



An Roinn Iompair
Department of Transport



Cumann Lucht Bainistíochta Contae agus Cathrach
County and City Management Association



ROADS Services Training Group

LOCAL AUTHORITY ROADS CONFERENCE and EXHIBITION - 2022

Radisson Blu Hotel & Spa, Sligo May 2022



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County and City Management Association



LOCAL AUTHORITY ROADS CONFERENCE and EXHIBITION – 2022

Regional Road Network Safety Analysis (RR NSA)

Angela McCormack & Máire Dolan

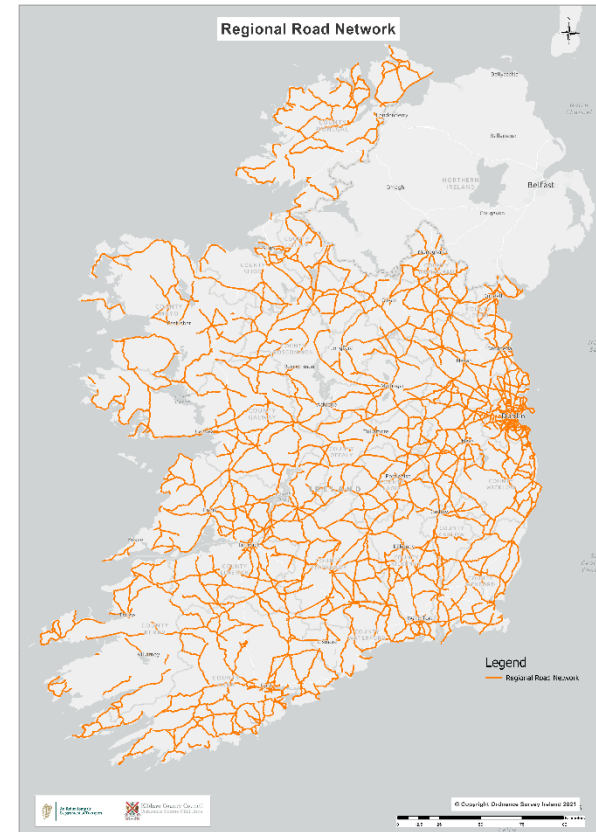
Executive Engineer & Executive Technician

Department of Transport Support Office (DoTSO)



Presentation Outline

- ❖ Why?
- ❖ How?
- ❖ Next Steps





RR NSA

Why?

- ❖ To improve road safety
- ❖ To align with RSS 2021-2030
- ❖ To make informed decisions about road safety investment
- ❖ To identify locations for safety improvement works (Action 51)
- ❖ To identify collision trends (Action 52)



Our Journey Towards Vision Zero

Ireland's Government Road Safety Strategy 2021-2030



2. Support Actions

Safe System priority intervention area: safe roads and roadsides

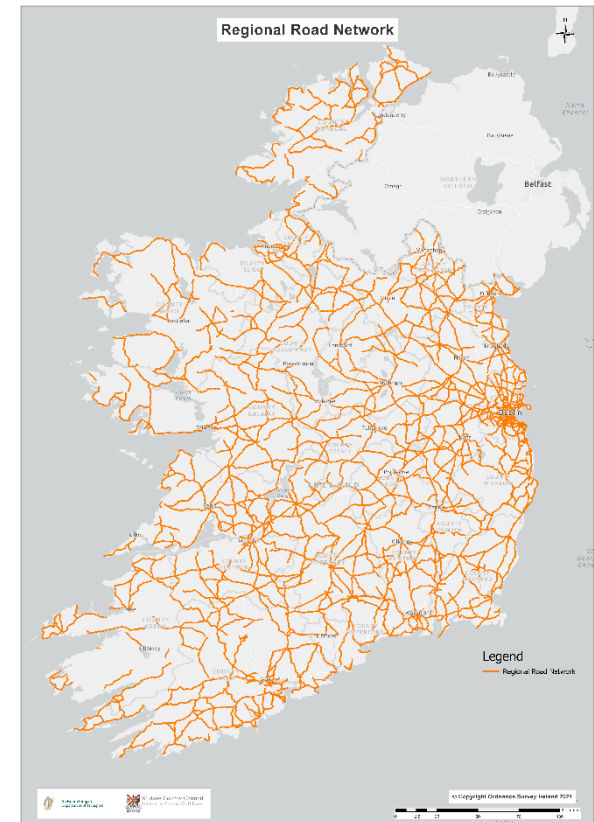
Action No.	Action	Lead Department or Agency	Responsibility	Due Date	Support Department or Agency
51.	Develop a Network Safety Analysis for the regional road network, which will assist identification of sections of regional roads with the highest risk of fatal or serious injury.	Department of Transport	Principal	Q4 2022	CCMA / LA's
52.	Develop a Network Safety Analysis (Stage 2) for the regional road network, which will include the design and prioritisation of remedial works for sections of regional roads with the highest risk of fatal or serious injury.	CCMA / LA's, Department of Transport	LA Chief Executive, DoT Principal	Ongoing to Q4 2025	-



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How?

- ❖ TII system adapted to RR network
- ❖ Two phased approach RR NSA
 - ❖ Phase I – a spatial analysis
 - ❖ Identifies Locations of Interest (Loi)
 - ❖ Phase II – an in-depth collision analysis



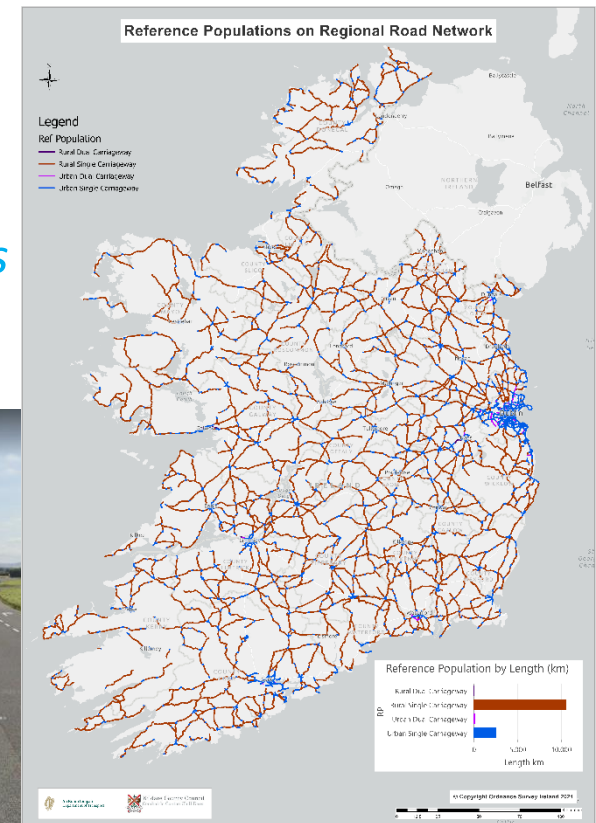
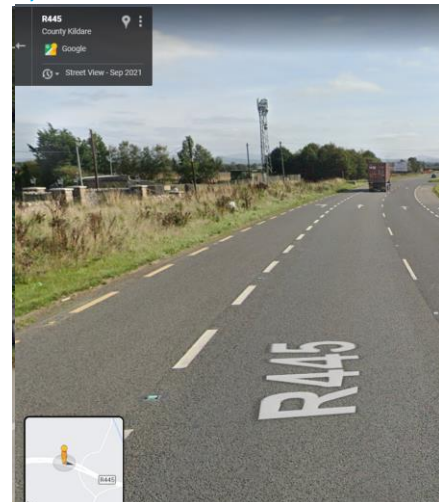


Phase I - methodology

- ❖ Regional Rd centreline – MapRoad PMS
- ❖ Reference Populations

“A subset [of the network] that have similar features and, as such, expected to have a similar safety performance” PIARC, 2003

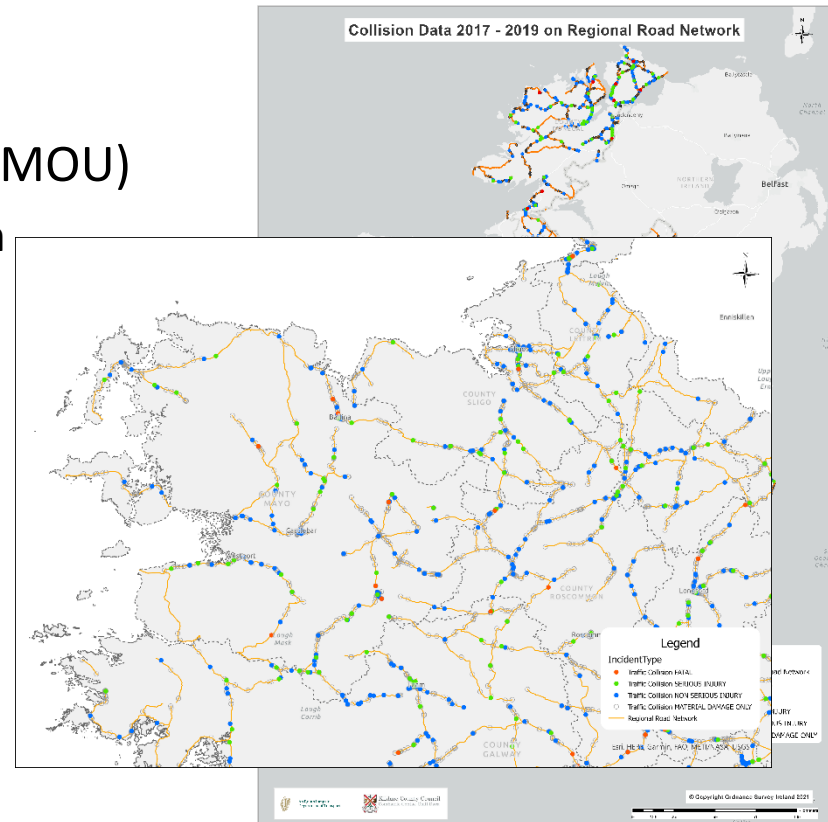
- ❖ Urban Single C/way
- ❖ Rural Single C/way
- ❖ Urban Dual C/way
- ❖ Rural Dual C/way
- ❖ 1km sections





Phase I - methodology

- ❖ Collision Frequency
 - ❖ RSA Collision Data 2017-2019 (MOU)
 - ❖ Injury CF for each 1km section
 - ❖ Average injury CF for each RP
- ❖ ~~Collision Rate~~
 - ❖ ~~Traffic Flow required~~
- ❖ Population data (Urbans)
- ❖ Noise mapping (Rurals)



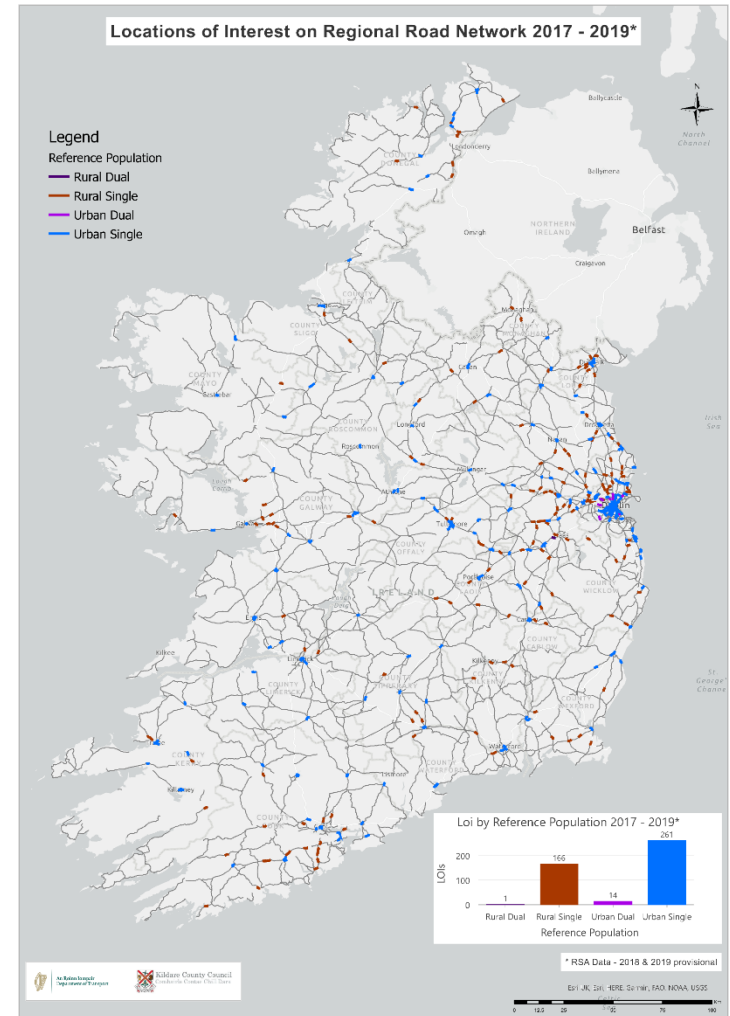


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Phase I – spatial analysis

- ❖ Location of interest (Loi)
 - ❖ *Criteria?*
 - ❖ 3 or more injury collisions
and
 - ❖ Twice/four times above the average injury collision frequency of its RP

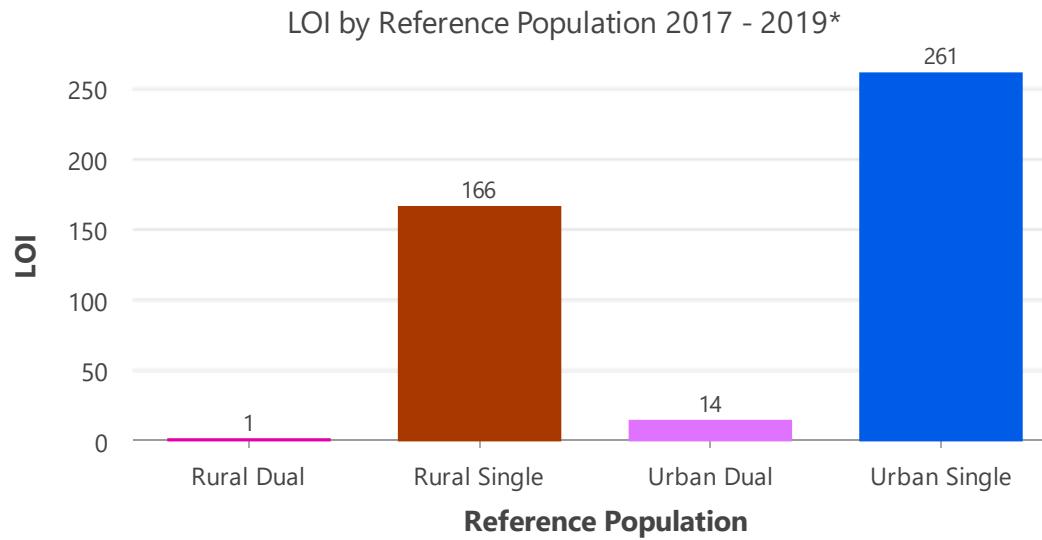
442 Loi >>>>





Phase I

442 Locations of interest

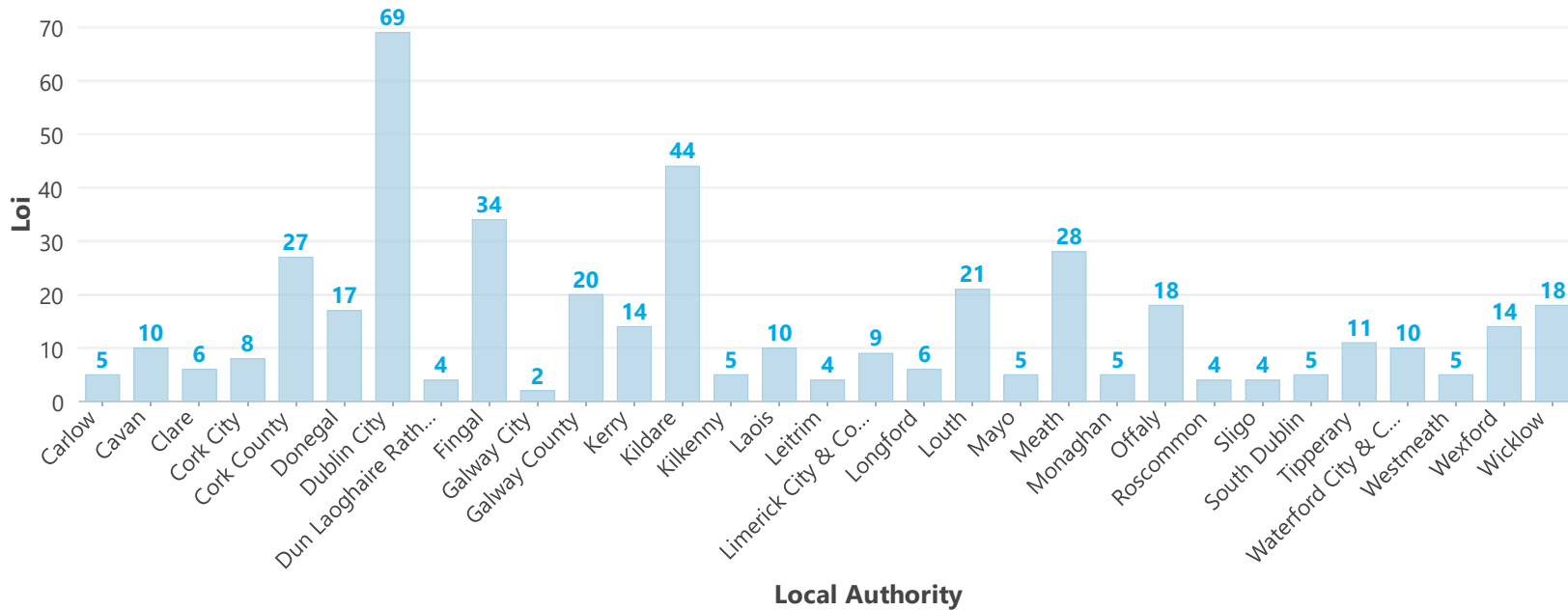




Phase I

442 Locations of interest

Loi by Local Authority 2017 - 2019*



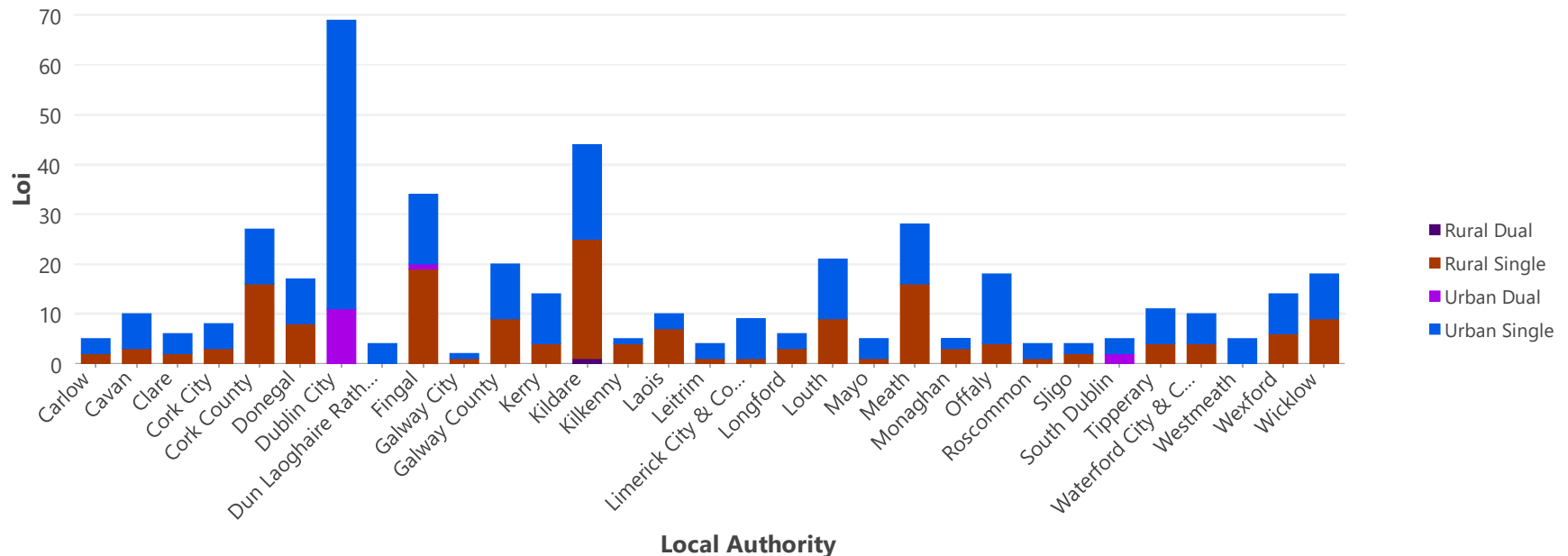
*RSA data - 2018 & 2019 provisional



Phase I

442 Locations of interest

Loi by Local Authority & Reference Population 2017 - 2019*



*RSA data - 2018 & 2019 provisional



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Phase II



Phase II - Pilot Study

- ❑ Provide unbiased, factually based safety data to Local Authorities to aid prioritisation of safety improvement works
- ❑ Provision of RSA data analysis where raw data is not accessible to Local Authorities.
- ❑ Commenced Phase II analysis January 2022 - ongoing
- ❑ Two administrative areas chosen – Cork and Kildare



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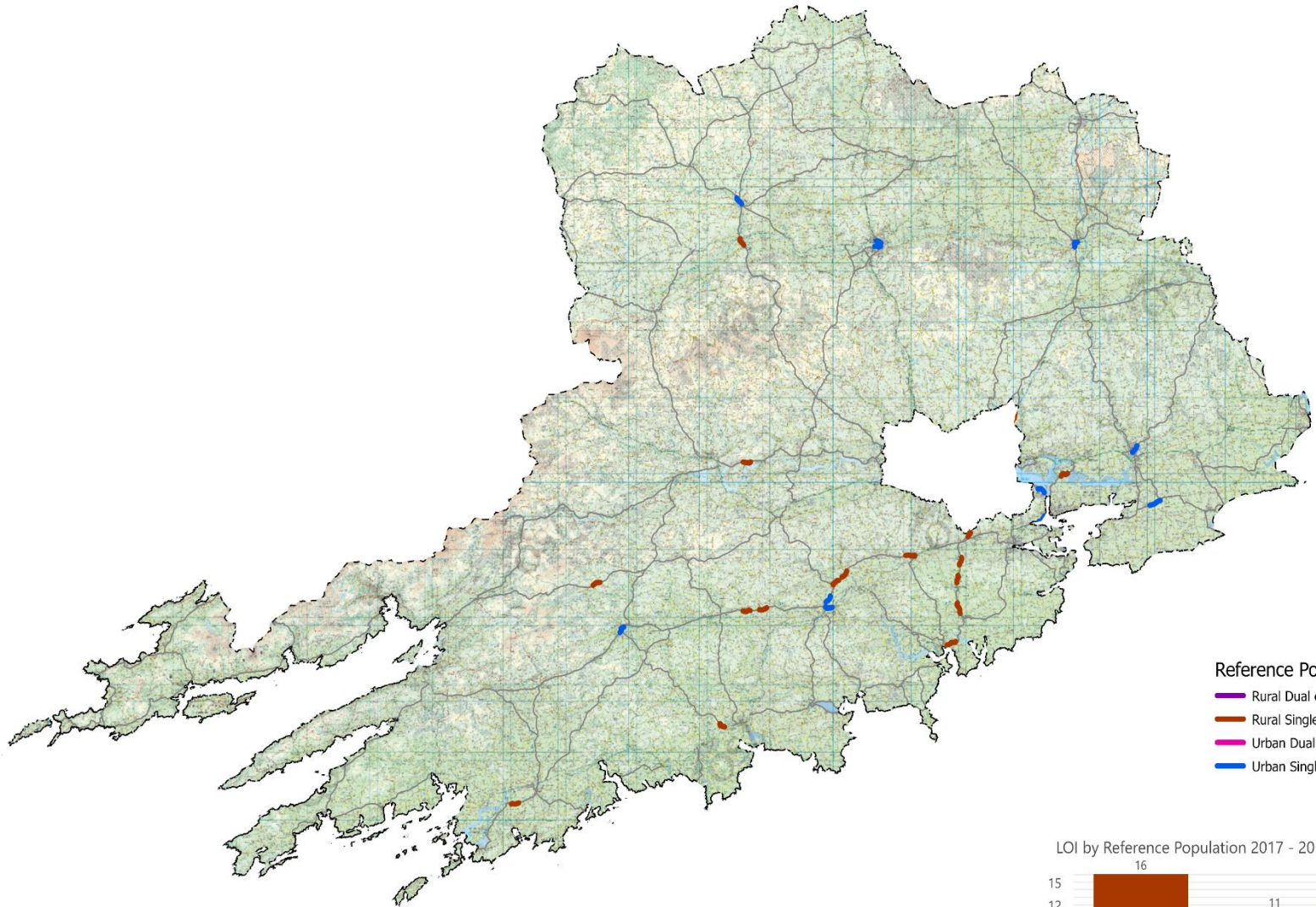
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Phase II - Pilot Study Process

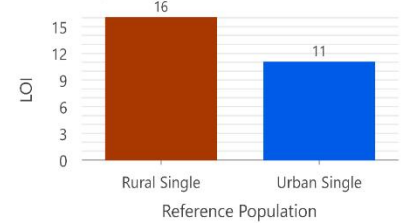
- ❑ In-depth analysis undertaken at each Loi for Cork



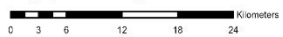
Reference Population

- Rural Dual c/way
- Rural Single c/way
- Urban Dual c/way
- Urban Single c/way

LOI by Reference Population 2017 - 2019*



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Locations of Interest on Regional Road Network 2017 - 2019*

CORK COUNTY COUNCIL



* RSA Data - 2018 & 2019 provisional



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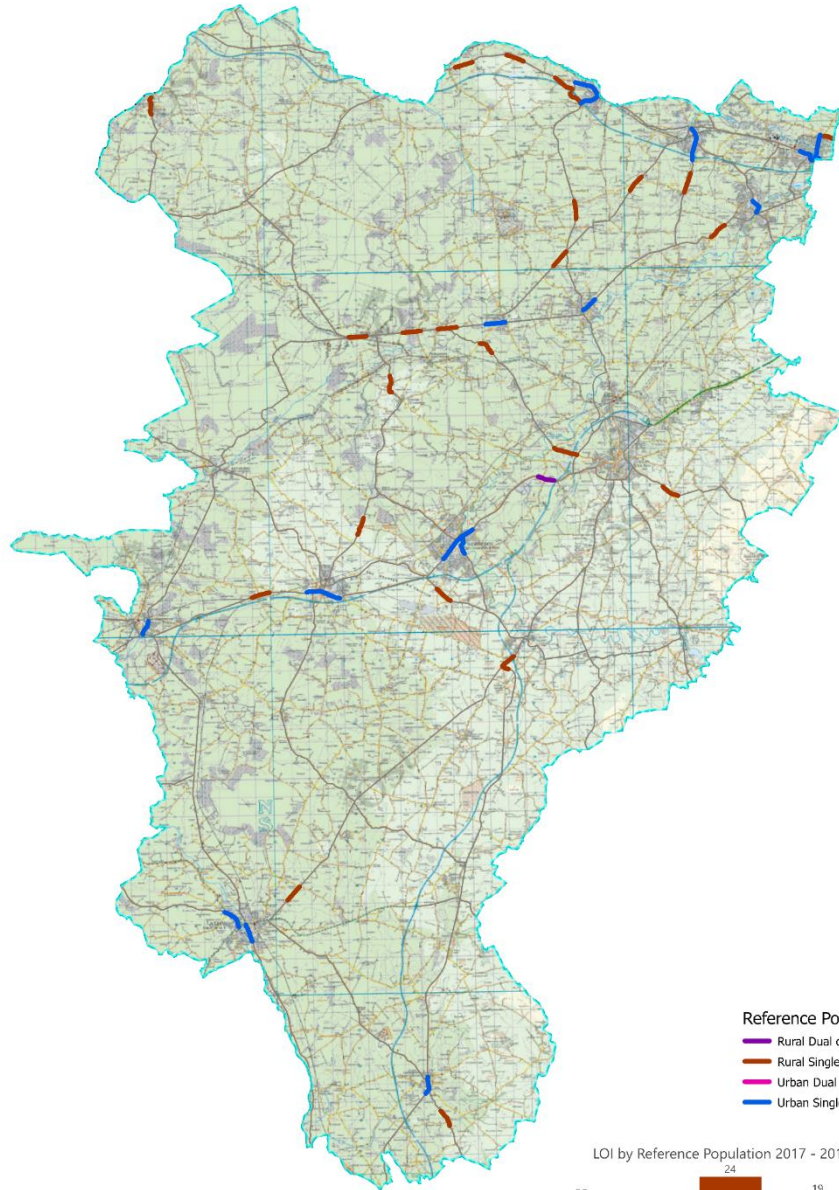
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Phase II - Pilot Study Process

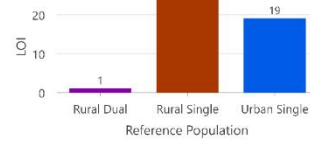
- ❑ In-depth analysis undertaken at each Loi for Cork
- ❑ In-depth analysis undertaken for rural Loi for Kildare



Reference Population

- Rural Dual c/way
- Rural Single c/way
- Urban Dual c/way
- Urban Single c/way

LOI by Reference Population 2017 - 2019*



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Department of Transport

Kildare County Council
Kildare County Council
Kildare County Council

**Locations of Interest on Regional Road Network
2017 - 2019*
KILDARE COUNTY COUNCIL**

* RSA Data - 2018 & 2019 provisional



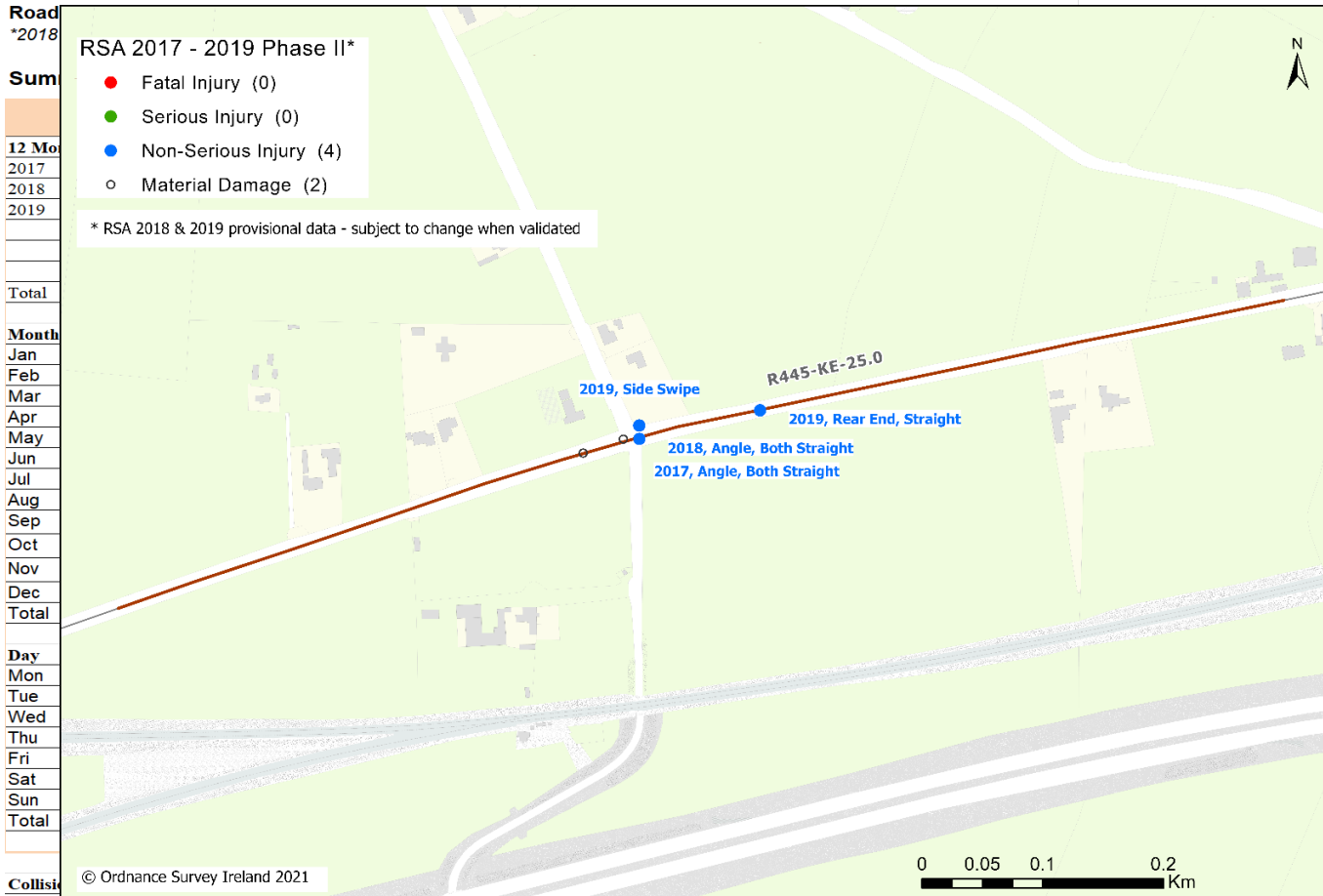
Phase II - Pilot Study Process

- ❑ In-depth analysis undertaken at each Loi for Cork
- ❑ In-depth analysis undertaken for rural Loi for Kildare
- ❑ Site visit conducted for each Loi
- ❑ Reports compiled and issued to both Local Authorities
- ❑ Consultation with Local Authorities via designated contact



Phase II - Pilot Study Data

Location : R403-KE-24.0 @ blackwood, Prosperous to Allenwood rd



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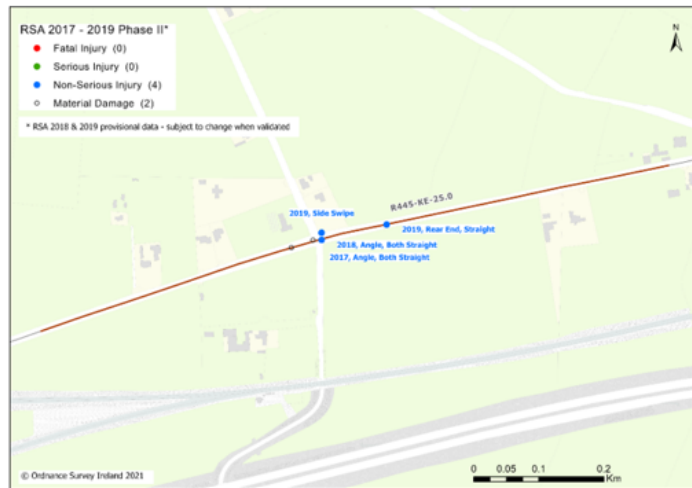
1. MI ABS - Artic travelling L.W., v2 travelling from southern approach road int v1, failed to stop of yield

JunctionControl Straight Straight Straight Straight Straight



Phase II - Pilot Study Reports

Site Ref No	Site Location	Analysis period
R445-KE-25.0	Kildare to Monasterevin road @ Cherryville	2017-2019,



Loi ²	Repeat Loi	Site Collision Rate ³	Speed Limit ⁴
Yes	No	99.22	80 kmh

Injury Collisions					Material Damage Collisions				
VRU	Head On	SV	Veh to Veh	Wet Rd	VRU	Head On	SV	Veh to Veh	Wet Rd
0	0	0	4	3	0	0	0	2	1

¹ RSA Data for some years are provisional (2018 & 2019), therefore these figures are correct as of October 2021 but may be subject to change in the future.

² Loi is based on collision frequency only for round 1 RR NSA

³ Site collision rate is expressed as collisions per one hundred million vehicle km of travel. AADT used in calculation may be an estimation if not received from LA directly

⁴ Speed Limit is the posted speed limit for the majority of Loi length in 2020

Site Observations

Rural carriageway (old N7) with road markings and residential and agricultural entrances. Rural crossroads with right turn lane. Poor vertical profile likely restricts visibility of and from crossroads and creates hidden dips. Site observations noted poor visibility for emerging traffic from minor roads and insufficient dwell area from the southern approach. Yellow back STOP signage was also noted at the junctions which is inconsistent with the Traffic Signs Manual.

Collision Analysis

3 minor injury and 3 material damage collisions. Most collisions occurred involving vehicles travelling southbound through the crossroads and vehicles both directions on the mainline. Angle both straight was the predominant collision type. Wet surface noted in 4 collisions and dark/poor lighting noted in 3. **Supplementary** – Serious injury 2016 V1 southbound, failed to stop V2 westbound. 2014 minor injury 1 eastbound, V2 southbound. 2 material damage collisions 2015 & 2016.

Collision Trends and Observations

Most collisions involved traffic emerging from the minor roads in particular travelling southbound from Rathangan. Wet surface and road factors noted 3 collisions and snow noted in another. Dark, poor lighting also noted for 3 collisions. Vertical profile of the regional road is likely to have been a contributory factor. Most collisions occurred during the weekend.

General Comments

Assess surface/skid resistance and junction layout, in particular sight visibility to and from the junction and advance warning signage for junction, particularly on the R445. Assess requirement for lighting at junction. Review inappropriate signage. Assess dwell area on southern approach.
Revisit after consultation with LA & site visit.

LA comments/feedback



Phase II - Pilot Study Reports

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Lol ₂	Repeat Lol	Site Collision Rate ₃	Speed Limit ₄
Yes	No	99.22	80 kmh

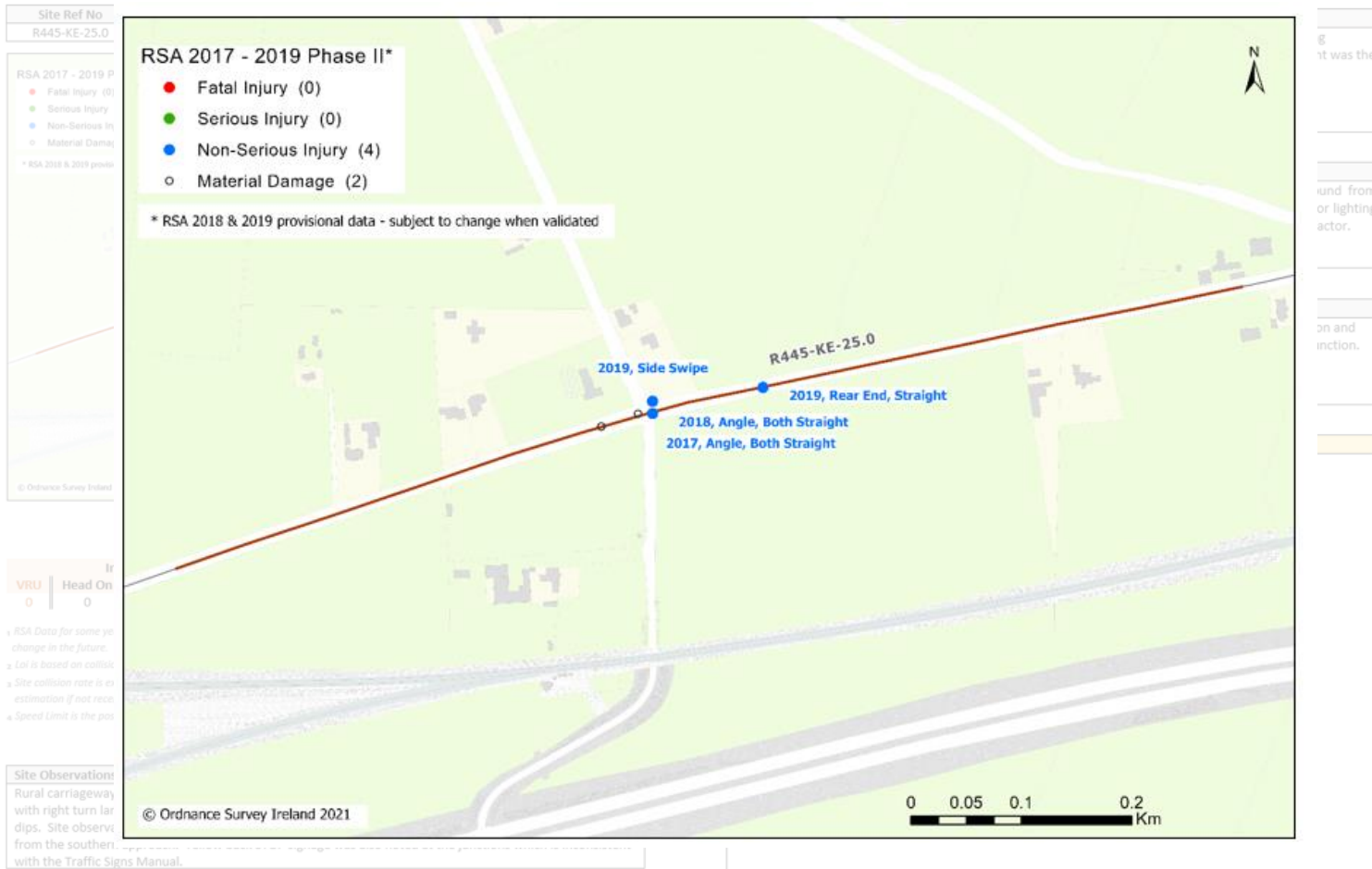
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Phase II - Pilot Study Reports





Phase II - Pilot Study Reports

RR NSA

Site Ref No	Site Location	Analysis period
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RRA 2017 - 2019 Phase II*		

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Loi ₂	Repeat Loi	Site Collision Rate ₃	Speed Limit ₄
Yes	No	99.22	80 kmh

Injury Collisions				
VRU	Head On	SV	Veh to Veh	Wet Rd
0	0	0	4	3

Material Damage Collisions				
VRU	Head On	SV	Veh to Veh	Wet Rd
0	0	0	2	1



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LA comments/feedback

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Injury Collisions				Material Damage Collisions			
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0	0	0	4	0	0	0	2
			Wet Rd				Wet Rd
			3				1

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Phase II - Pilot Study Reports

RR NSA

Site Ref No R445-KE-25.0	Site Location Kildare to Monasterevin road @ Cherryville	Analysis period 2017-2019,
-----------------------------	---	-------------------------------

RSA 2017 - 2019 Phase II*
• Fatal Injury (0)

Collision Analysis
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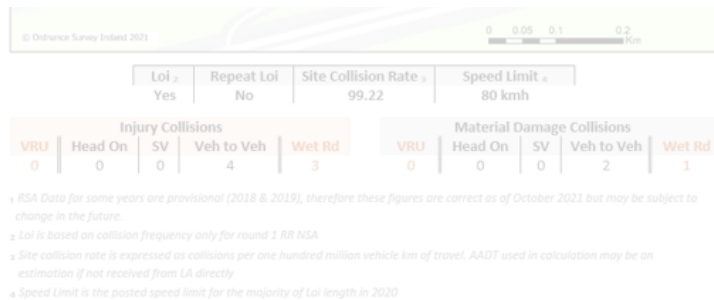
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2 material damage collisions 2015 & 2016.



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Phase II - Pilot Study Reports

RR NSA

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LA comments/feedback



Phase II - Pilot Study Reports

RR NSA

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RSA 2017 - 2019 Phase II*	
● Fatal Injury (0)	
● Serious Injury (0)	

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LA comments/feedback



Phase II - Pilot Study Reports

RR NSA

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R445-KE-25.0	Kildare to Monasterevin road @ Cherryville	2017-2019	3 minor injury and 3 material damage collisions. Most collisions occurred involving vehicles travelling					
LA comments/feedback			<p>ight was the</p> <p>bound from poor lighting y factor.</p> <p>ction and : junction.</p>					
<p>RSA 2017 - 2019 Phase I</p> <ul style="list-style-type: none"> Fatal Injury (0) Serious Injury (0) Non-Serious Injury (4) Material Damage (2) <p>* RSA 2018 & 2019 provisional data</p> <p>© Ordnance Survey Ireland 2021</p> <p>Lo Yi</p> <p>Injury (</p> <table border="1"> <tr> <td>VRU</td> <td>Head On</td> <td>SV</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> </table> <p>1 RSA Data for some years are change in the future. 2 Lsi is based on collision frequ 3 Site collision rate is expresse estimation if not received fru 4 Speed Limit is the pastted spe</p> <p>Site Observations</p> <p>Rural carriageway (old i with right turn lane. Po dips. Site observations from the southern approach. Yellow back STOP signage was also noted at the junctions which is inconsistent with the Traffic Signs Manual.</p>			VRU	Head On	SV	0	0	0
VRU	Head On	SV						
0	0	0						



National Implementation – Round 1

- ❑ Point of contact in each Local Authority
- ❑ In-depth analysis for rural Loi
- ❑ 2023 Low-Cost Funding Applications
- ❑ Provide support to Local Authorities with Loi funding applications as required



Next Steps

- ❑ Next iteration – Round 2 will commence Phase II 2023
- ❑ Need collision data, AADT and point of contact
- ❑ RR NSA every 2 years
- ❑ Primarily focus on rural Loi



Recap

- ❑ Phase I - spatial analysis
- ❑ Identification of Loi
- ❑ Phase II - in-depth collision analysis
- ❑ Issue reports to Local Authorities
- ❑ **Target Investment on the Regional Road Network**



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Department of Transport



Cumann Lucht Bainistióchta Contae agus Cathrach
County and City Management Association



RR NSA

Thank you

Angela McCormack
Máire Dolan
Department of Transport Support Office

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mdolan@dotso.ie

