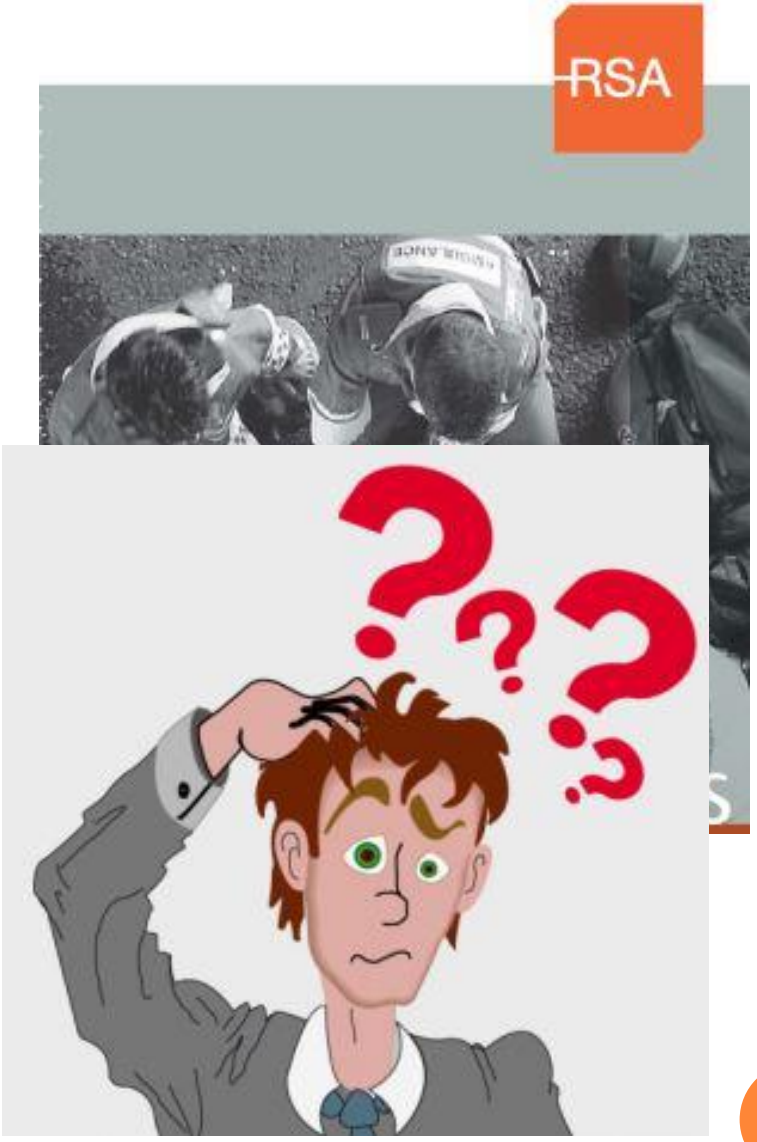
Analysing Data at a Local Level

Fiona Bohane

Overview

- How to get the Collision Data?
- What to do with it when we get it?
- Some recent examples of analysing data at local level.



Location Identified for Review

Information can come from:

- National Level
- Local Area Engineer/Overseer
- From Members of the Public
- Elected Members
- Road Safety Together Working Groups
- Collision Prevention Program (Gardaí)

Steps to be taken for the Review

1. Gather all collision data.
2. Revise location of collision if necessary.
3. Review available data for patterns.
4. Visit the location.

Gathering the Data

- Validated data from Road Safety Authority, disseminated to Local Authorities by the Local Government Services Board.
  - Data base format and
  - PC16 form, collision report with sketch (Previous CT68's).
  - From 2014 no collision report form available just database.

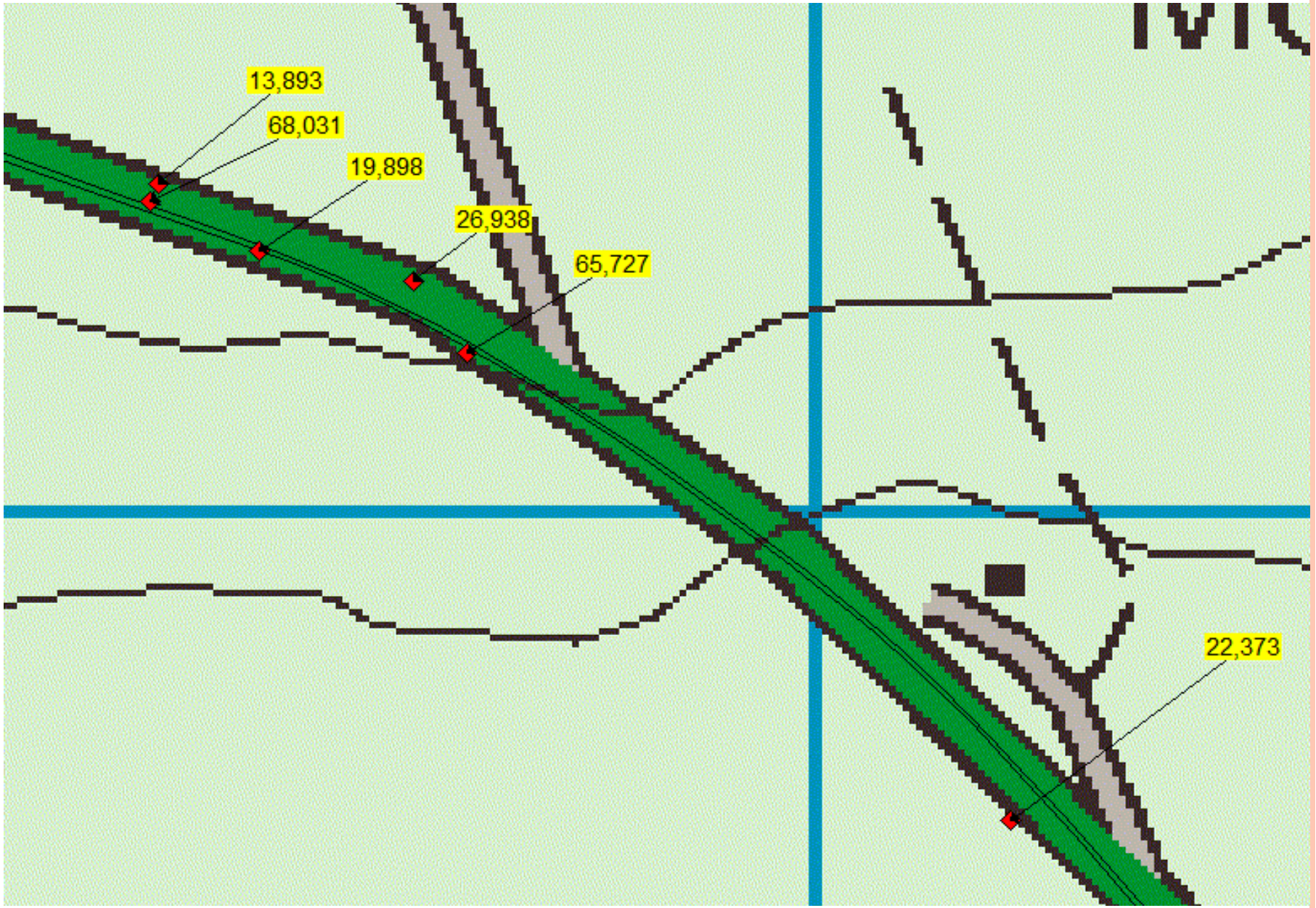
Gathering the data

- Further un-validated data may be available from data.gov.ie on more recent collisions.
- Local contact with Gardaí including FCI can provide more detailed information on the collision. Utilise pulse numbers in discussion with investigating Garda.

Gathering the data

- Discussion with local landowner/members of the public.

Plot the available data



REPORT FORM:- PC16 (PREVIOUS CT68)

Station: Shanagolden Garda: 21473F Incident No: 4947037

So 12. 26/08

Garda Siochana Road Traffic Accident Report

Station Name:	Shanagolden	Speed Limit:	80 (km/h)
Accident Involved: 13	Serious Injury	Investigated at Scene:	Yes
Date:	24/05/2008	Number of Vehicles Involved:	1
Day:	Saturday	Number of Pedestrians Involved:	0
Time:	06:20		
County: 539	Limerick		
Local Authority:			
City/Town/Townland:	Shanagolden		
Name Street/Road:	Dooncaha		
At Intersection With:			
Or if Not at Intersection:	Dooncaha Shanagolden, Limerick	If National/Regional Route/Route No.:	
		And if National Route, Metres/Feet:	0 m
Metres/Yards:	100 m	Direction:	
Direction:	West	of Post no.:	
Of:	Kilcormen To Rathkeale Road		
Light Conditions:	Day-Poor Visibility		
Weather Conditions:	Dry	Skidding Occurred:	No
Surface Conditions:	Dry	Road Works:	No
Junction/Crossing Control:		Road Width:	6.71 m
Road Character:	Straight	Junction Type:	
Other Road Character:		Road Type:	Two-Way Single Carriageway

r: 12uu 39.94
j: 143410.39.

Road Markings

1. Broken Centre Line		5. Lane Markings	
2. Continuous Centre Line	X	6. No Markings	
3. Double Continuous Centre Line		7. Centre Line Reflectors	
4. Edge Markings		8. Edge Line Reflectors	

02426

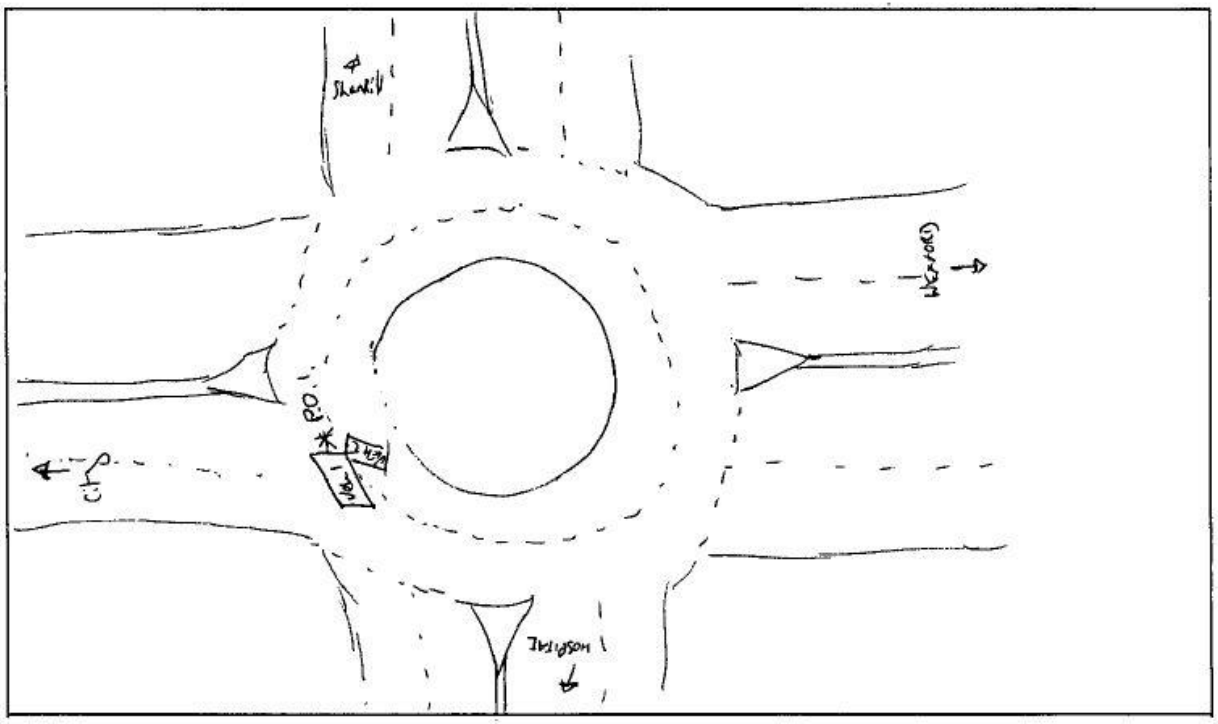
Vehicle Details Vehicle 1	Vehicle Details Vehicle 2
Registration No.: W434RLB	Registration No.:
Make:	Make:
Model:	Model:
Type.:	Type.:

Vehicle 1 Occupants	Age	Sex	Severity	Taken to Hospital	Seatbelts/ Helmets Worn	Vehicle 2 Occupants	Age	Sex	Severity	Taken to Hospital	Seatbelts/ Helmets Worn
Driver / Cyclist	26	Male	Serious	Yes	Unbrown	Driver / Cyclist					
Passenger Front						Passenger Front					

Report Form:- May or may not have sketch

Diagram (Specify markings, widths, signs, etc.)

*No station map in Shankill or Dun L *



Description:

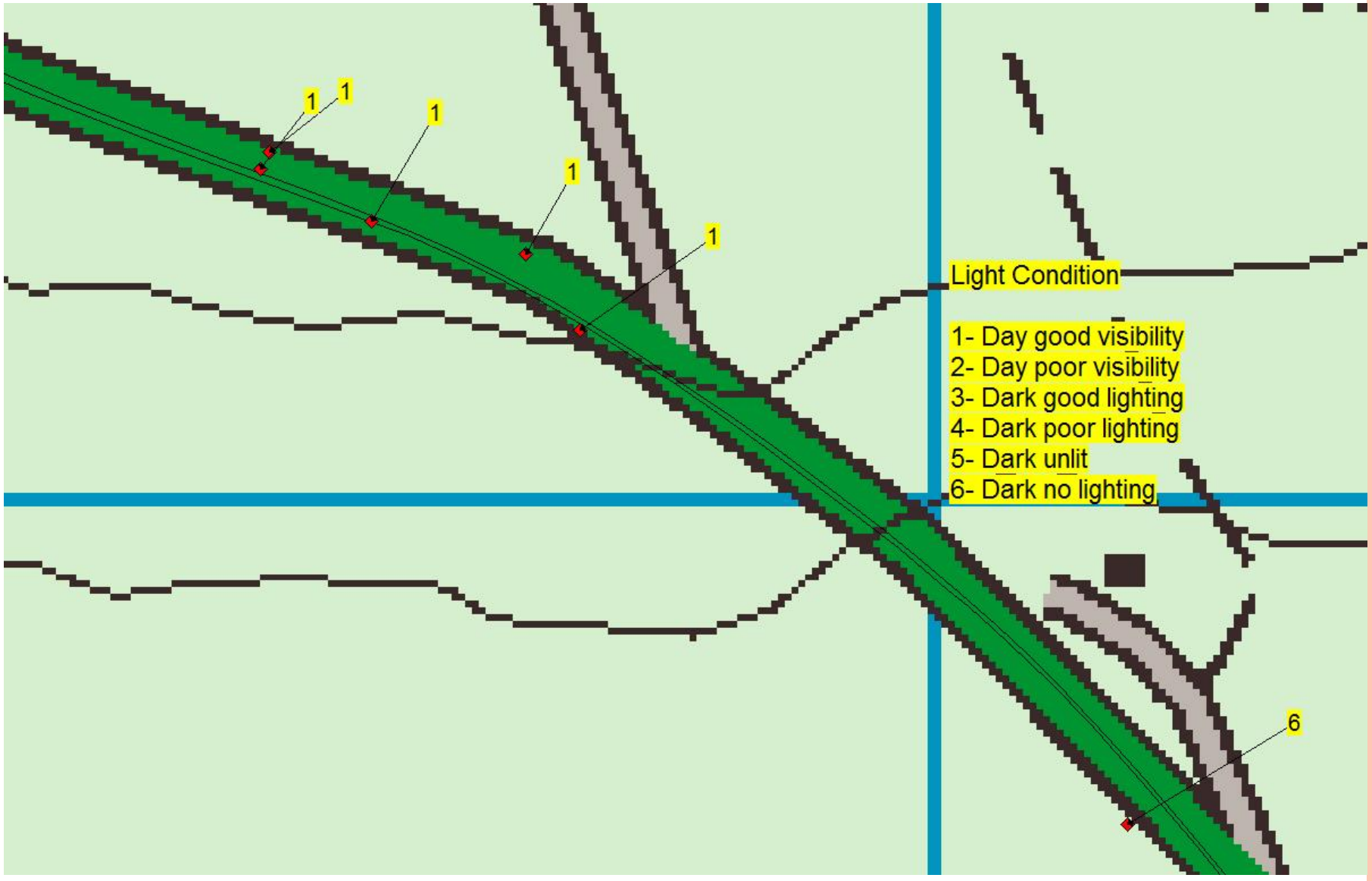
updated 2/9/08 by f279. driver 2 added and ct68 completed. mr. [redacted] recieved pulled muscles in neck, shoulder and arm, and some internal bleeding

veh 1 was in outside lane attempting to turn right towards shankill on n-11 northbound. veh 2 was on inside lane attempting to go straight. collision occurred, minor damage to both vehicles, minor injury to driver 2, taken to st vincents as precaution. driver 1 admitted to being in wrong lane as he didn't know the road.
inc to be updated with driver 2's details when he is discharged, ct68 to be completed also

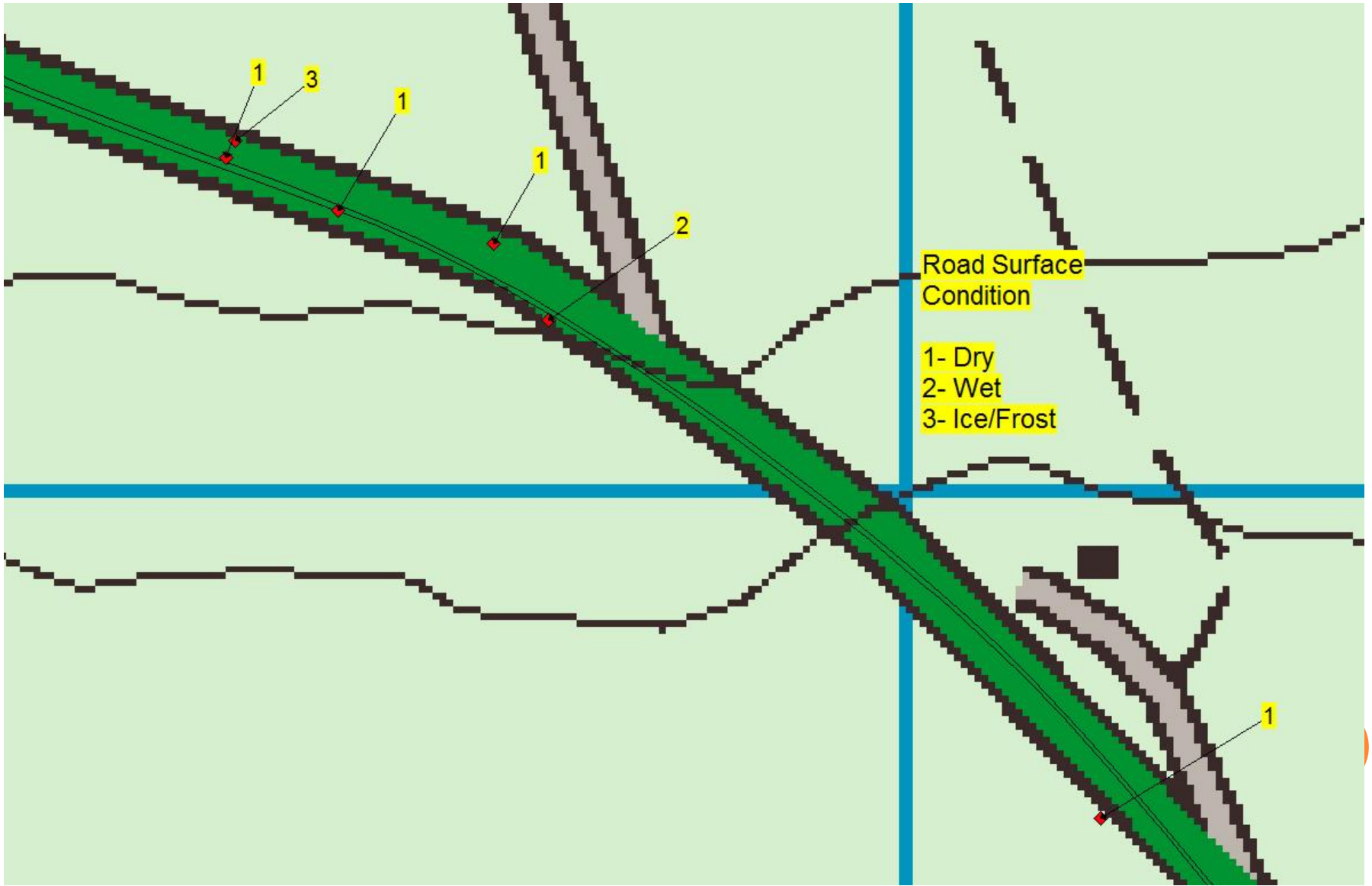
Review of Available data for Patterns

- Days of week (even enough spread ~15% each day)
- Hours of day
- Road conditions (National Routes 61% dry / 37% wet)
- Light conditions (National Routes 72% day/ 28% dark)
- Age profile of drivers
- Predominant collisions type occurring
  - Rear End Straight
  - Pedestrian
  - Single vehicle loss of control
  - Head On
  - Turning Collisions
  - Overtaking Collisions

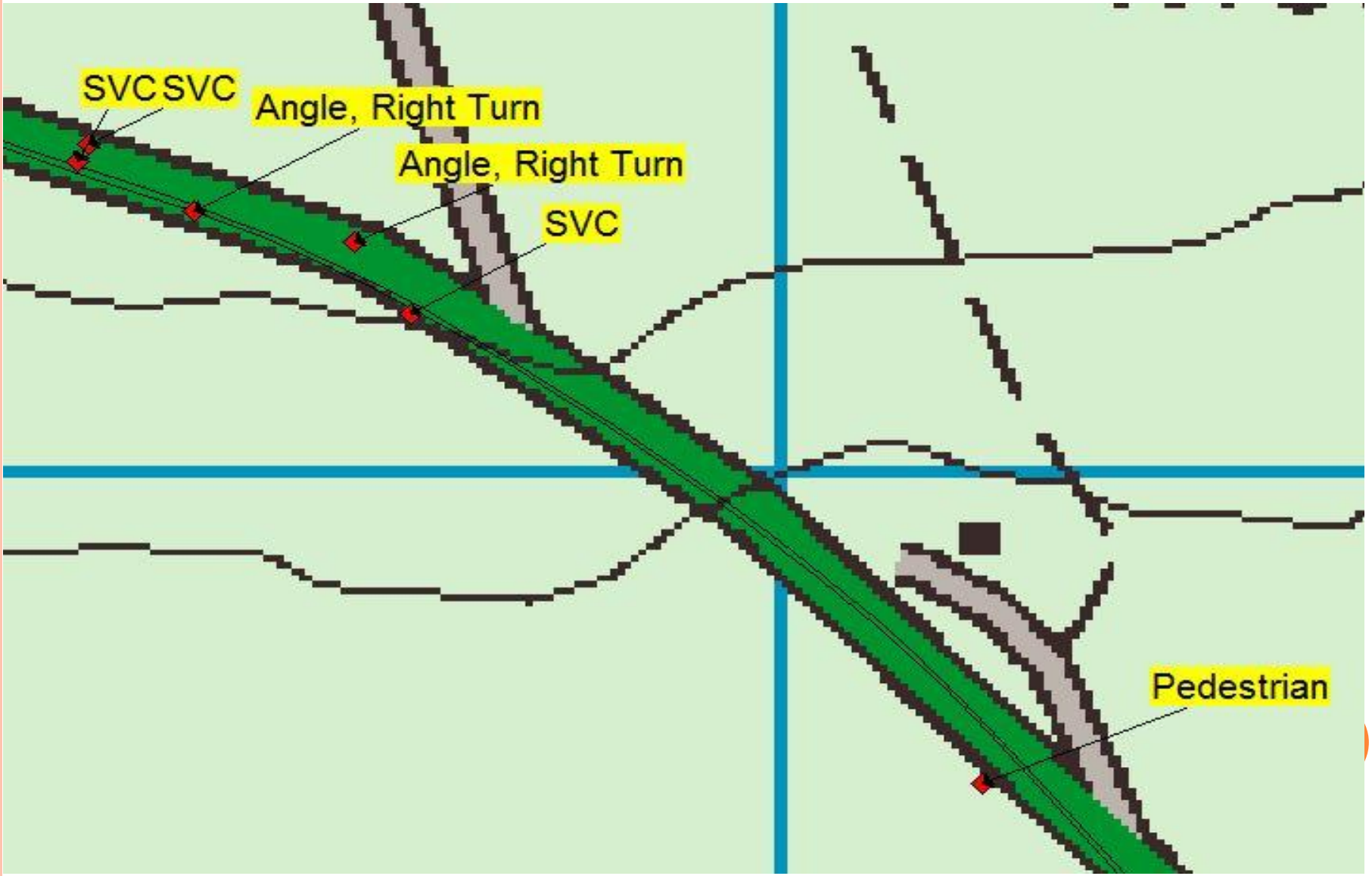
Plot of Light Conditions for pattern review



Plot of Road Surface Conditions for pattern review



Plot of Primary Collision Type for pattern review



National Roads:- Collision by type and year

Collisions by Type and Year					
Year	**Fatal**	**Serious**	**Minor**	**Material**	**Total**
2008	89	165	1286	0	1540
2009	69	119	1359	0	1547
2010	76	104	1186	0	1366
2011	63	96	1127	0	1286
2012	51	95	1200	0	1346
2013	60	76	845	5591	6572
2014	66	101	1008	6429	7604
Total	**474**	**756**	**8011**	**12020**	**21261**
% of Total	**4%**	**6%**	**38%**	**57%**	

National Roads:-
Collision by days of the week

Collisions by Type and Day				National Route		Site under review	
Weekday	**Fatal**	**Serious**	**Minor**	**Number**	**%**	**Number**	**%**
Sunday	74	115	1014	1820	13%	8	15%
Monday	59	97	1009	1913	14%	8	15%
Tuesday	43	84	985	1905	14%	10	18%
Wednesday	44	84	913	1906	14%	4	7%
Thursday	57	87	971	2019	15%	6	11%
Friday	71	94	1135	2254	17%	9	16%
Saturday	60	94	976	1840	13%	10	18%

National Road/Route/Site Comparison: Light conditions

Light Conditions	National Route		Site under review	
Description	Number	%	Number	%
Day Good Visibility	15530	66%	45	80%
Day Poor Visibility	1429	6%	0	0%
Dark Good Lighting	2957	13%	10	18%
Dark Poor Lighting	939	4%	0	0%
Dark Unlit	152	1%	0	0%
Dark No Lighting	2605	11%	1	2%

National Road/Route/Site Comparison: Road Surface conditions

Surface Conditions	National Route		Site under review	
Description	Number	%	Number	%
Dry	196	61%	6	26%
Wet	118	37%	17	74%
Frost / Ice	5	2%	0	0%
Snow	1	0%	0	0%
Other	0	0%	0	0%

National Roads : Collisions by Collision Type

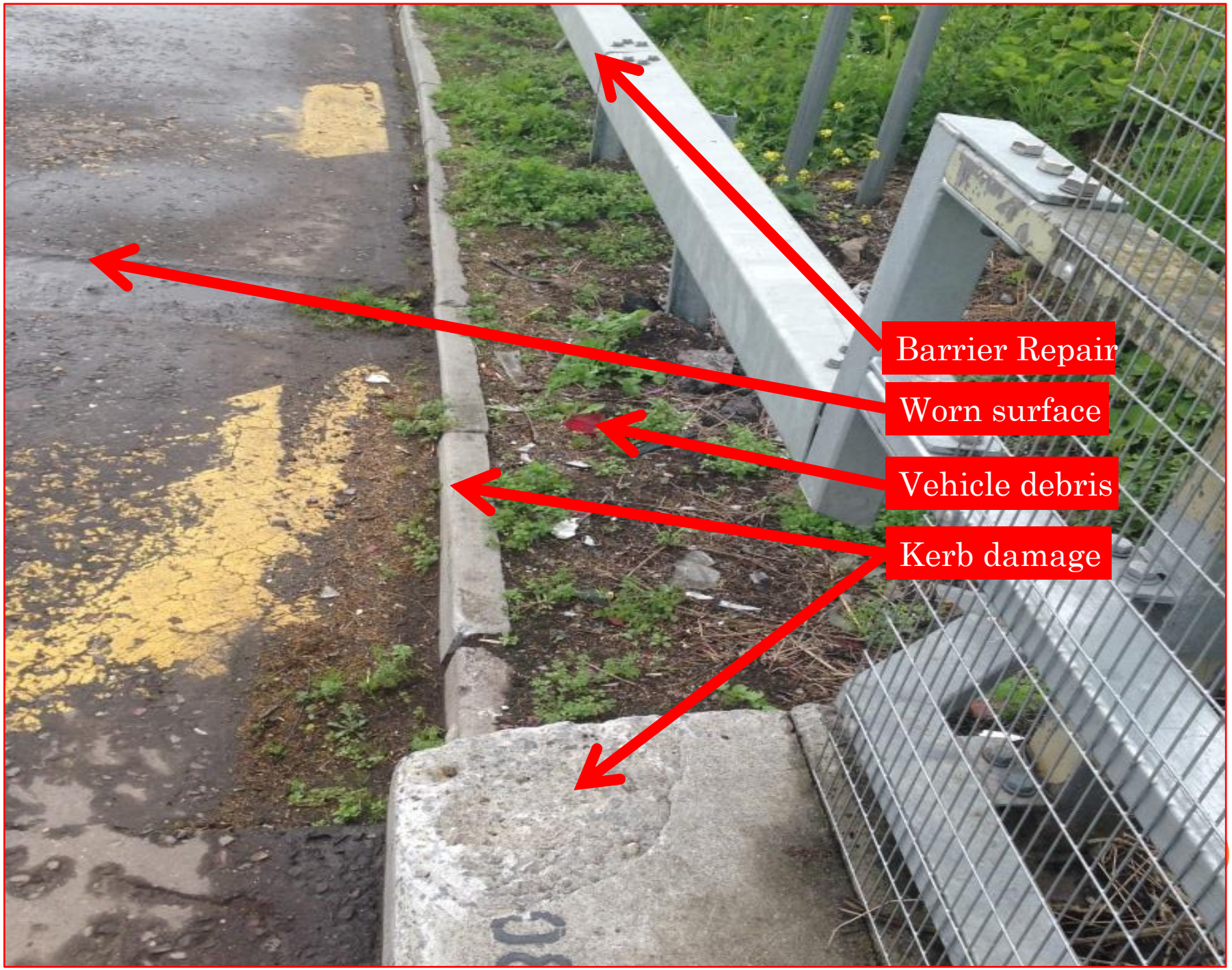
Primary Collision Type	National Route		Site under review	
Description	Number	%	Number	%
Pedestrian	951	4%	0	
Single Vehicle	5059	21%	7	17%
Head - on - Conflict	1111	5%	0	0%
Head - on - Right turn	224	1%	0	0%
Angle both straight	780	3%	1	2%
Angle right turn	694	3%	1	2%
Rear - end straight	6331	27%	20	49%
Rear - end right turn	318	1%	0	0%
Rear - end left turn	151	1%	1	2%
Side swipe	1796	8%	4	10%
Other	3397	14%	7	17%
None given	2933	12%	0	0%

Visiting the location

- Evidence of collisions at the site.
- Information from locals.


3
15
16
17
10
9
11
6
5
4


F19


Barrier Repair
Worn surface
Vehicle debris
Kerb damage

Typical Issues that are being highlighted from the recent collision data review.

- Junction Turning

- Pedestrians in Urban Areas

- Loss of control on bend

Some Examples:-

- Wexford - Upgrade, road length.
- Kerry – Bend.
- Cork – T Junction
- Limerick - Pedestrian improvements.
- Cork – Roundabout review.
- Clare – Bridge.

Example 1, Road Length, Begerin

- N25 Route
- 4km east of New Ross town, Wexford.
- Single carriageway with climbing lane.
- History of loss of control type collisions.
- Number of options considered including a full off line realignment. A “Management” option was decided on which consisted of overlay to improve super elevation, provide RTL, widening at certain sections to improve the horizontal geometry and removal of hazards in road side verge such as utility poles and concrete post and rail fencing.

Before

Telegraph poles

Post and rail fencing

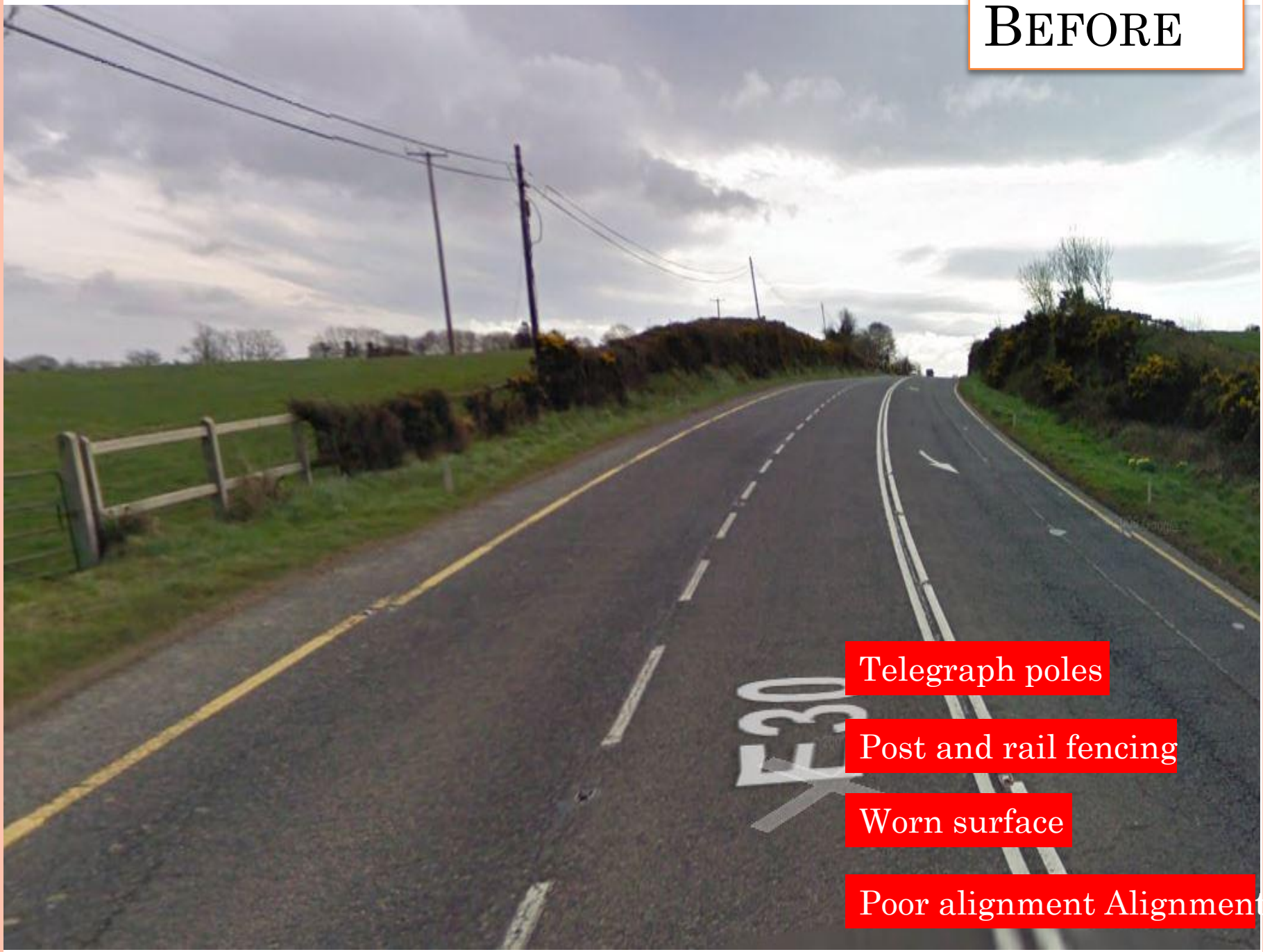
Worn surface

Reasonable Alignment

After


Telegraph poles removed
Tensioned mesh, rail-less fence
Revised super-elevation

Before


Telegraph poles
Post and rail fencing
Worn surface
Poor alignment Alignment

After


Telegraph poles removed
Tensioned mesh, rail-less fence
Crest curve amended
Lane seperation

Example 2, Bend , Cloonmore

- After resurfacing work the collision incidence appeared to increase.
- Was this because of increased speeds due to the new smooth surface?
- Or was there something else going on?

Before

After

Before

After

Collision details

- The collision data review indicated that 11 out of the 13 collisions recorded occurred on a wet road surface.
- This is in excess of what you would expect.
- See Road Collision Facts 2012 RSA or review the database for local trends for that route.
- Expect ~35% of collisions on wet road surface not 85%

Outcome

- Investigation into the surface indicated that it was not to standard and it was renewed.
- Collisions appear to have abated since surfacing works redone.

Example 3 – T Junction

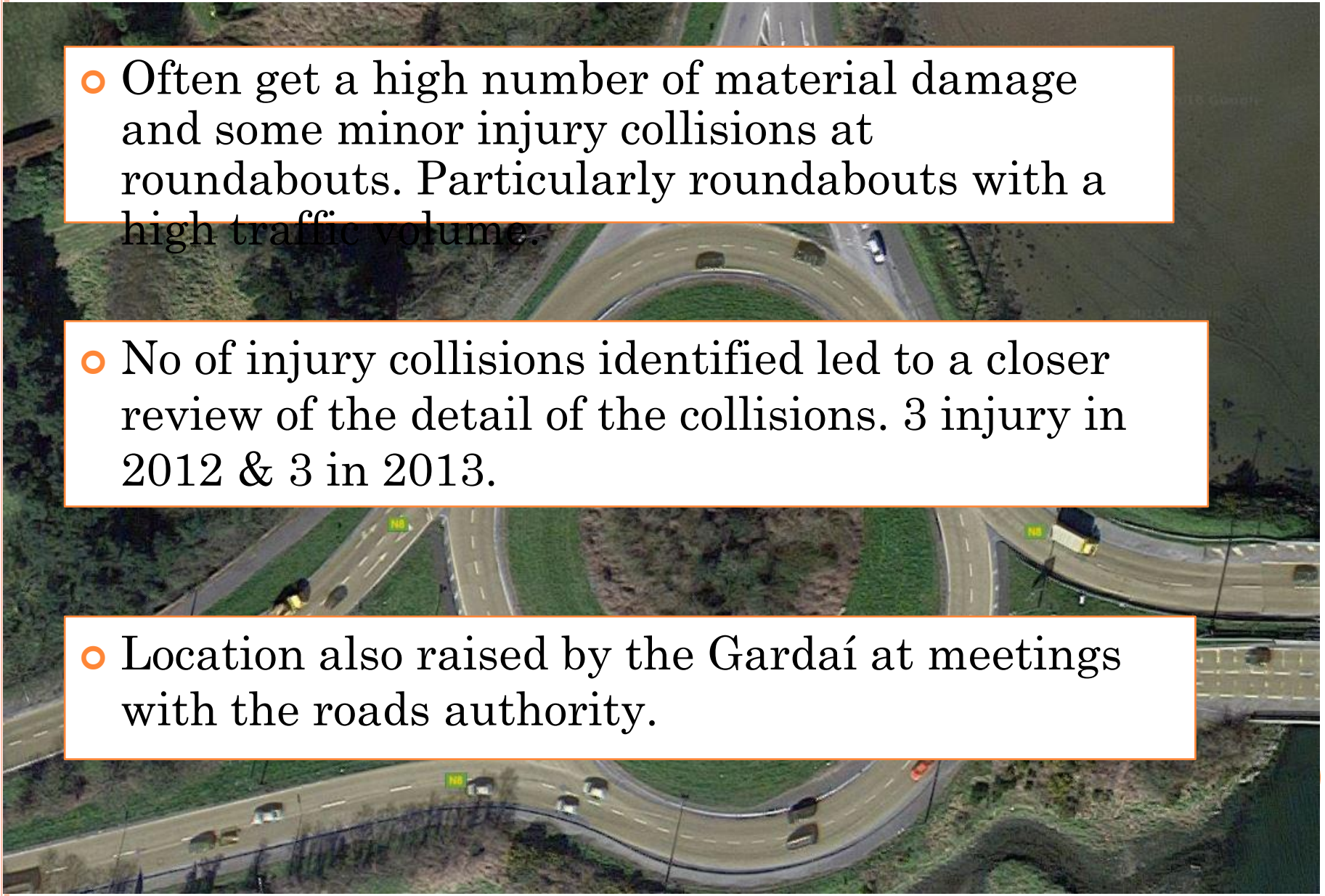

R585
N22
Google

Example 4, Pedestrian Improvements


top
top


Shop
FREE
€50

Example 5, Rural Roundabout.

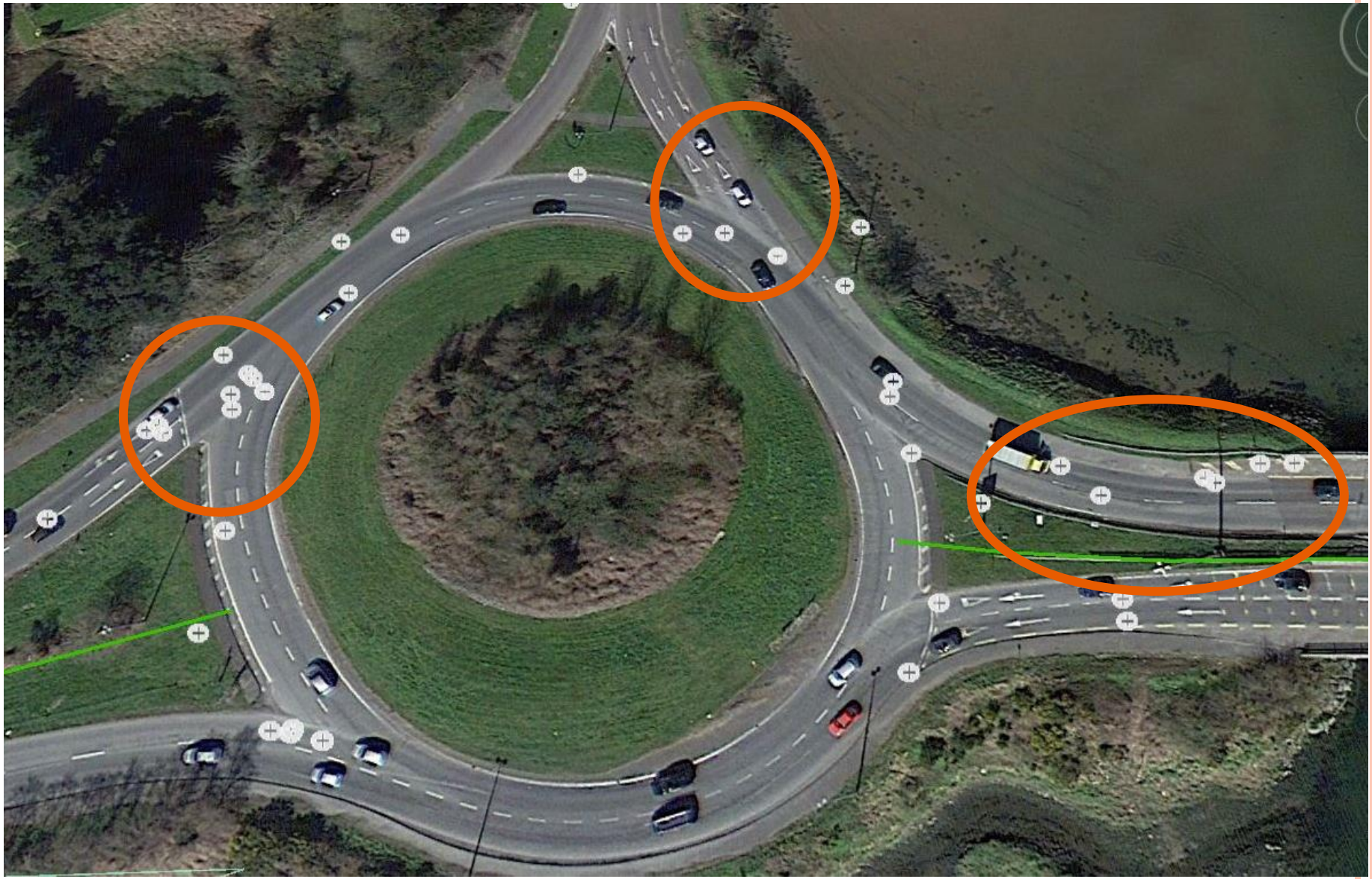


- Often get a high number of material damage and some minor injury collisions at roundabouts. Particularly roundabouts with a high traffic volume.
- No of injury collisions identified led to a closer review of the detail of the collisions. 3 injury in 2012 & 3 in 2013.
- Location also raised by the Gardaí at meetings with the roads authority.

Collisions Data

- Initial review of data was not sufficient to clearly understand the issues so information was supplemented by discussing a number of collisions with the investigating Gardaí.
- This was done by making contact with the local Garda station and speaking with the investigating Garda.
- Eg of further information Garda "Most collisions I am aware of at the location involved vehicles entering roundabout from West and North being rear ended. In addition surface appears slippery exiting roundabout heading East."

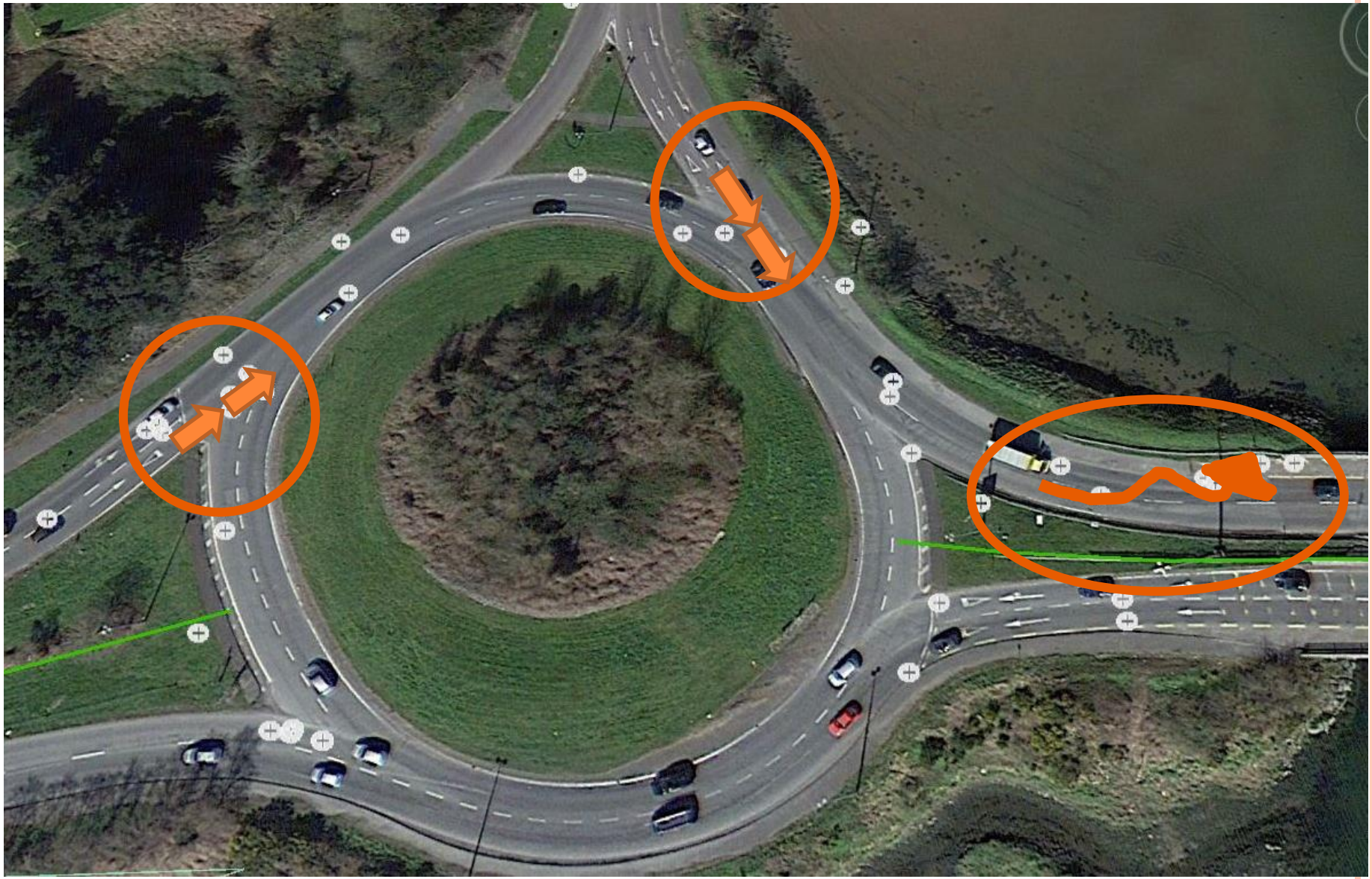
Plot of location



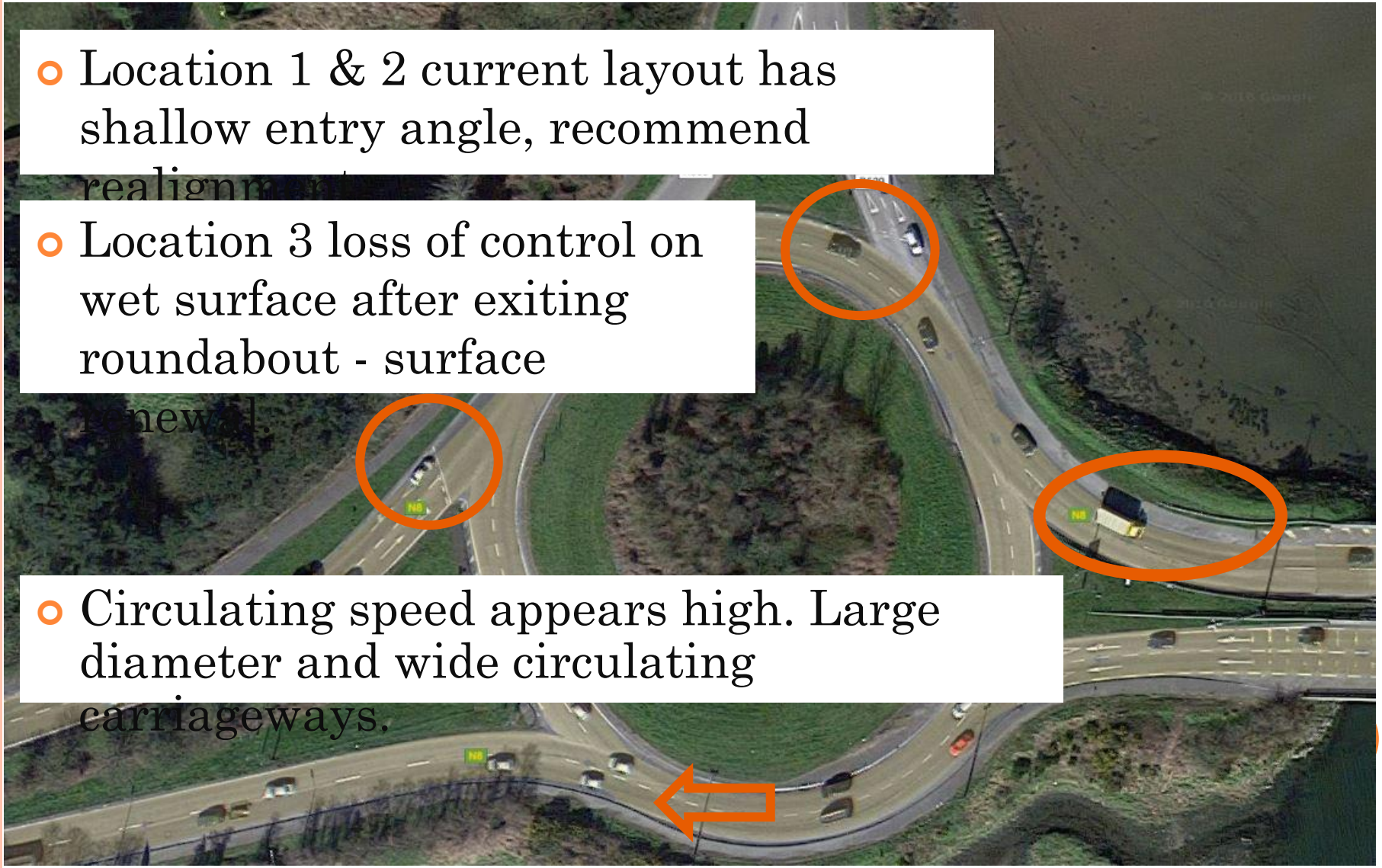
Collision Summary

- Predominant rear end straight type collisions on East bound and Southbound approach to the roundabout.
- Predominant loss of control type collisions on East bound exit from roundabout.

Plot of location



Locations identified for potential remedial work



- Location 1 & 2 current layout has shallow entry angle, recommend realignment.
- Location 3 loss of control on wet surface after exiting roundabout - surface renewal.
- Circulating speed appears high. Large diameter and wide circulating carriageways.

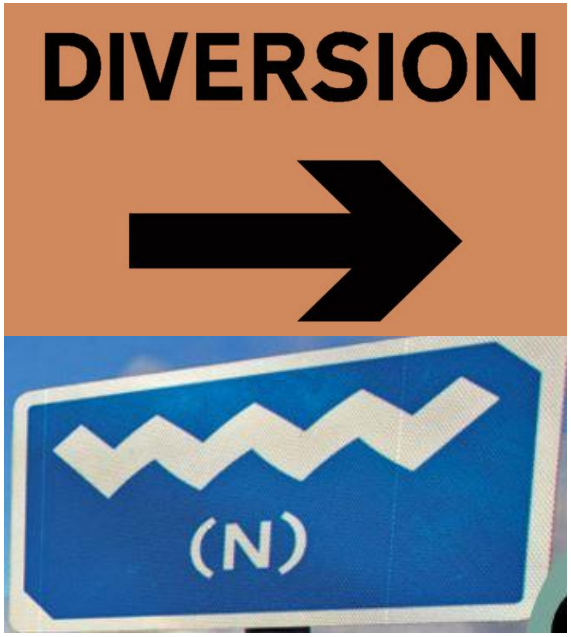
Example 6, Mountrivers, Narrow Bridge.

Collision History

- Conflict between vehicles traveling in opposite directions at narrow bridge.
- 3 Minor Injury and 2 Material Damage type collisions over 2013 & 2014
- Traffic patterns altered – "Wild Atlantic Way Success!"

Options for consideration

- Improved signage
- Removal of centre line sooner
- Traffic control
- Bridge widening
- Redirect Route!!!



Thankyou