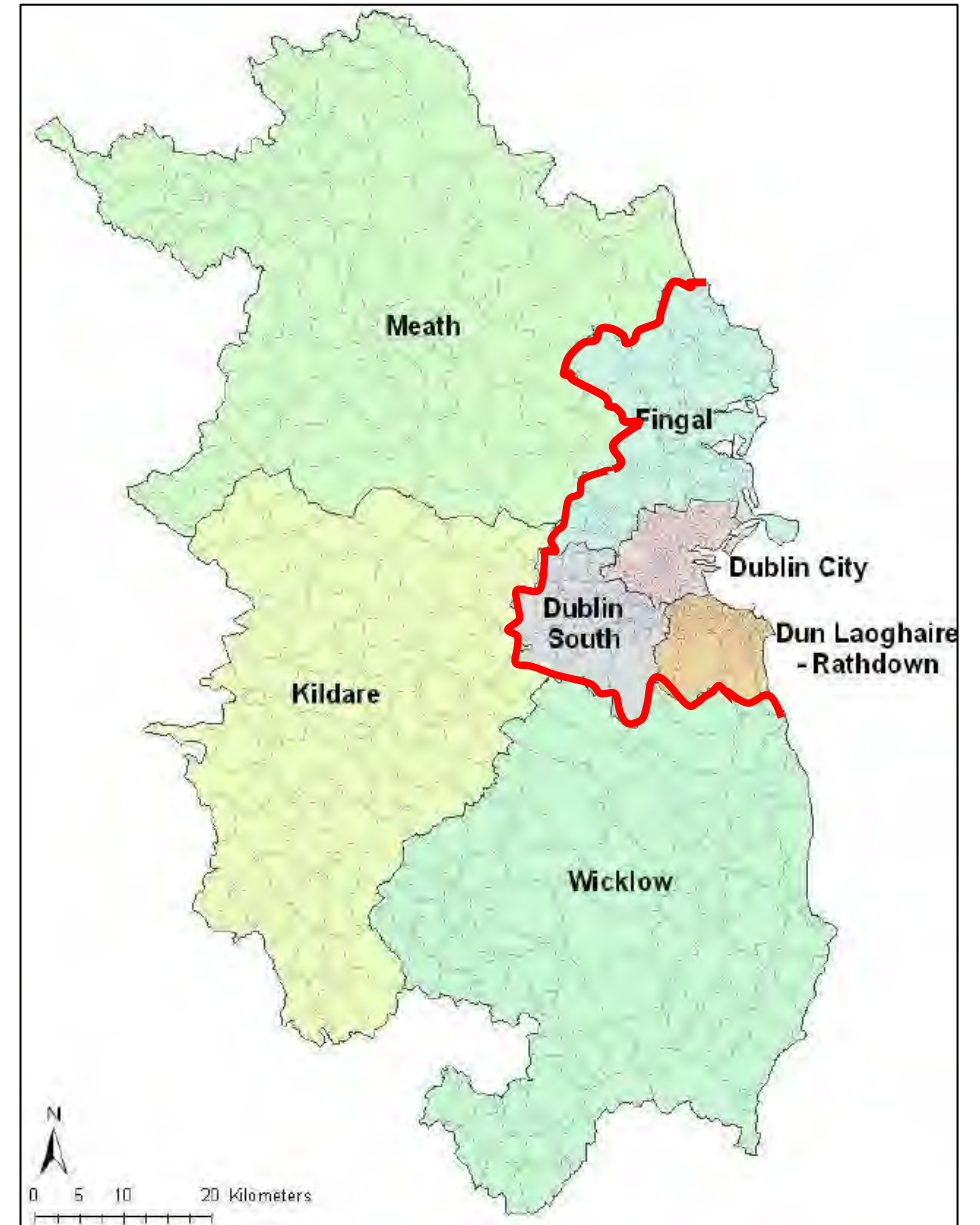
- Dissertation as part of distance Masters (Napier University)
- GDA has historic traffic congestion issues
- Historic lack of PT/suburbia growth
- Modal shift targets not being achieved
- What impact has more WfH had on daily commute?
- **Has COVID-19 Permanently changed this?**

RANK BY FILTER	WORLD RANK ▼	CITY	DAYS WITH LOW TRAFFIC ▼	CONGESTION MONTH BY MONTH	CONGESTION LEVEL 2020 ▼	CHANGE FROM 2019 ▼
1	1	<b>Moscow region (oblast)</b> Russia	66 days		54%	↓ 5%
2	5	<b>Istanbul</b> Turkey	80 days		51%	↓ 1%
3	7	<b>Kyiv</b> Ukraine	48 days		51%	↓ 2%
4	9	<b>Novosibirsk</b> Russia	15 days		45%	0%
5	11	<b>Odessa</b> Ukraine	47 days		44%	↓ 3%
6	12	<b>Saint Petersburg</b> Russia	60 days		44%	↓ 3%
7	13	<b>Kharkiv</b> Ukraine	19 days		43%	0%
8	14	<b>Lodz</b> Poland	13 days		42%	↓ 5%
9	15	<b>Bucharest</b> Romania	66 days		42%	↓ 10%
10	16	<b>Samara</b> Russia	40 days		41%	↓ 3%
11	17	<b>Dublin</b> Ireland	64 days		38%	↓ 10%

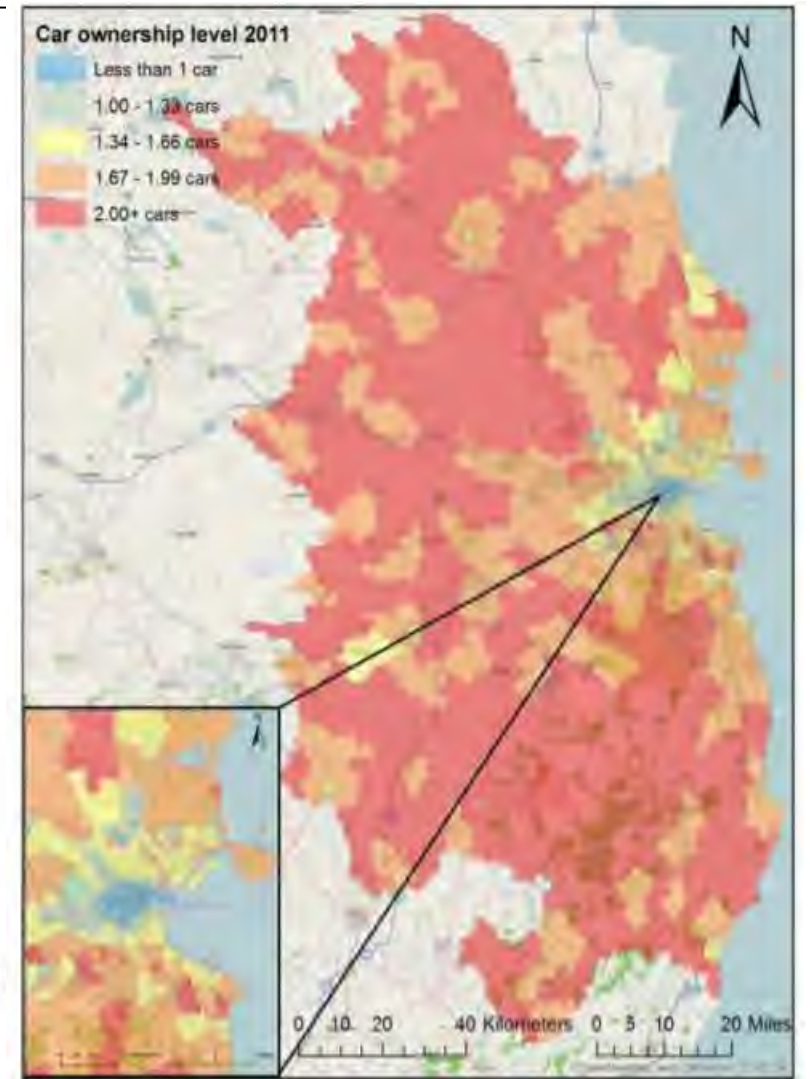
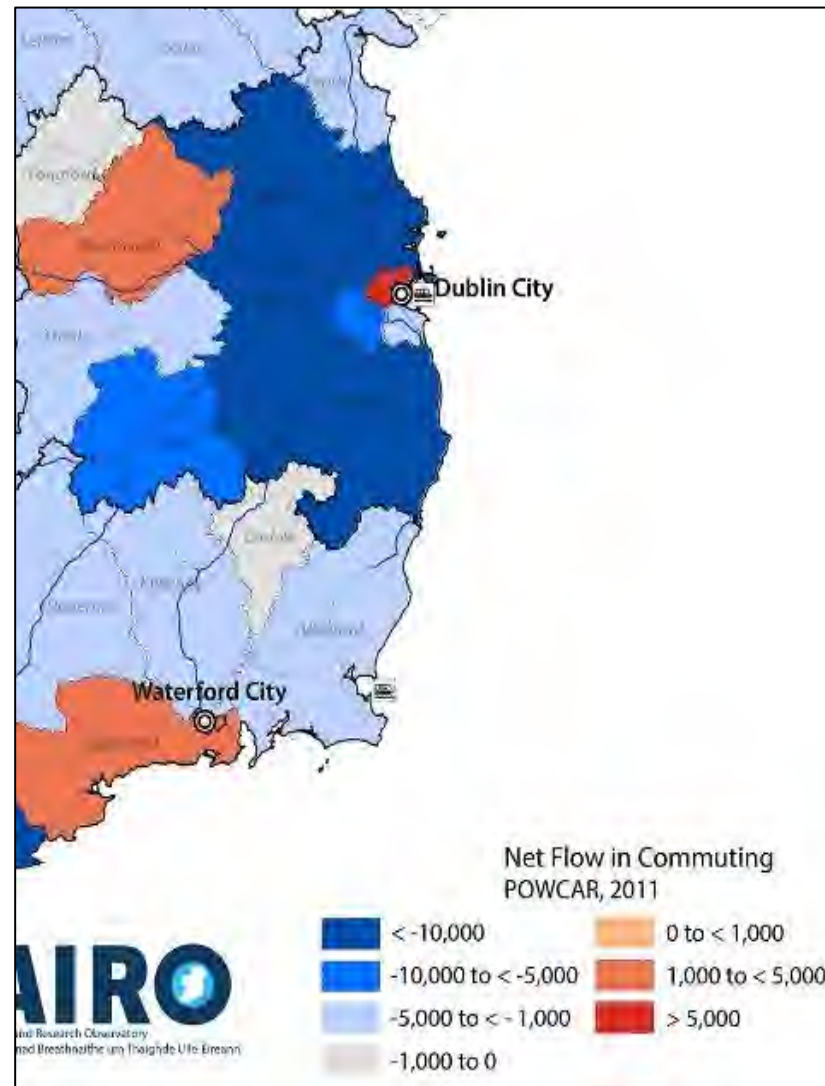
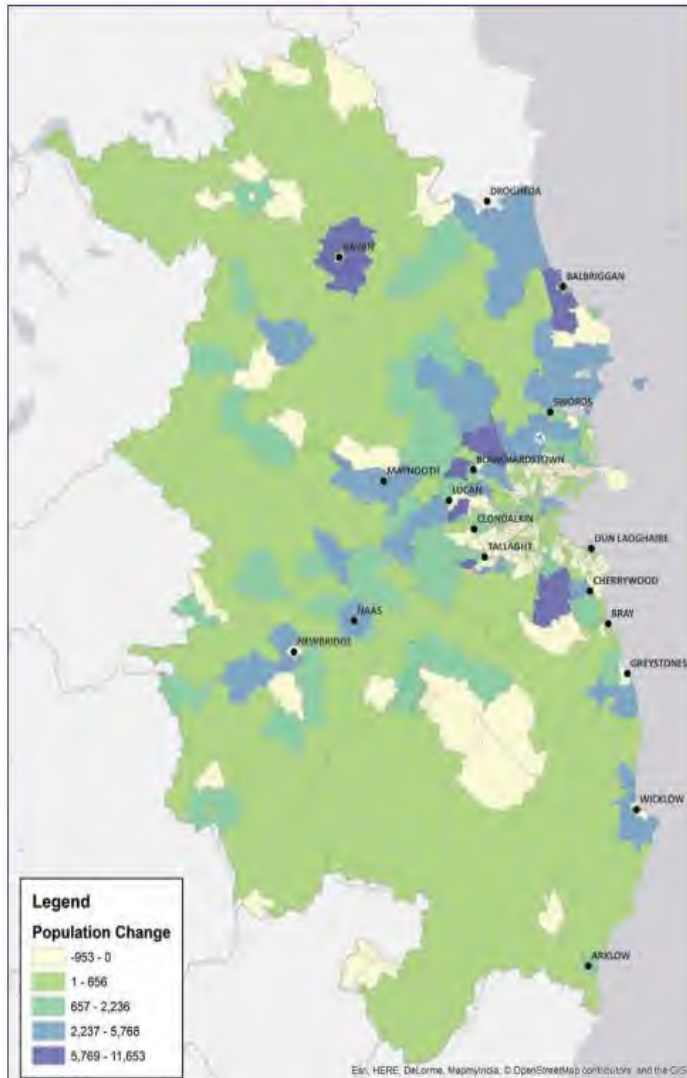
# The Greater Dublin Area – Population and Car Dependency

# GDA Area

- Dublin City and County
  - Dublin City Council (DCC)
  - South Dublin City Council (SDCC)
  - Dun Laoghaire-Rathdown (DLRCC)
  - Fingal County Council (FCC)
- Suburban Counties of Meath, Kildare, Wicklow



# Suburban Growth and Commuting

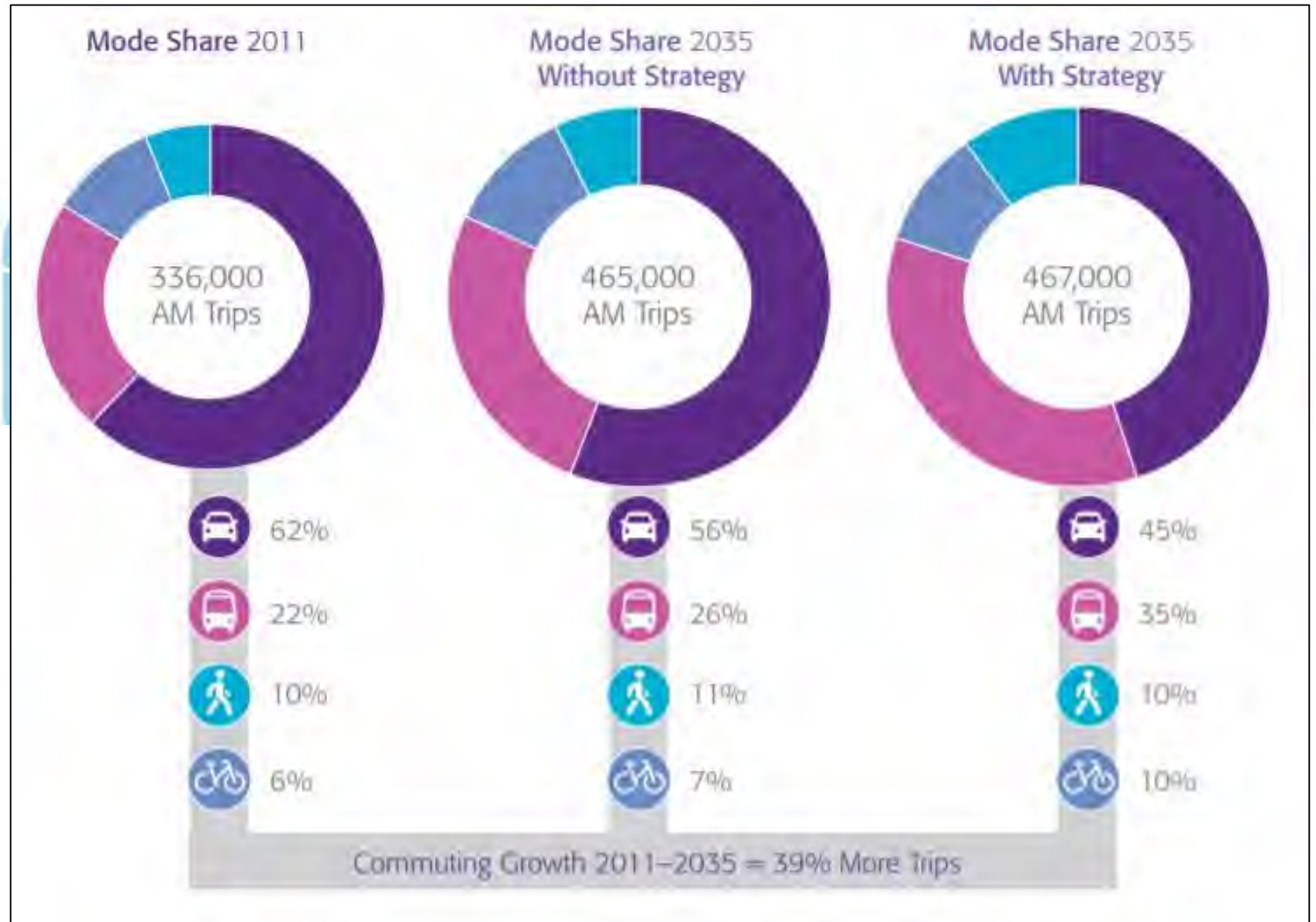




# Policies & Trends

- A Platform for Change (2001)
- Smarter Travel (2009)
- GDA Plan 2016-2035

- 500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%
- Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work



# Modal Shift

Figure 2.1 Means of travel of working commuters, 1986 - 2016

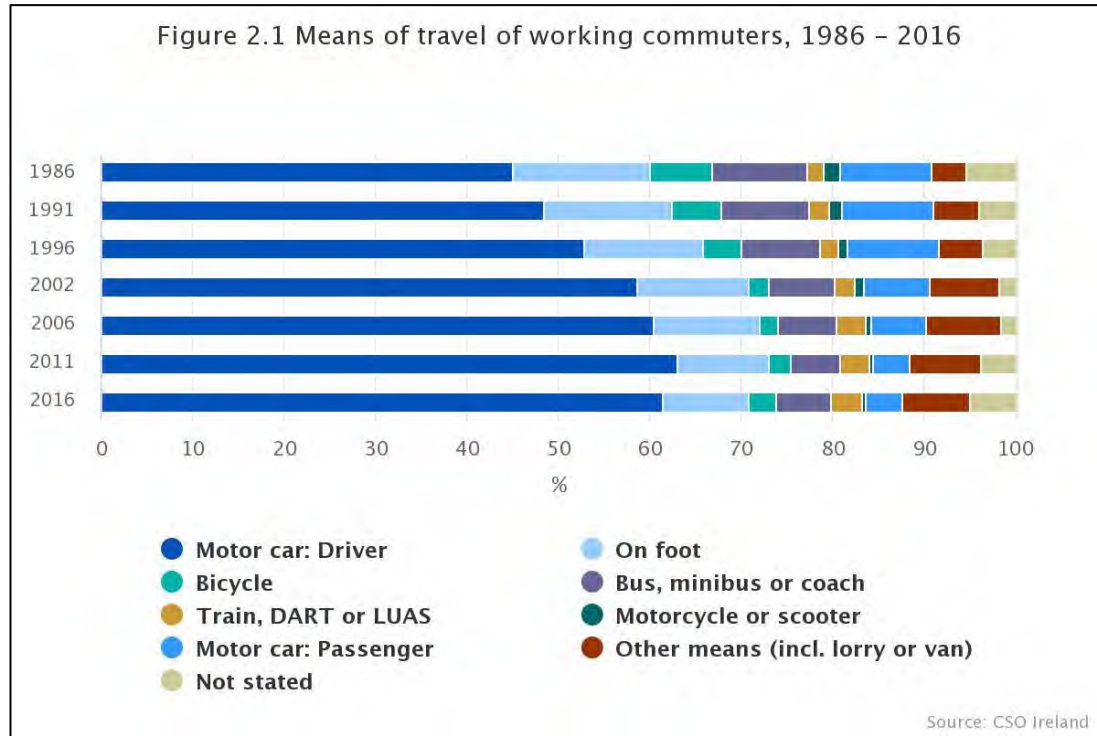
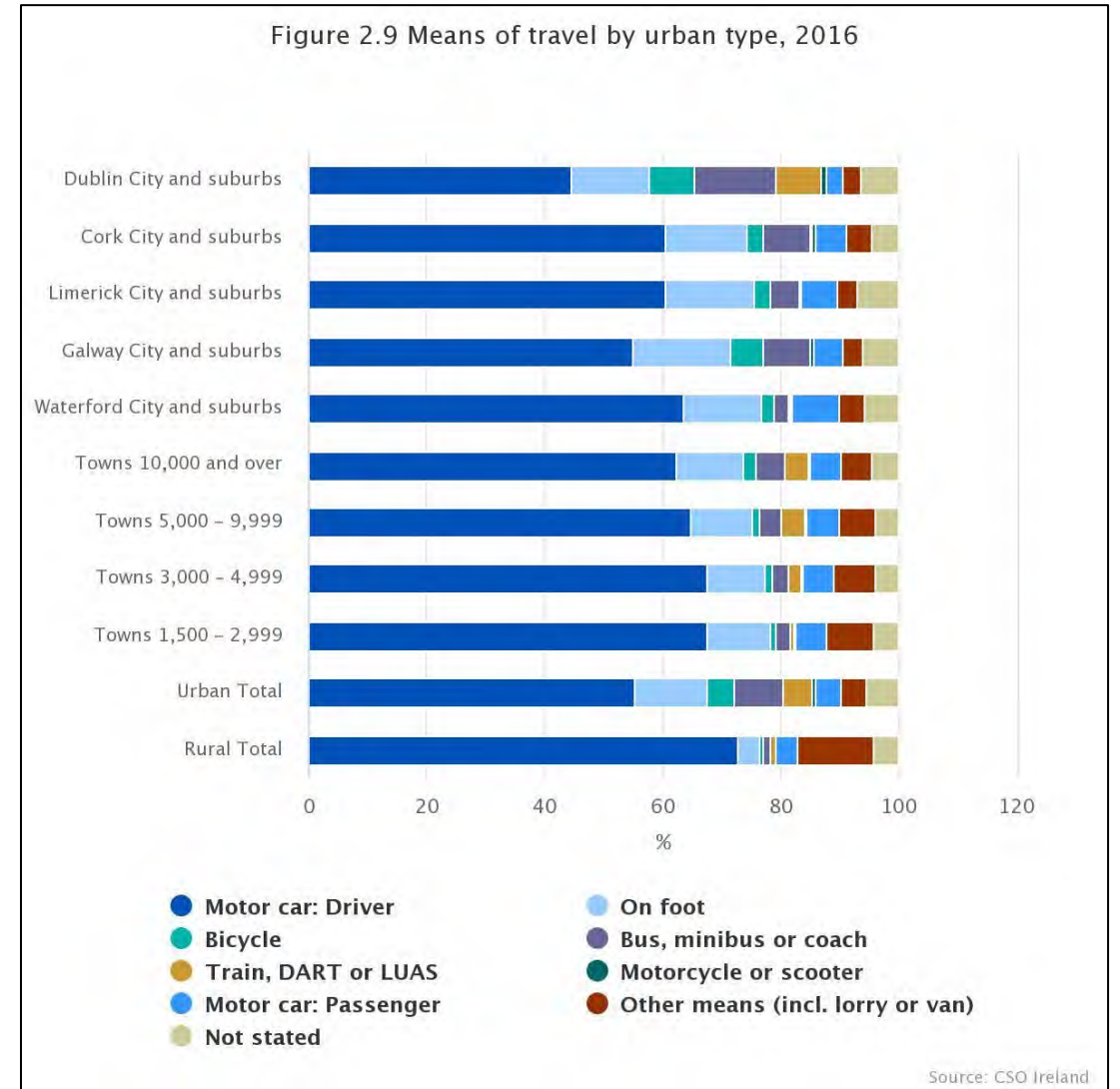


Figure 2.9 Means of travel by urban type, 2016



# Public Transport Issues

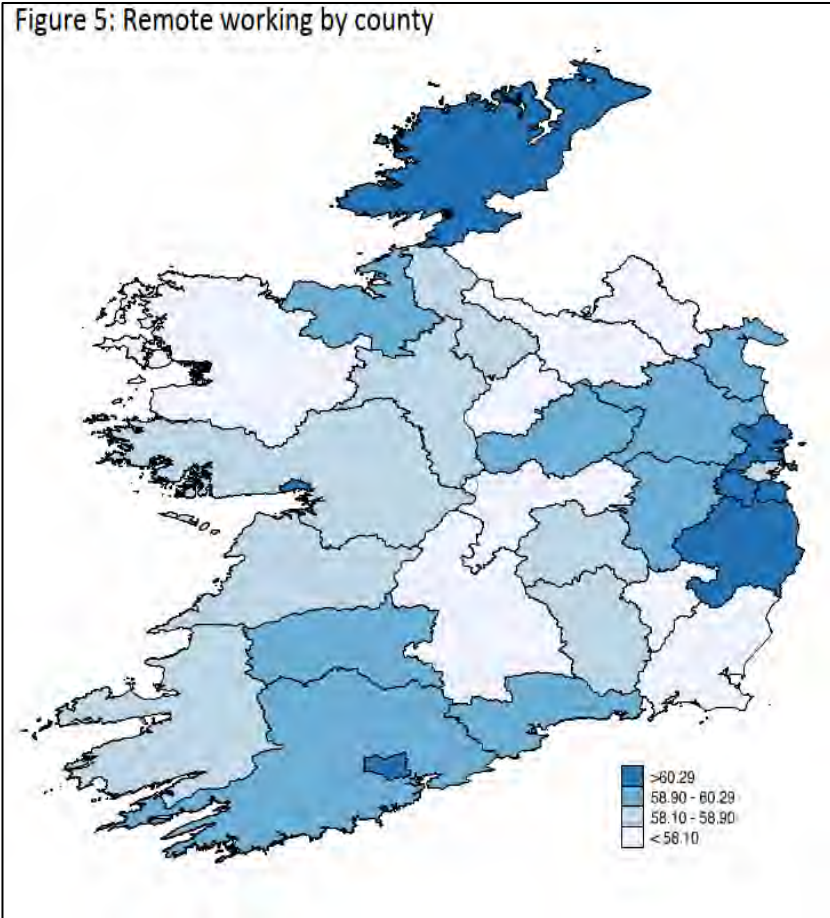
- Decline in rail infrastructure and growth in ‘predict and provide’ car-centric transport policy from the 1950s onwards
- A report by the European Parliament in 1986 found that Ireland had one of the lowest spending on roads at the time where expenditure per vehicle on roads decreased by 7% from 1960-1986 despite a traffic increase of over 400%
- Losses (Financial/Patronage) by Rail/Buses in 1970s and 1980s
- Low density housing development
- Supporting housing at greenfield sites on the outskirts of the city from the 1990s onwards which could only be accessed by car and would be financially unviable for PT to access these new remote locations

# Barriers to Sustainable Transfer (2011 Study)

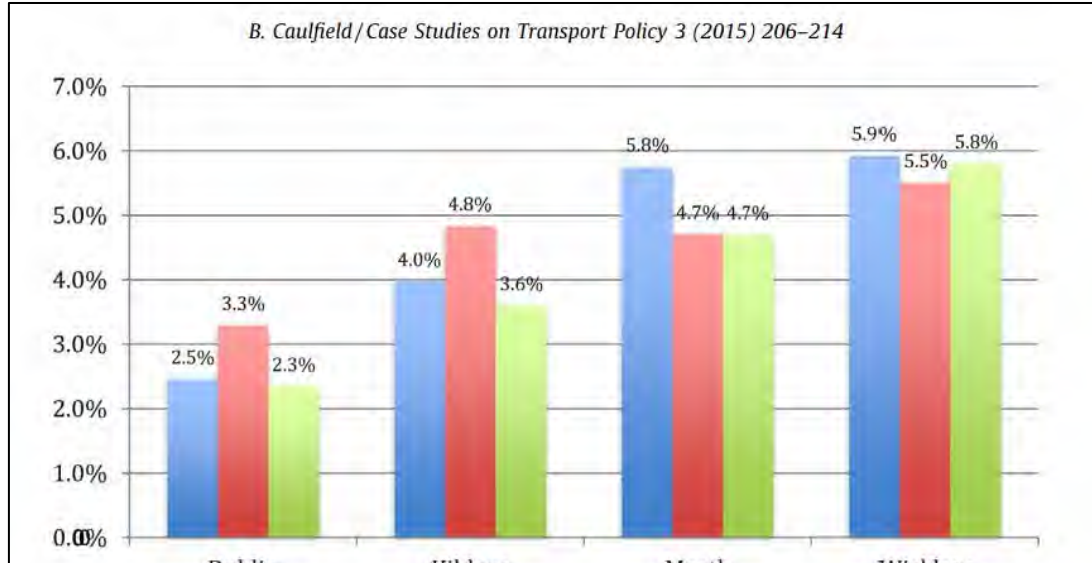
- Poor walking and cycling network
- Perceptions of safety (Walking and Cycling)
- Unreliability or availability in PT (especially in rural areas)
- GDA had greatest potential for modal shift
- Incentive only approach will have minimal effect in reducing car trips, especially if no other restrictions are applied to car trips
- Evidence pointing to successful mode transfer between bus/cycle/walk but limited between car and other modes
- 79.5% of GDA car owning households found owning a car a necessity

# WfH Potential Studies

Figure 5: Remote working by county



B. Caulfield / Case Studies on Transport Policy 3 (2015) 206-214



Ranking	Local Authority	Estimated Number of Private Sector Workers Capable of Operating Remotely
1st	Dublin City	84,702
2nd	Dún Laoghaire-Rathdown	39,982
3rd	Fingal	34,178
4th	Cork County	29,074
5th	South Dublin	27,614
6th	Kildare	18,475
7th	Meath	14,659
8th	Wicklow	12,887
9th	Limerick City and County	10,555
10th	Cork City	10,333

# COVID-19 – International Trends

# COVID-19 in International

**Table 5**  
Protective and supportive measures.

Type of measures (Multiple choices) Regions	Stay-at-home campaign has been propagated across the whole city/town.	Physical-distancing-friendly goods delivery has been widely practiced.	Physical distancing measures have been taken in public transport and their stations/stops (e.g., bus passengers use only rear doors to avoid close contact with the driver, bus/rail opens windows during operation)	Monetary compensation was paid to citizens for income reduction, medical treatment, etc.	Economic stimulus measures have been taken for recovery of industries.	Protection measures for social distancing have been taken based on information collected by tracing behavior trajectories via mobile phone, security video camera, credit card and/or other high-tech media.
China (61)	80.3%	54.1%	63.9%	31.1%	49.2%	68.9%
Europe (50)	88.0%	78.0%	82.0%	74.0%	72.0%	24.0%
USA/Canada (38)	84.2%	78.9%	78.9%	60.5%	71.1%	26.3%
Other Asia (33)	97.0%	72.7%	60.6%	66.7%	42.4%	66.7%
Japan (31)	100.0%	25.8%	32.3%	45.2%	32.3%	19.4%
India (28)	96.4%	67.9%	32.1%	53.6%	39.3%	57.1%
South Korea (18)	77.8%	50.0%	66.7%	77.8%	55.6%	66.7%
Others (25)	96.0%	64.0%	60.0%	60.0%	56.0%	48.0%
All countries/ regions	89.1%	62.7%	62.0%	56.0%	54.6%	46.5%

(note: the number in parenthesis after each region name refers to the number of participating experts).

# Public Transport Threat

**Table 7**

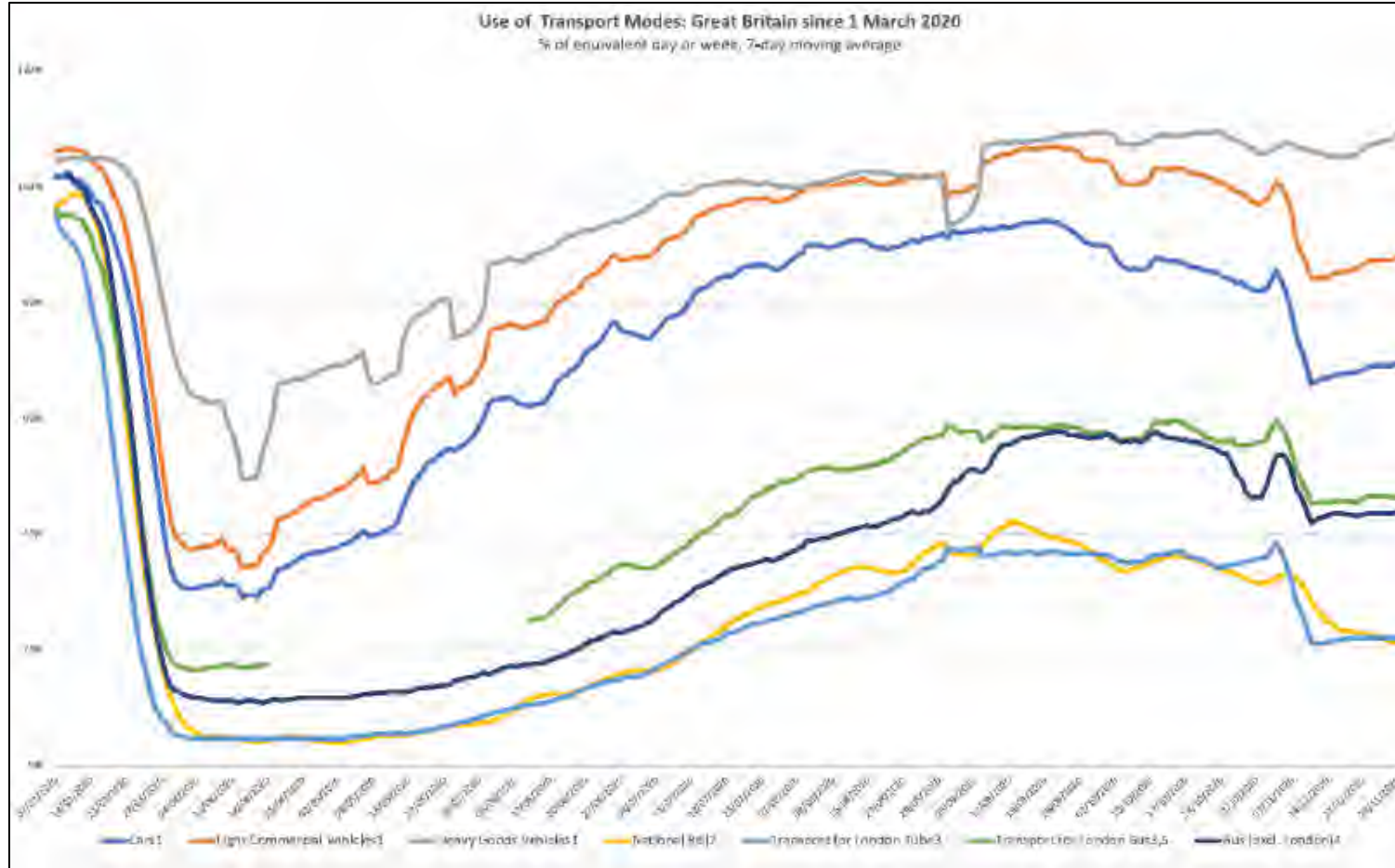
Modal shifts observed by experts.

(subjective observations) (Multiple choices)	from public transport to car	from public transport to walking	from public transport to cycling
China (61)	78.7%	44.3%	37.7%
Europe (50)	68.0%	60.0%	58.0%
USA/Canada (38)	63.2%	39.5%	39.5%
Other Asia (33)	51.5%	30.3%	30.3%
Japan (31)	51.6%	25.8%	22.6%
India (28)	46.4%	50.0%	25.0%
South Korea (18)	94.4%	33.3%	5.6%
Others (25)	60.0%	40.0%	36.0%
All countries/regions	64.8%	42.3%	35.6%

(note: the number in parenthesis after each region name refers to the number of participating experts).

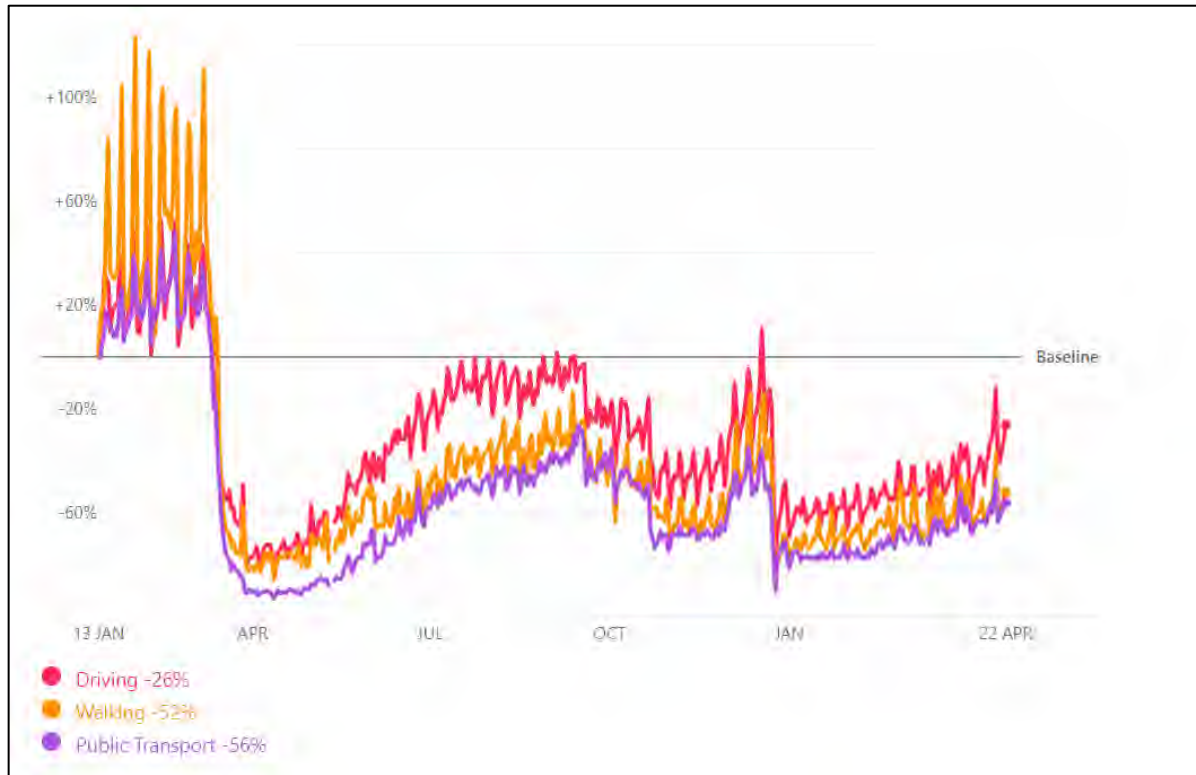


# Public Transport Threat

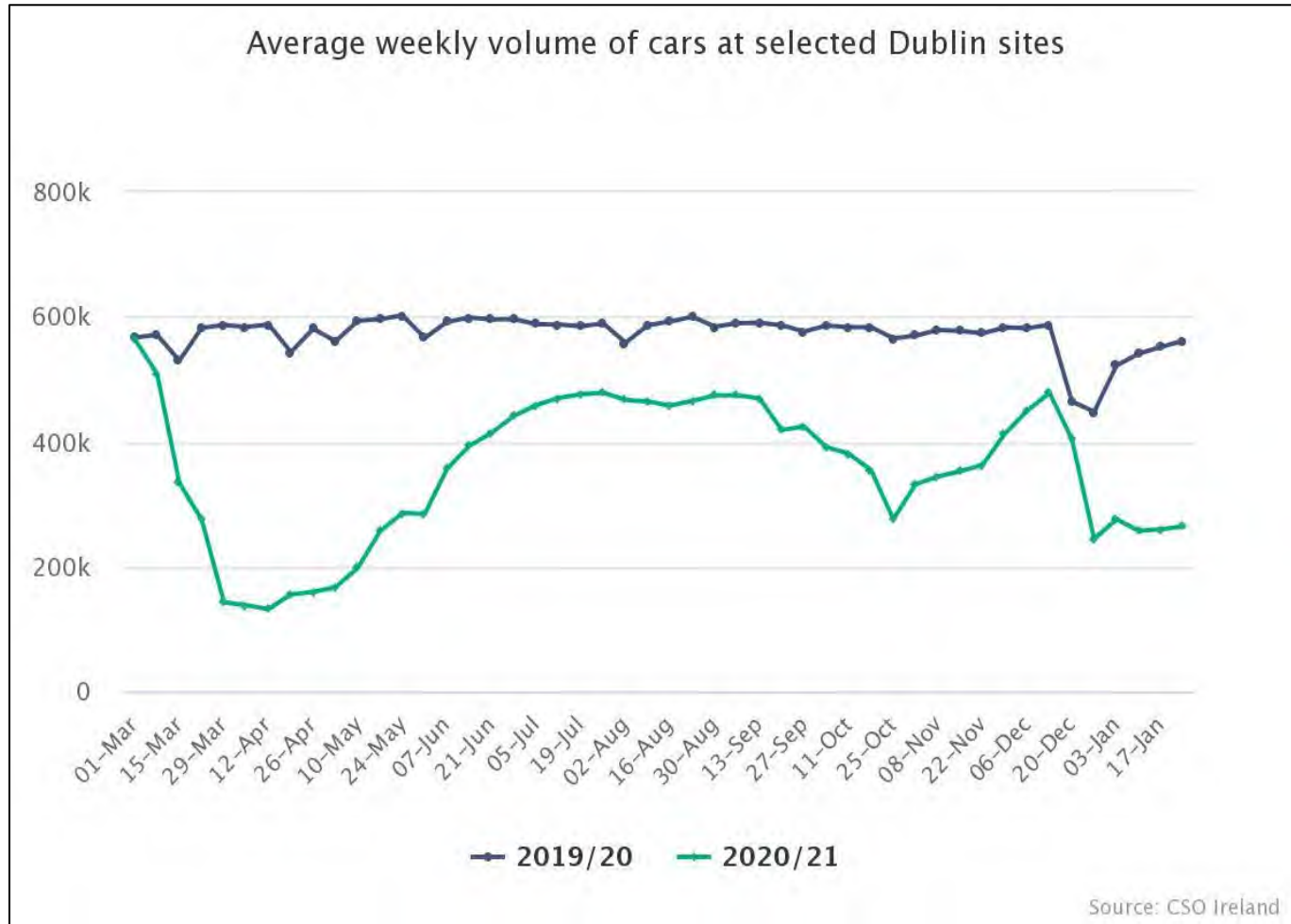


# COVID-19 – Ireland, GDA, and Transport

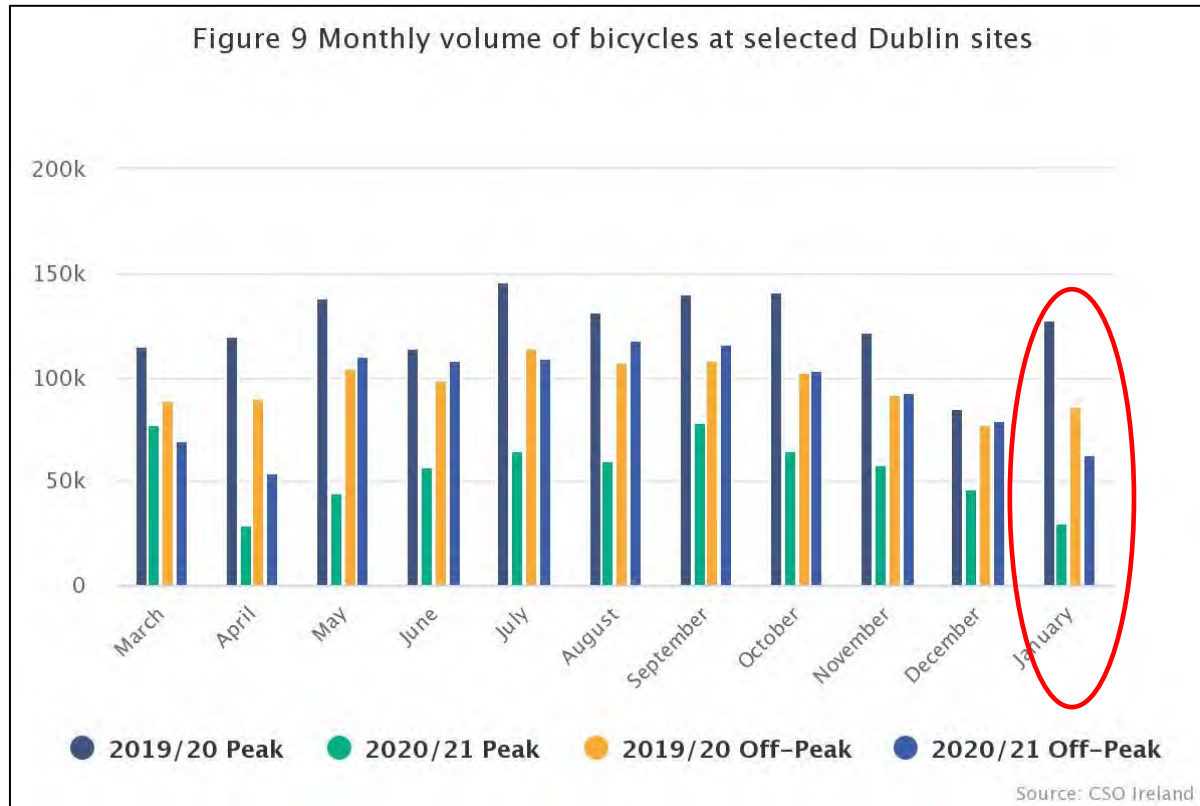
# Reduction in Traffic and Modes



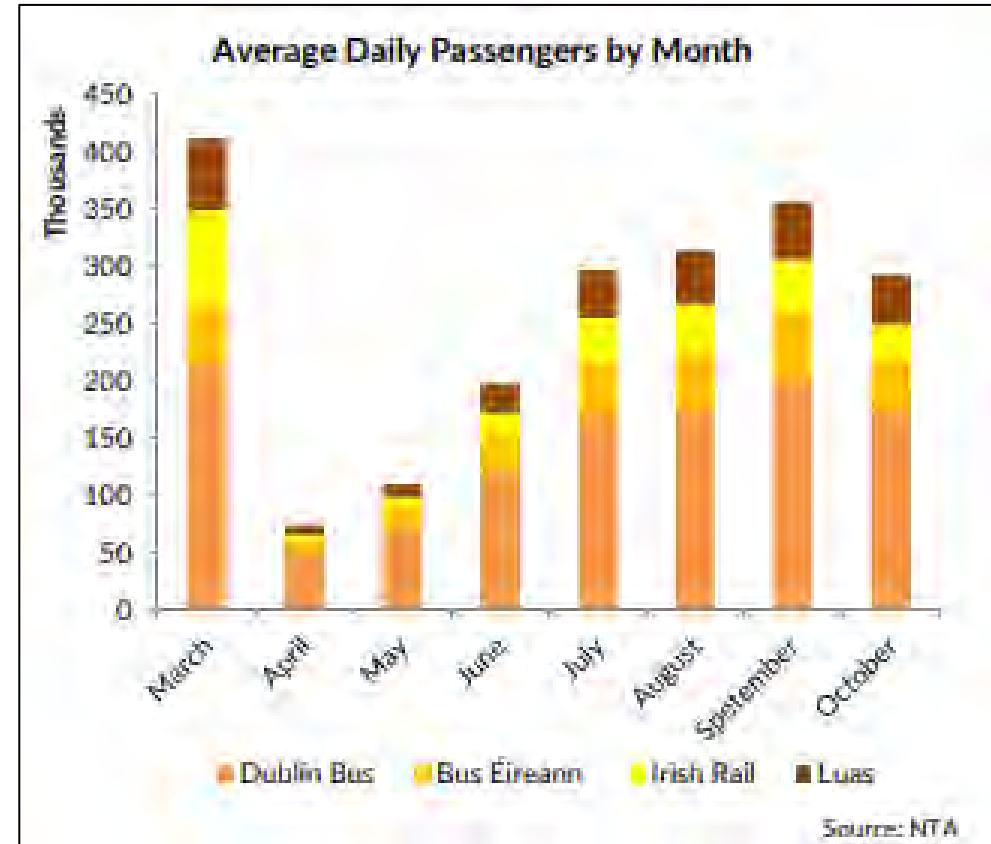
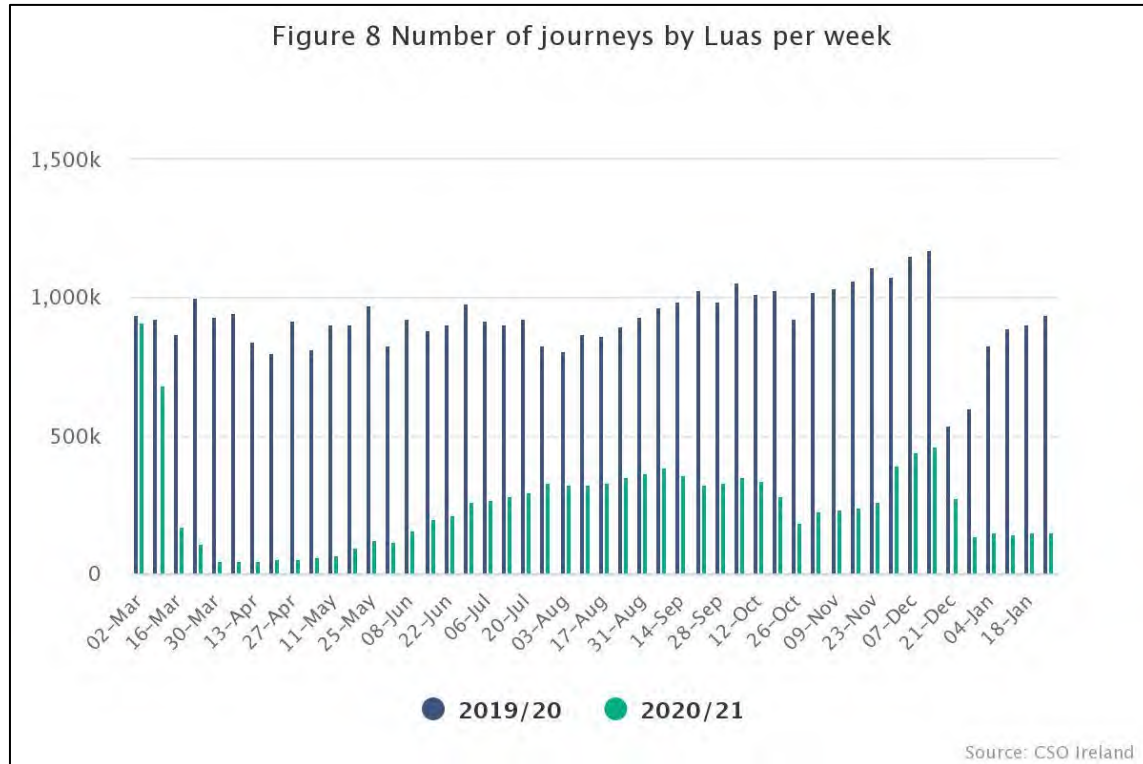
# Car Traffic Reduction



# Cycle Patterns Changing



# Public Transport Reduction



# Survey of GDA Commuters

# Questions to Answer

1. What are the existing, and potential WfH trends in the GDA?
2. What transport modes will be most affected by this?
3. What physical and mental barriers prevent transfer to sustainable modes?



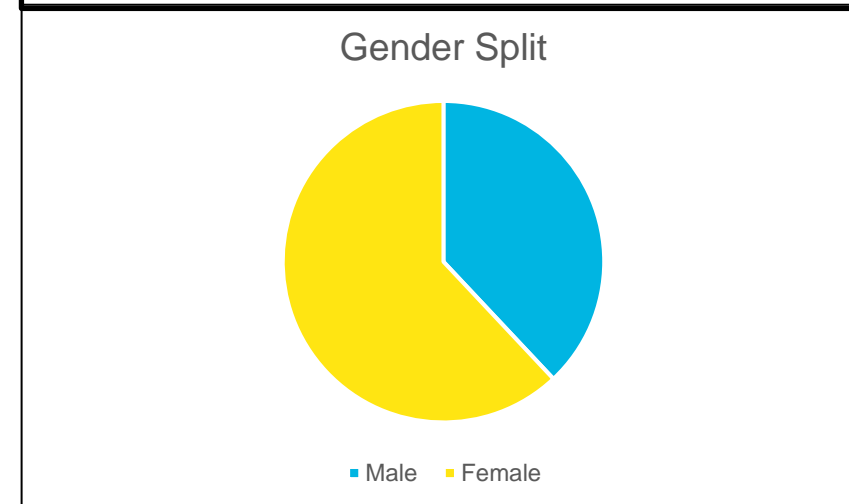
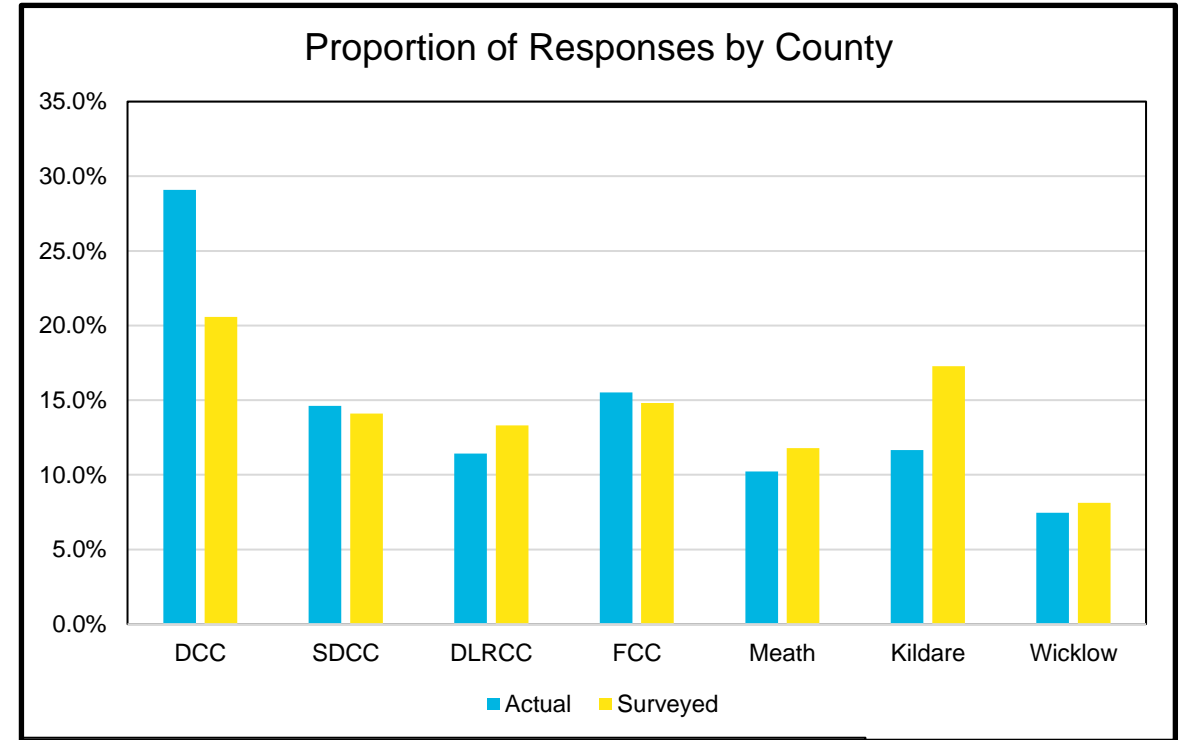
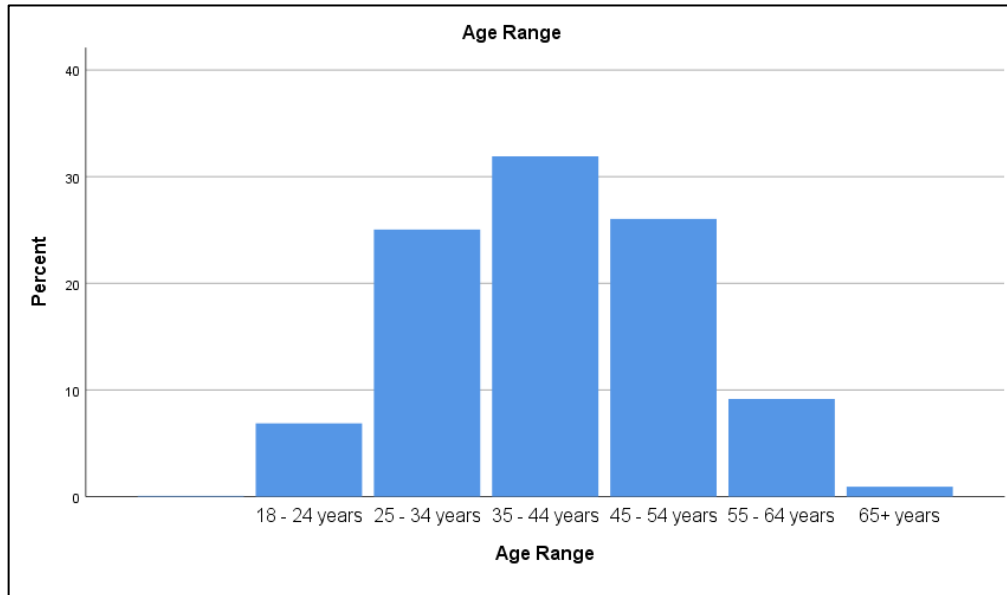
# Questionnaire Development

- 50 individual LEAs within 7 counties targeted (1000 responses minimum)
- 40 questions in three parts
  - Part 1: Before COVID-19 Travel Patterns (Base Data)
  - Part 2: During COVID-19 Travel Patterns and experiences
  - Part 3: After COVID-19 (2-5years)
- Distributed on Twitter, Facebook Groups, and LinkedIn.

County Council	LEA	Population	% of County	Q1	Q2	Q3
Dublin City Council (DCC)	Artane/Wynnemore	11,158	1.7%	17	11	10%
	Ballyfermot/Dunmagan	46,666	7.4%	24	34	126%
	Ballywinneam/Engleac	15,000	2.3%	19	38	198%
	Cabra/Blasnewin	38,631	6.0%	21	25	104%
	Clonsilla	9,486	1.5%	18	17	100%
	Dúnabharráde	41,584	6.5%	11	24	100%
	Winnemore/Fishmines	15,261	2.4%	29	25	87%
	Bombale	45,471	7.1%	24	11	46%
	North Inner City	13,111	2.0%	13	44	100%
South West Inner City	41,344	6.5%	22	19	87%	
South East Inner City	40,403	6.3%	21	14	67%	
South Dublin County Council (SDCC)	Clonsilla	46,533	7.4%	24	27	109%
	Firhouse/Bonmahoneen	35,202	5.6%	18	15	83%
	Luton	33,390	5.3%	18	14	78%
	Colmestown/Fonhill	31,453	5.0%	10	11	110%
	Fallin/William/Templeogue	47,805	7.6%	28	31	108%
	Tallaght_South	33,562	5.3%	19	18	100%
Dún Laoghaire - Rathdown County Council (DLRCC)	Tallaght_Central	49,115	7.6%	29	21	76%
	Millin/Shankhill	28,164	4.4%	11	11	100%
	Bjshree	33,721	5.2%	18	25	139%
	Dunblun	17,851	2.7%	10	10	100%
	Dun Laoghaire	40,548	6.2%	21	34	160%
Fingal County Council (FCC)	Glencullen/Jonkford	36,625	5.6%	19	16	84%
	Ettilogan	30,500	4.7%	16	16	100%
	Balerigan	16,578	2.5%	19	18	100%
	Castleknock	46,191	7.0%	24	45	188%
	Howth/Malahide	35,400	5.4%	19	24	126%
	Clingar	15,811	2.4%	19	13	68%
	Syrens	36,087	5.5%	17	16	94%
Meath County Council (MCC)	Brownsford/Moy/Mulkeenan	15,104	2.3%	15	15	100%
	Rush_Cross	34,674	5.3%	18	14	78%
	Donboume	15,285	2.3%	15	10	67%
	Kells	31,894	4.9%	17	11	65%
Wick County Council (WCC)	Laytown/Belvedere	34,025	5.2%	18	15	83%
	Navan	34,531	5.2%	18	18	100%
	Castell	13,206	2.0%	17	15	88%
	Trim	31,095	4.7%	18	17	94%
Wicklow County Council (WLC)	Arly	26,541	4.0%	14	14	100%
	Celbridge	21,823	3.3%	11	10	91%
	Clane	38,439	5.7%	15	11	73%
	Kilbeg/Town	25,702	3.9%	13	10	77%
	LerDD	15,367	2.3%	8	8	100%
	Maynooth	38,730	5.8%	16	11	69%
Wicklow County Council (WLC)	Wick	33,128	5.0%	21	18	86%
	Newbridge	25,480	3.8%	19	11	58%
	Arthly	26,128	3.9%	14	11	79%
	Bathglass	26,167	3.9%	14	11	79%
Wicklow County Council (WLC)	Bray East	17,111	2.6%	9	15	167%
	Bray West	18,404	2.8%	10	15	150%
	Greystones	26,021	3.9%	14	11	79%
	Wicklow Town	28,013	4.2%	15	11	73%
Overall	1,967,102.00	100%	100	100		

# Summary

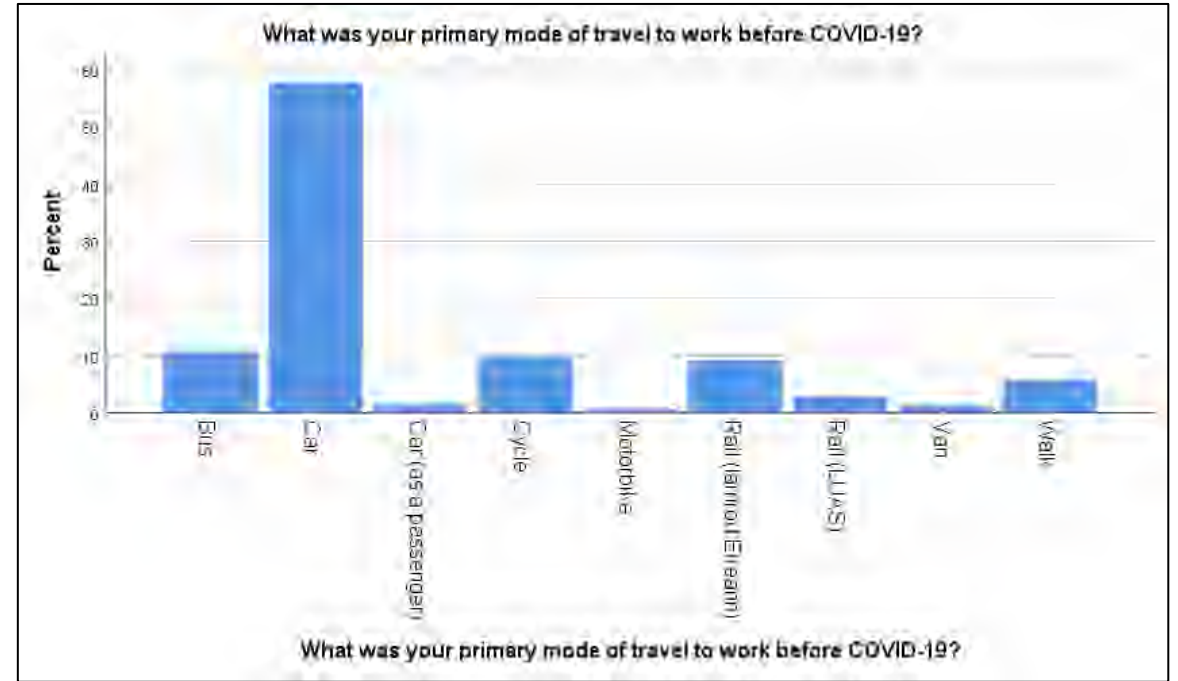
- 1678 responses received
- Reduced to 1398 (Quality control)
- Gender Split
- Age



# GDA and Dublin County Modal Shift

Mode (GDA Overall)	Nr	% Received	GDA Strategy
Car	808	57.8%	56%
Bike	139	9.9%	7%
Bus	151	10.8%	13%
Walk	80	5.7%	11%
Rail (LUAS)	41	2.9%	6%
Car (passenger)	21	1.5%	1%
Motorbike	10	0.7%	0%
Iarnrod Eireann	129	9.2%	7%
Van	19	1.4%	0%
<b>TOTAL</b>	<b>1398</b>	<b>100%</b>	<b>100%</b>

Mode (Dublin County)	Nr	%	2016 (%)
Car	420	48%	44.3%
Bike	135	16%	7.6%
Bus	116	13%	13.6%
Walk	66	8%	13.2%
Rail (LUAS)	39	4%	3.9%
Car (passenger)	13	1%	2.7%
Motorbike	7	1%	0.8%
Iarnrod Eireann	69	8%	4%
Van	3	0%	3.1%
<b>TOTAL</b>	<b>868</b>	<b>100%</b>	



# Suburban Modal Shift

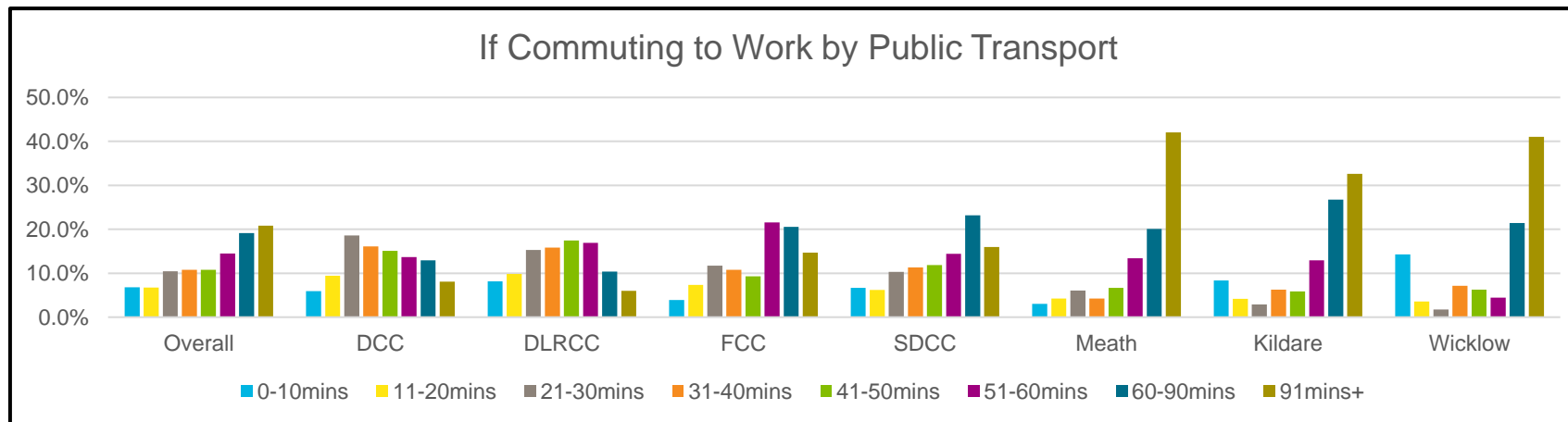
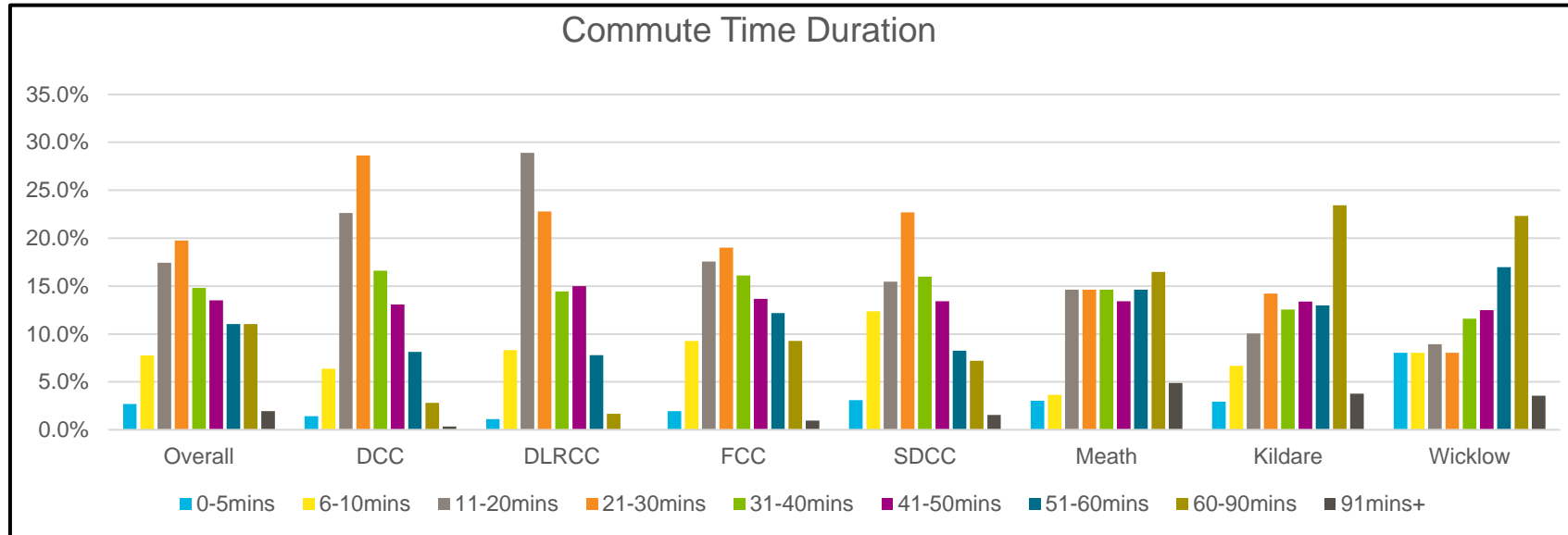
Mode (Kildare)	Nr.	%
Car	158	66%
Bike	3	1%
Bus	14	6%
Walk	7	3%
Rail (LUAS)	0	0%
Car (passenger)	4	2%
Motorbike	0	0%
Iarnrod Eireann	46	19%
Van	7	3%
<b>TOTAL</b>	<b>239</b>	<b>100%</b>

Mode (Meath)	Nr.	%
Car	137	84%
Bike	0	0%
Bus	13	8%
Walk	3	2%
Car (passenger)	1	1%
Motorbike	1	1%
Iarnrod Eireann	3	2%
Van	6	4%
<b>TOTAL</b>	<b>164</b>	<b>100%</b>

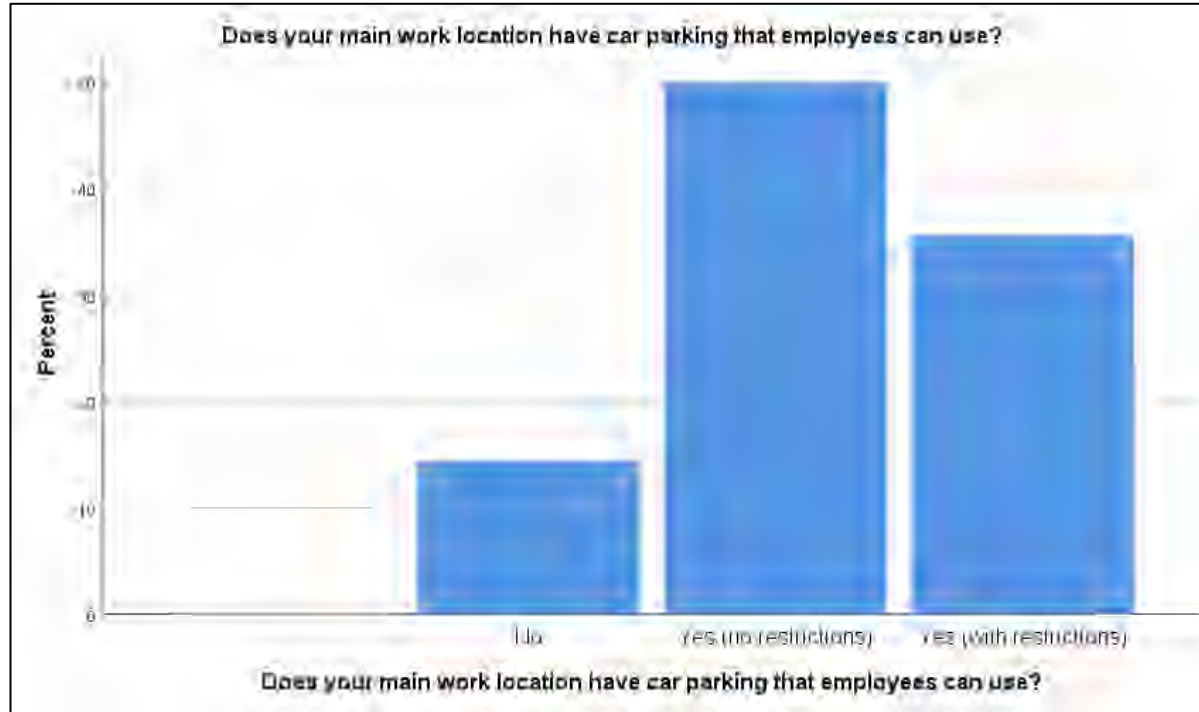
Mode (Wicklow)	Nr.	%
Car	86	77%
Bike	0	0%
Bus	5	4%
Walk	4	4%
Rail (LUAS)	1	1%
Car (passenger)	3	3%
Motorbike	2	2%
Iarnrod Eireann	9	8%
Van	2	2%
<b>TOTAL</b>	<b>112</b>	<b>100%</b>

# Before COVID:19-Journey Time Reporting

28mins average  
journey time Overall

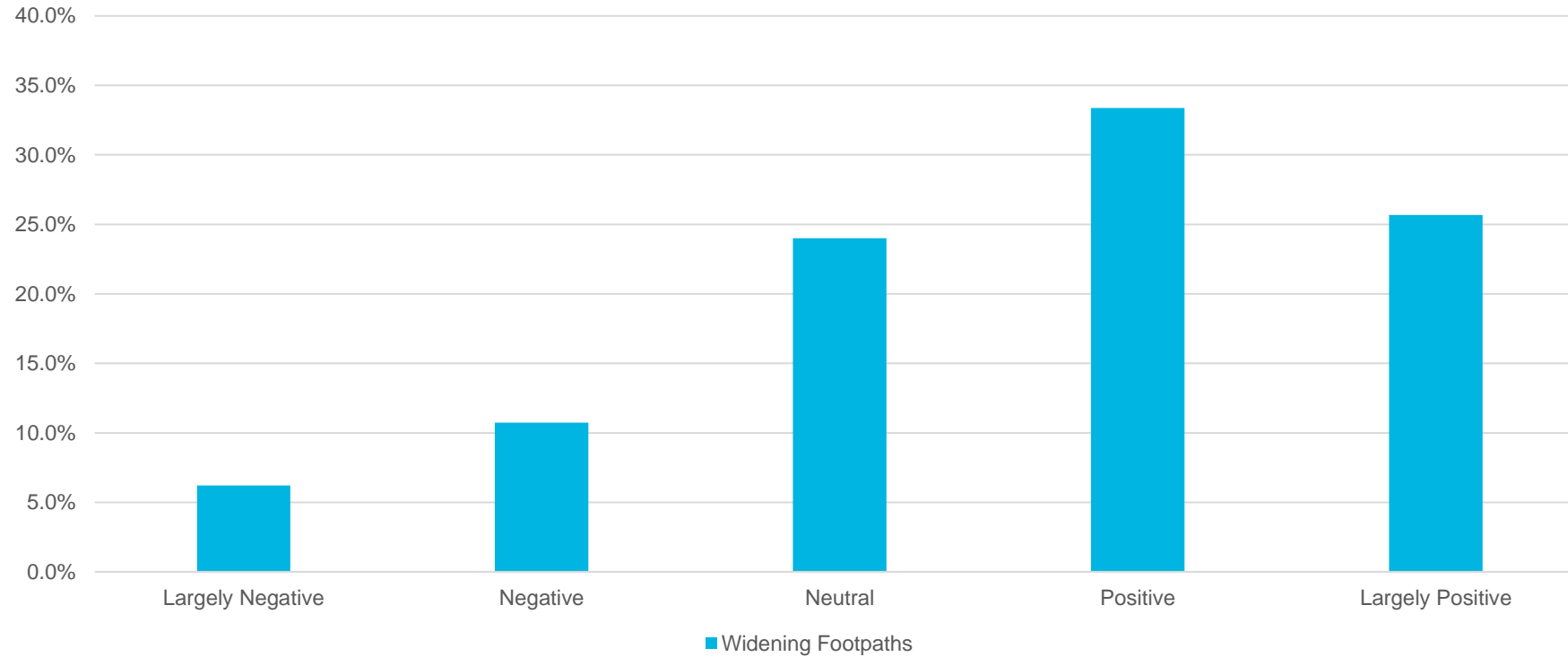


# Workplace Travel Conditions



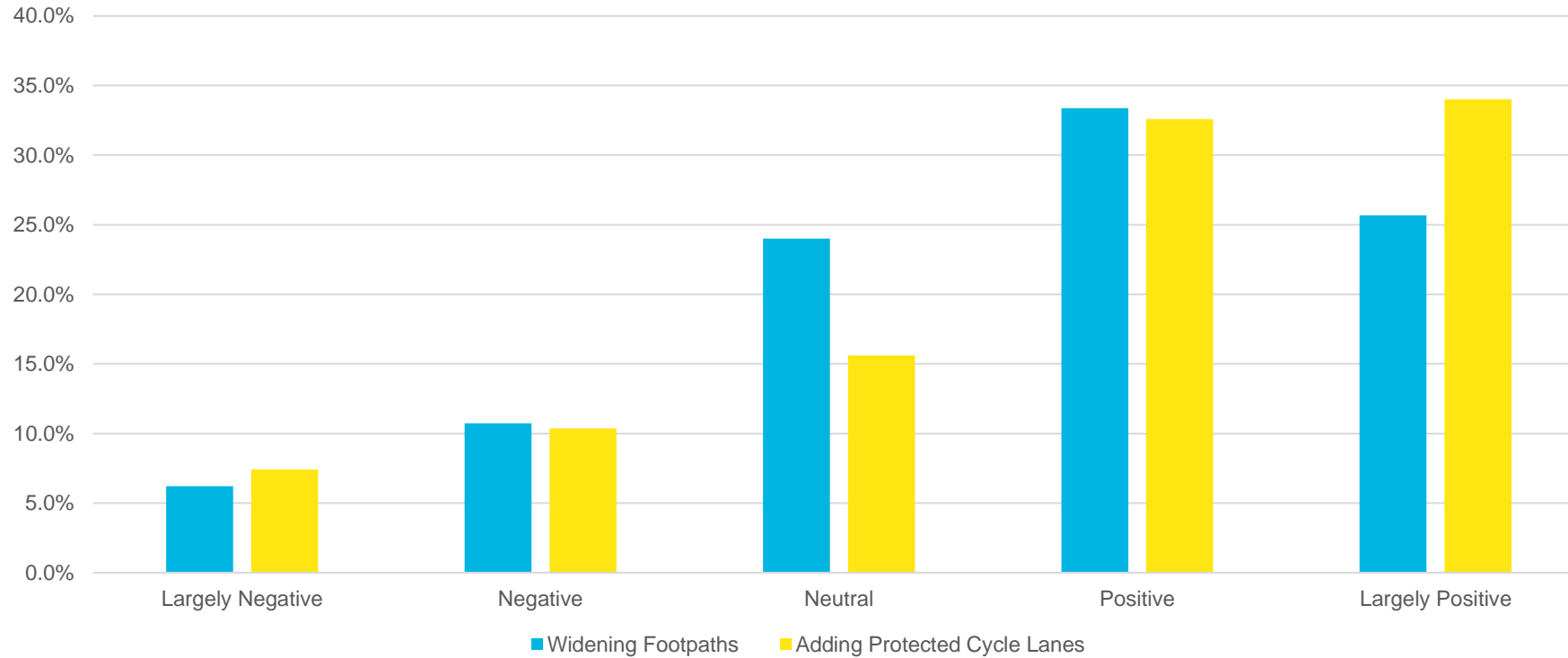
# COVID-19 Street Measures

Opinion of COVID-19 Street Measures



# COVID-19 Street Measures

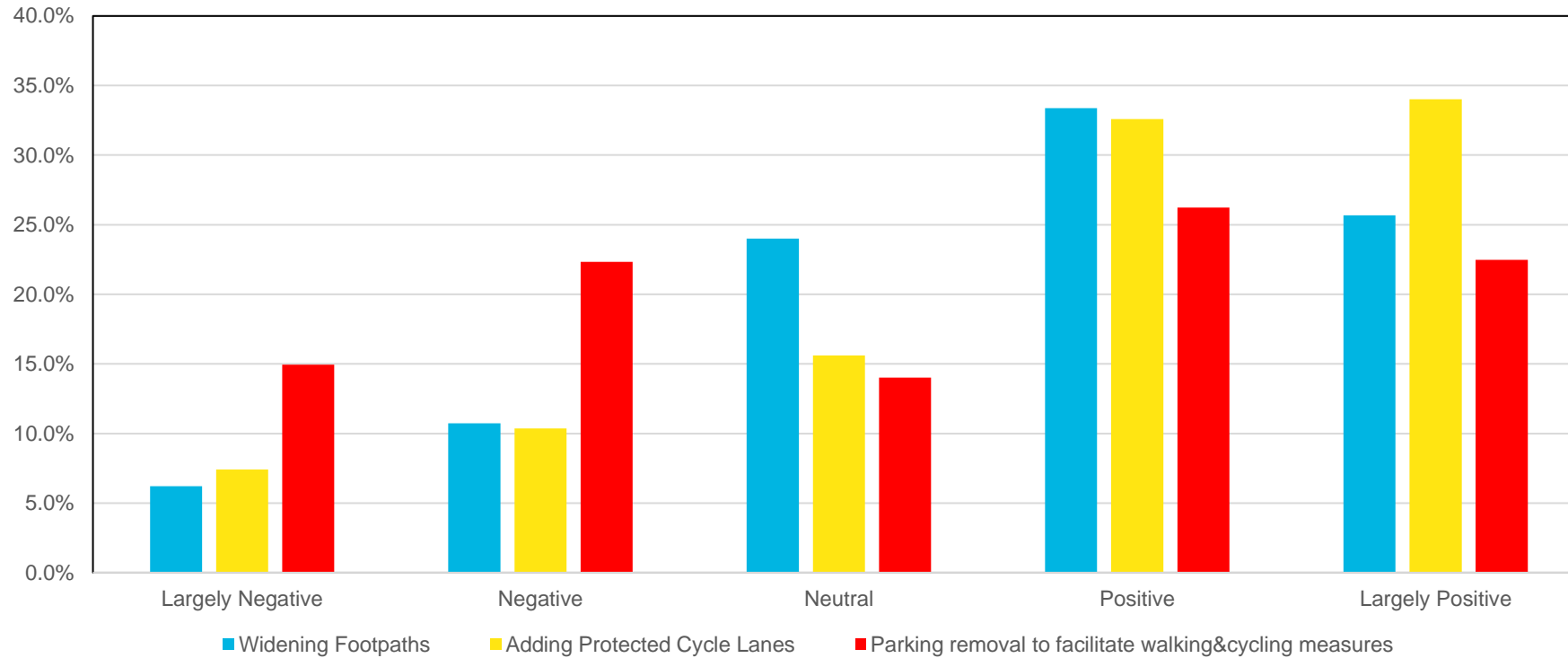
Opinion of COVID-19 Street Measures





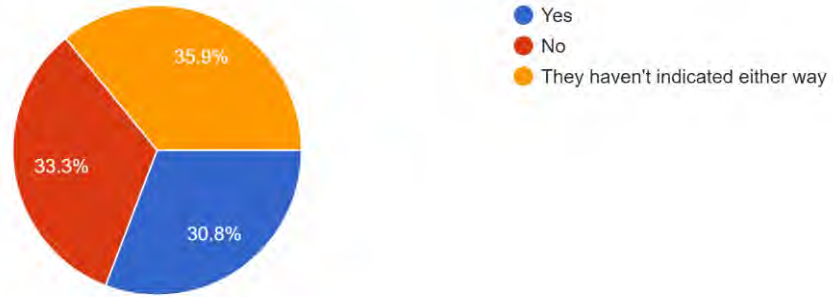
# COVID-19 Street Measures

Opinion of COVID-19 Street Measures

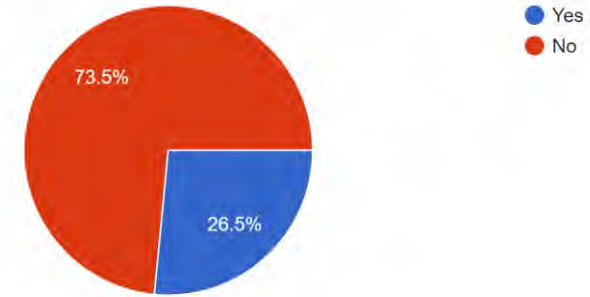


# After COVID-19: Companies

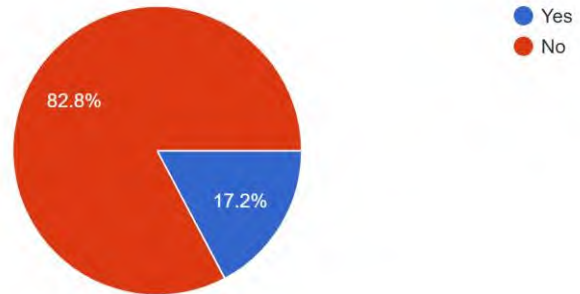
Has your company indicated that they will facilitate more WfH after COVID-19?



As a result of COVID-19, would you consider moving further away from the Dublin City area?

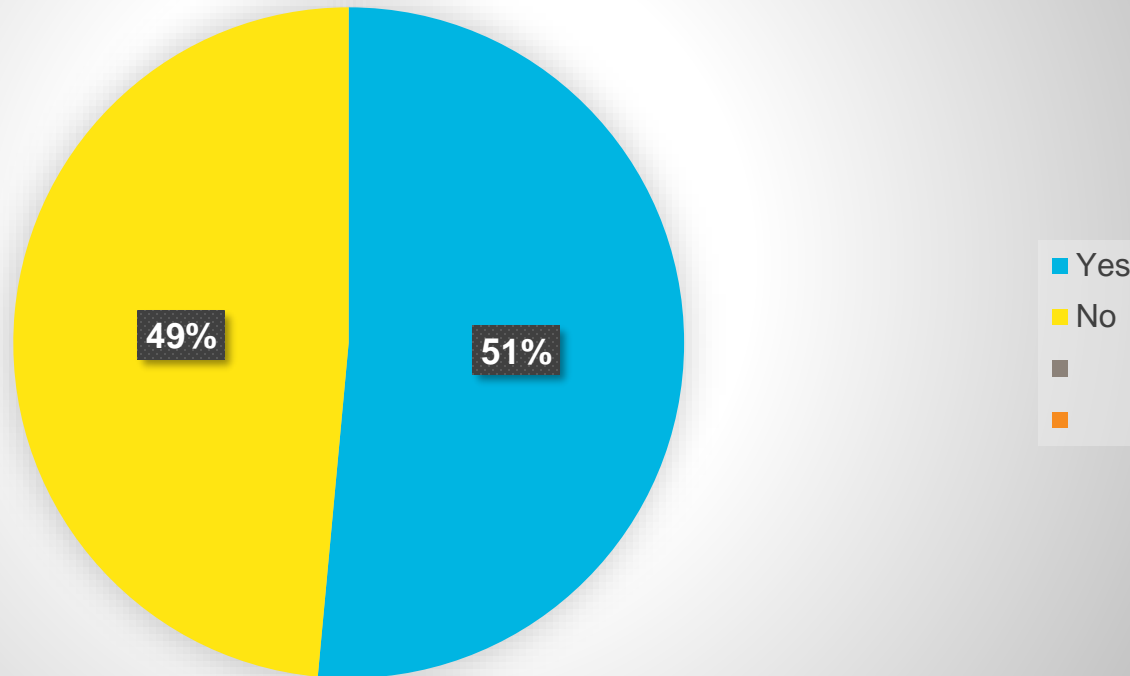


As a result of COVID-19, are you considering changing jobs that will allow more WfH?



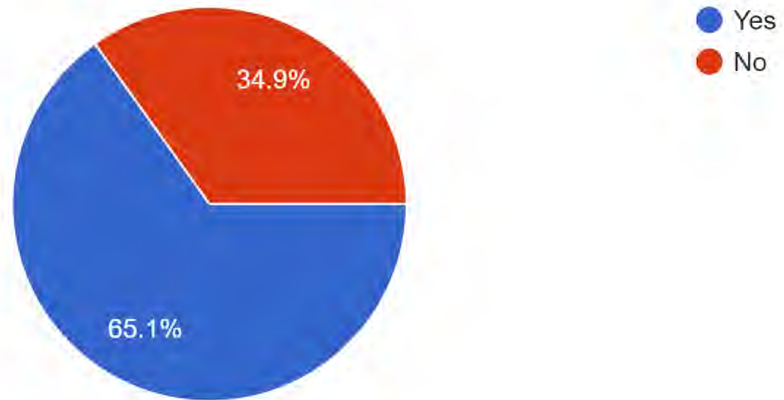
# During COVID-19: Opinions

Would you be less likely to use Buses/Rail after COVID-19?



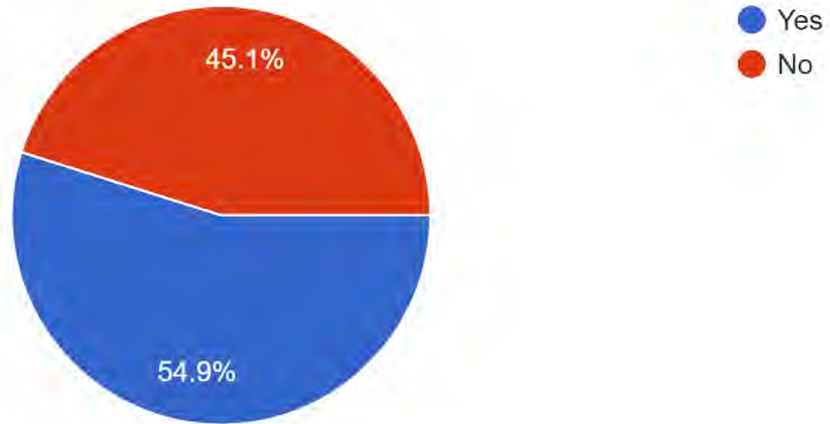
# During COVID-19: Opinions

If a dedicated bus route could take you to your workplace in the same travel time as by car, would you consider using it?



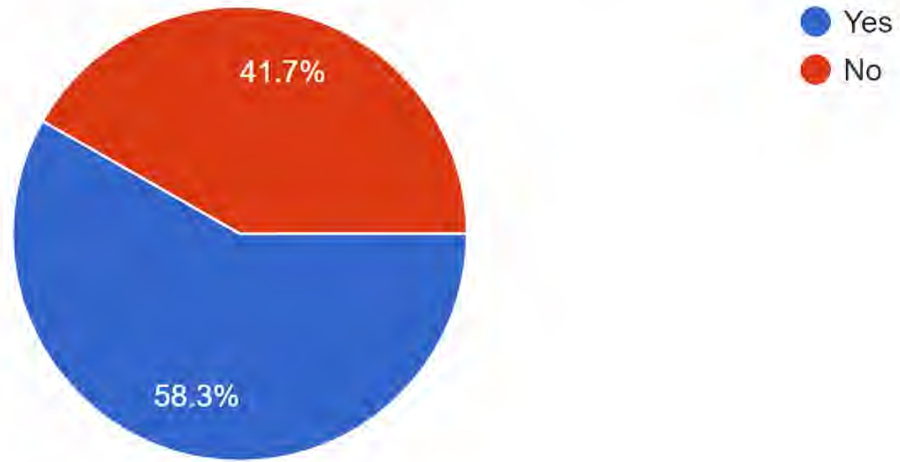
# During COVID-19: Opinions

If a fully protected cycle route was present between your home and workplace and was 10-20 mins shorter than your drive to work, would you consider using it ?



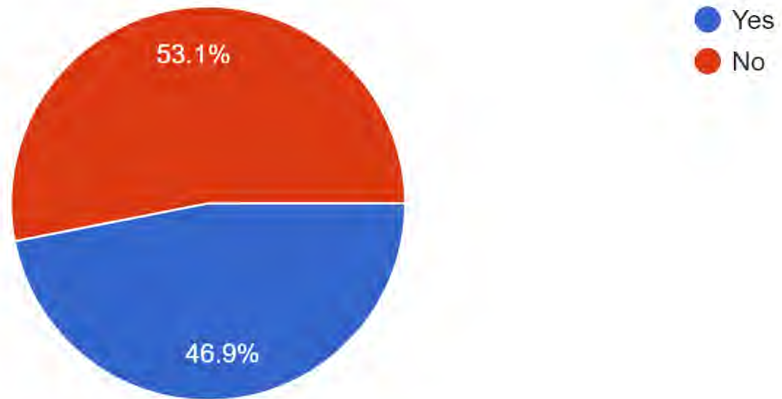
# During COVID-19: Opinions

If cycling to work would improve your immune system by 10%, would you consider it?



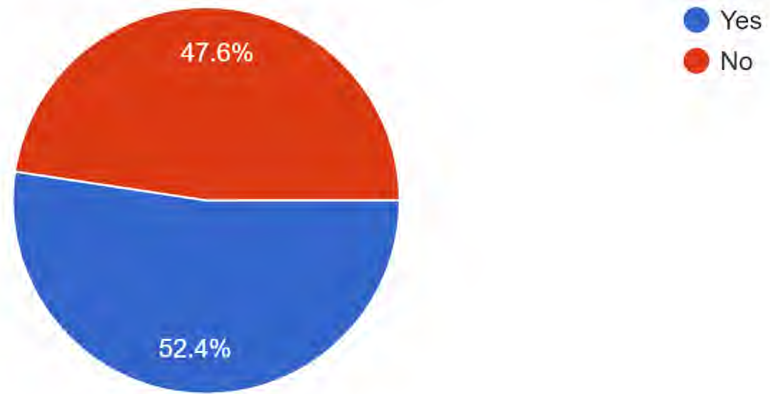
# During COVID-19: Opinions

If a congestion charge of 20 Euros were applied to the Inner Canal Area of Dublin City, would this reduce your car usage?



# During COVID-19: Opinions

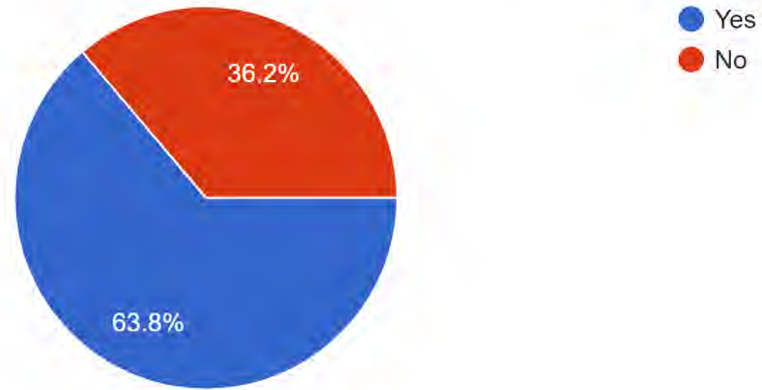
If the cost of fuel were to increase by 50%, would you be less likely to use your car?



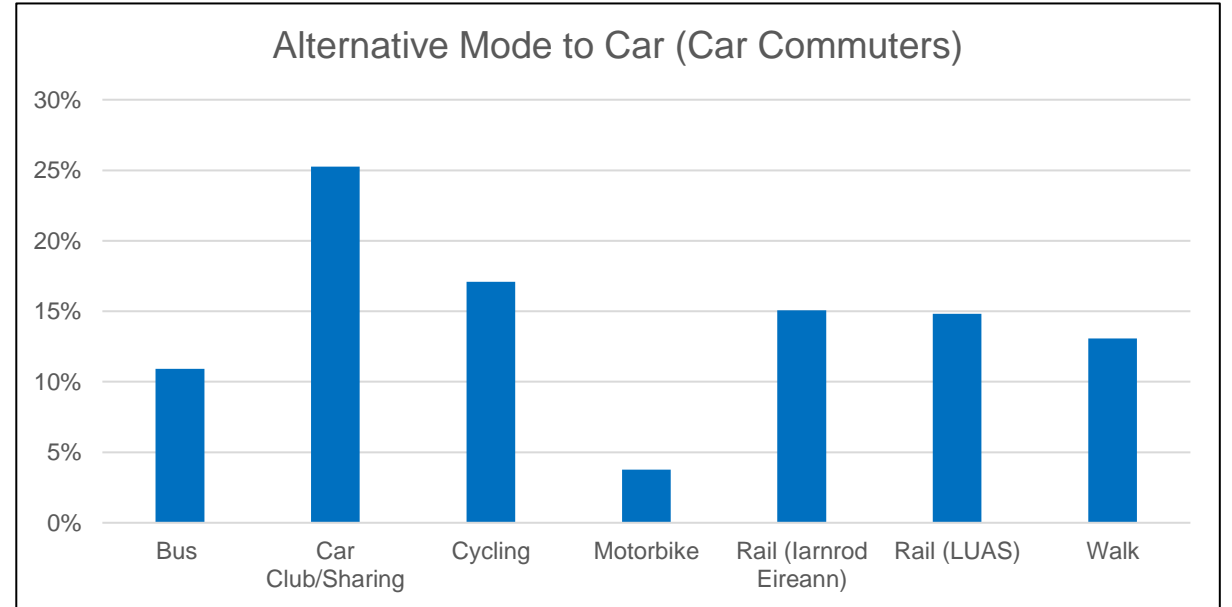
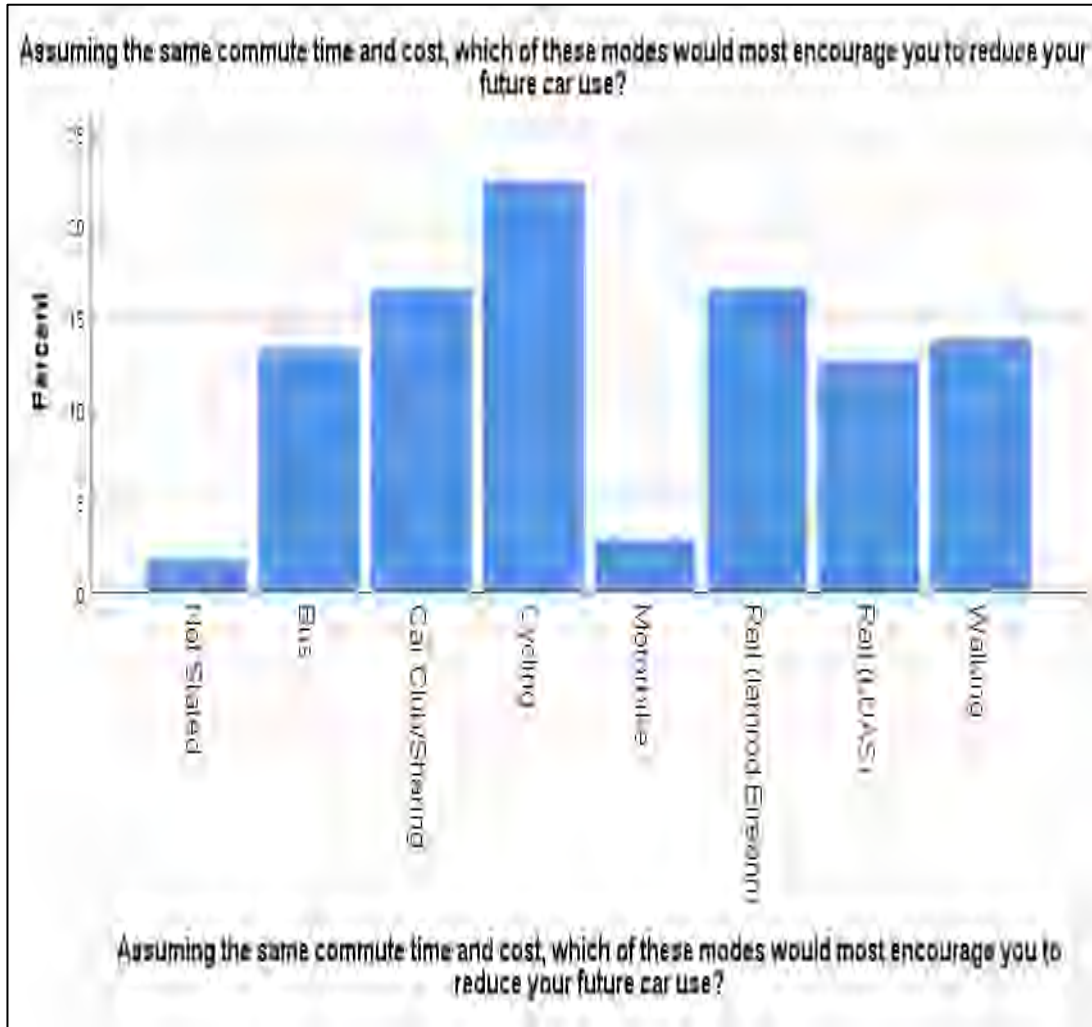


# During COVID-19: Opinions

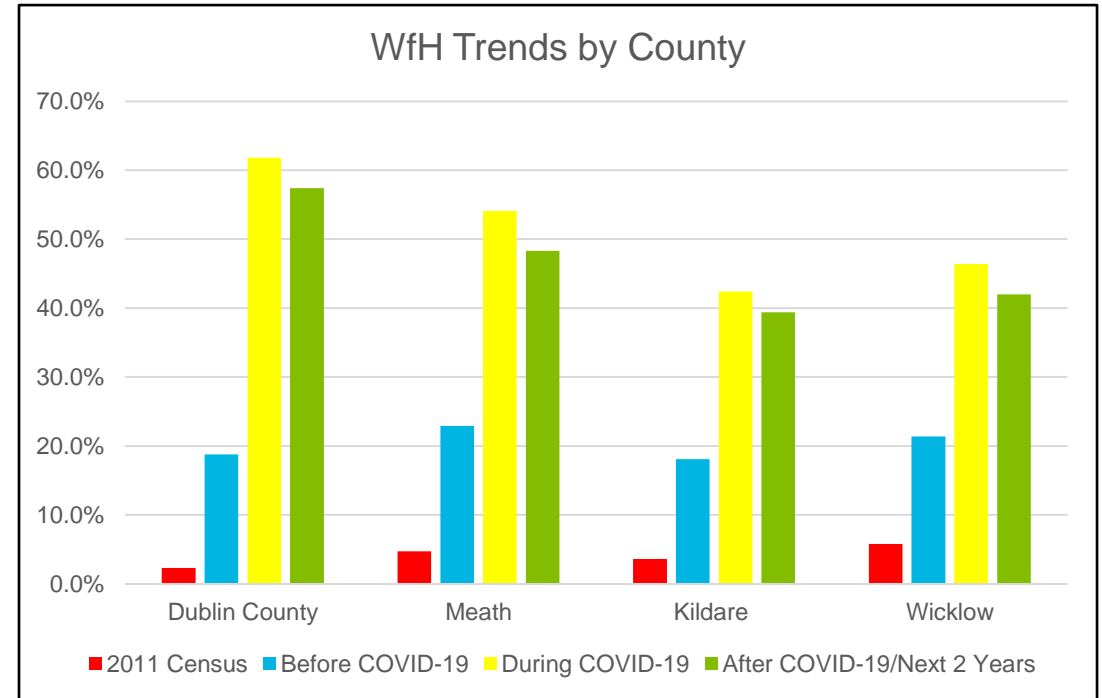
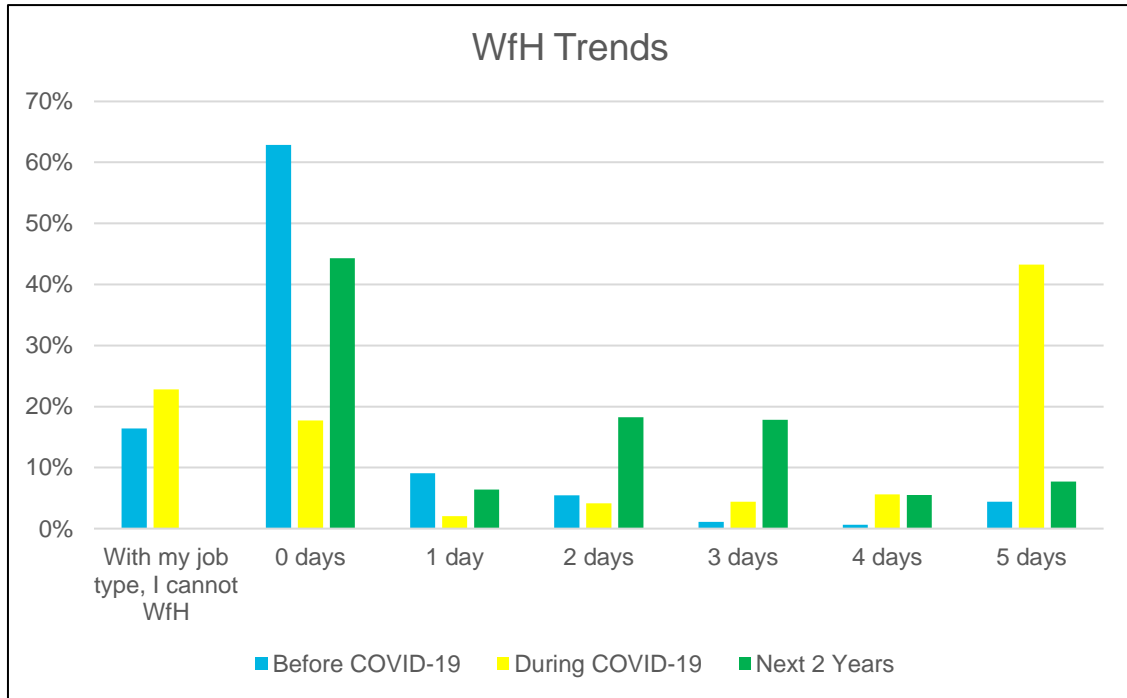
Would reducing the impact of climate change influence your future choice of travel modes?



# Potential Mode change



# WfH Trends



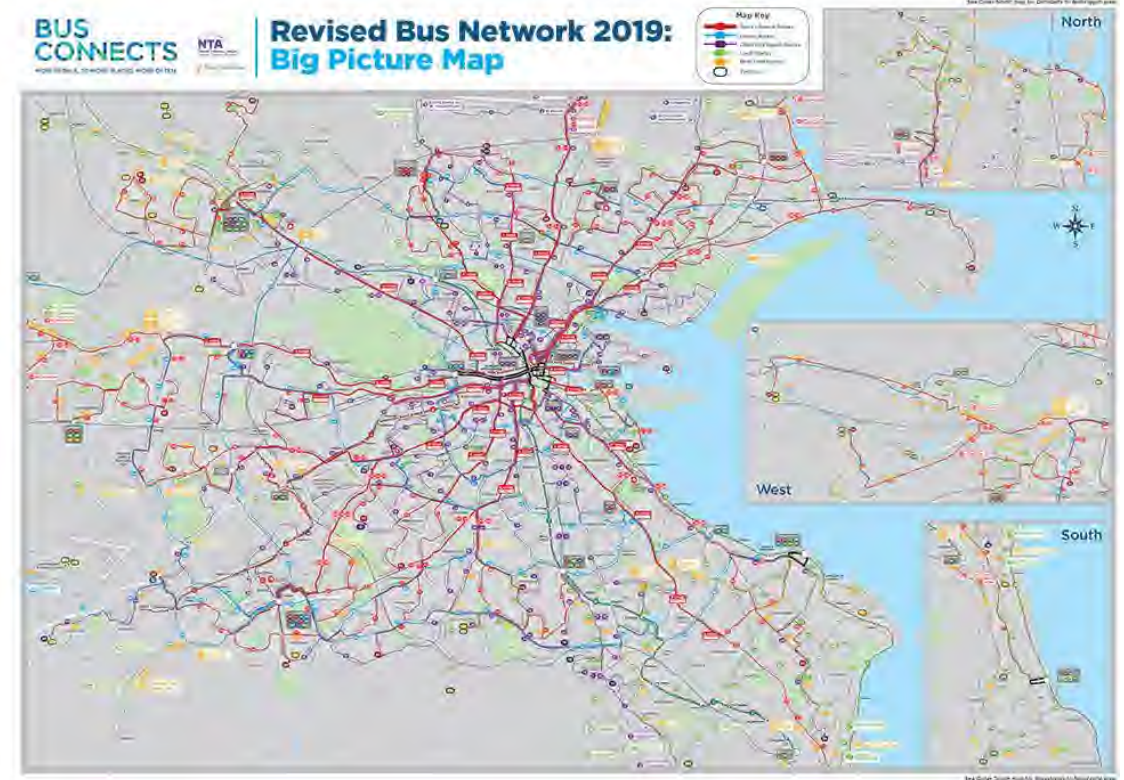
What we've learned?

# Conclusions

1. What are the existing, and potential WfH trends in the GDA?
  1. 50-60% WfH (Existing)
  2. 30-40% of working population cannot WfH
  3. 2-3 days most common afterwards
  
2. What transport modes will be most affected by this
  1. Bus/Rail most affected
  2. Financial/subsidies for PT may be under threat
  
3. What physical and mental barriers prevent transfer to sustainable modes
  1. Journey times not competitive for PT
  2. Lack of Availability of PT in suburbs
  3. Feeling of safety for cyclists
  4. Availability of bikes in households
  
4. Other Conclusions
  1. Clear Divide between Dublin county and Suburbs
  2. Financial penalties will result in 'some' reduction in car trips
  3. Car Parking availability may need to be reduced
  4. Electric Vehicle Uptake

# Potential Next Steps

1. Strengthen Cycling Network (segregated lanes)
2. Bus network develop and fare structure review
3. Better connect suburban counties
4. Bike ownership subsidy
5. Car Parking Review
6. School commute review
7. Electric Vehicle preparation



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# Questions

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