

**DISSERTATION: THE ISSUE AND SOLUTION FORM FROM
BUILDING A BYPASS AROUND EAST-MIDLELANDS MARKET
CALLED NEWARK UPON TRENT?**

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1 INTRODUCTION

This document I will be discussing, analysing and planning a route/a theoretical bypass route construction and all the issues regarding public health and safety, environmental and social problems, and/or issues which may arise from this construction and lifespan near a town called Newark upon Trent. I do this by making a rough sketch of the hyper- theoretical bypass road, and off this talk about any problems that make for existing.

1.1 NEWARK'S EXISTING ROUTE NETWORKS

Newark upon Trent and the villages around it, has a few main roads links to the town, due to its location within England. The main of these is A46 (which starts from the side of Bath in Somerset and connect to Cleethorpes Lincolnshire) and the A1 which connects Northern London to Southend of Edinburgh. Because these roads Newark upon Trent, tends to get a lot of lorries and commuters throughout the year, however during the late spring to early autumn the A46 tends to be busy, as people around England are moving towards the east coast beaches mainly Skegness in Lincolnshire. This causes a demand around the town that with existing traffic can gridlock the existing bypasses already. Also, Newark has two roads that start from Newark which are the A17 (that ends King's Lynn in West Norfolk) and the A617 (that ends in Chesterfield in Derbyshire). And finally regarding main roads are the single lane old A road routes, again the two of these and they are roads that you to be single-carriageway of the A road running alongside it, these are the great Northern Road which the old A1 starting in the same locations and the Fosse road/ way which runs alongside the A46.

1.2 GENERAL ISSUES

Each part of this construction from the new hypothetical bypass and expansions to the rejigging and redesigning of most the roundabouts on the bypass. However, all them may have a similar issue regarding health safety and welfare, environmental and social issues. That is part and go over general issues.

1.2.1 SOCIAL

Regarding the social issues, I did a survey on "monkey survey "and sent it to people of my hometown and got 38 responses. the results of the survey shown in the bottom attached appendices further reference page). Of which 38 people responded the question one (Would you say you live in the Newark upon Trent/ or nearby Villages/ or past trough Newark and the villages on a regular basis?), 37 people stated that they lived or use Newark or the villages nearby. Below is my Question 3 and 4

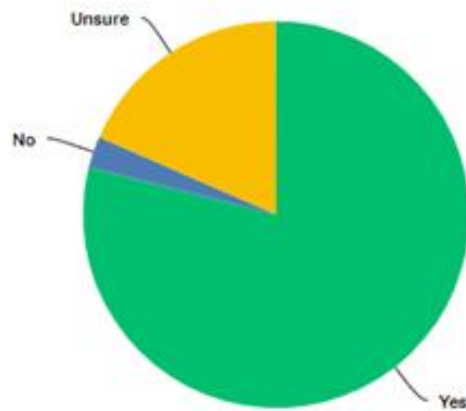
Jennifer Autumn Sapphire Sargisson

	STRONGLY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	STRONGLY AGREE	N/A	TOTAL
I think Newark road infrastructure in the Town and Villages is good and can support Traffic flow.	44.74% 17	42.11% 16	0.00% 0	2.63% 1	7.89% 3	2.63% 1	38
I think the A46 bypass from farndon to winthorpe has work to kept traffic FLOWING AROUND Newark	26.32% 10	26.32% 10	18.42% 7	18.42% 7	7.89% 3	2.63% 1	38
I think it Faster taking the bypass then going tough Newark	10.53% 4	7.89% 3	21.05% 8	39.47% 15	18.42% 7	2.63% 1	38
I think it Safer taking the bypass then going trough Newark	18.42% 7	15.79% 6	31.58% 12	23.68% 9	7.89% 3	2.63% 1	38
I think Winthorpe (the one above McDonald's) Roundabout is Dangerous	5.26% 2	7.89% 3	10.53% 4	10.53% 4	60.53% 23	5.26% 2	38
I think Balderton/ Fernwood roundabout (North bound) is Dangerous	21.05% 8	28.95% 11	21.05% 8	18.42% 7	7.89% 3	2.63% 1	38
I think the claypole/ Fernwood Sliplane is Safe	7.89% 3	26.32% 10	23.68% 9	39.47% 15	0.00% 0	2.63% 1	38
I think Farndon Roundabout is Safe	15.79% 6	23.68% 9	13.16% 5	23.68% 9	21.05% 8	2.63% 1	38
I think when they Expanded the A46 as caused more problem than it fixed	13.16% 5	13.16% 5	31.58% 12	26.32% 10	13.16% 5	2.63% 1	38

▼ I think they should of Expanded A46 to Winthorpe roundabout	0.00%	5.26%	21.05%	28.95%	39.47%	5.26%	38
	0	2	8	11	15	2	

hypothetically speaking, If Newark got a new dual carriageway at the south of the town connecting from A1 near Balderton/ Fernwood to A46 near Farndon to effectively Create a ring road around Newark, would you support it?

Answered: 38 Skipped: 0



ANSWER CHOICES	RESPONSES
▼ Yes	76.95% 30
▼ No	2.63% 1
▼ Unsure	18.42% 7
TOTAL	38

(Fig.1-1 to Fig.1-4)

From above data, there is a few points of interest. This one was when I did expect Winthorpe roundabout safety especially after the year to go on an accident caused by it but killed a few people. 60% of people in the survey agreed that dangerous and does well a high portion agreed or strongly agreed that they should have expanded bypass with original expansion and construction of the A46. That point of interest is that 80% of people surveyed, did think that there needed to be a bypass connecting Fernwood and Balderton to Farndon, but mourn this point in section 2 of this.

As well in the survey I asked if they could think of any issues into questions or the reason they will support or go against a new bypass and expansion. Out of the 38 responses there were 34 responses which one of these was not valid regards to topic and is not professional to put the language used within this document, but it does show the problems of doing an online survey like this and this make it look like all other results are invalid I believe that the still show an outline even with low response. Regards to the question on could you explain why you be for against a new bypass and any issues that may occur, the most common response was to improve traffic flow or ease congestion within and around Newark and the nearby villages, 25 people responded this way. The following three responses were taken from this

survey Q5 response 1 said "Newark easily gets gridlocked- issues have been Severn Trent sewer works plus the Robin Hood Hotel works and state of roads including having a supermarket in the middle of town. A bypass would enable traffic to go around the town. There are issues with frequent accidents on the main roads A1, A46, A17 etc which create more traffic problems too. The state of the actual roads is awful because of the heavy traffic including articulated vehicles.", Q5 response 2 stated "Currently, all traffic from south of Newark is forced through the town centre if it's trying to connect to the west-bound routes, and vice versa, and driving up the A1 and taking the A46 bypass is a lengthy route and just as heavy with traffic, especially during rush area" and Q5 response 3 replied "The ring roads round Newark need expanding to try give people reasons to drive round the town instead of through it - especially lorries. Half the problem is the ring road becomes blocked up with traffic, so people go through the town instead. But Newark can't handle that, so the town becomes blocked up to. Newark traffic is worse than it is in London" What this shows is that people who took survey thought that Newark needs more options to especially in the south end for traffic move around.

facilities Question 6, asked people if they thought by constructing and expanding for the A46 bypass/Newark ring road if there was any social, environmental and safety issues they could think of. Not sure what most common response was no, this could be because they've not understood what I asked or do not have the knowledge to identify them, or most likely they probably want an expansion and the A46 bypass more than any of these issues, this state 12 responses point blankly saying that. However there were issues brought to my attention is traffic increase which may cause accidents like one of like these two responses state " The traffics would be increased & would need an alternative high volume route should there be an accident" and " I believe it will affect traffic initially while work is being carried out but will improve once complete like the A46 towards Nottingham did". The best response to this question was the following " Socially it would mean people living in Newark and local villages would not have the dense traffic and be able to travel easier. Public health and safety there should be less accidents and pollution from all the vehicle's especially with the traffic jams which links to the environment. Hopefully there would be less accidents as the new roads would mean the traffic would be moving and people would not get stressed because of these traffic holdups. We also do not have a fully functioning hospital so if there are traffic holdups and accidents people would be able to get to the nearest hospital sooner as often emergency vehicles cannot get through. Economically the town should improve as people would feel more inclined to go into town as they would not be sat in traffic jams and the journeys would take less time. The buses would also run more on time especially from the local villages."

1.2.2 HEALTH AND SAFETY

Health and safety for these projects, I can be very similar, and I separate into two the construction and the public health point of view (how safe it is to use). Generally, the health and safety, will have the basic, that include the maintenance and checks of all safety controls, equipment and plants, also there will be working outside the hours where possible. Of course, welfare that include but not limited to toilets, place to sit and somewhere to protect employees on the elements.

1.2.3 ENVIRONMENTAL

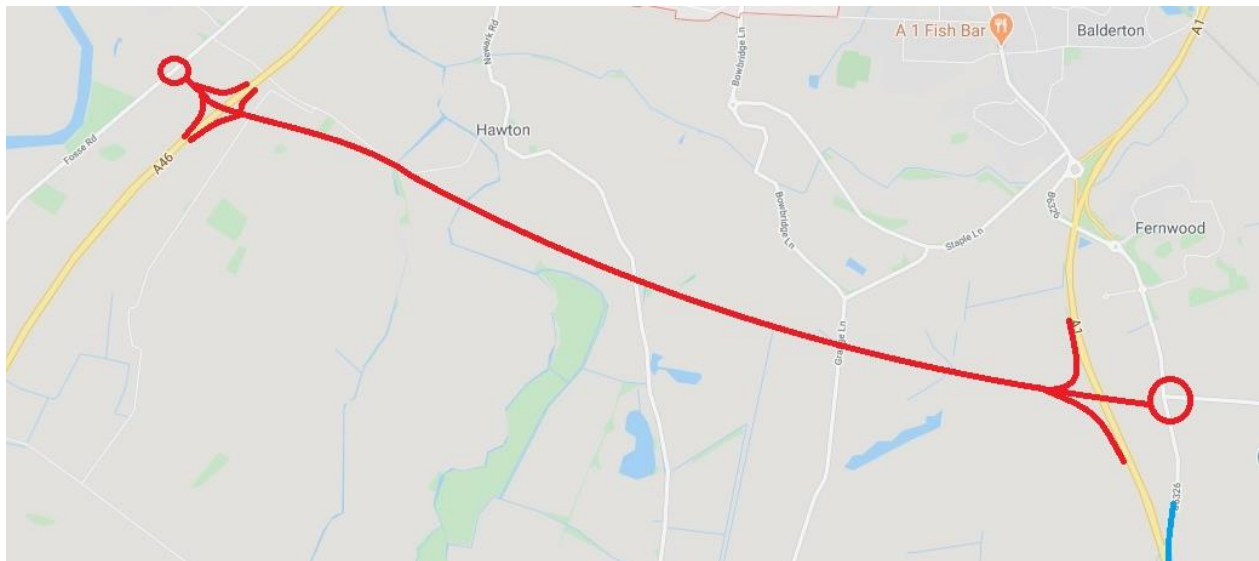
The environmental issue will outline the basic environmental issues for each spot as many of these might have different environmental conditions even though they're in a five-mile radius of each other. This will include some pollution and flooding as Newark is in the bottom of the Trent basin (a.k.a. it is in low lands and even though the flooding is normally where in Newark it can still happen and expanding the roads could add to it or move materials off-site into the river and the environment. Also a lot of land around Newark is mixture of farmland growing sugar beet and thereby factory or landmark by the council for expansion of the town.

2 NEW BYPASS

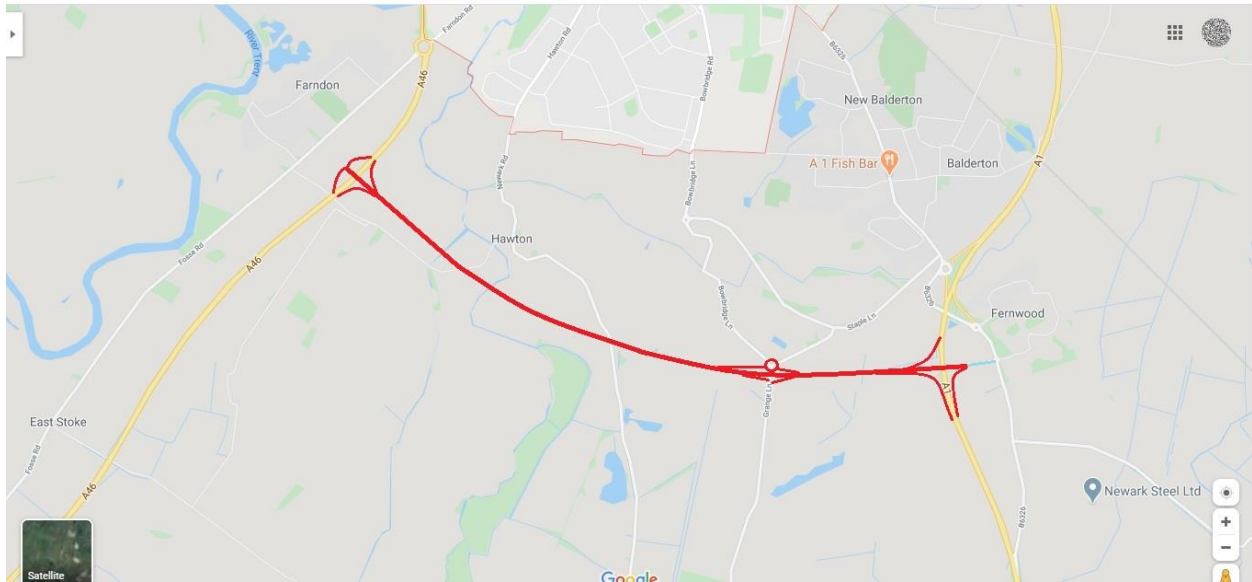
As in the survey 80% people who took part would support a new bike bypass section from nearby Balderton to Farndom going across the south section of the town, this area of town has few features that must be noted, this lot of industry scattered around this area from the gypsum quarry to Newark steel which is steel merchant and farmland. With only one village to be careful of going around this way called hawton, however within this area the town Council has earmarked an area for future development into a Hamlet/village. And finally, there's a garbage dump/landfill south of the town.

2.1 ROUTES/ PLANS

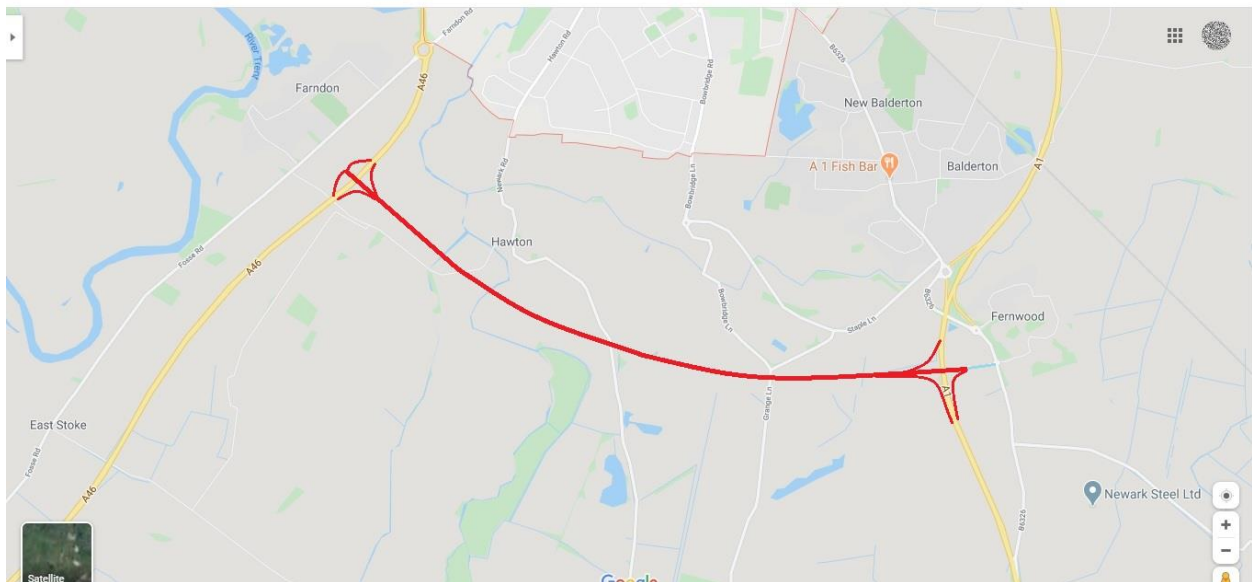
For the bypass, I have come up with three routes/plans both their own advantages and disadvantages, however the ferry similar. To note images will mostly be sketches of the route to try and explain, in these red means a new construction and grey is an expansion/ alternation to existing route/ roads



(fig. 2-1)



(Fig. 2-1)



(Fig. 2-3)

Route 1

This route is design, to keep away from town while not been too far out and make the connection to the old Fosse Road and Claypole slip road by connecting roundabouts and linking them together. Also, this design uses existing slip lanes, and adding new ones for where it crosses the A46 and the A1. The link can be dual carriageway.

Route 2 & 3

Both route two and three have similar designs, where one like route one the bypass got up at the end of existing road and only connects a 46 with slip lanes ensuring traffic to come off the A1 and 46 with ease.

Route 3 is designed to only have junctions where it crosses the main road is to allow traffic keep moving. However, it was still force most from the industries thereby to go up they fit Lane and do and dangerous junction before the Balderton roundabout (A1).

This issue solved by route two however with connecting bypass will need to put lights and a small roundabout due to the amount of exits in that area. This will require more land than other methods however the be the safest.

2.2 ISSUES

This is going this one are not that complicated because of the fact of their is currently little construction here at the moment, however the plan and route must support any further developments of residential, commercial and industry expansion while offering a safe route to move out of this area. Some parts of the area may not get any further expansion due to wind farm nearby the town however this itself may get expanded. Another issue is that there are a few scattered industries and agricultural crop farms in this area so in design here would reflect this area, this important as this area again is not really been developed but may get developed, and it would be good if the project reflects this within its design, for example using earth embankment and reinforced earth instead of using mass concrete. Another issue is that practice may use back roads must ensure high of bridges can clear any agricultural and industrial lorries another transport equipment including combine harvesters.

2.2.1 SOCIAL

There were little social issues with construction in this area if we do archaeological surveys due to the history of Newark of been a main town in the second English Civil War. Especially around Hawton as that's where the Queen Sconces Earth forts is based, to note we should be doing this for any jobs around Newark that requires earthworks. The social issue that we could sort out would be to move heavy industry of some to back lanes in this area while keeping enough distant from current housing and future housing projects which are currently in planning so that the not affected by sound pollution and flooding from this project.

2.2.2 HEALTH AND SAFETY

Again, the health and safety, it's like both the social and environmental. Where the construction site would have to be popularly provided off away from the public. And following general health safety procedures especially when connecting and upgrading existing roads for this section. There should be enough room for welfare facilities as well however they are different regarding public health.

The Public Safety behind route one and three, is that they will help keep lorries off the town roads of Newark. While route two will have that safety as well as ensuring back lanes have limited trucks and lorries on them and that the day after going up the dangerous junction just after the Balderton roundabout.

2.2.3 ENVIRONMENTAL

All these routes will have the same environmental issues impact due to how similar they are. The main issues will be ensuring that sound pollution will not affect any local public members. We could do this by installing sound orders into the side of the road which could use to block the sight of the landfill, also because we have to space do earthworks for the embankment of the bypass we could put trees and other plantation across the side of the embankment to help with pollution and the sound from the bypass.

Because of using earthworks for the new part of the bypass, we could install drainage system underneath the road to support the surface water run-off for this road.

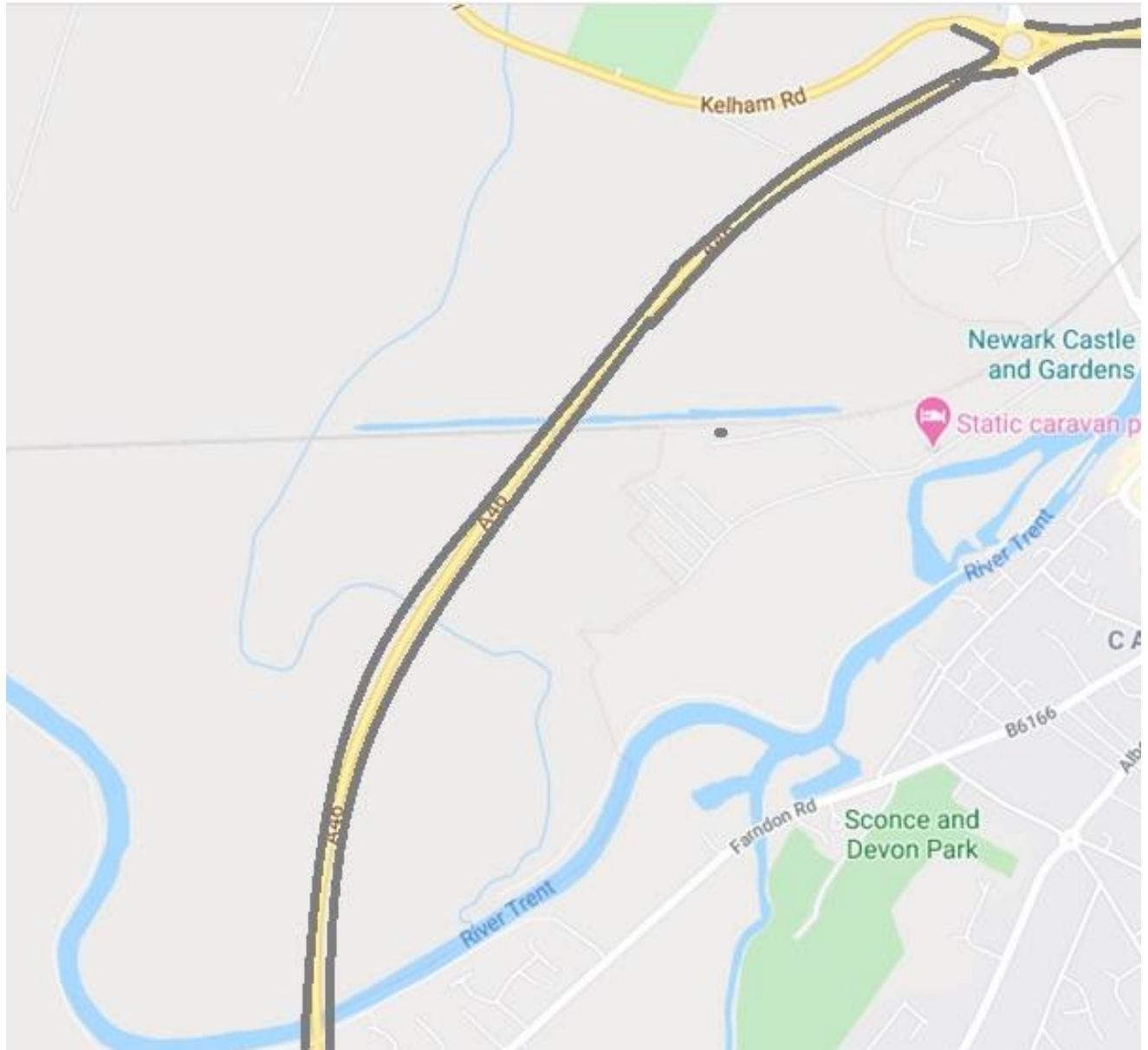
Hopefully with this bypassed in it should allow traffic to move around Newark even if main roads have an accident on them. This will free up town roads with luck and reduce the amount of time it would take to go across Newark. This should have environment as less cars will be that can gridlock around and in the town.

3 EXPANSION TO WEST A46 BYPASS

The A46 bypass (West) connect the A46 and Farndon to the great Northern Road, A617 and Castlegate (one of the three main ways into Newark). How it currently stands is that it's single carriageway bypass earmarked for government funding to expand the route along with the North Part of the bypass, which was confirmed in late 2019. However, if the bypass between Fernwood/Balderton comes to existence, before expansion of the existing bypass carriage way, it will cause bottleneck on the roundabout. so before new road is connected at least the 46 West around Newark will have to be completed.

3.1 ROUTES/ PLANS

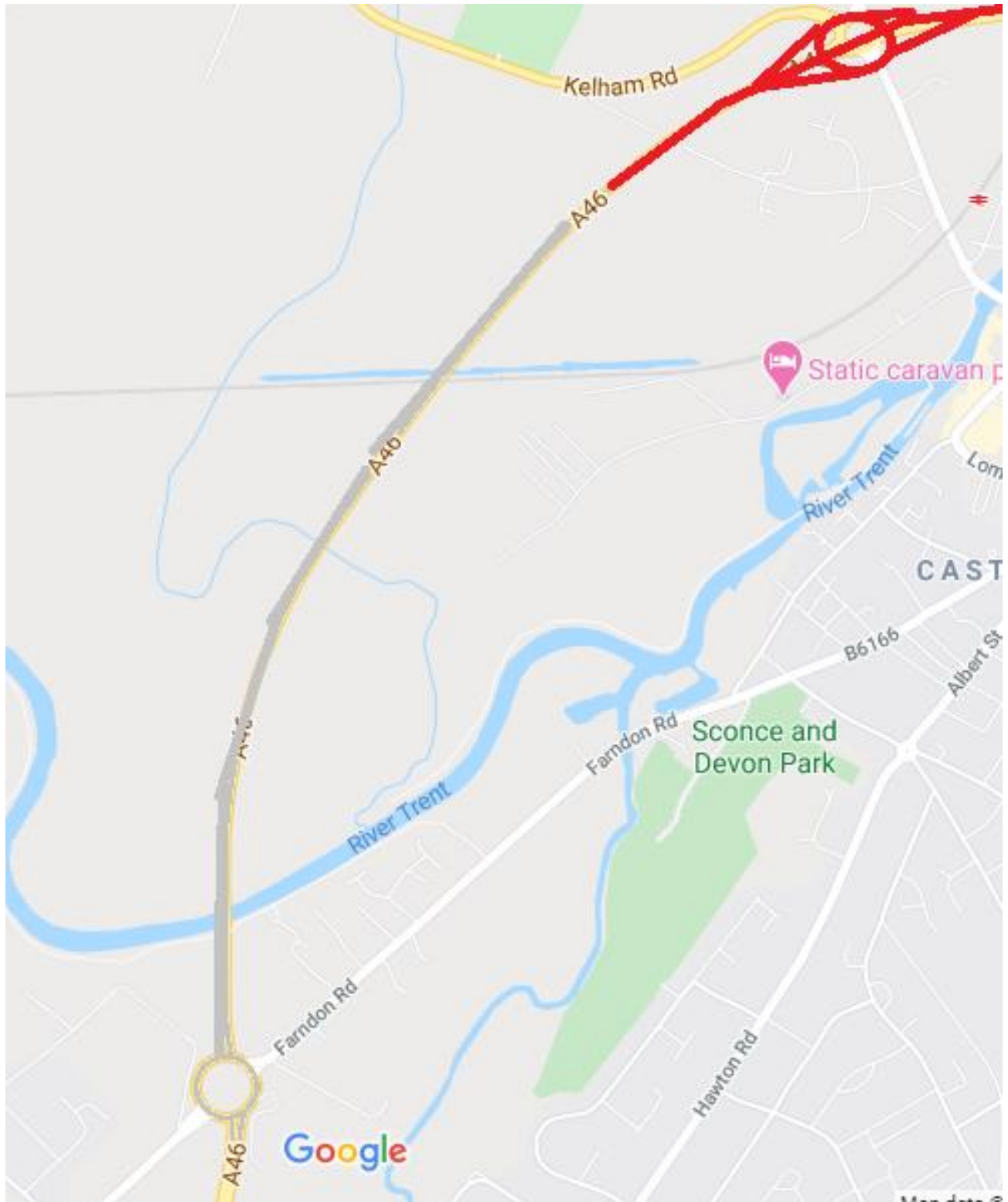
there is 3 methods you could use to expand this route, you could just expand the road on both sides by Lane (fig.3-1), build two Lane of the left-hand side of the bypass route(fig 3-2) or you could completely redesign it to become an overpass to go over the Castlegate roundabout changing the starting point of the north bypass and rework in roundabout underneath to support (fig 3-3).



(Fig. 3-1)



(Fig. 3-2)



(Fig. 3-3)

Route one

This route and plan would be the most simplest carry out with probably most the most littlest disruption to the existing traffic going over this bit as its basically a spun both of the roads and expanding connections for only the a 46 bypass to the castle gate roundabout but as a be expanding on in the issues section this one may not be the cheapest or safest solution.

Route two

this route or plan, would build the two extra lanes on the left-hand side of the existing as well as building the slip lane to the A617 to take pressure off the roundabout as well as adding slip lane to the castle gate roundabout for drivers and traffic not queue at the roundabout but instead have the option if turning left the bypass roundabout. However, this one may be a bit too complicated and may require that gate roundabout to be closed for some time and may not be the safe to use.

Route three

This route would require the removal of the old route from a certain point and a rejigging of Castlegate roundabout the support the A46 bypass to go over it and have the lanes going onto the roundabout, meaning that the roundabout would have to be bigger in size and part of existing roads will have to be removed. This one will be more expensive and more time-consuming, on top of mass disruption and requiring more work may not help the environment.

3.2 ISSUES

Each of these planned/routes will have their own individual problems, however it may be the more less expensive part of improving and adding bypasses Newark as it a short part bypass compared to the risk parts however depend on the method you may get problems socially and environmentally from the altering of this part as this is moved traffic especially in summer months to the East Coast so that any work is done on this part it will be more preferable in the winter months before the spring and summer holiday rush.

3.2.1 SOCIAL

The social issues route for these are very similar for example all these route will be going over the Leicester/ Lincoln train track line so any work on the bridge going over this section must be done outside the train times also of issuers the pedestrian walkway that connects farndon to Newark on Trent this important as every pick a route that a 46 open be hard for people to be between the village and town, also we must keep this what way within the design. The biggest problem socially will be with route three as the work needed it would a close down the 46 bypass and Castlegate roundabout for a few weeks which will force traffic to go through Newark which could cause more congestion in the town that already gets congested easily. People may be a bit upset about this, so when doing this route, the town may need forewarned warning. Regarding my survey result, people trough that the expansion of the A46 may have or slightly agreed caused issues for the town in the Leicester to Newark section was upgraded. This could be taken two ways, first of which is that the dual carriageway should have continued to the Newark the Lincoln section of the A46. The other way could mean that the town from the results I got doesn't affect

much regarding social issues this bit is included as an issue for expanding the north part of the 46 bypasses.,

3.2.2 HEALTH AND SAFETY

For this section, I'll be comparing and going over the health and safety of each return plan for the A46 Western bypass, during construction and potential risk that could happen for picking that plan.

Route one

this route is going to have many health safety and welfare issues, due to all its doing is expanding road to support heavier traffic from the adequate roundabout was quite small roundabout with many junctions.

Regarding construction the main issues will be work and alongside a road with active traffic on it. Which we could get around this by ensuring works properly maintaining and using their personal protective equipment like their high visibility jacket. Also work in during the non-busy time this could be night-time or during work time mid-week. Another issue during construction would be if keeping cars and people physically separated by using barriers. Because the area might be wise to ensure that when they buy them site to take any plant and equipment off site to avoid the temptation for some people of the area to go on site. Another thing we could do it if somebody breaks down next to the work, we could help move them around the working.

Regards the public safety, doing this may cause a bottleneck at the Castlegate roundabout as its small roundabout and that have some of the issues That the roundabout and talk about later has as well, and this could cause massive backing up another streets and roads connect this roundabout. Another issue is a lot of cyclists uses the streets and non-A roads as well as the roundabout so will need to find a way to keep it safe for them.

Route two

this route does similar issues to the other routes, however unlike the route one you need less barriers and temporary concrete barriers will only go one right side of the expansion of 46 this should make it safer for the workers and allow easier placement of welfare facilities, however most often night work for the slip lanes.

Regarding the safety of design, the roundabout may be still too small for them lorries, however roundabout should be less congested due to the slip lanes allowing traffic but wants to leave to not enter the roundabout.

route three

Like route two be easy to put welfare facilities and the barriers until you get to the point they built the overpass and rework on the roundabout, when construction gets to the overpass will have to close down parts the roundabout to ensure safety as well as expanding parts of the roundabout starting from the A617 junction of the roundabout and moving clockwise regarding expanding.

However due to the big work traffic will have to go through Newark for few weeks meaning the town will become congested and if work on Winthorpe roundabout is not complete, they could be a high-risk of accidents like the one in 2018.

3.2.3 ENVIRONMENTAL

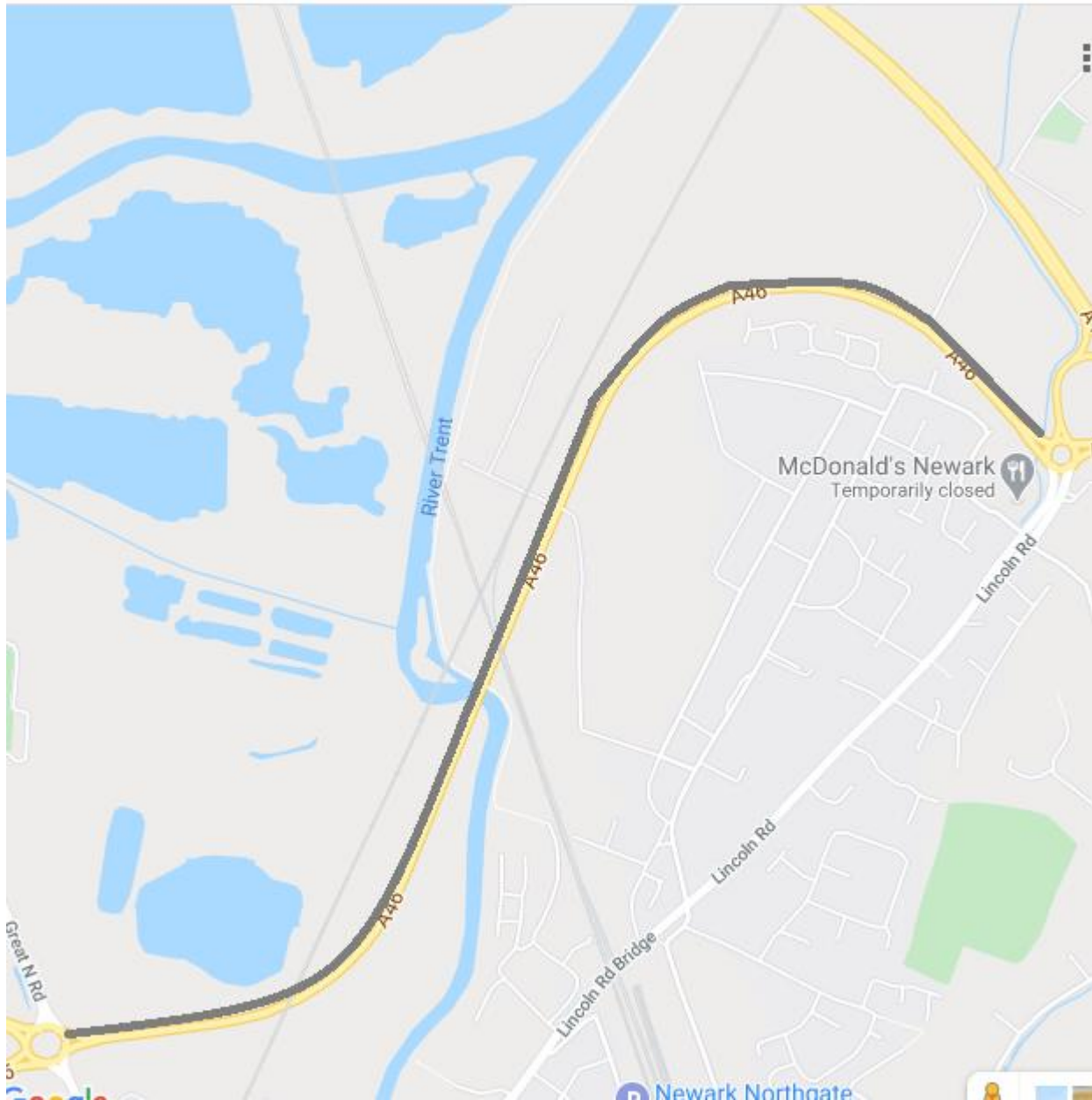
This section of the bypass will be quite simple. Environmental issues will mainly be concrete run off and sound pollution as well as flooding issues. The sound pollution could be solved in this case by planting trees and/or placing soundboards.

4 EXPANSION TO NORTH A46 BYPASS

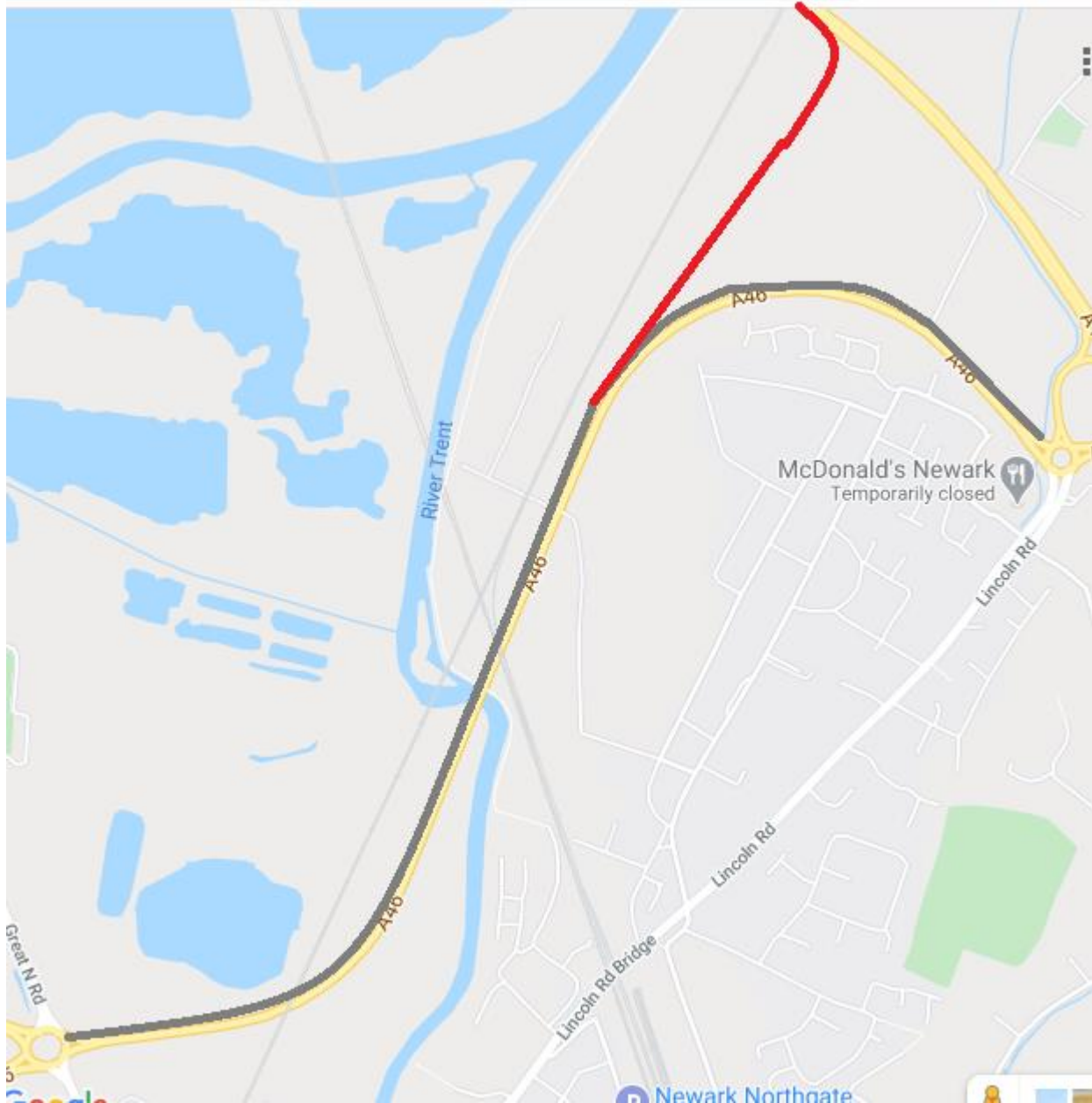
North bypassed expansion, maybe one the hardest carry out but the easiest to plan, this is because like the new bypass is not much variation changes needed to alter this one however the issue comes back to the fact that Newark upon Trent history of being on the final royalist town to fall to Oliver Cromwell in the second English Civil War, which is one of Newark's main tourism points. And due to the expansion can only get one side the road due to businesses and activities, the route will be getting quite close to the King's source hills which are earth forts from the second English Civil War.

4.1 ROUTES/ PLANS

As said in last part there's only two very similar options we can take for this section and they'll be small alterations depending on the route picked for the option before the western bypass. They both will require the expansion to go over the left hand side until the corner before Winthorpe roundabout where they get slightly separate where one will end to where the road is already expanded into two lanes however it will have an early slip lane to connect to A1 northbound. While the other one will resurface the existing



(Fig. 4-1)



(Fig. 4-2)

4.2 ISSUES

This part of the expansion of the bypass but have many issues solve added the quite built-up area with existing infrastructure and a site of historical importance. The site will go over and then one down one railway line that is not electrified which it's already gone over the last part of the expansion, so will use the same methods to get around that. Also it will be crossing the East Coast mainline one of the most busiest and electrified lines in England, going from London's King's Cross to Edinburgh station, for this weft be ever so careful of not dropping anything onto the rails alone as well as ensuring that the public and workers do not neither. This is because it will be hard even in conjunction with network rail do any work

over this. The next issue is why is got be built on the left-hand side of the existing road as on the right-hand side there are many businesses and there a shooting range for sports on that side, however the stuff be careful and one avoid on the left-hand side including Newark's water treatment plant and the man-made canal exit point and the diamond crossing that the two previous mentioned train lines cross. And all this on top of working extremely close to a site of historical importance.

4.2.1 SOCIAL

Socially, the main issues it again working quite close the site of historical importance "the Kings sconces" working close to this place would require was to either have a archaeologists or historian ideally from the local museum (the National Civil War Museum) or have the proposed route archaeologically investigated before work begins. Also regards to this is the project could with help of local authorities solve a small issue of this land being in private ownership and we could see if we could get access / buy the land and give to the public after work they like the Queen sconces on the other side of town, this may help to gain public trust back especially if we would have to direct traffic through the town.

Also, a social issue would be to try and keep, part of the bypass open that that traffic doesn't reroute through the town this may be the however depending on the route for westbound roundabout this might not be possible.

4.2.2 HEALTH AND SAFETY

This section of road will be the requiring health and safety, as a lot of the road is a high and it crosses over areas of high risk for example it gets very close to the shooting range, which we may have to ask shooting range not be used during work. Also of course what work in over an electrified train line will cause issues and hazards that may. So may have to put barriers framework around. Anything falling onto the track and for people to harness onto. The welfare facilities will have to go one the closest side as land in the area worked on. Also, the need for temporary barriers in when the A46 is open to ensure even an accident nobody could fall off the road. If can keep open to reduce congestion and help safety of road users, better do this work outside the summer holiday season or when the west bypass is close. However, this may cause problems of congestion in the town.

4.2.3 ENVIRONMENTAL

The environmental issues are like the other ones however lowering sound pollution will be harder and due to the existing road being in the bridge over all the existing infrastructure, so flooding is not a big issue here. However, we got be careful about is the man-made canal in regards particles and material that may go into it during and after the construction, which is the same with no water treatment plant. Also, the land nearby may be future developments got be careful that we don't pollute that neither.

5 REWORK A1/A46 NEWARK NORTH ROUNDABOUT

This roundabout will probably be the first part of any works as how it stands is very unsafe and have been proven to be a talk about that later. If you look below you see the existing roundabout or roundabouts configuration that currently exists.



(fig.5-1)

What you can't see this photo is that they one northbound slip road at quite a blind corner well been on a slight gradient. Which isn't that bad until you realise that this roundabout can back up quite aggressively.

5.1 REWORK PLANS/ ROUTE

For this one, there's only really one design which can solve the bottleneck that happened here as well as removing/reducing blind spots on the roundabout. I'll go for a two-lane oval roundabout that goes over the A1 and uses the parts of the existing roundabout e.g. the bridge and the bottom part of the roundabout. However, the doing this we must expand the radius of the arcs between two bridges to allow easier movement for lollies and large vehicles. Also, if there any parts that would run better with traffic lights controlling it will put in. Main features are straightening up entrance and exit lanes as well as making it easier to use.



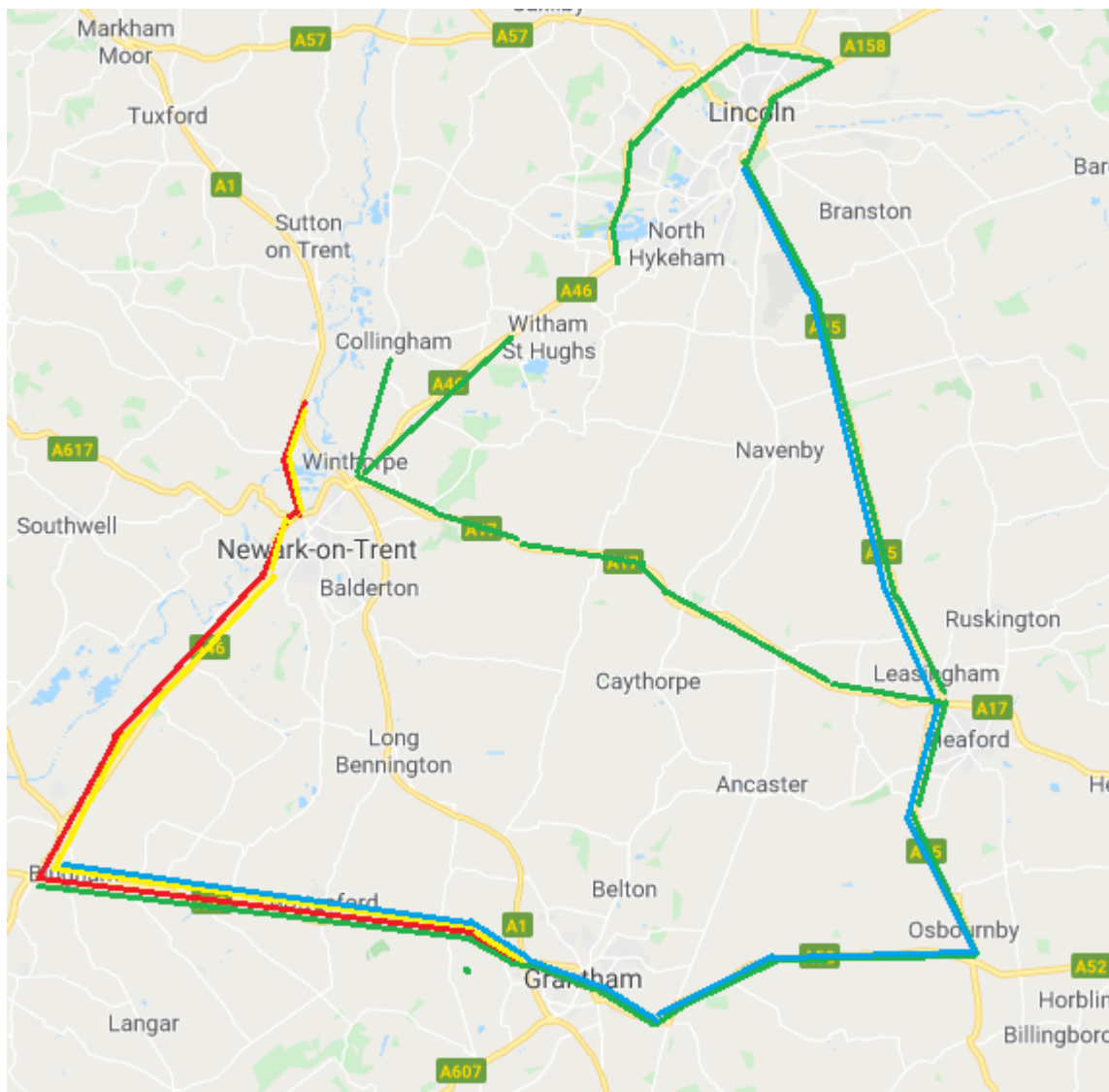
5.2 ISSUES

Issues here, mostly focuses around how busy this roundabout usually is, due to be a direct connection to the four directions in the country and having Dixons Carphone warehouse the north-east of roundabout as well as others more aware how this and distribution centres. Also both limited might have to take a bit of land of Barnhill's motorhome, but this issue could be rectified with the council to see, if the land behind the site, also the main agreed to it because it makes the roundabout they safer.

5.2.1 SOCIAL

Socially, this build will probably have limited effect if we can ensure that the roundabout both far away from Winthorpe and manage traffic flow throughout the town, by collecting traffic further up and down of the three main roads that is connected to this roundabout so that traffic can move around it. We can do this it sent traffic up the great Northern Road catch they the A1 further north and vice versa, this will cause massive traffic influx onto Castlegate roundabout which we could probably solve by placing temporary traffic lights onto the roundabout if none of the works have been completed. And traffic moving

up the A1 northbound could be moved near moved near Grantham onto the A52, and catch the A46 near Nottingham, this should not be much effect apart from adding traffic to the West A 46 bypass Newark if we have not done the Balderton to Farndon bypass, but if we have done that will have to put temporary traffic lights on the Fernwood roundabouts. They before doing any work it may be beneficial to at least complete the new bypass and west bypass to help traffic move about going from much of Newark. And finally traffic from eastbound from Lincoln should try and divert the northern A1 however if not the traffic will have to be either move through the town or sent up a 17 to near Sleaford and move around the Grantham, do this will have to put signs on the Lincoln bypass to inform of this as would save time for the road users however Sleaford and Grantham residents may not be happy of more traffic going through the town. For no traffic or the towns nearby the Newark like Gainsborough and North Disney, we could let traffic for them to Claypole when they can move around from there. Blow is a sketch to roughly explain the Green is A46 Eastbound and A17, Blue Is A46 Westbound, Red is A1 northbound and Yellow A1 southbound.



Of course, people may not take the recommended redirected routes and they may use other routes through small towns and villages like Claythorpe Long Bennington and Newark, this may cause problems within these places. So, it may be having to forewarn them of this construction.,

5.2.2 HEALTH AND SAFETY

The health and safety on the site will be quite complex like the North bypass, however, get around this for example closing parts of the A1 down and/or closing the outside lane. And controlling traffic by doing work. Probably doing major work at night. But the major part of health and safety would be to fix the slip lane though that a pileup cannot happen again on the flip line. Below are images of the slip lane as they come away from the main roads using Google Street view.

A1 South exit



A1 North exit



A46 Eastbound entrance



A46 west bound entrance



Lincoln Road Entrance



A17 exit



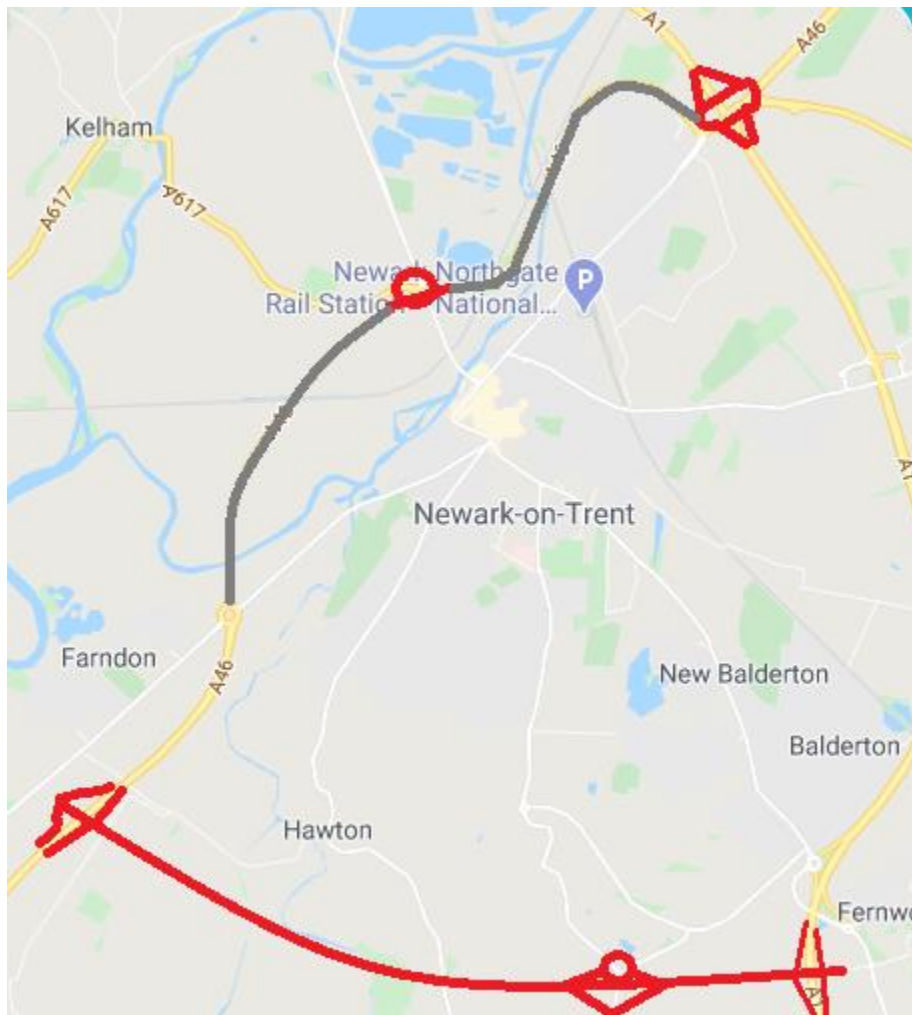
From the photos above you may be able to see many of the entrances to roundabouts are quite straightforward and see what's going on however the ones that come off the A1 do have massive blind spot to say coming off around 50 mph this is a recipe for disaster which in 2018 it happen between a lorry and a few cars, ever since then members of the town have wanted the roundabout to be redesigned or have roads to reduce the stress on this roundabout. As one person, survey said "would ease traffic and accidents at the Winthorpe roundabout near McDonalds." In response to new bypass.

5.2.3 ENVIRONMENTAL

The environmental impact this section, will not be as high compared to others or at least directly, It will mostly effect national/the East Midlands environment indirectly because of the traffic being moved on to the different roads and moving around, this will probably cause congestion while work is carried out on the roundabout which will more than likely increase pollution within the local environment of the diversion routes. Also due to the flatness of this area these routes may get further redirected if the case of heavy rain happens and the Trent bust its own banks. However, with the project itself we will try and use existing sections of the roundabout as much as possible to reduce the impact.

6 CONCLUSION

As you may have gathered, solving any issues over this town current main road infrastructure, is complicated from the amount of traffic that uses these roads daily, to the historical history behind town, as well as all the farmland and industry within the surrounding area, it's a bit of a minefield. There's probably no good solution to this issue as pick one route over the other, always leading to an issue here. For minute issues I have found or tried to find a solution to this issue, however any route changes will affect other connected routes after so after I have selected what I think could be the best option and go through how ill wind flock together I will then increase the scope to look at collected roads including those within the town and those connected to it and review what may happen to them and if no need each work, as roads do in order purpose at light water pipes once you increase one of this will be effected as people may choose to use them more or less. So, if look below sketch of the route are personally take regarding rejigging/redesigning Winthorpe roundabout to the needed alterations the existing a 46 bypass to the hypothetical new bypass.



as above images that show, I selected two for the Balderton to Farndon bypass/ the new hypothetical bypass, Route three for the Western section of the existing bypass, route one for the Northern section of bypass and the course the only plan/redesign for the A1/46 bypass roundabout also known as Winthorpe roundabout.

For the hypothetical Balderton to Farndon bypass I chose route two as it will allow a safer route for lorries coming from industries here as well as the quarry, then the current route of going down to Balderton roundabout and use the dangerous junction just before it, will come off an existing road connecting to the developing Fernwood business estate. however route 1 would allow the movement between the different roads and an easy connection to Claypole but people may not use section road especially be further down than the best one so people may not include the road will be faster going through town which the problem anyway. While route 3 allows for a more direct with less turnoff and junctions, this will allow the faster.

The Western section of the bypass I picked route 3 as it allowance the bypass traffic to go straight over the roundabout and not congest it, however route 2 would have been better to keep the road open as to carry out this one we may have to close the bypass and Castlegate/livestock market roundabout, this would cause Newark to get an influx of traffic with time that this route takes to construct both route 1 and 2 could keep the 46 bypass one in what it would probably not support the increase of potential traffic the expansion would cause the roundabout. The route one has another issue is it may affect the one of the local sporting ground as they spent on it both sides would mean that will go over the cricket pitch which is not good to do this also we must be careful of not them to limiting routes at least for a long time not to effect Newark Rugby Grounds.

For the Northern section of the bypass, I would choose route 1 even though route two allows traffic if they want to go up to A1 northbound without using the roundabout. This is because of the proximity to the historical site and the chance of finding something archaeological here could stop any work indefinitely especially if it's from the second English Civil War as that is major cultural and main form of tourism for the town. So, I would pick the route that has limited amounts of earthworks or at least get the bypass done.

And finally, the roundabout is designed in that way keep traffic moving on the roundabout to try and mitigate the backing up of traffic on the slip lanes. Also, to straighten up the slip lane to allow a clearer view ahead.

I think the collection I done the best you could do for this town ring roads, however, to fully ensure other roads can support this in the big escape I recommend the following changes to them and future changes the bypass.

One change we could help is to combine the A617 with the great North Road this would allow the roundabout at Castlegate unless junction allowing traffic movement to be easier. However that will be one issue with this one where the route will have to start to connect there is a listed bridge though we can't expand much as the bridge will cause a bottleneck that cannot be solved by expanding the bridge as you can't nor building the secondary may be too expensive.

Another thing we could do is, to build a slip lane from the North section of the bypass, make it take the shape of route two of the North bypass. As we could spend the extra time ensuring that there is no

historical site or artefacts in that way. Plus, if you wait before doing this bit we could see if the expansion has worked or if this is needed.

In Fernwood, after the construction of the new bypass we could remove the existing slip lane as it wouldn't be needed, change the two roundabouts into box junctions to allow easy movement for lorries coming off the bypass, widening the Claypole Lane to the A1, and turn some of the Fernwood business state from two lanes town roads into four-lane roads on top of installing traffic lights at the box junction. This will allow traffic to move from the bypass onto Balderton, Newark or the A1 southbound.

so even though there's not a good or perfect solution to this issue and any done will snowball other sections of the road infrastructure , the ones I selected on the best options to keep traffic flowing around the town which in turn should lower the chances of accidents and pollution within the local environment. Also bringing new life and ease for local use their town road,

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Survey Monkey Results shown after this section/at the bottom of this.

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<<https://www.google.co.uk/maps/@53.0949766,->

0.783578,3a,75y,212.57h,85.84t/data=!3m6!1e1!3m4!1sR4PytHUFQuQ2FB15bH2pFQ!2e0!7i13312!8i6656> [Accessed 1 May 2020]. And then alter in MS Paint me

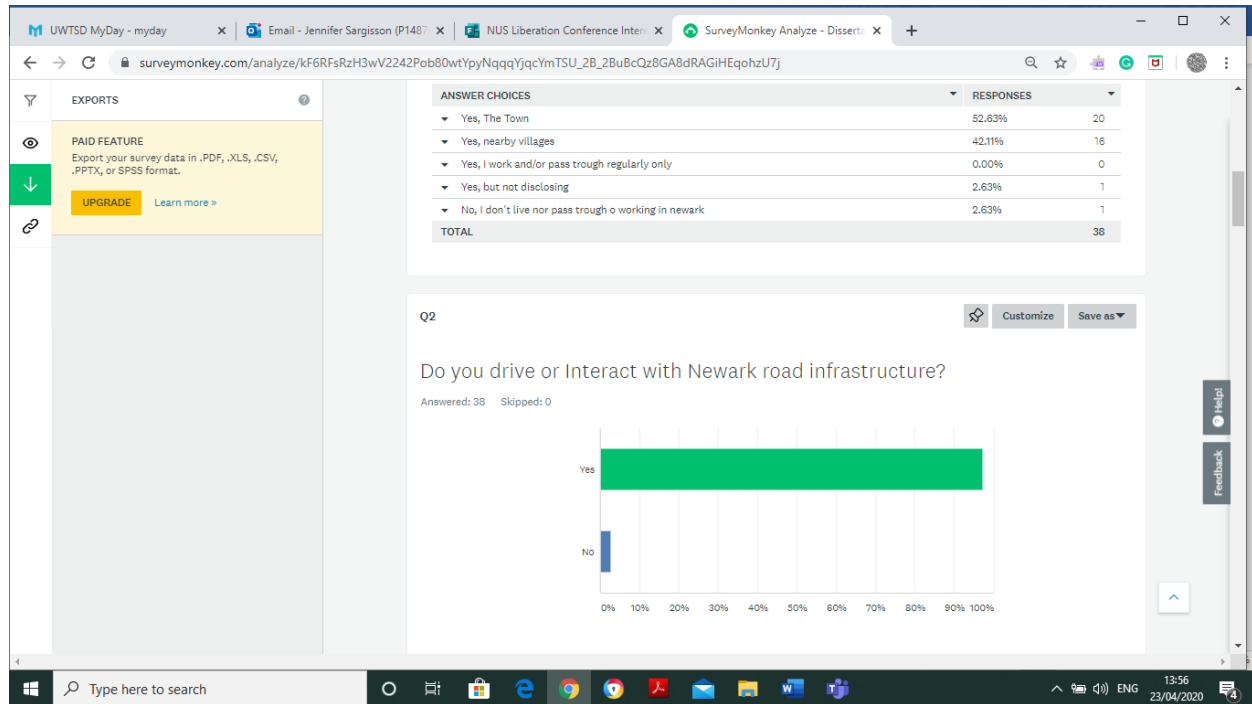
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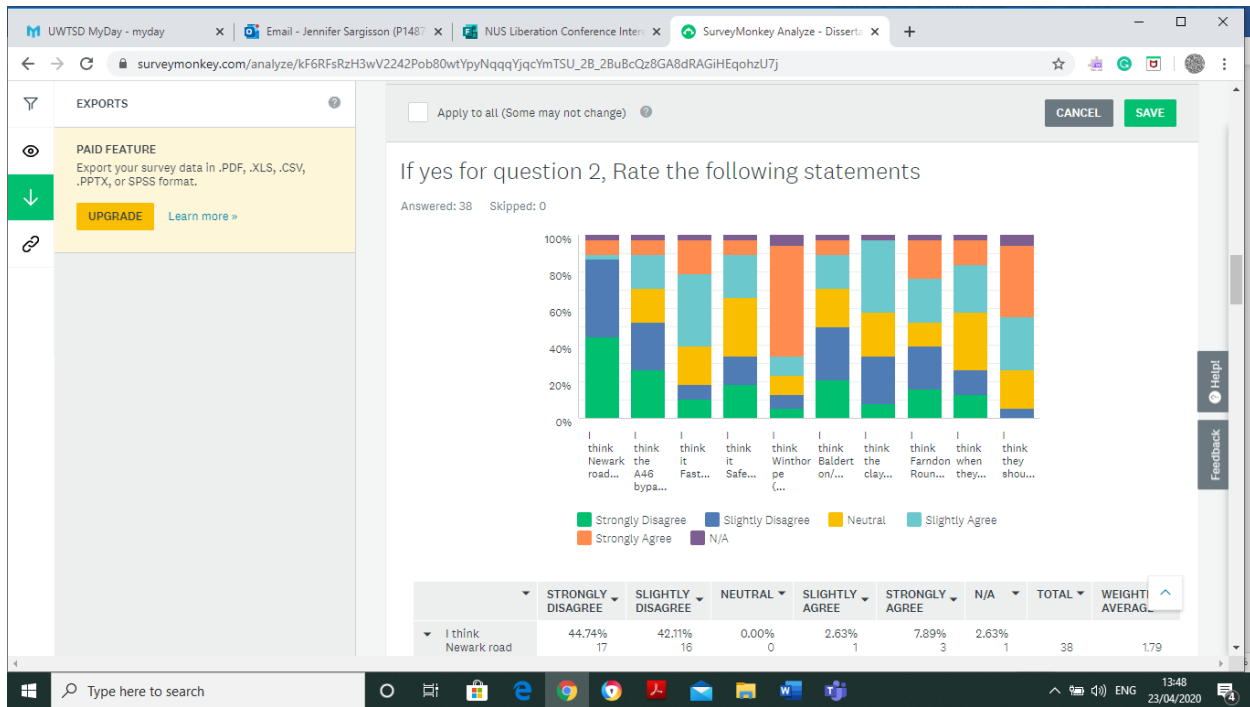
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EXPORTS

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	STRONGLY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	STRONGLY AGREE	N/A	TOTAL	WEIGHTED AVERAGE
I think Newark road infrastructure in the Town and Villages is good and can support Traffic flow.	44.74% 17	42.11% 16	0.00% 0	2.63% 1	7.89% 3	2.63% 1	38	1.79
I think the A46 bypass from farndon to winthorpe has work to keep traffic FLOWING AROUND Newark	26.32% 10	26.32% 10	18.42% 7	18.42% 7	7.89% 3	2.63% 1	38	2.47
I think It Faster taking the bypass then going trough Newark	10.53% 4	7.89% 3	21.05% 8	39.47% 15	18.42% 7	2.63% 1	38	3.39
I think It Safer taking the bypass then going trough Newark	18.42% 7	15.79% 6	31.58% 12	23.68% 9	7.89% 3	2.63% 1	38	2.79
I think Winthorpe (the one	5.26% 2	7.89% 3	10.53% 4	10.53% 4	60.53% 23	5.26% 2	38	3.97

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13:50 23/04/2020

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		5.26%	7.89%	10.53%	10.53%	60.53%	5.26%	38	3.97
		2	3	4	4	23	2		
	I think Winthorpe (the one above McDonald's) Roundabout is Dangerous								
	I think Balderton/ Fernwood roundabout (North bound) is Dangerous	21.05%	28.95%	21.05%	18.42%	7.89%	2.63%	38	2.55
		8	11	8	7	3	1		
	I think the claypole/ Fernwood Sliplane is Safe	7.89%	26.32%	23.68%	39.47%	0.00%	2.63%	38	2.89
		3	10	9	15	0	1		
	I think Farndon Roundabout is Safe	15.79%	23.68%	13.16%	23.68%	21.05%	2.63%	38	3.03
		6	9	5	9	8	1		
	I think when they Expanded the A46 as caused more problem than it fixed	13.16%	13.16%	31.58%	26.32%	13.16%	2.63%	38	3.05
		5	5	12	10	5	1		
	I think they should of	0.00%	5.26%	21.05%	28.95%	39.47%	5.26%	38	3.87
		0	2	8	11	15	2		

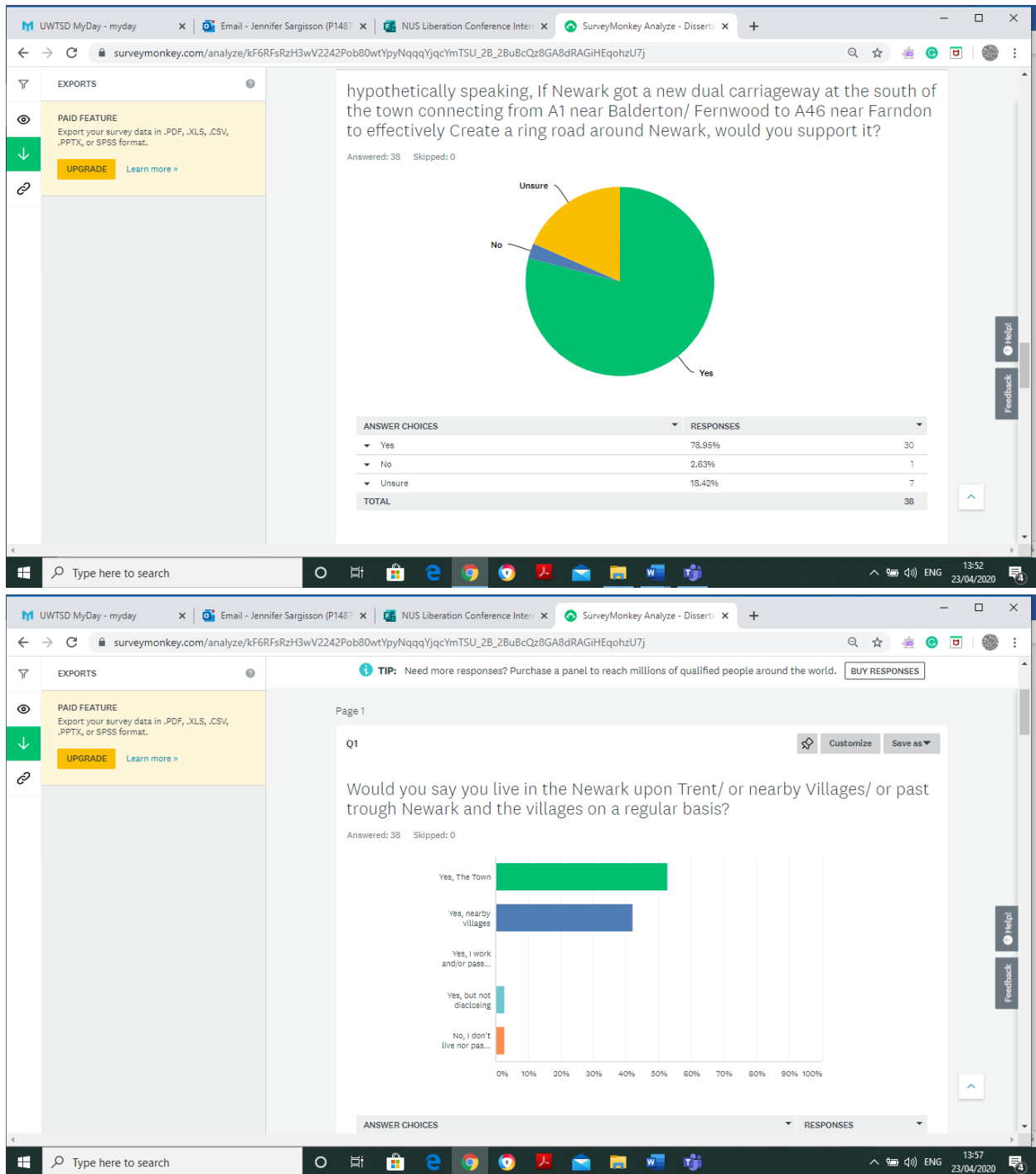
Exports: PAID FEATURE. Export your survey data in .PDF, .XLS, .CSV, .PPTX, or SPSS format. [UPGRADE](#) [Learn more »](#)

	I think Balderton/ Fernwood roundabout (North bound) is Dangerous	21.05%	28.95%	21.05%	18.42%	7.89%	2.63%	38	2.55
		8	11	8	7	3	1		
	I think the claypole/ Fernwood Sliplane is Safe	7.89%	26.32%	23.68%	39.47%	0.00%	2.63%	38	2.89
		3	10	9	15	0	1		
	I think Farndon Roundabout is Safe	15.79%	23.68%	13.16%	23.68%	21.05%	2.63%	38	3.03
		6	9	5	9	8	1		
	I think when they Expanded the A46 as caused more problem than it fixed	13.16%	13.16%	31.58%	26.32%	13.16%	2.63%	38	3.05
		5	5	12	10	5	1		
	I think they should of Expanded A46 to Winthorpe roundabout	0.00%	5.26%	21.05%	28.95%	39.47%	5.26%	38	3.87
		0	2	8	11	15	2		

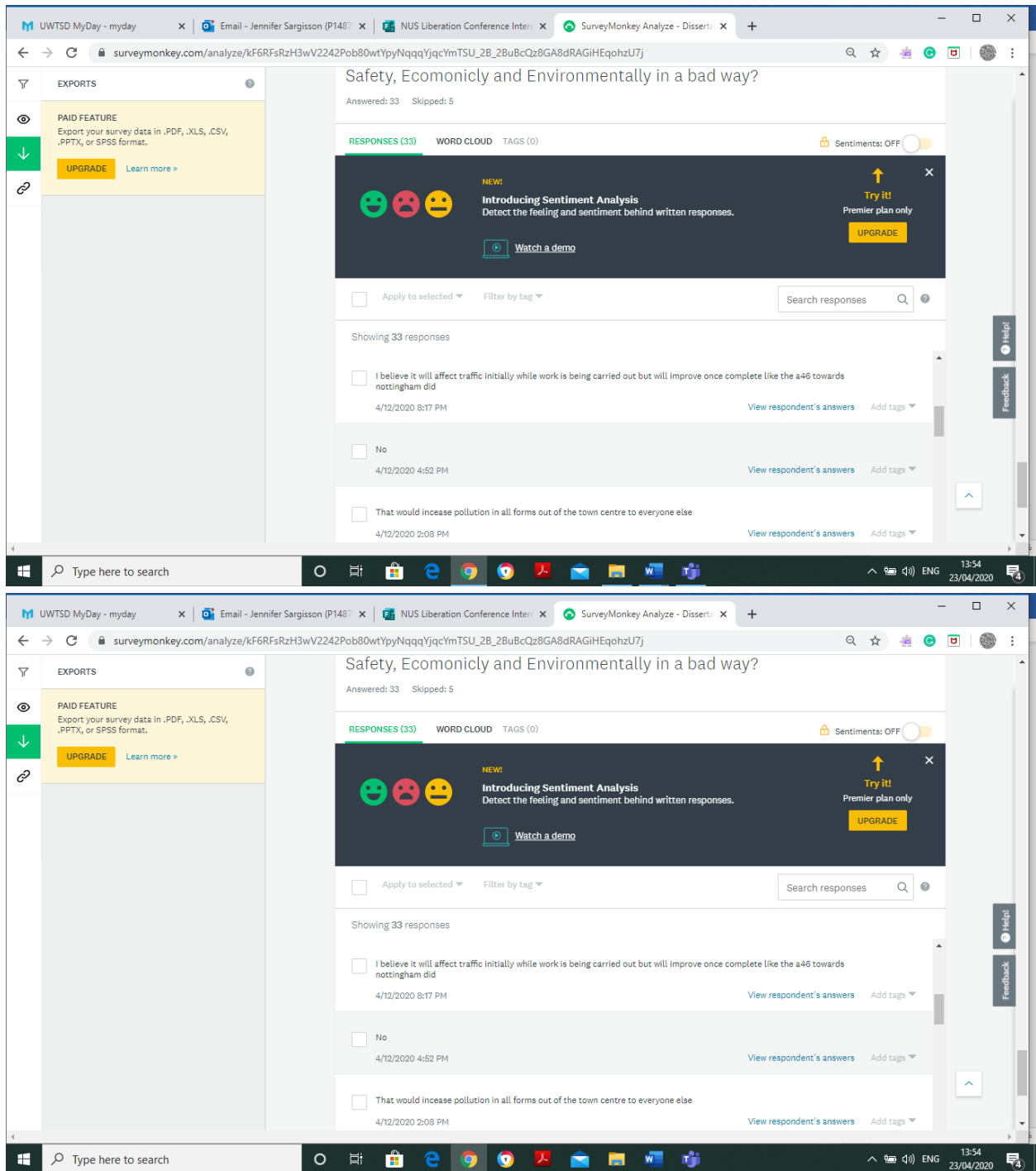
Q4

CHART TYPE DISCRETE OPTIONS COLORS LABELS

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The image displays two screenshots of the SurveyMonkey Analyze web application. The top screenshot shows the results for question Q5: "Could you explain your reason for question 4? if you answer yes or no". It indicates 34 responses and 4 skipped. The visible responses include:

- ☐ Newark easily gets gridlocked- Issues have been Severn Trent sewer works plus the Robin Hood Hotel works and state of roads including having a supermarket in the middle of town. A bypass would enable traffic to go round the town. There are issues with frequent accidents on the main roads A1, A46, A17 etc which create more traffic problems too. The state is the actual roads is awful because of the heavy traffic including articulated vehicles. (4/10/2020 6:27 AM)
- ☐ Less traffic through town (4/9/2020 10:51 PM)
- ☐ It should save traffic going into Newark (4/9/2020 10:36 PM)

The bottom screenshot shows the results for question Q6: "Again hypothetically speaking, If either or both a south bypass was constructed and The Existing bypass was expanded, could you see any issue that could affect you or the town it hole regarding social, Public Health & Safety, Ecomonicly and Environmentally in a bad way?". It indicates 33 responses and 5 skipped. The visible responses are:

- ☐ No (4/14/2020 3:39 PM)
- ☐ No (4/14/2020 8:45 AM)
- ☐ No

Both screenshots show a left-hand sidebar with "EXPORTS" and a "PAID FEATURE" section. The top browser tab is titled "Please say that again" and the bottom browser tab is titled "SurveyMonkey Analyze - Dissert: x". The bottom browser tab also shows a green notification: "In Dictation Mode, Dragon expects only dictation (see Help.)". The Windows taskbar at the bottom of each screenshot shows the date as 01/05/2020 and the time as 09:27 and 09:26 respectively.