



Studies To Support The Development Of A Town Centre Masterplan Executive Summary Report

Knutsford Town Council

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1. Scheme Commission Introduction

1.1 Client Brief

In January 2024 Knutsford Town Council (KTC) sought consultant support to undertake feasibility studies on different aspects of the From Top to Bottom Street report to ascertain their viability and costs. The outputs from the study will ultimately form part of the Town Centre Masterplan, which KTC would work with Cheshire East Council (CEC) to see delivered.

In 2019/20 KTC developed and consulted on the From Top to Bottom Street report. This proposed a limited vehicular accessibility system. The intention of this scheme was to control the flow and destination of traffic in the commercial heart of Knutsford and divide the town centre into three sectors which essentially for three loops - traffic cannot pass through the town centre, but can access the majority of the town centre. The From Top to Bottom Street report also proposed the creation of new public realm areas and changes to car parking arrangements. The principles of the report were supported at a public consultation.

Eight work packages were set out in the KTC project brief for investigation by the appointed consultant. These are set out below, and covered in more detail in the project brief as Appendix A to this report:

- » **TCMP1** - Traffic modelling of the proposed traffic flow changes to ascertain the impact (individually and cumulatively) on the local road network.
- » **TCMP2a** - Feasibility study on the works required to implement the traffic flow changes including estimated costs, timings and local impacts.
- » **TCMP2b** - Feasibility and cost estimate for the upgrade of the unadopted Moorside road.
- » **TCMP2c** - Feasibility and cost estimate for the creation of a new highway access to Princess Street King Edward Road.
- » **TCMP3** - Feasibility study on the development of a multi-storey car park on the existing Tatton Street car park including estimated costs, management and outline business model.
- » **TCMP4a** - Feasibility study of the creation of public realm area at Canute Place and development of options for the public realm.
- » **TCMP4b** - Feasibility study of the creation of public realm area at Princess Street (Lost and Found) and development of options for the public realm for later consultation.
- » **TCMP5** - Study on wider town centre public realm improvements to enable improved pedestrian movement developing options for later consultation.

This study was funded by the UK Government through the Shared Prosperity Fund.

1.2 Consultant Approach

In response to the project brief, as well as our own project team, Hydrock identified a complementary consultant team of partners from Urban Movement, Stephen George + Partners, and Pick Everard to ensure all necessary skills and experience could be delivered as required in response to the need for Public Realm, MSCP, Residential design and scheme costing activities.

Attending the bi-weekly project team meetings, with project management meetings in the intervening weeks, KTC have been heavily engaged throughout project delivery, having the opportunity to shape and influence the direction of travel of each of the work packages and the associated deliverables.

This Executive Summary Report details the work undertaken for each work package in Chapters 2 to 9, referencing additional technical documentation prepared by the consultant team that should be read in conjunction with this report. A project summary is provided in Chapter 10.

2. TCMP1

2.1 Work Package Description

Traffic modelling of the proposed traffic flow changes to ascertain the impact (individually and cumulatively) on the local road network. The proposal allows for:

- » Ending through traffic on King Street – this would make King Street access only, traffic for the car park would be routed back out onto Adams Hill. Through traffic would utilise Adams Hill and the A50. (Green shaded on Figure 1 overleaf).
- » Closure of one lane of Canute Place – this will be to create a public realm area. Two options exist depending on what happens with Princess Street. The first is that traffic would be routed down Green Street, alternatively it could continue down Princess Street and exit onto the A50.
- » Closure of a section of Princess Street – this would require a new access to be made from King Edward Road (A50) for accessing traffic – this is included within TCMP2c, shown in pink on Figure 1 below.
- » Cessation of through traffic on King Street - this would involve the closure of a section of the street to prevent through traffic and the creation of two circular systems providing access.

2.2 Traffic Model Development

A microsimulation model covering Knutsford town centre has been developed using the Aimsun software. The model has been used to test, develop and refine the proposed scheme options to support the development of a town centre masterplan. The Aimsun model has been produced to be representative of the following time periods:

- » Weekday AM Peak Period (07:30 to 09:30).
- » Weekday PM Peak Period (16:00 to 18:00).

The model has been calibrated and validated using a comprehensive dataset including:

- » The calibration dataset comprises CTC and ATC data.
- » The validation dataset comprises journey time data extracted from DfT INRIX GPS data.

The model has been calibrated and validated in accordance with the guidelines set out in TAG Unit 3.1 and as set out in Appendix B - Local Model Validation Report. More specifically:

- » During matrix adjustment, prior matrices have been adjusted by an amount that exceeds that set out in the TAG guidelines. However, given the need for the model to reproduce traffic flows accurately and turn and section levels for use in the microsimulation, it is considered that the level of distortion in the adjusted matrices relative to the prior matrices is considered to be acceptable.
- » Traffic flows at both section and turn levels are modelled to an appropriate degree of accuracy compared to observed data.
- » Journey times along key routes are modelled to an appropriate degree of accuracy.

Additionally, having been presented to members of the Town Centre Committee, it is considered that the model replicates queuing behaviour in the town centre satisfactorily and is fit for the purpose for modelling the effects of proposed changes to the highway network and for detailed junction modelling.

2.3 Consideration of Committed Development

Appendix C - Scheme Assessment Report details the approach for future year assessment and scheme testing. This should be referred to alongside the following summary sections.

Through agreement with the KTC, four committed development schemes have been considered within the demand for future year modelling assessments. Modelling has shown the committed developments cause significant congestion in the town, mainly as a result of the increase in traffic flows through Canute Place roundabout and associated extended queuing on the northern, southern and western arms especially.

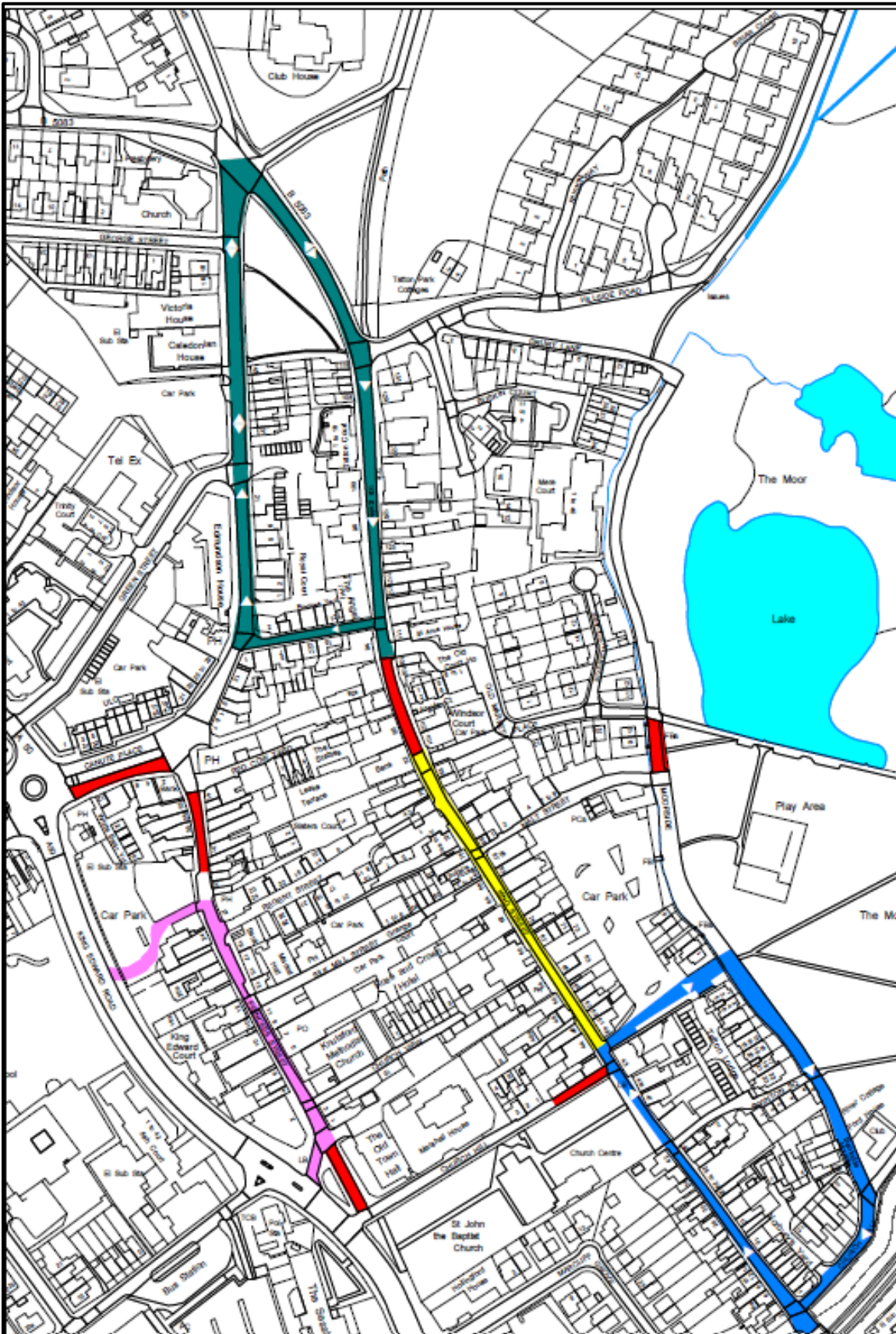


Figure 1 - Extract of From Top to Bottom Street report

It is understood that scheme development works on a scheme at the roundabout which would mitigate the cumulative impact of the developments is underway. However, given the scheme has not been developed in detail or committed at this stage it is not included in the modelling. In order to assess the impacts of the proposed highway schemes the committed developments have therefore not been included in the scenario options detailed below. As such, in order to undertake realistic option testing within the Aimsun model the base year traffic demand has been used.

2.4 Scheme Assessment

The following sections provide a summary of the findings of scheme assessment for the six modelling scenarios agreed with KTC, building on the schemes defined with the project brief (Appendix A). Full details of the scheme assessment scenarios are detailed in Appendix C - Scheme Assessment Report. This should be referred to alongside the following summary sections.

2.4.1 Option Modelling 1 - Old Town Hall Square Public Realm

The Old Town Square scheme (TCMP4b) creates a new public realm area at the south end of Princess Street. This would involve the closure of a stretch of the highway to create a new plaza between an existing public realm area and the Lost and Found. The scheme creates a re-designed junction for the A50 / Princess Street / Bexton Road junction, forming a four-arm signal controlled junction with pedestrian crossings. The scheme also removes the access from Princess Street onto Church Hill. It has been modelled alongside a second scheme which changes the Princess Street car park access from Princess Street onto the A50, this reduces demand on Princess Street, allowing more green time for the A50 at the revised Bexton Road junction.

The Old Town Hall Square scheme doesn't impact traffic volumes much apart from reassignment associated with the change in car park access location. However, the new junction layout on the A50 causes significant issues on the network. There are substantial increases to queueing and congestion compared to the existing layout. The existing layout allows for a two-stage signal plan. The new layout requires a four-stage plan to serve the new pedestrian crossings and access from Princess Street. In line with best practice for signal-controlled junctions with pedestrian crossings, the cycle time has been capped at 90 seconds. This combination means that the relative green time for the A50 is reduced compared to the existing layout and the junction layout cannot cope with the forecast traffic demand.

If there is a desire to move this option forward to further assessment given the positives that come from the public realm improvements, attention should focus on the operation of the A50 Bexton Road junction and how performance of the junction can be maximised. For example, this might require a reduction in stages within the signal cycle through a change to vehicle routing on Princess Street (northbound), a change to crossing facilities at the junction, or link capacity increases through limited carriageway widening on the A50.

2.4.2 Option Modelling 2 - King Street

Option 2 is based on the King Street public realm improvements as per TCMP5. This scheme removes the majority of on-street parking from King Street and seeks to minimise the volume of through traffic using King Street. It is shown from the modelling that the proposal to remove all through traffic from King Street causes significant congestion on the existing highway network, especially in the PM peak period. In the AM peak period the impacts are more limited.

In terms of taking the scheme forward, the modelling suggests that some access onto King Street could be advantageous to alleviate congestion along the A50 and in particular at Knutsford Roundabout, however this would be going against the desire from any investment in improved public realm on King Street. Therefore, focusing on potential upgrades to the link capacity and the key junctions along the A50, especially Canute Place roundabout, in order to cope with the additional demand is worthy of further consideration.

2.4.3 Option Modelling 3 - Canute Place (One-Way) & Princess Street

Option 3 delivers a new public realm area in Canute Place (TCMP4a). This necessitates the closure of the southern section of Canute Place and the construction of a new pedestrian plaza and associated parking. This option consists of a one-way eastbound configuration to Canute Place. Option 4 tests two-way operation.

This scheme ties in with wider public realm changes to Princess Street (TCMP5). Similar to King Street, these seek to remove through traffic and improve the street for pedestrians, cyclists and end users. The scheme maximises public realm space by removing the majority of on street parking. This saves space for more footway widening and provision of street furniture and greenery. The Princess Street car park access is removed from Princess Street and re-located on to the A50 (TCMP2c), this enables the downgrading of Princess Street to significantly reduce vehicle movements.

The modelling indicates that the proposal to make Canute Place one-way causes significant congestion in the north of the town centre on the existing highway network, especially at Canute Place roundabout as a result of traffic reassigning onto the A50 Manchester Road. There are also increases in demand along Green Street caused by the removal of Canute Place westbound, whilst the removal of car parking on Princess Street creates increases in demand along Stanley Road into Booths car park due to assumed reassignment to alternative parking.

2.4.4 Option Modelling 4 - Canute Place (Two-Way) & Princess Street

Option 4 presents an alternative layout to Canute Place (TMCP4a) by keeping the two-way operation on Canute Place. As with Option 3, this scheme ties in with changes to Princess Street (TCMP5) and the change in access to Princess Street car park (TCMP2c).

It is shown from the modelling that the proposal to make Canute Place two-way, along with changes to Princess Street, does not severely impact the local highway network. The impact of the scheme on the network is shown to be less than that of the approved committed developments. There are increases in flow around the Booths car park area and the new Princess Street car park access onto the A50, however elsewhere there are no significant changes in flow. There are forecast increases in congestion around Canute Place roundabout, however this doesn't extend significantly downstream to impact the wider network excessively.

Considering the change in access to Princess Street car park (TCMP2c) in isolation, modelling has shown the proposed access operates satisfactorily with the existing demand in both the AM and PM peak. The northbound right turning traffic in to the car park from the A50 is accommodated within the designed right turn flare, and doesn't block ahead movements. The main impact on network operation associated with this element of scheme proposals is the pedestrian crossing immediately south of the new car park access. This can cause ripple queues back to Canute Place roundabout, and also impact the northbound exit flow from the A50 / Bexton Road junction with Church Hill / Princess Street. Further consideration should be given to the requirement for this crossing, considering the benefits to pedestrian and cycle connectivity with the impact highway operation on the critical A50 link around the town centre.

2.4.5 Option Modelling 5 - Combined Scenario

Option 5 presents a combined scenario option based upon the modelling results presented in the sections above. The combined scenario option includes the following schemes:

- » Canute Place Two-Way (TCMP4a).
- » Princess Street Public Realm Scheme (TCMP5).
- » New access on the A50 to Princess Street Car Park (TCMP2c).
- » King Street Public Realm Scheme (TCMP5).

The modelling has shown that the impact of the combined scheme is not significant from a highway operation perspective in the AM peak period, although more congested than existing. However, in the PM peak period, there is a significant increase in congestion. The closure of King Street to through traffic, and the associated reassignment of traffic on alternative routes and alternative parking locations, drives the impact on network operation.

The public realm schemes on Canute Place, Princess Street and King Street deliver a significant improved space for non-motorised users of the space, which is the target of the schemes. The offset for this improvement is highway impacts in other areas due to traffic reassignment. Vehicle speeds are forecast to be lower as a result of congesting, especially on the A50, with extended queuing forecast as a result of the limitations of the operation of Canute Place roundabout especially.

2.4.6 Option Modelling 6 - TCMP2a King Street Package

Option 6 presents an alternative layout for King Street (TCMP2a) which was noted in the From Top to Bottom Report. The layout allows for the cessation of through traffic on King Street and the creation of two circular systems providing access. To the north the loop is created by making Minshull Street westbound only and to the north of this, King Street southbound only. The southern loop is created by providing a formal route through King Street car park between King Street and Moorside, looping round to Church Walk.

This scheme results in significant changes in traffic flow at the northern end of the town centre, specifically along the A50 (Manchester Road), Green Street and Tatton Street. In general, this is caused by trips from Mareheath Lane, which are now predominantly re-assigned down Green Street as they can no longer reach Canute Place, or the roundabout from the east, due to the northbound only traffic restriction between Minshull Street and Green Street. The effect of this is an increase in significant congestion at Canute Place roundabout and the surrounding approaches.

2.5 Summary

All options forecast a noticeable impact on highway operation in both peak periods due to traffic flow reassignment. The reassignment that comes as a result of significant reduction of on-street parking on Princess Street and King Street, and removal of through trips on both roads, intensifies the traffic volumes on the A50 between Canute Place and Adams Hill. The operation of Canute Place roundabout, is the predominate operational challenge within the network, with extended queuing then impacting on the capacity constraint of the signal-controlled junctions at Adams Hill and Bexton Road.

The results show that some schemes work better than others, for example the impact of the Canute Place Two-Way option is comparable to the Do Minimum (Committed Development) scenario. However, overall further refinement of schemes is likely to be required in order to limit their impact on the highway network, particularly with the A50 forming a key route for traffic in the local and surrounding area. The most deliverable scheme without proposing any further changes to the highway network is Option 4, the Canute Place Two-way option (TCMP4a) along with Princess Street public realm improvements (TCMP5) and the revised access to Princess Street car park (TCMP2c).

3. TCMP2a

3.1 Work Package Description

Further to understanding the traffic flow implications from TMCP1 outputs, the second aspect will be to understand the likely costs, timings and impacts of the highway changes.

3.2 Scheme Assessment

The detailed assessment of TCMP2a is set out in Appendix D - Engineering Assessment Report. The following sections summarise the report findings.

3.2.1 King Street

Minshull Street Loop

The proposed one-way routing of traffic southbound on King Street, right in to Minshull Street and on to Tatton Street to create a loop at the northern end of the town centre core, is shown to be viable for vehicles sizes up to and including a 7.5t Box Van.

However, it should be noted that due to the assessment being undertaken on the OS Mapping available from the client, which can be up to 1-2m out, further assessment would be required at detailed design stage to confirm the viability for vehicles up to 7.5t Box Van. Larger vehicles would not be able to make the tight right turn from King Street to Minshull Street due to the close proximity of buildings on each side of the road and the limited footway widths.

Due to the open nature of the junction of Minshull Street with Tatton Street, there are no concerns with the potential operation of this junction.

Church Walk Loop

The proposed one-way routing of King Street traffic on a southern loop, utilising King Street car park to access Moorside and Church Walk, is shown to be viable for vehicles sizes up to and including a 7.5t Box Van. The only area of operational concern is the junction of King Street with the entrance to King Street car park. As above, it should be noted that due to assessment being undertaken on OS mapping, further assessment would be required at detailed design based on a topographical survey.

To implement the Minshull Street and Church Walk one-way loops, the existing road signs and road markings will need to be removed and the appropriate signage and road marking installed to facilitate this. Careful consideration needs to be given to appropriate signage to prevent larger vehicles inadvertently using these routes.

3.2.2 Princess Street

The scheme design and costing consideration is covered as part of TCMP2c in Chapter 4.

3.2.3 Canute Place

The scheme design and costing consideration is covered as part of TCMP4a in Chapter 6.

3.2.4 Old Town Hall Square

The scheme design and costing consideration is covered as part of TCMP4a in Chapter 7.

3.3 Scheme Delivery Timescales

The timescale for the construction of the proposed improvements will be in the region of 2-3 months duration. This is dependent on several external factors and assumptions therefore is intended as a guide only and will be firmed up during detailed design.

3.4 TCMP2a - Scheme Costings

A budget construction cost estimate, based on Spons Civil Engineering and Highways 2024, has been prepared for the anticipated construction cost of the works associated with the King Street works as described in Section 3.2.1. A summary of the costs can be seen in the table below. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns.

It should be noted that this only includes for road marking and signage, it does not include for any highway improvement works/upgrades to the existing highway network. It also does not include any allowance for legal costs incurred by the Local Authority for changes to the existing Traffic Regulation Orders.

Table 1 - TCMP2a Scheme Costing Estimate

Description of Works	Cost
TCMP2a - King Street Highways Works (as per Section 3.2.1)	c£ 46,000

4. TCMP2b

4.1 Work Package Description

Moorside is an unadopted (unregistered) road. It is currently not a highway. One aspect of the From Top to Bottom Street proposals is to upgrade this road to an adoptable standard including to link it to Hillside Road to provide an additional relief/route for traffic from King Street.

4.2 Scheme Assessment

The detailed assessment of TCMP2b is set out in Appendix D - Engineering Assessment Report. The following sections summarise the report findings.

4.2.1 Feasibility of the Proposal

There are several significant constraints to the potential upgrade of Moorside. The primary challenge to any upgrade is the close proximity to the RAMSAR boundary to the west of The Moor. The vast and dense vegetation in some areas, plus the close proximity to water on both sides of the existing route create further engineering challenges for delivery. There would be a requirement to maintain access to existing properties during any construction. Any new highway link would require provision of pedestrian facilities, which increases the potential cross-section on a new route.

4.2.2 Scheme Proposals

Two options for improvement were considered. Option 1 has full carriageway width to facilitate two-way traffic. Option 2 has a single carriageway width to facilitate one-way traffic. Both options have been designed in line with the 6 Cs Design Guidance, as current for highways within the CEC boundary. Both options provide a 2m wide footway on the eastern side of the route. Both options all for some on-street parking bays to replicate some of the existing parking activity that occurs.

Option 1 and Option 2 both include the creation of a new short link between Drury Lane and Hillside Road, with a new junction created with Hillside Road. Dury Lane is considered to be too steep a gradient for viable engineering works to tie with any improvement to Moorside.

Option 1 and Option 2 are both shown to encroach in to the RAMSAR boundary. If a scheme is progressed, this would require consultation with Natural England and the planning authority and could require substantive works to address any issues. Scheme drawings are shown in Appendix D of this report.

4.2.3 Scheme Delivery Timescales

Timescale for the construction of the upgrade would be in the region of 6-12 months, dependent on several external factors and assumptions, to be firmed up during the detailed design stage.

4.2.4 TCMP2b - Scheme Costing Estimate

Given the scale of any upgrade required to reach adoptable standard, an initial estimate has been prepared based on Spans Civil Engineering and Highways 2024 for Option 1 and Option 2 as shown in Table 2 below. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns. It should be noted that the estimate excludes abnormal costs such as; vegetation clearance and possible rerouting of existing open water channel to the west of Moorside.

Table 2 - TCMP2b Scheme Costing Estimate

Description of Works	Cost
Option 1 - Full Carriageway Width inc. Pedestrian Footway	c£ 1,750,000
Option 2 - Single Carriageway Width inc. Pedestrian Footway	c£ 1,550,000

5. TCMP2c

5.1 Work Package Description

One proposal in the From Top to Bottom Street is to create a new access to Princess Street from the A50. An indicative sketch of the proposal was provided in the project brief (Appendix A) and would be a single lane entry from the A50 into the existing car park.

5.2 Scheme Assessment

The detailed assessment of TCMP2c is set out in Appendix D - Engineering Assessment Report. The following sections summarise the report findings.

5.2.1 Feasibility of the Proposal

Initial consideration of the proposal looked at creating a new car park access from the A50, with vehicular egress from the car park via the existing car park access on to Princess Street. The existing route between 26-28 Princess Street is a constraint to any new proposals which also seek to improve pedestrian connectivity and create a new access route for all vehicles (excluding size and weight restrictions) to Princess Street, allowing vehicular access at the top of Princess Street to be restricted.

Swept path analysis shows that there is limited space for a 7.5t box van, this being the largest vehicle able to make the right turn movement out on to Princess Street. This is based on allowance for a 2m footway as well as a vehicle route between 26-28 Princess Street. If this initial proposal was linked with a restriction to vehicle access at the top of Princess Street, there would be a risk of larger vehicles becoming stuck on this constrained link when trying to access the wider town centre, e.g. if following sat nav systems. Clear signage of vehicle restrictions would be required.

5.2.2 Scheme Proposals

Taking the above in to account, an alternative proposal has been put forward which removes the need for vehicular access from the car park to Princess Street. The proposed all movement access junction will incorporate a ghost island right turn, meaning vehicles can access the car park directly from the A50, from both the north and south of King Edward Road. Refuse vehicles will also use this access for the existing 'Little Waitrose' refuse collections.

There will also be a reconfiguration of the current car park layout, which will make it a one-way clockwise loop to enable the swept path of the refuse vehicle. The proposals also allow for a controlled pedestrian crossing on the A50 near to the Princess Street car park entrance enabling pedestrians to cross safely and make use of the improved route to Princess Street.

5.2.3 Scheme Delivery Timescales

Timescale for the construction of the upgrade would be in the region of 6-12 months, dependent on several external factors and assumptions, to be firmed up during the detailed design stage.

5.2.4 TCMP2c - Scheme Costing Estimate

An initial estimate, Table 3, has been prepared based on Spons Civil Engineering and Highways 2024. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns.

Table 3 - TCMP2c Scheme Costing Estimate

Description of Works	Cost
New access to Princess Street Car Park direct from A50	c£ 535,000

6. TCMP3

6.1 Work Package Description

Tatton Street car park currently provides 144 parking spaces. The area has a change in levels which provides opportunity for developing a larger car park with an additional storey. The site was previously occupied by gas works and it is understood the ground is likely considered contaminated ground.

This aspect of the tender would be to develop a proposal for the creation of a multistorey car park (MSCP) on this site. A key consideration is ensuring an attractive active frontage to Tatton Street and carefully considering the impact on neighbouring properties. Options for incorporating apartments to the frontage of Tatton Street should be included/explored to provide an active and attractive frontage.

6.2 Scheme Assessment

The detailed assessment of TCMP3 is set out in Appendix E - Tatton Street Car Park, Feasibility Report. The assessment of TCMP3 is also supported by Appendix F - Phase 1 Ground Conditions Desk Study Report, Appendix G - RIBA Stage 1 Order of Cost Estimate, and Appendix H - MSCP Operational Business Model Assessment. The following sections summarise the findings of these reports.

6.2.1 Feasibility of the Proposal

Any MSCP, including residential provision, would need to be delivered in line with, for example; building regulations, design requirements of CEC, local planning authority requirement. Options proposing residential and car parking will have increased design requirements, including those associated with noise, fire, ventilation.

The Y shaped Tatton Street site experiences challenging level differences across the whole site, with a former gas works sited under the higher portion of the site to the rear. Residential properties back on to the site to the north west limiting the scope for development at the back of the site. The existing car park also provides access to a private car park for the "K Clinic", with no details currently available on protected access requirements (easements).

Due to the topography of the site and the engineering considerations associated with the former gas works, any substantive redevelopment to the rear of the site was not considered viable. Therefore, the site area bounded by Tatton Street and Green Street was considered most viable for development proposals.

6.2.2 Scheme Proposals

Three viable design options have been developed for the Tatton Street site; Option 1 - Car Park Decking & Residential, Option 2 - MSCP & Residential, Option 3 - MSCP Only. Barrier and ticketing by ANPR is assumed for all car park options.

Table 4 - Summary of Parking & Residential Provision in Tatton Street Options

Development Option	Spaces	Increase	Resi. Units	Notes
Option 1 - Car Park Decking & Resi	185	+36	10	Rejected - limited increase
Option 2 - MSCP & Resi	232	+76	12	Progress to costing
Option 3 - MSCP Only	291	+147	0	Progress to costing

Option 1 sought to use existing level differences between the front and rear of the site to ramp up to a second level of parking, with residential units provided on the frontage of Tatton Street and Green Street.

Option 2 uses split ramps to create half levels, with parking provided on each half deck. The frontage to Tatton Street and Green Street would be well proportioned, taking clues from the Victorian terraces opposite; red brick with grey tiled pitched roof.

Option 3 utilises a helix ramp that spirals up the levels, with parking provided as the decks ramp up. There is no residential provision within this option to maximise the parking that can be provided on the site. The frontage to Tatton Street and Green Street can accommodate a façade to ensure a finish in keeping and sensitive to the town.

As the scheme is at RIBA Stage 0-1 with limited design information, the cost estimate uses benchmarking against other project of a similar size and nature. Please refer to Section 5 of Appendix G for more details.

6.2.3 Operational Business Model Assessment

Appendix H details the operational business model assessment for the two viable MSCP options. Table 5 below provides a summary of the assessment completed and is based on the following assumptions.

The capital costs for each scheme come from the upper project cost limit as defined in Appendix G to ensure a robust assessment of potential scheme costs. The revenue assessment is based on the tariff proposed in the Knutsford Parking Strategy and approved by Cheshire East Council Highways and Transport Committee in January 2024 which sees a reduction in charges at the existing Tatton Street car park. Operation & Maintenance costs are based on business rates, annual operating costs and periodic maintenance.

To draw together the revenue, operational cost and maintenance estimates a 40 year appraisal period has been assumed, based on a typical asset life of a MSCP. As per Table 5 below, the financial model demonstrates that utilising the current (2024) tariff, the MSCP will not, even with the proposed increase in spaces for both options, be able to cover the capital costs of construction. Over the 40 year appraisal period, the financial gain from MSCP operation will only cover for Option 2, 48%, and for Option 3, 21%, of the capital costs. This includes allowing for revenue generated from the sale of the 12 residential units provided in Option 2.

Table 5 - Tatton Street Development Option Operational Business Model Summary (Tariff 2)

Development Option	Capital Cost	Revenue	Op. & Main.	Finance Gain	Shortfall
Option 2 - MSCP & Resi	£ 9,719,028	£ 9,059,401	£ 4,437,380	£ 4,622,021	£ 5,097,007
Option 3 - MSCP Only	£ 9,189,180	£ 7,363,005	£ 5,432,304	£ 1,930,701	£ 7,258,479

Table 6 presents a further assessment of at what tariff level the MSCP would start to breakeven over a 40 year appraisal period. This tariff (Tariff 3) proposes a significant uplift in charges for all durations of stay. It is significantly higher than existing tariffs used by Cheshire East Council for MSCPs e.g. in Macclesfield and Wilmslow. The proposed tariff level is more akin to those charged in major cities such as Manchester or at local rail stations. For this tariff, the financial model indicates that over the 40 year appraisal period there is the ability for the capital costs to be covered by the revenue generated, after the deduction of operational and maintenance costs. For Option 3, costs would be covered by year 32 or 33 of the appraisal period. Both options would result in a £3m surplus at the end of the 40 year appraisal period, with Option 2 driven by the revenue generated from the sale of the 12 residential units provided (c£3m).

Table 6 - Tatton Street Development Option Operational Business Model Summary (Tariff 3)

Development Option	Capital Cost	Revenue	Op. & Main.	Finance Gain	Surplus
Option 2 - MSCP & Resi	£ 9,719,028	£ 17,197,666	£ 4,437,380	£ 12,760,286	£ 3,041,258
Option 3 - MSCP Only	£ 9,189,180	£ 17,808,569	£ 5,432,304	£ 12,376,265	£ 3,187,085

7. TCMP4a

7.1 Work Package Description

One of the main public realm proposals included in the From Top to Bottom Street report is the creation of a new public realm area in Canute Place. This necessitates the closure of the southern section of Canute Place and the construction of a new pedestrian plaza and associated parking. This is one element which could be delivered independently of other major traffic flow changes and restriction to through traffic in the principal streets.

7.2 Scheme Assessment

The detailed assessment of TMCP4a is set out in Appendix I - Public Realm Strategy, with supporting information on scheme costing and engineering deliverability set out in Appendix D - Engineering Assessment Report. The following sections summarise the findings of these reports.

7.3 Canute Place Proposals



Figure 2 - Canute Place, Two-Way Traffic, Public Realm Option Concept

Although modest in size at around 20m wide by 60m long Canute Place is currently dominated by parked cars and through traffic and is split in half by the central median which, along with two narrow footways, are the only occupiable public spaces, furnished with only two benches and three small trees.

Two layout options have been explored based on the same spatial concept but with two way and one-way traffic configurations, with the latter creating an additional 90m² of public space. The carriageway has been moved north in both options with parking retained on the carriageway edges. The central reserve has been removed to allow a more generous, unified public space to be created on the southside of the street close to the active frontages created by the two public houses, café and coffee shop.

The footways on the north and south sides of the street are connected by three pedestrian crossings which help to structure the whole space by establishing some symmetry and rhythm as well as providing better permeability and priority for those on foot. In the two-way option this new public space is around 5 – 7m

wide and 6 –8m wide in the one-way option. Vehicular access is provided, where necessary, across pedestrian priority single surface spaces, to help create a townscape character that is less dominated by a highway aesthetic.

The new public space will be big enough to accommodate licensed tables and chairs for the coffee shop, café and public houses which will help to create a vibrant street atmosphere along with the town notice and Museum in the Street boards, art work, incidental play features and necessary items of street furniture such as cycle stands and street lighting. Full details of the materials palette is provided in Appendix I.



Figure 3 - Canute Place, One-Way Traffic, Public Realm Option Concept (Street Visualisation)

7.4 Scheme Delivery Timescales

Timescale for the construction of the public realm upgrade to Canute Place would be in the region of 6-12 months, dependent on several external factors and assumptions, to be firmed up during the detailed design stage.

7.5 8.5 TCMP4a - Scheme Costing Estimate

A budget cost estimate has been prepared based on Spons Civil Engineering and Highways 2024 for the one-way and two-way options on Canute Place, as shown in Table 7 below. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns.

Table 7 - TCMP4a Scheme Costing Estimate

Description of Works	Cost
Canute Place: One-Way Carriageway Option	c£ 890,000
Canute Place: Two-Way Carriageway Option	c£ 925,000

8. TCMP4b

8.1 Work Package Description

A second public realm proposals included in the From Top to Bottom Street report is the creation of a new public realm area at the south end of Princess Street. This would involve the closure of a stretch of the highway to create a new plaza between an existing public realm area and the Lost and Found. This is one element which could be delivered independently of other major traffic flow changes and restriction to through traffic in the principal streets.

8.2 Scheme Assessment

The detailed assessment of TMCP4b is set out in Appendix I - Public Realm Strategy, with supporting information on scheme costing and engineering deliverability set out in Appendix D - Engineering Assessment Report. The following sections summarise the findings of these reports.

8.3 Old Town Hall Square Proposals



Figure 4 - Old Town Hall Square, Public Realm Option Concept

The new layout creates a singular public space by raising the carriageways of Princess Street, as it joins the A50 (now incorporated into the existing signalised junction with Bexton Road), and Church Hill, as it also meets the A50 after passing through a short section of raised pedestrian priority space. The two triangular spaces are linked to the widened footway outside the furniture shop with a raised pedestrian crossing as part of the new junction.

A significant addition (over 200m²) to the public space in front of the Old Town Hall is achieved by stopping up the last 30m of Princess Street and removing the five parking spaces on the eastern kerbside.

The space's primary assets are the five mature Lime trees, which will be carefully protected to become the focal point of the new space whilst the historic Yorkstone slab and sett paving will be lifted, cleaned and reused in the new public space.

The new principle public space will be defined on the west side by relocating the low stone wall closer to the A50 and creating a substantial planted raingarden along the old western kerb / channel. Seats will edge the planted areas and will face southwest overlooking the new public space. The northern lime tree will become a focal point with a protective planted area at its base and a collection of rounded river boulders forming an informal play and sitting feature in the centre of the space.

Overall, these proposals will allow this former highway to be transformed into a playful public space which enhances the setting of the Old Town Hall and the churchyard.



Figure 5 - Old Town Hall Square, Public Realm Option Concept (Street Visualisation)

8.4 Scheme Delivery Timescales

Timescale for the construction of the upgrade would be in the region of 6-12 months, dependent on several external factors and assumptions, to be firmed up during the detailed design stage.

8.5 TCMP4b - Scheme Costing Estimate

A budget cost estimate has been prepared based on Spons Civil Engineering and Highways 2024 for the one-way and two-way options on Canute Place, as shown in Table 8 below. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns.

Table 8 - TCMP4b Scheme Costing Estimate

Description of Works	Cost
Old Town Hall Square	c£ 2,110,000

9. TCMP5

9.1 Work Package Description

The Town Council is keen to develop a scheme which improves pedestrian accessibility, retains the character of the town centre, and maintains car access and some on-street parking. This section of the tender would be to develop different options for major public realm improvements in the town centre to create a more pedestrian friendly town centre.

9.2 Scheme Assessment

The detailed assessment of TMCP5 is set out in Appendix I - Public Realm Strategy, with supporting information on scheme costing and engineering deliverability set out in Appendix D - Engineering Assessment Report. The following sections summarise the findings of these reports.

9.3 Princess Street & King Street Proposals

The overarching idea for both Princess Street and King Street is to create simple humanised streetscapes that comfortably accommodate all the residents and visitors with a character and functionality that reflects the importance of these streets as Knutsford's principal public spaces. They will remain, however, fully accessible to all modes of transport but, with most of the parking being re-located, will allow a high quality, pedestrian friendly, street space to develop with much more potential for social and commercial activity.

A pedestrian only (footway) space, 1.8m wide, will be created along the building frontages and will continue uninterrupted across every side road and vehicle access, until they merge with existing traditional footways at the north and south ends. These pedestrian only spaces will be defined by linear strip of tactile guidance paving, 400mm wide, which will double as a drainage channel, requiring only minor line and level adjustments to gulleys so that they sit flush. The tactile channels will be detailed in a colour and tone that contrasts with the adjacent paving to further aid navigation for people with visual impairments.

On Princess Street vehicles will be permitted south-bound and on Kings Street north bound. Cycles will be permitted on both streets in both directions. To avoid the need for double and single yellow lines, which are very visually intrusive especially in historic places, the two streets need to be designated as Restricted Parking Zones which only require a sign at each end of the street. Parking and loading is controlled by specifically marking bay where these activities are permitted. On Princess Street and King Street this can be agreed with local business owners in consultation with the council. Indicative locations have been shown on the plan.

These details and general design concepts have been successfully used locally in Frodsham Street in Chester, where they have dramatically altered the character of the streetscape without compromising its functionality. The space gained by moving parking can be given over to more socially inclusive features such as seats, trees and raingardens along with licensable space for on-street eating and drinking. Public benches, most with backs and arm rests, have been placed at appropriate locations providing places to rest at a minimum of 50m intervals.

Space in front of cafes, bars and restaurants, can, at the council's discretion, be granted a tables and chairs license. This, when coupled with the physical improvements, will have a dramatic impact on the attractiveness of both streets as day and night-time leisure destinations.

All these features, along with additional pieces of street furniture such as stone or timber totems, art works and play features will be placed strategically along the streets to define a space for vehicle movement. This space will meander gently from east to west to keep traffic speeds at a minimum.

9.3.1 Princess Street



Figure 6 - Princess Street, Concept Design



Figure 7 - Princess Street, Concept Design (Street Visualisation)

9.3.2 King Street

Two design options have been drawn up for King Street, the Public Realm+ Option and the Parking+ Option. These are shown alongside each other over the next few pages for comparison.

The Public Realm+ Option maximises public realm space by removing the majority of on street parking. This saves space for more footway widening and provision of street furniture and greenery. The car parking spaces retained are to the north of King Street, and could include accessible parking bays.

The Parking+ Option retains a significant proportion of the existing on-street parking on King Street. The presence of more parking spaces in the street will lead to more traffic circulating as drivers look for space. This is likely to be to the detriment of the people-focussed Town Centre experience that this Strategy aims to achieve. Furthermore, more space for parking will mean less space for street furniture and greenery.



Figure 8 - King Street, Concept Design (North)



Figure 9 - King Street, Concept Design (Central)



Figure 10 - King Street, Concept Design (South)



Figure 11 - King Street, Concept Design (Street Visualisation)

9.4 Scheme Delivery Timescales

Timescale for the construction of the upgrade would be in the region of 6-12 months, dependent on several external factors and assumptions, to be firmed up during the detailed design stage.

9.5 TCMP5 - Scheme Costing Estimate

A budget cost estimate, as shown in Table 9 below, has been prepared based on Spans Civil Engineering and Highways 2024 for the public realm improvement works to Princess Street and King Street as per 9.3.1 and 9.3.2 above. There is a 40% risk allowance within the cost estimate to allow for the stage of scheme design development and unknowns.

Table 9 - TCMP5 Scheme Costing Estimate

Description of Works	Cost
Princess Street & King Street	c£ 1,620,000

10. Summary

The objective of these studies was to ascertain if a number of proposals from the *From Top to Bottom Street* report (2020) were feasible and could be taken forward to improve Knutsford Town Centre and the output of these studies was reviewed by the Town Council's Town Centre Masterplan working group which reached the following conclusions on the various interventions:

- 1) The approach of restricting traffic through as proposed in the *From Top to Bottom Street* report is not the solution to the challenges in the town centre due to the knock-on effects on town centre traffic flows.
- 2) It would not be feasible or cost effective to upgrade the unadopted section of Moorside to an adoptable standard.
- 3) It should be feasible to develop an access into the Princess Street car park from King Edward Road. This would reduce through traffic on Princess Street and enable this car park to be used during the Makers Market (and similar events) as well as presenting the opportunity to create a more active frontage to King Edward Road.
- 4) The creation of a public square outside the Old Town Hall would not be feasible due to the changes required at the junction of Princess Street/Bexton Road/King Edward Road leading to excessive queuing. A day-time pedestrianisation of this space is likewise not feasible due to the volume of traffic passing through the town centre during the day.
- 5) The creation of a public square at Canute Place is feasible and should be progressed. Whilst a scheme which makes Canute Place one-way (and would provide a larger public square) would not be feasible due to its impact on traffic flows, a scheme retaining the two-way traffic (and a smaller public square) would be feasible.
- 6) There are a number of constraints to the development of a multi-storey car park on Tatton Street car park which affect the business case and would either require the car park to operate at a net cost or have a substantially increased tariff (which it is considered would be detrimental to its use and therefore undesirable). However, the Town Council considers that the importance of increasing parking provision is such that this scheme should be investigated further and could be made more affordable through the allocation of/securing of planning contributions and central government funding for town centres.
- 7) The studies also developed a potential solution to the pedestrian/vehicular conflict within the town centre of widening pavements and creating a level road/footway surface with materials delineating pedestrian/vehicular areas. These proposals need to be developed in more detail, in particular assessing the impact on parking provision, and be taken forward to public consultation.

Appendix A Client Project Brief

Appendix B Local Model Validation Report

Appendix C Scheme Assessment Report

Appendix D Engineering Assessment Report

Appendix E Tatton Street Car Park, Feasibility Report

Appendix F *Phase 1 Ground Conditions Desk Study Report*

Appendix G RIBA Stage 1 Order of Cost Estimate

Appendix H *MSCP Operational Business Model
Assessment*

Appendix I Public Realm Strategy