Tartu City's Tourism Plan

T-Cube & T-Boat

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Executive Summary

Tartu is central to the culture of Estonia and regionally renound for its high quality education sector, strong cultural and historical heritage and innovative industry. Yet, within the context of European economics and tourism, it is on the periphery. This is our challenge: to provide an innovative and outstanding service and proposal that encourages year-round tourism, further investment and serves the needs of the city and its residents. To quote (Gospodini, 2001); “We need to understand the chance and the challenge of using urban design as a means of urban tourism development“.

This proposal incorporates modern Smart technologies to upgrade Tartu’s tourist mobility infrastructure and identify potential areas for development and make suggestions as to how these could be developed into real attractions for the city. The Key strategies are outlined as follows:

- The concept of the Tartu Tourism Train *(T-Cube)*
- Utilization of Emajõgi through Tourism with the Tourist Boat*(T-Boat)*
- Identification of new attractions within the inner city of Tartu
- Connecting the National Museum to the heart of the city
- Forging a symbiotic relationship of tourism industry players in Tartu

We agree with the following quotes and consider them sources of motivation for our strategies:

“Tourism provides employment to the poorest of the poor. Gram seller earns something, auto-rickshaw driver earns something, pakoda seller earns something, and tea seller also earns something” (Narendra Modi).

“In the middle ages people were tourists because of their religion, whereas now they are tourists because tourism is their religion.” (Robert Runcie).

Brief Analysis of the Current Situation

Our research shows that Tartu has a high level of seasonality for nights spent in the city for the purpose of holidays and business. As it is Estonia's second biggest city and regionally renound for its university and research, there ought to be scope to reduce the seasonality level and in doing so, reduce the negative aspects for traders, workers and the city as whole and those who choose to visit. Of those who did visit and spend a night or more in Tartu between 2005 and 2017, 42% of them registered as tourist for the purpose of holidays and 40% registered as tourists for the purpose of business.

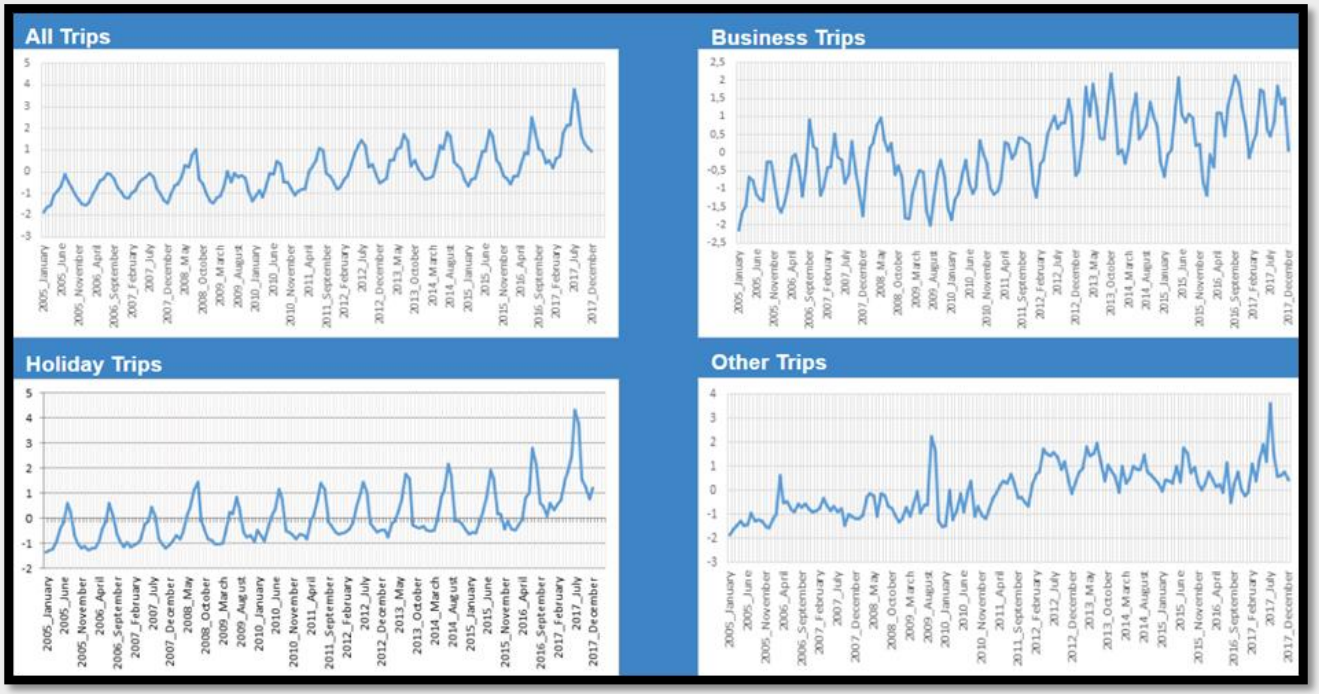

Figure 1 - The different patterns of seasonality for tourists who spent a night in Tartu between 2005 and 2017

Figure 1 shows the seasonality patterns for Tartu between January 2005 and December 2017. The top left-hand chart shows the standardised fluctuation in tourists who spent a night in Tartu. The chart considers all tourists. There is a clear pattern of seasonality, with peaks in summer and troughs in winter. The number of tourists steadily increased over time between 2005 and 2016 but showed a greater increase than normal in 2016-2017.

The bottom left-hand chart shows the standardised fluctuation in tourists who spent a night in Tartu and who registered as holiday tourists. There is a clear pattern of seasonality, with peaks in summer and troughs in winter. The number of tourists steadily increased over time between 2005 and 2016 but showed a greater increase than normal in 2016-2017.

Current Situational Map

The Current Situational Map (Figure 2) shows the current major attractions and hotels for tourists in Tartu. It also shows the current transportation options for tourists, including the taxi ranks, Tartu bus station and Tartu railway station and the local bus routes and stops from these to the city centre. The majority of these are located within the Kesklinn (city centre) on the south side of the River Emajõgi. The highlighted inner city, which is the original old town of Tartu contains the majority of key museums, the famous university and smaller boutique hotels, restaurants, cafes and bars.

There is a cluster of larger hotels to the south east of the city centre at the bend of the river. Next to these, there is the new AHHAA science museum. Currently there is bus route 8 that runs between the bus station that lies between the Dorpat and Tartu hotels in the hotel cluster and the bottom of the town hall square. This bus runs every 15 minutes during the daytime and costs 1.5 Euros.

Just to the south of the city centre, there is the SmartCity district and the newly-refurbished Tartu University Library. Further south again, beyond Riia Street; one of the major and busiest roads that leads to and from the city centre, before crossing the river and becoming Narva Street, is the historical wooden district of Karlova. Highlighted on the Current Situational Map is the key zone around Tähe Street, where there are popular cafes and bars.

The highlighted zone of the River Emajõgi is the key central section, which is currently underutilised, despite being an important trade route that was very connected to the city of Tartu during the first Estonian Independence period.

Located just above the inner city zone is Tartu Botanical Gardens, which belong to the University of Tartu. They are especially popular in the summer months when the gardens are open. The greenhouses are open all year round. The only major attraction or centre currently open located north of the River Emajõgi is the recently opened Estonian National Museum. The new university IT building on the northern river bank is currently under construction.

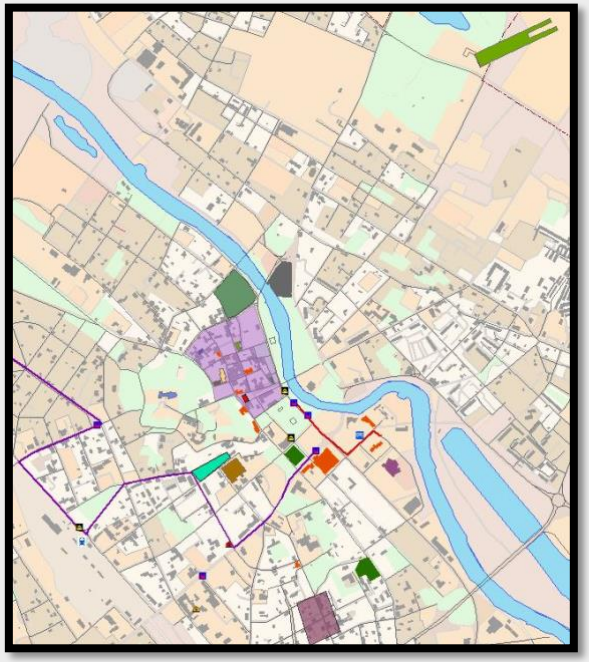

Figure 2 – Current Situation Map of Tartu. Complete map in Appendix

Vision and Values

It is important that the proposal has a vision. A vision can be classified as being beliefs or ideals shared by the members of a culture about what is good or bad and desirable or undesirable. The vision of the plan is a functional integrated tourism infrastructure in Tartu that strengthens already existing attractions and bring potential ones into the lime light.

In planning – places we cherish, ways how we use the environment around us. Different social and age groups can have opposing values.

According to VisitTartu.com, five key things characterize Tartu as a destination site. The first is the iconic old town where tourists and locals utilize the town hall square to socialize and enjoy good meals as café 's extend to the square. Next is the main building of the University of Tartu. Visittartu.com describes it as one of the pearls of the city and a quintessential classic Estonian culture which attracts tourists all year round. Tartu boasts of its appreciable number of museums which cover a wide variety of themes such as toys, science and printing. The wooden district of Karlova and Rüütli Street are also places of interest during summer as they are turned into exhibition grounds for arts and culture. These attractions and the purpose they serve are embodiments on Tartu's tourism values and identity.

Tartu's 2030 Plan

Tartu's city government has initiated the Tartu 2030 plan. According to the municipality government: "the comprehensive plan visions the city as an open, international, and smart university city that together with its neighbouring municipalities forms a coherent urban region. Under this, one of the visions is to add a "development priority on the city centre. It strongly encourages both public and private sector to add further value on the existing multifunctional environment by developing university facilities, state house, civic centre, as well as residential and business functions" (Tartu 2030).

The aims of this have been considered and integrated into the design. These are discussed in the next section with explanations of how this proposal meets the plan's requirements.

Mission Statement

- The proposal aims to increase the mobility of tourists within the inner city of Tartu. To do this, a special vehicle or fleet of vehicles (T-Cube) will be required. The T-Cube(s) will connect tourists with a limited time schedule with areas and attractions that they otherwise wouldn't have been able to reach. T-Cube links the major hotel, old town, historical and museum clusters and other destinations and makes use of the river Emajõgi during the summer period.

- It is a method of increasing time-space compression. It is not limited to business tourists or day-trippers but is designed with these two groups in mind.

- The proposal aims to bring the key tourist attractions of Tartu together. Tartu has a rich culture of education, innovation and architecture. The proposed routes will link the key features of the city with the amenities that day and overnight visitors require.

- This proposal provides specific routes and modes of transport for both the peak summer season and the low winter season. The primary focus of the proposals is to ensure the tourists' experience of the city is optimised, both in terms of efficiency of movement but also comfort and enjoyment, given the varying climatic conditions between winter and summer.

- The proposal aims to make use of the Emajõgi River. The route chosen along the river is a particularly exciting one for tourists and includes three bends that reveal distinct transitions along the way.

Defining the Users

Tourist type 1: Private Bus Daytripper's

The proposal provides an ideal solution for day-trippers i.e. Tourists who arrive and depart to Tartu by private tourist coach (figure 4). The routes are not circular and thus do not suffer from repetition. Congestion is reduced as the private coaches do not have to return to the city centre to collect the tourists (and wait for them to embark) as they will be picked up from the Estonian National Museum on the edge of the city with designated coach parking.

Tourist type 2: Business Conference Tourists

The proposal provides an ideal solution to the typical tailored excursions that are commonplace at conferences (figure 3). The proposal is designed reduce the amount of time tourists spend walking outdoors by collecting them from the key zones where conferences are held (the hotel quarter (near the Dorpat hotel), the university main building and the Raadi museum. The proposal offers a better experience for all weather situations than is currently available and thus will boost the appeal of hosting a conference in the city.

Figure 4 - Temporary coach parking on Vabaduise Puiestee in the City centre. Credit: Isaac Newton Kwasi Buo

Figure 3 - A tourist group in the city centre. Credit: Isaac Newton Kwasi Buo

Idea for a Vehicle (T-Cube)

The proposal aims to utilise a vehicle that is both practical (able to run throughout the year), innovative (developed in cooperation with Tartu's industry leading sector and university) and sustainable (meeting Tartu's 2030 goal 2.3). We present two options for T-Cube:

Small T-Cube

The Small T-Cube would meet the specifications of the task and the vision Tartu 2030 as a technologically innovative, safe and sustainable city. The buses are designed to be run as part of a larger fleet and the smaller individual capacity will mean reduced running costs during winter months when the demand is lower.
Such as vehicle would greatly benefit Tartu city's tourism marketing campaign. The innovation and technology sectors of the city and the robotics department of the university could be involved. Automated driverless buses (figure 5) are already a useable technology in some developed cities and airports. They are likely to become more and more common and more commonly accepted by the public.

Large T-Cube

There is another option for a typical-decker electric bus. The benefit of this is the larger capacity and typical situation regarding safety and pedestrians. It would mean that the T-Cube service could commence sooner and with less technological planning. However, the route would have to be quite specific depending on the size of the vehicle. They would have to run along the Turu and Vabaduise Streets, as opposed to the riverbank paths.
Figure 6 shows the battery-powered bus in Ljubljana, Slovenia. This can deal with a similar winter climate, as well as being able to ascend to the city's castle, which is more demanding than any street in Tartu.

Figure 5 (left): Driverless bus in Tallinn in 2017. Source: eu2017.ee

Figure 6 (right): Electric tourist bus in Ljubljana, Slovenia. Source: visitljubljana.com

Our Recommendation

Our recommendation is for a flexible fleet of small driverless T-Cubes. The EasyMile EZ10 vehicle specification suit the needs of the proposal:

100% driverless electric vehicle travels up to 45 km/h: This is suitable speed for t-cube's needs. The speed limit in the built up areas in Estonia is 50km/h.

Carries up to 15 passengers: As with the Tallinn pilot scheme in 2017, many buses could be run at the same time. Each bus has a capacity of up to 15 passengers. This makes the experience potentially more personable and better for tourist groups. The smaller capacity of the 'easy mile' buses compared to standard size buses means that the buses should run closer to capacity during the off-season, when there is less demand for their service. The other buses could be stored undercover until the summer season. The buses can be requested using mobile phones.

In-built access ramp for mobility-challenged passengers: Tartu needs to accommodate those with disabilities or buggies. The route is designed to cater for such passengers. The t-cube is there to assist those with mobility issues and remove the sections that tourists would have to move over uneven surfaces such as the brick and cobble town hall square. The stop in Karlova in on Tähe street, which has both a wider and smoother pavement than the surrounding roads is designed to consider such tourists. The docks by the AHHAA centre, the botanical gardens and the Atlantis Centre will need to be designed to consider the needs of the disabled and those with buggies. Newer infrastructure such as the AHHAA museum, the more modern hotels in the hotel cluster (e.g. The Dorpat) and the Estonian National Museum have been designed to cater for those with mobility issues. The t-cube route provides links to such locations and will encourage new businesses and infrastructure to consider catering for those with mobility issues and making Tartu a leader in the Baltics for such tourists.

Operates on fixed or on-demand routes: There is the potential to request a t-cube using a mobile phone. This could be particularly useful in winter, so to avoid tourists waiting in the cold and therefore to raise users satisfaction.

Supervised by Easymile's fleet management software: It is important that the software behind the running of t-cube is user-friendly and easily adaptable with Tartu's traffic control centre, for optimisation and safety.

Operates on existing roadways with no additional infrastructure required: Importantly, if Easymile's buses were to be utilised, one of their key selling points is that they would not necessarily require any infrastructure changes, depending on whether they run on the roads. If they do, however, run on the suggested riverbank route, then this would likely need to be widened. The vehicles are small enough to pass through the passages under the bridges. If not, the vehicles would have to run along the Turu and Vabaduise Streets, which they are fast enough to do.

Idea for a Vehicle (T-Boat)

The proposal includes a tourist boat connection for the summer season from docks near to AHHAA museum to docks by the Botanical Gardens. There will also be a stop midway along the route by the Atlantis Centre on the north side of the river. The Emajõgi River is currently underutilised, despite its large size (figure 8) and calm waters.

The boat should have both covered and open-air seating. The covered seating doesn't necessarily have to be indoors. It is important that the boat should provide passengers with the option to take pictures. Figure 7 shows a suitable tourist boat, as currently used in Ljubljana, Slovenia. The capacity will need to match the capacity of the T-Cube(s). There may need to be more than one boat running at a time, especially if the smaller fleet of T-Cubes are chosen. The important consideration is that the passengers' journeys are as seamless as possible, meaning that they spend as little time as possible waiting at the docks by the AHHAA museum and the Botanical Gardens.

Figure 8 - A private boat on the underutilised River Emajõgi. Credit: Isaac Newton Kwasi Buo

Figure 7 - Summer season tourist boat suggestion. Credit: G. Jakovac. Source: visitljubljana.com

The Routes

The proposed route maps displays the overall network of the proposal. The maps detail both the summer and winter routes and transportation options.

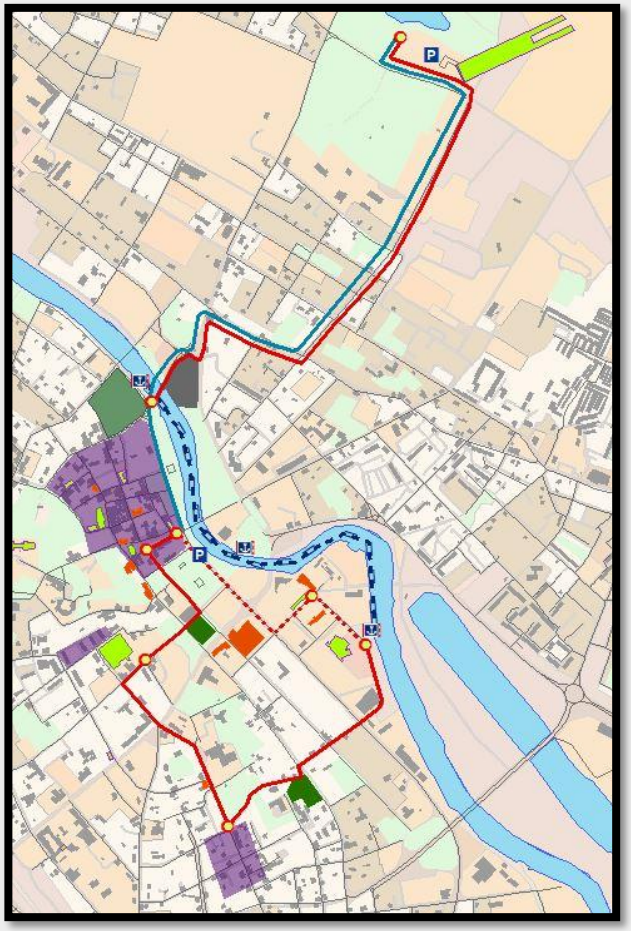

Figure 10 - Summer T-Cube and Boat Route Map of Tartu. Complete map in Appendix

The Summer T-Cube and Boat Route Map (figure 10 – left) details the summer season route in greater detail, including the specific areas or features of interest. Here, there is the Emajõgi summer extension river route by boat.

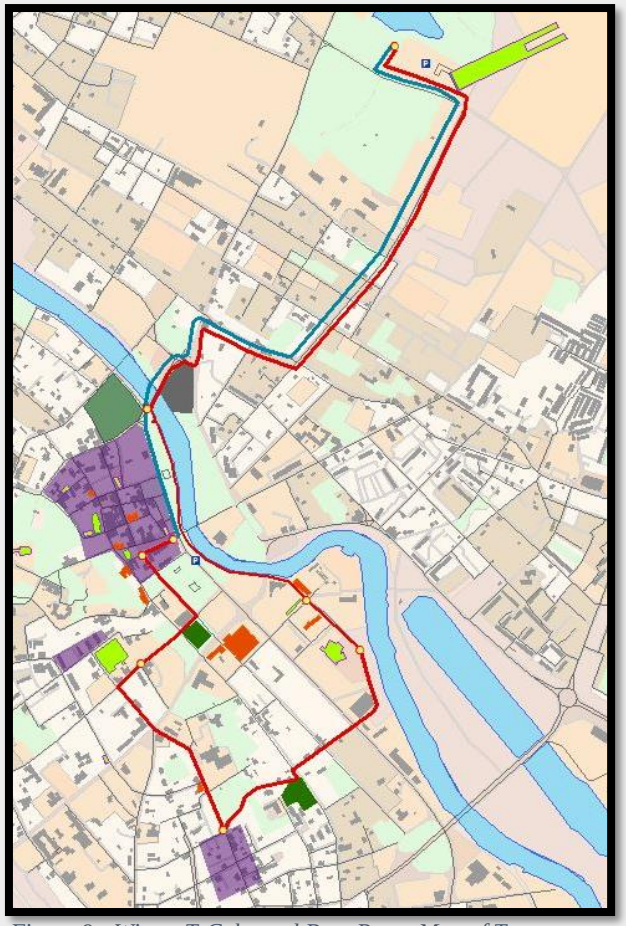

Figure 9 - Winter T-Cube and Boat Route Map of Tartu. Complete map in Appendix

The Winter T-Cube and Boat Route Map (figure 9 – left) details the proposed winter route. There is no river connection due to both the colder weather and the likelihood that the river is frozen.

Key Route Stops, Attractions and Locations

Figure 11 – A diagram showing the routes of T-Cube and T-Boat, the key stopping points, attractions and locations to alight and disembark

Figure 12 - The National Geographic frame. Tartu Town Hall Square. Credit: Isaac Newton Kwasi Buo

Figure 14 - Cross-section of T-Cube on Kééni Boulevard. Credit: Isaac Newton Kwasi Buo

For both seasons, T-Cube starts at the bottom of the **Tartu Town Hall Square**, by the National Geographic frame (figure 12). This square is the most famous of all places in the city and is the location of 'Kissing Students' fountain; a favourite spot for photos. There is enough space to park a bus, as in figure 13.

The T-Cube continues down the wide pedestrianized boulevard (figure 14) before turning up Vanemuise Street. At the junction of Vanemuise Street and Akadeemia Street, there is the option for passengers to visit **Tartu University Library** (figure 15) and the proposed **Smart City** exhibition.

Figure 13 - Classic Vehicle on Tartu Town Hall Square. Credit: Isaac Newton Kwasi Buo

Figure 15 – The refurbished Tartu University Library and Tartu Smart City district behind. Source: Wikimedia Foundation

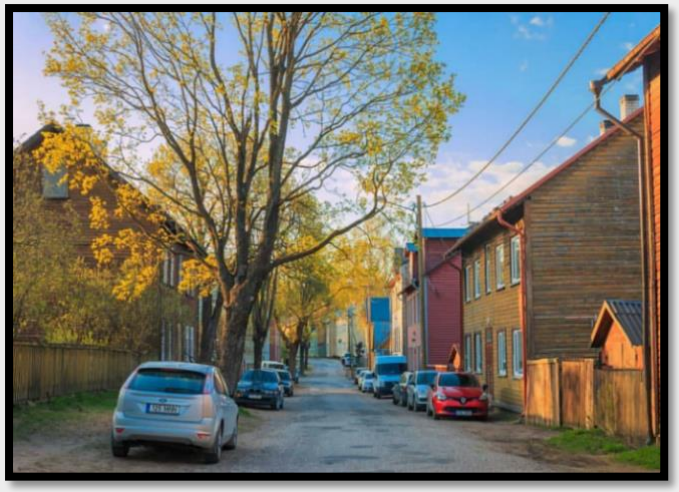

Figure 16 - Karlova wooden inner-city district. Source: Deskgram.org

Figure 18- The hotel cluster with the Dorpat hotel (foreground) and the marketplace that is being prepared for redevelopment behind. Source: Wikimedia Foundation.

The T-Cube crosses Riia street at the traffic lights and travels directly across to Tähe Street to the unique and traditional wooden district **Karlova** (figure 16).

The T-Cube turns left down Pärgi Street and crosses directly over Turu Street into Väike-Turu Street. Here, during summer, it stops at the docks by the **AHHAA museum** (figure 17). From here, the T-Cube continues to the **hotel cluster** (figure 18) to pick up and drop off tourists.

From here, the T-Cube continues under the Narva Street Bridge and along the current pedestrian and bike path on the banks of the **River Emajõgi** (figure 19) and under the **'Students Bridge'** (figure 20).

Figure 17 - The AHHAA Science Museum. Source: Wikimedia Foundation

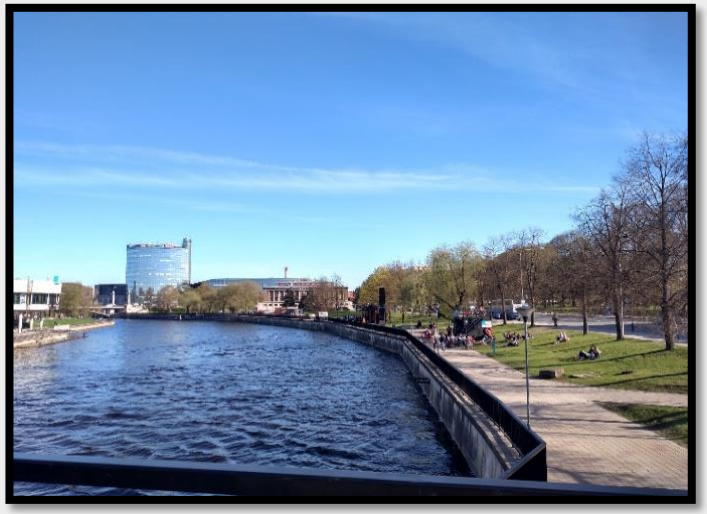

Figure 19 – the wide pedestrianised pathway on the side of the River Emajõgi (credit: Isaac Newton Kwasi Buo)

Figure 20 - The newly redeveloped underpass below the 'Student's Bridge' footbridge by the Town Hall Square. Credit: Alex Kevin Jarvis

Figure 22 - The redesigned Roosi street. Credit:Anni Õnneleid. Source: Delfi.ee

There is a summertime pick up of passengers from the **Botanical Gardens of Tartu** (figure 21), which is the place of disembarkment from the boat.

The T-Cubes run along Vene Street, past the new University IT building and turns right down Jaama Street. This quieter and more picturesque route allows the tourists to experience the recently upgraded **Roosi Street** (figure 22), which the T-Cube turns left onto.

At the far end of Roosi Street is the **Estonian National Museum** (figure 23), which is the final stop of the route.

Figure 21 – Tartu University Botanical Gardens. Source: Wikimedia Foundation.

Figure 23 - Final stop and tourist bus collection point: the Estonian National Museum (credit: VisitTartu.com)

T-Boat Route

Tourists embark at the docks by the AHHAA museum. From here, there are immediately views of the Soviet-built district of Annalin. The boat continues round past the hotel cluster to the old market place and the heart of the traditional city with both riverside parks and leisure space and the riverside Atlantis Centre and docks. It then continues under the famous 'Student Bridge' towards the Botanical Gardens where the banks of the river become green and the tree lined walkways follow the river into the distance.

Reverse Trip

From the Estonian National Museum, the T-Cube will follow the same route back to the Botanical Gardens, but instead of mounting the pavement and following the river path, it will stay on Vabaduise Street and turn right onto the Town Hall Square.
For the reverse trip, T-Cube will benefit passengers from the Estonian National Museum, such as staff, visitors returning to their hotels and residents of the poorly connected new housing district of Vahi. There are major plans to further develop the Raadi former airfield. T-Cube will benefit hugely from the large increase in residents in the area and this should balance the traffic between those heading to the museum coach pick up point and those heading back to the city centre.
The T-Cube will provide a link in both directions for users of the currently under-construction Tartu University IT department.
T-Cube will also benefit truck drivers who wish to visit the city centre, but who cannot park their vehicles there and so do so at Raadi.

Boat from Botanical Gardens

The boat trip will be reversed from the Botanical Gardens dock to the AHHAA dock, via the underutilised Atlantis Centre dock. The reverse trip will mean that passengers can travel in the reverse direction. This will be useful for tourists (especially day-trippers) who enter Tartu via Narva Street and may want to start the tour experience at the National museum. It will also make the service more economical, as the boat will need to make a return trip back to the AHHAA dock, so by picking up passengers extra revenue is guaranteed.

Design and Specification for Docks

Figure 24 – Example of a supporting dock. Source: Wikimedia Foundation

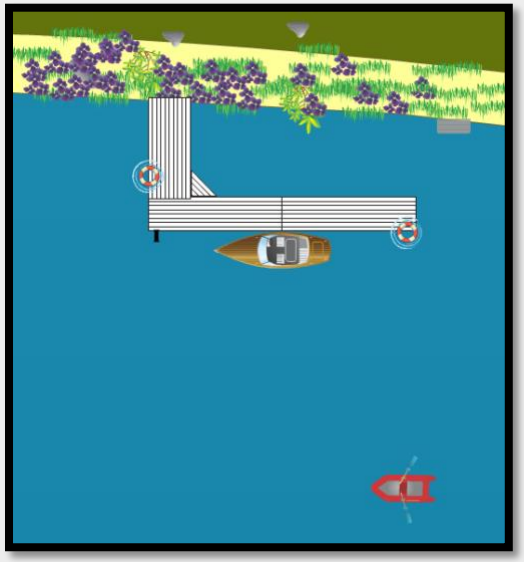

Figure 26 – Design of supporting dock. Credit: Isaac Newton Kwasi Buo.

As part of the proposal to utilize Emajõgi for the T-Boat, two main docks will be required, one near the AHHAA centre and the other close to the botanical garden. A supporting dock will be situated at the Atlantis Centre. Both dock types should be floating docks as the average depth of the Emajõgi River exceeds 8ft or 2.5m.

For the main docks as shown in figure 27 we suggest 2 stories as seen in figure 25. Here, the additional floor can be utilised as a lifeguard post to ensure safety on the river or a small alfresco café for summer periods. In terms of safety there will be rails on the dock and access to the dock section will be by ramp making it disabled friendly. Other accessories like boatlifts, a canopy, lifesavers, benches and ladders will be made available on the dock.

The supporting dock shown in figure 26 will be a side dock, as shown in figure 24 and will come with rails and all basic safety accessories.

Figure 25 – An example of a main dock. Source: Freestateboatdock.com

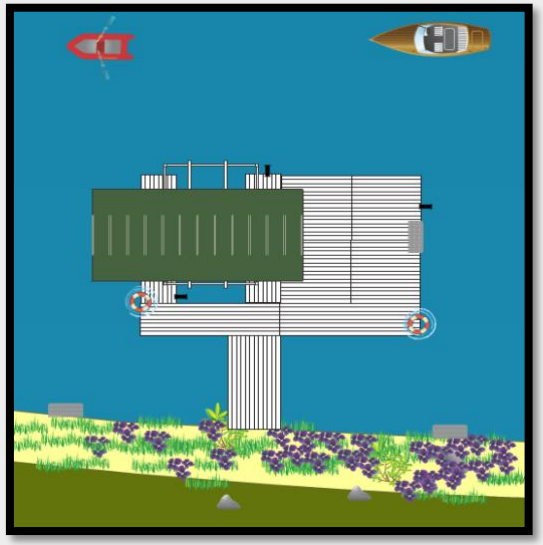

Figure 27 - Design of main dock. Credit: Isaac Newton Kwasi Buo.

Suggested Areas and Concepts for Redevelopment

Figure 28 - Model fountain for the park opposite Kaubamaja. Source: Wikimedia Foundation,

Figure 29 – Intended musical instrument (Estonian kannel) for fountain. Source: Wikimedia Foundation.

The park opposite Kaubamaja

The T-Cube will run alongside this park on Vanemuise Street. The park is currently underutilised and dated. It is situated at a key place within the city and also along the T-Cube route. We envisage the potential to upgrade the image of the park to align with the rich culture of Tartu and its tourism values and goals.

We suggest the design of a 'musical instrument fountain' in the middle of the park similar to the harp fountain in Villavicencio, Colombia (figure 28). The fountain should take the form of a musical instrument and we suggest none other than the kannel; a musical instrument whose origin can be traced to the land of Estonia (figure 29). A musical fountain will strongly identify with the Tartu Vanemuine which borders it to the west and will double as an attraction for the visitors of the theatre.

The park currently has walkways that connect pedestrians to other roads that lead to the heart of the city and we suggest the fountain should not limit the current functionalities after construction. The area could also be utilised throughout the summer season as a designated spot for outdoor food vendors.

Tartu SmartCity and University Library

A potential tourist highlight in itself once the gentrification and retrofitting is complete. A mock-up or exhibition of the project could be installed in the library foyer.

Other Areas That Will Benefit and Be Encouraged to Redevelop

The proposal provides the opportunity and impetus for further tourism infrastructure improvements. The areas to be considered are:

Karlova's boutique shops, cafes and bars

T-Cube will make it easier for tourist and other users of the service to visit the traditional wooden district. This will bring increased footfall to its boutique businesses and thereby encourage further investment.

Raadi development district

Raadi, the zone around the Estonian National Museum is a vast area designated for development. At the moment, the zone has particularly poor transportation connections. T-Cube will provide a comfortable and convenient service right into the heart of this zone which could potentially be expanded to cater for residents of the proposed development. This would help reduce the need for those residents to use private vehicles and so reduce congestion and pollution. T-Cube would benefit from a large number of new users and make the service more balanced throughout the city.

The hotel cluster, AHHAA museum and proposed new market

Currently separated from the city centre by the large crossroads of Riia Street and Turu Street, the cluster will benefit from improved connections, especially during the winter months.

The new Tartu University IT building

The location of this building under construction is on the northern Emajõgi river embankment. This will also result in the resdesign and revelopment of the pedestrian and cycle path on the river bank.

Additional Option for Consideration

Train Station Link

Given the number of trains that come into the station throughout the day, we are not looking to plan an expansion of the TCube line. However, we note that the connections with the train station are already poor and even worse with the new section of the city near Raadi (where the city is set to expand further). Given T-Cube's links with Raadi and its connection with the botanical gardens on the north side of the city centre, we see that there is potential for this line to be lengthened at various times throughout the day to continue through the North of the inner city to the train station in the West and deliver and collect passengers at the peak demand periods. TCube, by being optimised for narrower streets and with less noise pollution than a bus using a combustion engine, should be a good potential option.

Funding and Marketing Strategies for the Proposal

We encourage other players on the supply side of the tourism industry to be partners of the T-Cube and T-Boat programme. Revenue to fund the programme can be generated through short ads of supply side players on the cube or on the boat, boat and cube branding with logos or stickers of partners and ads on the official website of the T-cube or tourism page of Tartu City website. We also encourage hotels and other officially recognized forms of accommodation to include T-cube and T-boat tours as part of their discount and promotion packages.

Aside from adverts on the T-Boat and T-Cube, partners who deal in consumables and commodities will be given an opportunity to make available some products for purchase by tourists on the boat or on the dock. For instance if A. le Coq is the official beverage partner of the program, all drinks sold on the boat or at the cafes on the docks will be from their line of products. Tour agencies within Estonia, the Estonian Travel and Tourism associations and major transportation agencies within Estonia like GoBus and LuxExpress will be considered as key partners for the program as they are channels through which tourist get to Tartu by one way or another.

Ultimately the birth of the T-Cube/T-Boat program should not only integrate Tartu's tourism space and its players but also forge a symbiotic relationship between them.

Policy Guidelines

Meeting the 'the development strategy Tartu 2030 document, goal number 21 (tourism)'.

The proposal meets the aims of the Tartu 2030 vision:

21 Tartu is known as a destination for tourism.
The proposal seeks to appeal to Tartu's key tourist visitor types, thereby build the reputation of the city as an ideal and exciting destination for those purposes.

21.1 attractive introduction of Estonian cultural and research heritage to people with the help of contemporary methods making the museums of Tartu interactive and visitor-friendly.
The plan will use the latest in sustainable transportation technology to reduce the time and effort needed to travel between the city and nation's cultural and research heritage.

21.2 the development of Tartu as an integral tourist object consisting of the Toome hill, the science centre AHHAA, the Estonian national museum at Raadi, the Jaani quarter of culture, the Emajõgi riverland together with the Emajõgi embankment, etc. 49 subvisions, goals and strategic directions of activities of Tartu 2030
The proposal covers all of the abovementioned sites and utilises the Emajõgi River and embankment (the docks and development zone by the science centre AHHAA).

21.3 the sustainable development of Tartu as a destination for conference tourism, together with the establishment of a modern conference centre meeting all the international requirements.
The proposal is sustainable in terms of mitigating the effects of seasonality and therefore creating more sustainable livelihoods and sustainable in terms of the scientific technology begin the vehicle

21.4 introducing Tartu as a Hanseatic, university and museum town to other countries, active target-group based marketing of Tartu as a tourist destination.

The proposal provides year-round mobility to all of the key zones and is an attraction and demonstration of the cities innovation industries in itself, which is suitable for marketing campaigns.

21.5 the development of regular water-borne transport on the river Emajõgi and lake Peipsi, a regular shipping line to Pskov. The development of the Emajõgi riverland into an attractive recreational area: building of moors, places for rest and the network for walking tours in cooperation with neighbouring municipalities.

The proposal provides a leisure-experience on the river Emajõgi. Although it doesn't specifically cover the other aims, river traffic could create more interest in the river's potential and enable other experiences.

21.6 the development of the via Hanseatica route and the development corridor – establishing a jointly connected tourist network in the region of the Baltic sea.

Tartu is the main city of the south of Estonia and infrastructure such as that proposed is required to integrate the city into the abovementioned route.

21.7 raising the quality of tourist services – catering, accommodation, conference services, etc.

The proposal compliments the different industries within Tartu and the route is designed with them in mind.

21.8 participation in international tourist proposals and strengthening of international cooperation

The proposal seeks to improve the mobility between Tartu's attractions. This will raise the value of those attractions and the inner city as a whole will rise. This will make it a more desirable partner for international cooperation.

Meeting Tartu's Specific (Re)Development Plans

Our proposal considers that the city has had and continues to have certain specific conditions for development.

Raadi is a designated area for development. Currently, the zone has poor access with the City centre. Although the distance is relatively short, at 1.2 km, the walk to the Estonian National Museum is partly uphill and without cover. The Raadi zone is open and is subject to strong winds. Therefore, a mobility solution would be highly beneficial.

T-Cube is designed to run along Roosi street, which is another conservation that received a 2.6 million Euro redesign (Raamets, 2016).

The smaller choice for T-Cube does not require any road alterations, other than the option for the vehicles to demount the pavement by the Vene Street Bridge. There might be the need to widen the pathway by the side of the river and section it into specific lanes of usage of T-Cube and bikes, and pedestrians.

The proposed vehicles are suitable for the speed limits of the city.

The city will need to construct or upgrade necessary docks for passengers to embark and disembark the boat. They should be wheelchair friendly.

Key Points

The proposal does not require a large investment. The city does not have to be restructured, as it is designed to work with the system in place. The routes combine the key tourism sectors such as the seemingly far national museum to the city's core attraction cluster and utilises the river. The technology behind the proposal is tested but it is unique for Tartu. It will benefit both the innovation and technology sectors of the city and university. It will aid the creation of new attractions (such as the SmartCity site and exhibition centre at the University Library) and increase footfall at less visited sites. By making the city more comfortable to visit year-round and more exciting, it will address the issue of seasonality and promote investment and jobs.

The City will need to determine whether the proposal should be run privately for profit or not. We suggest that the running costs will be mitigated by the increase in tourist and business taxes that it will aid. Demand will determine how frequent the service will be at different points throughout the year and for that reason a fleet of vehicles is preferable. These vehicles will need to be tested and adapted to the weather conditions and traffic system. The route chosen is designed specifically to provide the best experience for those using the service, pedestrians and other vehicle users.

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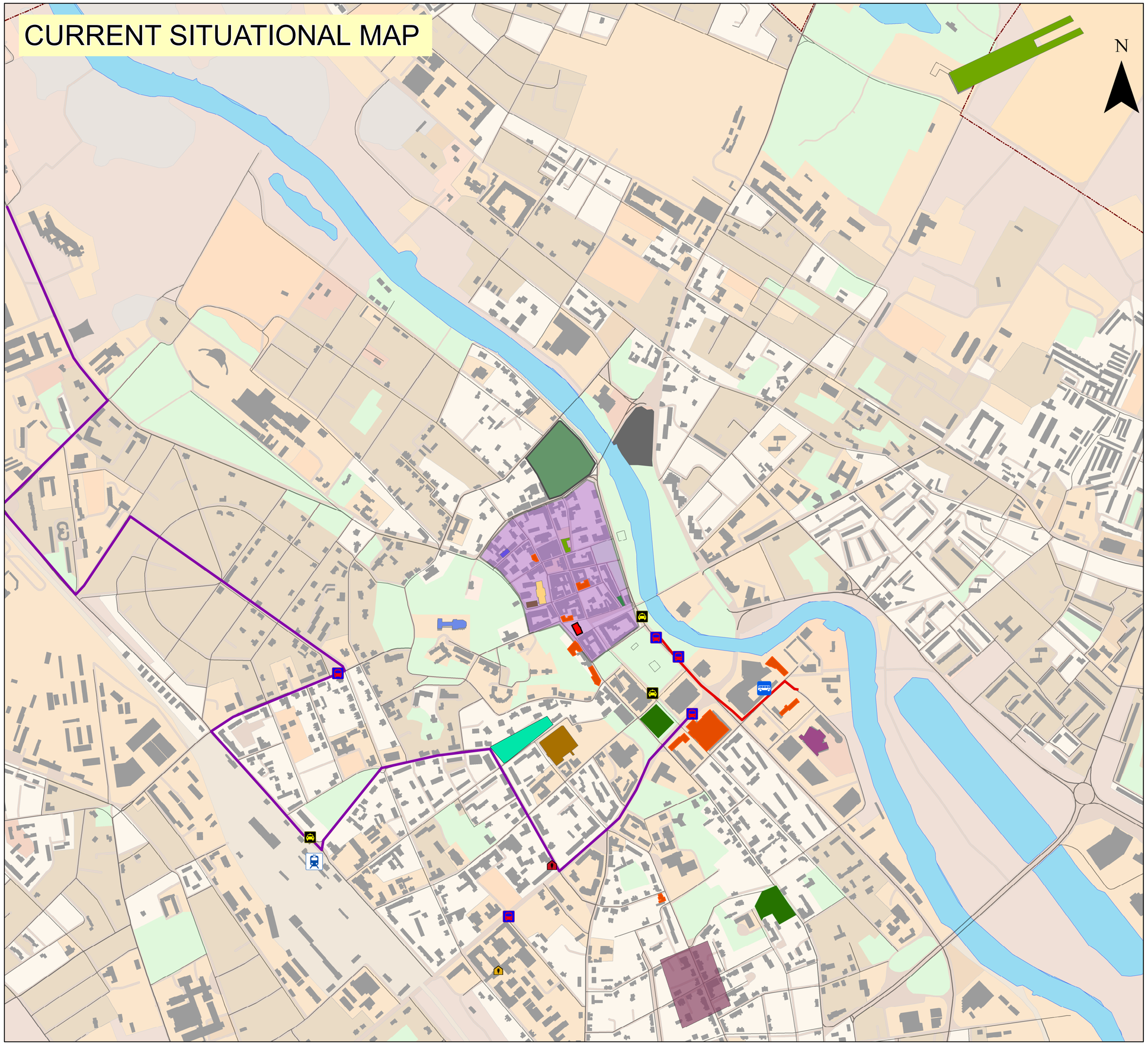
Appendix

The following pages contain full scale maps of the following:

1. CURRENT SITUATION MAP
2. PROPOSED MOBILITY ROUTES
3. SUMMER T-CUBE AND T-BOAT ROUTE
4. WINTER T-CUBE ROUTE

CURRENT SITUATIONAL MAP



KGB Museum
Printing Museum
Bussijaam
Bus Stops
Railway Station
Taxi Ranks
Busline 20
Busline 8
Parks For Development
New University IT Building
AHHAA
Estonian National Museum
Tartu Art Museum Exhibition House
Tartu Cathedral
Tartu Toy Museum
University of Tartu Art Museum
Hotels
Tartu Tourist Information Office
University Main Building
University of Tartu Library
Botanical Garden
Smartcity District
Central Karlova
Tartu Border
Inner City
Emajogi

PROJECT:
SPATIAL PLAN FOR TARTU CITY'S TOURISM INFRASTRUCTURE

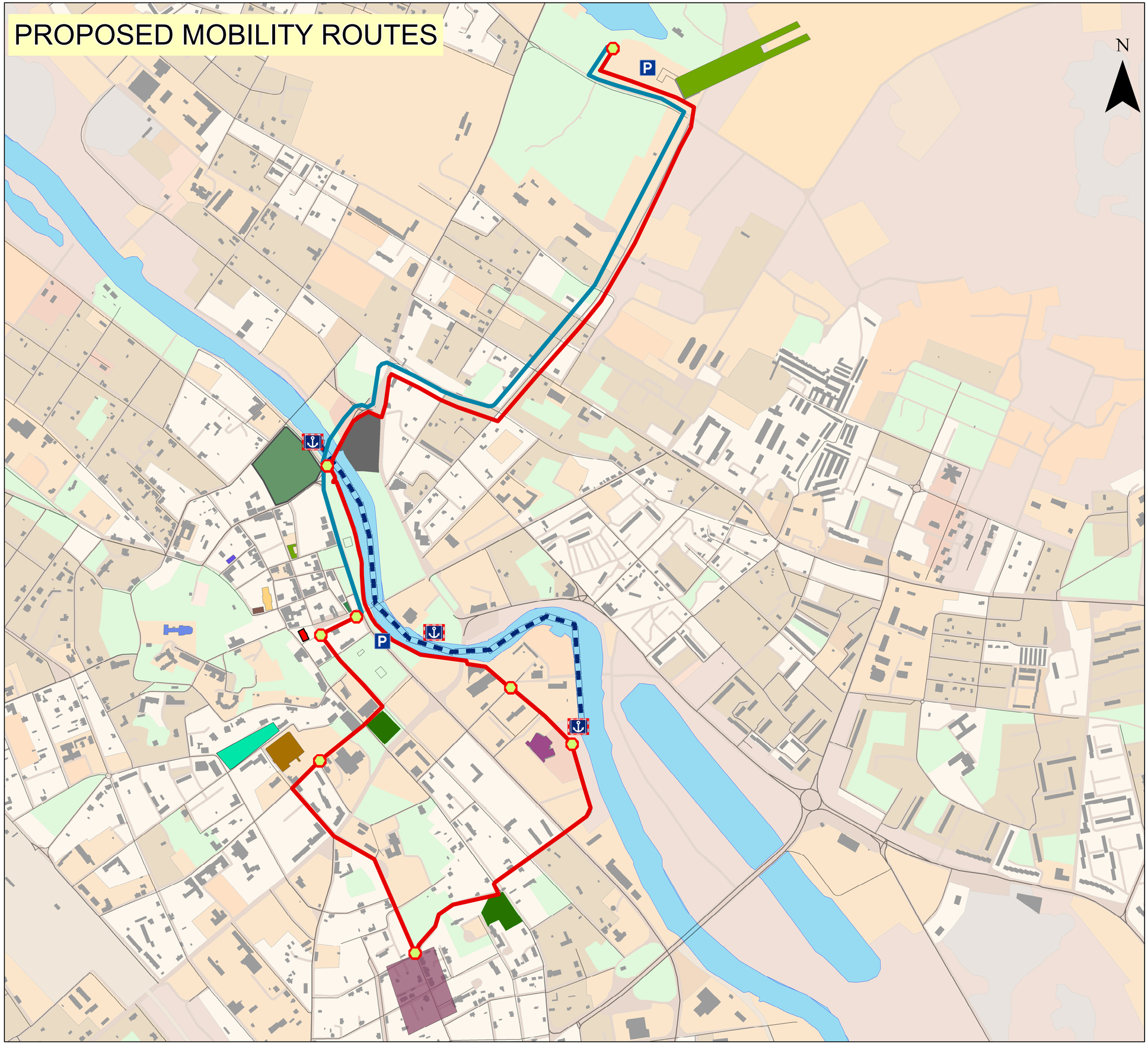
SUB:
TARTU TOURISM TRAIN (T-Cube)

MAP No. 1
REF : Current Situation

STATUS:
NA
17-05-2018

0 125 250 500 750 Meters

PROPOSED MOBILITY ROUTES



- Docks
- T-Cube Stops
- Coach Parking
- T-Cube Route From Center
- T-Cube Route To Center
- Emajoogi_Route
- AHHAA
- Estonian National Museum
- Tartu Art Museum Exhibition House
- Tartu Cathedral
- Tartu Toy Museum
- University of Tartu Art Museum
- Tartu Tourist Information Office
- University Main Building
- University of Tartu Library
- Botanical Garden
- Smartcity District
- Central Karlova
- Parks For Development
- New University IT Building
- Emajogi

PROJECT:
SPATIAL PLAN FOR TARTU CITY'S TOURISM INFRASTRUCTURE

SUB:
TARTU TOURISM TRAIN (T-Cube)

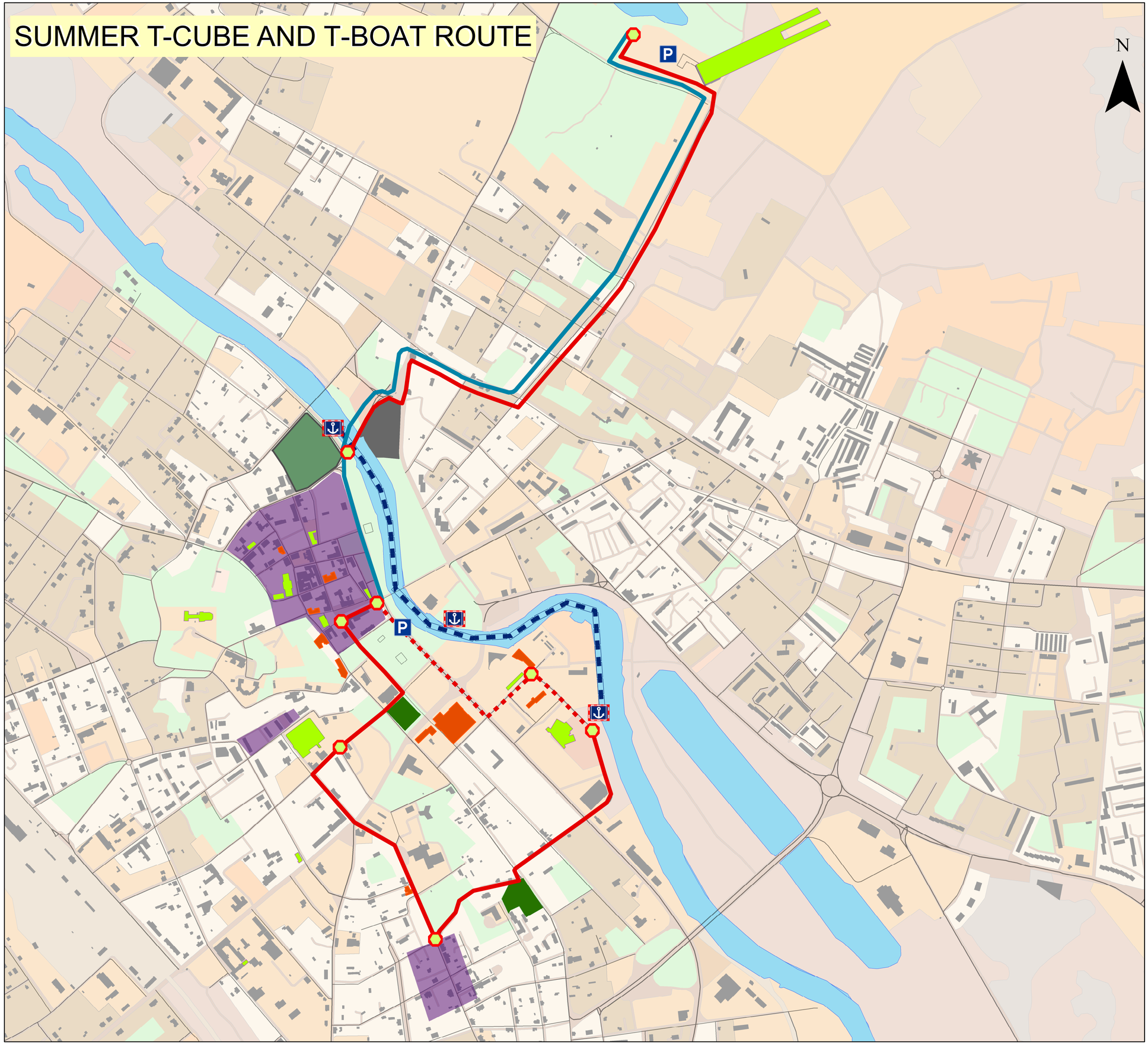
MAP No. 2
REF : MOBILITY ROUTES

STATUS:
PROPOSED

17-05-2018

0 125 250 500 750 Meters

SUMMER T-CUBE AND T-BOAT ROUTE



- Docks
- T-Cube Stops
- Coach Parking
- Emajoogi_Route
- T-Cube Route To Center
- T-Cube Route From Center
- Hotels
- Buildings of Interest
- Botanical Garden
- Parks For Development
- New University IT Building
- Areas of Interest
- Emajogi

PROJECT:

SPATIAL PLAN FOR TARTU CITY'S TOURISM INFRASTRUCTURE

SUB:

TARTU TOURISM TRAIN (T-Cube)

MAP No. 3

REF : SUMMER T-CUBE & T-BOAT

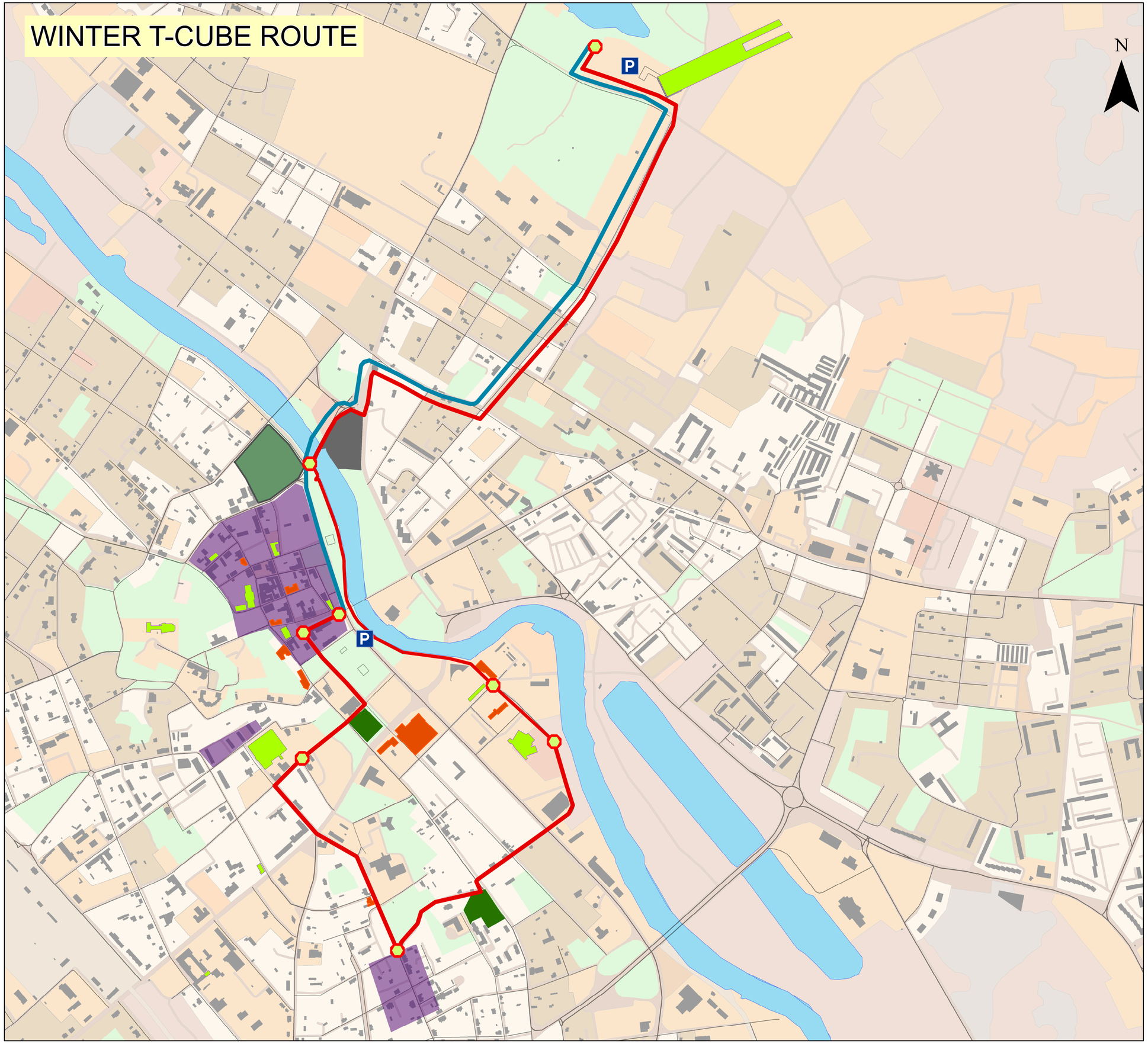
STATUS:

PROPOSED

17-05-2018

0 125 250 500 750 Meters

WINTER T-CUBE ROUTE



T-Cube Stops

Coach Parking

T-Cube Route To Center

T-Cube Route From Center

Hotels

Buildings of Interest

Botanical Garden

Parks For Development

New University IT Building

Areas of Interest

Emajogi

PROJECT:

SPATIAL PLAN FOR TARTU CITY'S TOURISM INFRASTRUCTURE

SUB:

TARTU TOURISM TRAIN (T-Cube)

MAP No. 4

REF : WINTER T-CUBE

STATUS:

PROPOSED

17-05-2018

0 125 250 500 750 Meters