TARTU CITY STRATEGIC ACTION PLAN FOR BICYCLE TRAFFIC 2019-2040

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INTRODUCTION

Tartu city is one of the most exemplary cities in Estonia in terms of bicycle use. The city has carried out many different studies and the information concerning bicycle traffic can be found from various documents, but it has not been incorporated into an integrated whole and Tartu city lacks a single **bicycle traffic strategy**. Therefore, we decided to analyse the bicycle traffic strategies of European cities similar to Tartu in terms of being exposed to all four seasons and having similar aspirations. We used those cities as examples and had five meetings with stakeholders interested in bicycle traffic in order to prepare this document.

This document constitutes a part of the project "Analysis of the current situation in promotion of bicycle traffic in Tartu city" contracted by the City Government of Tartu. It is based on the example of eight European cities with fully developed bicycle traffic strategies. The sample includes Tallinn, Oulu, Tampere, Uppsala, Groningen, Odense, Amsterdam, and Copenhagen. Just like Tartu, Odense and Groningen are university cities. Tampere, Uppsala and Oulu were chosen because they are located up North and their climate is similar or even colder than our climate, these cities also have universities like Tartu. Such approach allows us to gain a good overview of how strategic development is managed in various cities in order to ensure the best all-year-round bicycle traffic. Tallinn was included in the sample, because it is the only city in Estonia with an already established bicycle strategy; Copenhagen and Amsterdam represent excellent bicycle cities whose example and aspirations to follow.

Chapters are divided based on the stages of strategic planning.

Used abbreviations for Tartu City Government departments:

AEO – Department of Architecture and Building
ASO – Department of Public Relations
EVO – Department of Business Development
HO – Department of Education
KANTS – Office of the City Government
KO – Department of Culture
LMO – Department of Communal Services
LPMKO – Department of Urban Planning, Land Survey and Use
LVO – Department of Municipal Property
RO – Department of Finance

INTERNAL ENVIRONMENT ANALYSES AND SOURCES

TARTU COUNTY:

1. Tartu County Development Strategy 2014-2020
2. Tartu County Plan 2030+ (2 documents)

TARTU CITY:

1. Tartu Development Strategy 2030
2. Tartu City Development Plan 2018-2025 and budgetary strategy 2018-2021
3. Tartu City Comprehensive Plan until 2030+
4. Proposals and positions of the city regarding Tartu City Comprehensive Plan 2017
5. Mobility plan of Tartu city centre 2015
6. Tartu City bicycle map
7. Charter of Brussels

NEARBY RURAL MUNICIPALITIES:

1. Ülenurme rural municipality development plan 2015-2021
2. Ülenurme rural municipality comprehensive plan 2009
3. Tähtvere rural municipality development plan 2013-2025
4. Tähtvere rural municipality comprehensive plan 2006 (5 documents)
5. Luunja rural municipality development plan 2015-2022
6. Luunja rural municipality comprehensive plan 2004-2008, 2017
7. Kastre rural municipality (former Haaslava rural municipality) development plan 2015-2020
8. Kastre rural municipality (former Haaslava rural municipality) comprehensive plan 2007

STUDIES:

1. 2004 – Proposals regarding the establishment of main network of cycle tracks in Tartu city
2. 2006 – Development Scheme of bicycle traffic in Tartu city 2006
3. 2006 – Network of existing cycle tracks in Tartu city
4. 2006 – Cycle track network developed in Tartu city
5. 2008 – Tartu BYPAD audit 2008
6. 2009 – Mobility survey of the residents of Tartu city and nearby local government units
7. 2009 – Bicycle facilities here and elsewhere
8. 2010 – Results of the audit on walking and cycling, Tartu 2010
9. 2010 – Bicycle thefts in Tartu city in 2010
10. 2010 – Terms of reference for traffic safety plan in terms of light traffic 2010
11. 2011 – Analysis of the poll Car Free Day in Tartu 2011
12. 2012 – Karlova light traffic study
13. 2012 – Modes of travel of and dangers in traffic for the students and children in child care institutions in Tartu Veeriku district (6 documents)
14. 2012 – Analysis of the results of 2011 project “My Way to School”
15. 2013 – Mapping of cycling routes in Tartu city based on the data of Endomondo mobile app from May 2013
16. 2014 – Development of bicycle sharing service in Estonia by the example of pilot project in Tartu city
17. 2014 – Bicycle use of and dangers in traffic for students of Tartu city
18. 2014 – Analysis of cycling accidents occurring in Tartu city in 2009-2013
19. 2015 – Mapping of cycling routes in Tartu city based on the data of Endomondo mobile app from May 2015
20. 2017 – Bicycle sharing survey
21. 2017 – Counting of pedestrians and cyclists in Tartu in spring ’13, ‘15, ’16 and ‘17
22. 2017 – Tartu bicycle map 2017
23. 2017 – Action plan activating Tartu urban bicycle traffic and supporting environmental management system handbook
24. 2017 – Bicycle themed survey of the students and parents of comprehensive schools of Tartu city
25. 2018 – Analysis of current situation, management and planning of bicycle traffic in Tartu city and its surroundings
26. 2018 – Bicycle strategy of Tallinn 2018-2027
27. 2018 – Satisfaction survey on bicycle traffic in Tartu 2018
28. 2018 – Tartu and residents of Tartu ´03, ’08, ’13 and ’18
29. 2018 – Tartu BYPAD audit 2018
30. 2018 – Mobility study of Tartu city and its surroundings

EXTERNAL ENVIRONMENT ANALYSES AND SOURCES

The strategy was prepared by analysing the guidelines and handbooks for promoting bicycle traffic internationally and in European cities similar to Tartu:

- Tallinn
- Oulu
- Tampere
- Uppsala
- Groningen
- Odense
- Amsterdam
- Copenhagen

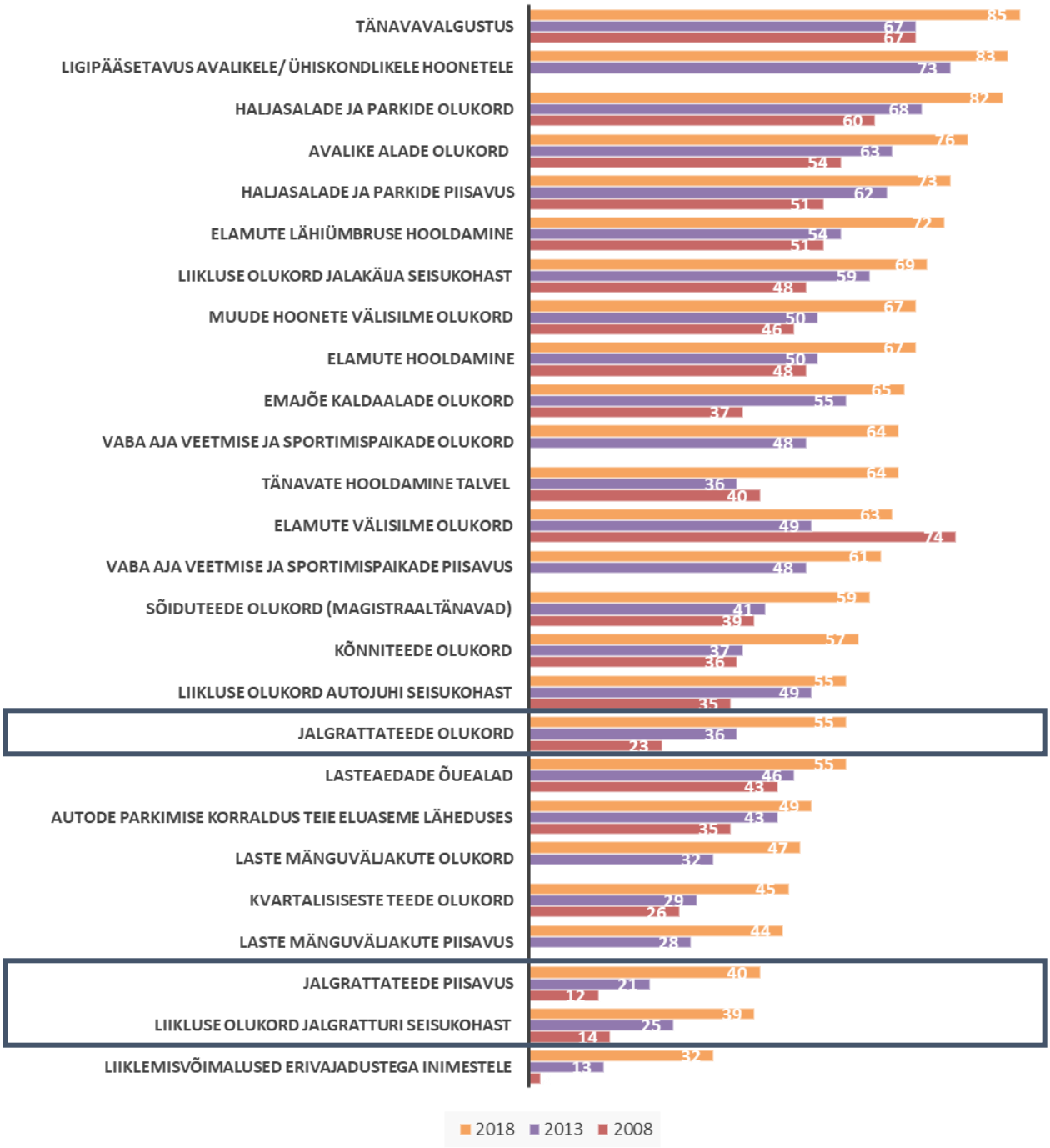


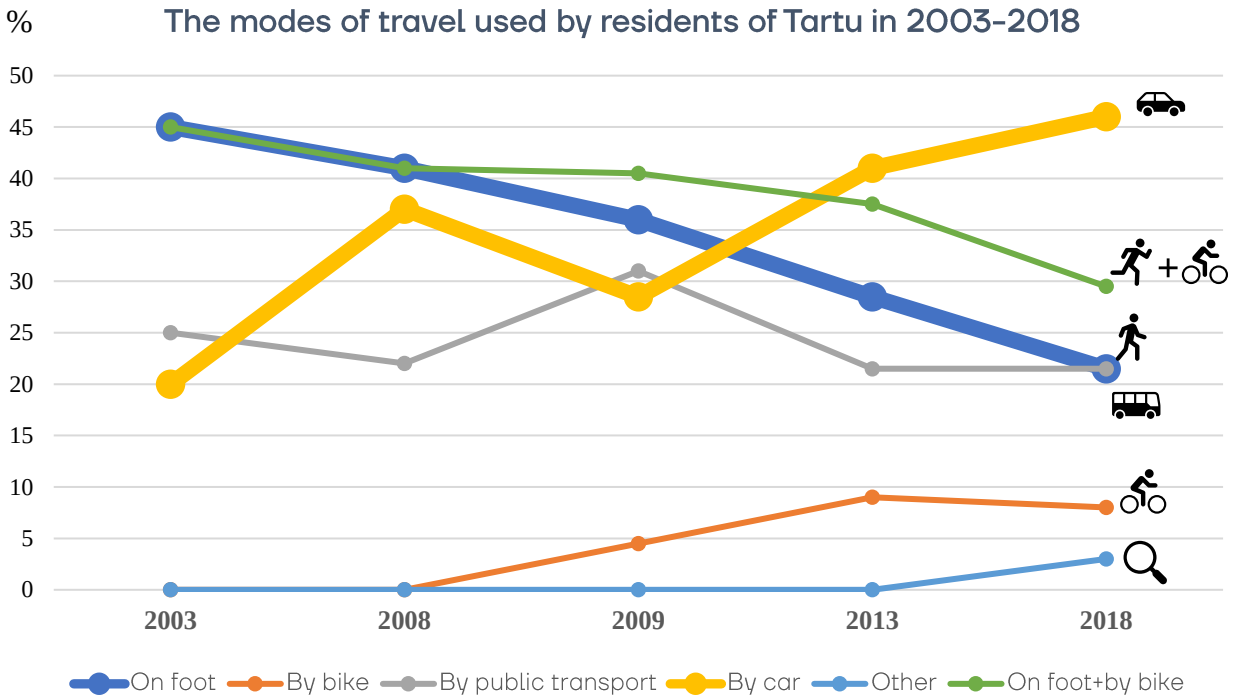
Figure 1. Source: Study "Tartu and residents of Tartu 2018" (p 41), analysis by HeiVäl.

The satisfaction of the residents of Tartu with different areas in their city district by years (2018: "very satisfied" + "rather satisfied"; 2008, 2013: "very satisfied" + "generally satisfied"; %). The highlighted bars from top to bottom are: satisfaction with cycle tracks and bike lanes, sufficiency of cycle tracks and bike lanes and the traffic situation from the cyclist's point of view.

Conclusions:

Satisfaction with the cycling situation in Tartu has significantly increased over the past decade, but the level of satisfaction is in the lower third compared to other traffic areas.

TRENDS OF TRANSPORT USE IN TARTU IN 2003-2018



	2003	2008	2009	2013	2018
	45%	41%	36%	28.5%	**21.5%**
	-	-	4.5%	9%	**8%**
	25%	22%	31%	21.5%	**21.5%**
	30%	37%	28.5%	41%	**46%**
	-	-	-	-	**3%**
	45%	41%	40.5%	37.5%	**29.5%**

Source: Study "Tartu and residents of Tartu 2003 (p 43), 2008 (pp 36-37), 2013 (p 24), 2018 (p 66) and Mobility survey of the residents of Tartu city and nearby local government units 2009 (p 8), analysis by HeiVäl.

Conclusions:

1. The popularity of car use increases annually by ca 1.5%.
2. Walking decreases annually by ca 1.5%.

MODES OF TRAVEL IN 2003-2018

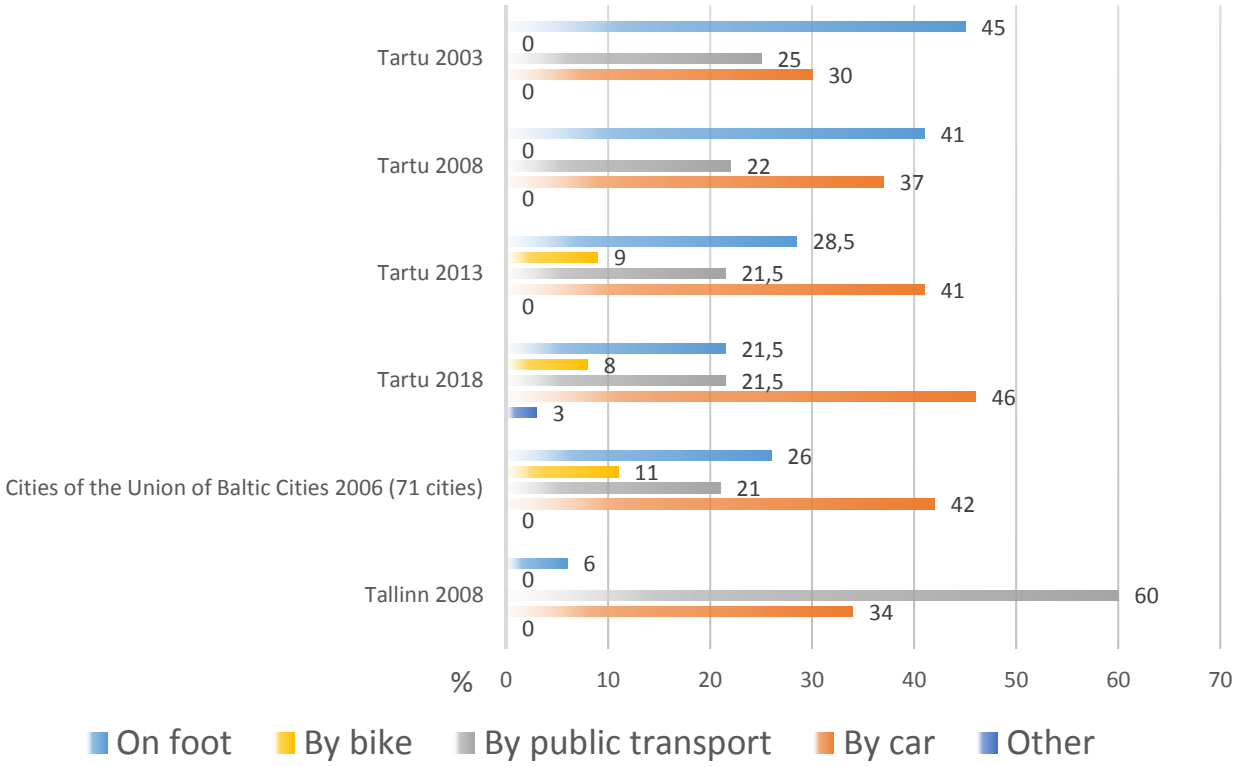


Figure 2. Source: Study "Tartu and residents of Tartu 2003" (p 43), 2008 (pp 36-37), 2013 (p 24), 2018 (p 66), analysis by HeiVäl.

Conclusions:

Today, Tartu has reached the share of modes of travel present in the cities of the Union of Baltic Cities ca 12 years ago.

SWOT ANALYSIS: TARTU BICYCLE TRAFFIC

SWOT-analysis is an analysis method used to estimate sectoral strengths and weaknesses and related external opportunities and threats. The outcome of the analysis provides a basis for strategic planning activities.

STRENGTHS (S)	WEAKNESSES (W)
1. Tartu is big enough for bicycle traffic (diameter ca 7 km). 2. Cyclists are relatively satisfied with the parking conditions in the City centre area (rated 3.0 out of four). 3. Tartu City has already built some very high-quality cycle tracks (Aruküla, Baeri-Ilmatsalu and Annelinna tracks). 4. The number of cyclists shows an upwards trend. 5. Large number of university students (ca 20,000) and students (14,874), who are more satisfied with the quality of bicycle traffic in Tartu. 6. Practically all children in Tartu have a bicycle. 7. The launch of bicycle sharing (600-800 rental bicycles, incl. electric bicycles, and 60-80 rental points). 8. Major cycling events (*Tartu Rattaralli* and *Rattamaraton*, *Tour d'öö*). 9. Tartu has carried out ca 30 studies regarding bicycle traffic. 10. New Comprehensive Plan of Tartu establishes the hierarchy of road users: 1. children, elderly, disabled people; 2. other pedestrians; 3. cyclists; 4. public transport; 5. emergency and service transport; 6. other motorized transport. 11. Tartu has already set a goal of having "the share of cycling in 2020 reach 15% and car transport staying at the same level as reference year (2010)" (source: Sustainable Energy Management Development Plan of Tartu City 2015 – 2020).	1. The City does not have high investment capacity (40 million euros a year). 2. There are virtually no bicycle parking areas near apartment buildings (rated 1.6 out of four). 3. High curbs. 4. Missing or fragmental coherence and comprehensibility of cycle tracks. 5. Bicycle parking areas are mostly missing near bus stops. 6. Tartu City (and Estonia as a whole) lacks single light-traffic (especially regarding its infrastructure) concept and development plan. 7. There are certain groups of people in Tartu against cycling (myths, attitude). 8. Shortcomings in traffic culture and compliance with the law – cyclists use sidewalks because they do not feel secure on the road or are negligent, etc. 9. The popularity of car use increases annually by ca 1.5% and walking decreases annually by ca 1.5%. 10. The currently valid Tartu Transport Development Plan does not support priority development of bicycle use on the account of use of passenger cars.
OPPORTUNITIES (O)	**THREATS (T)**
1. EU support. 2. Requirements for reducing CO_2 in transport, causing increase in fuel price. 3. Technological advancement of electric bicycles (incl. other hoverboards) increases the number of users (youth, elderly). 4. Expansion of the hinterland of Tartu, urban sprawl. 5. Increasing number of cars and complicated parking. 6. Trend of promoting a green and healthy lifestyle and increased awareness (incl. hiking trails).	1. Fast electric bicycles and other personal transportation devices may increase dangerous situations on light traffic roads. 2. Young people become obese because of lack of movement. 3. Development of infrastructure of Tallinn-Luhamaa road and other national roads in Tartu city.

SO strategy: How to exploit external opportunities through internal strengths?	**WO strategy:** How to exploit external opportunities to overcome internal weaknesses?
• S1,4 /O1-2 – Old combined light traffic roads are rebuilt. • S4,5,6 /O2,3,4 – Public transport will allow and provide means of taking bicycles and electric transportation devices on board (buses, taxis, etc.).	• W2,5-3/O2,3 – Participatory budgeting is used in bicycle traffic. • W1,2/O1 – Development of a standard solution for the bicycle parking areas near apartment buildings and implementation thereof in cooperation with other cities with the support from EU Structural Funds.
ST strategy: How to use internal strengths to avoid external threats?	**WT strategy:** How to reduce internal weaknesses while avoiding external threats?
• S3/T1 – Cycle tracks are marked at every 15 metres. • S1,3,4,5,6/T1,2 – Cycle tracks are separated from other road users.	• W4/T2 – Training programmes for children regarding bicycle traffic (in the city) similar to swimming lessons. Bicycle parking areas established for schools.

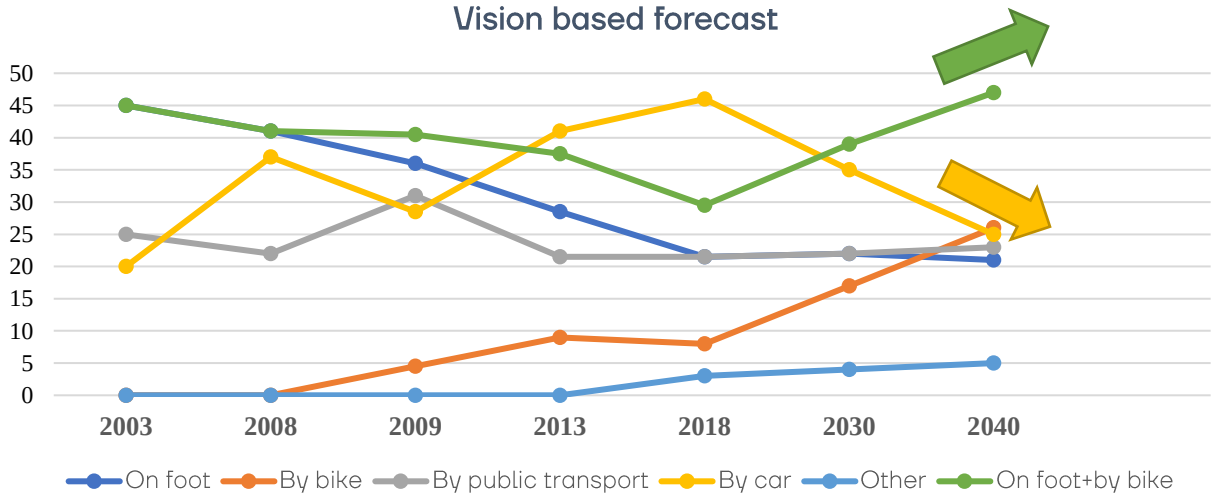
VISION FOR 2040

Vision is the description of the best tendency of the sector or clear idea of the desired future; perceived need for change that becomes more detailed with each year; concept of what the sector should look like in the long term. In this context, vision means a clear and uniform understanding of the general tendencies in bicycle traffic. The deadline for the vision is set for 2040 because by that time, almost all streets of Tartu will be renovated and a new generation of cyclists will have grown up.

Bicycle traffic vision for 2040:

The bicycle is the preferred all-year-round mode of transport and walking is the preferred mode of travel – the residents of Tartu travel daily mainly by bicycle or on foot.

We intend to achieve a trend where the share of cyclists begins to increase annually by ca 1% and the use of cars decreases annually by ca 1%.



	2003	2008	2009	2013	2018	*2030*	*2040*
🚶	45%	41%	36%	28.5%	**21.5%**	22%	**21%**
🚲	-	-	4.5%	9%	**8%**	17%	**26%**
🚌	25%	22%	31%	21.5%	**21.5%**	22%	**23%**
🚗	30%	37%	28.5%	41%	**46%**	35%	**25%**
🔍	-	-	-	-	**3%**	4%	**5%**
🚶+🚲	45%	41%	40.5%	37.5%	**29.5%**	39%	**47%**

Source: Study "Tartu and residents of Tartu 2003 (p 43), 2008 (pp 36-37), 2013 (p 24), 2018 (p 66) and Mobility survey of the residents of Tartu city and nearby local government units 2009 (p 8), analysis by HeiVäl.

EXAMPLES OF THE SHARE OF BICYCLE TRAFFIC IN OTHER EUROPEAN CITIES WITH A SIMILAR CLIMATE

Do we have a realistic and ambitious vision?

The following table ranks Baltic Sea cities based on their share of bicycle traffic in 2006 and includes the cities' goals for the future. For comparison, the right-hand side of the table shows the share of bicycle traffic in Tartu today and the goal of Tartu for 2040.

	City	Population	Share of bicycle traffic in 2006	Goal for share of bicycle traffic for 2030
1	Tampere	225 000	4–6%	-
2	Helsinki	632 000	11%	-
	The average in the cities of the Union of Baltic Cities 11%			
3	Jyvaskyla	122 000	13%	-
4	Uppsala	135 000	20%	40%
5	Oulu	200 000	21%	46%
6	Odense	169 000	22%	45–73% (different target groups)
7	Malmö	318 000	22%	-
8	Amsterdam	835 000	36%	46%
9	Copenhagen	504 000	41%	50%
10	Groningen	200 000	60%	-

Share of bicycle traffic in Tartu today (8-9%)

Vision of Tartu for 2040 (26%)

The main goal for the majority of Nordic cities consists of increasing the share of cyclists in urban traffic to the minimum range of **40–50%**.

VISION AND STRATEGIC OBJECTIVES

Bicycle traffic vision for 2040:

The bicycle is the preferred all-year-round mode of transport and walking is the preferred mode of travel – the residents of Tartu travel daily mainly by bicycle or on foot.

Objective (long-term, short-term) is a description of a realistic, controllable, definable, measurable and assessable **result** arising from and expected based on the vision and general need for development. In order to achieve the objective, we need particular tasks. An objective is an accurate final state, achievement of which can be measured in time and resources spent.

Result: Objective 1

1. Reduced number of cars in traffic (mainly during rush hour).
2. Improved air quality and reduced noise level in Tartu city.

Client: Objective 2

3. Increased number of cyclists.
4. Decreased number of sick leave days.
5. Increased satisfaction of cyclists.
6. Increased number of students using the bicycle.

Processes (maintenance and repair): Objective 3

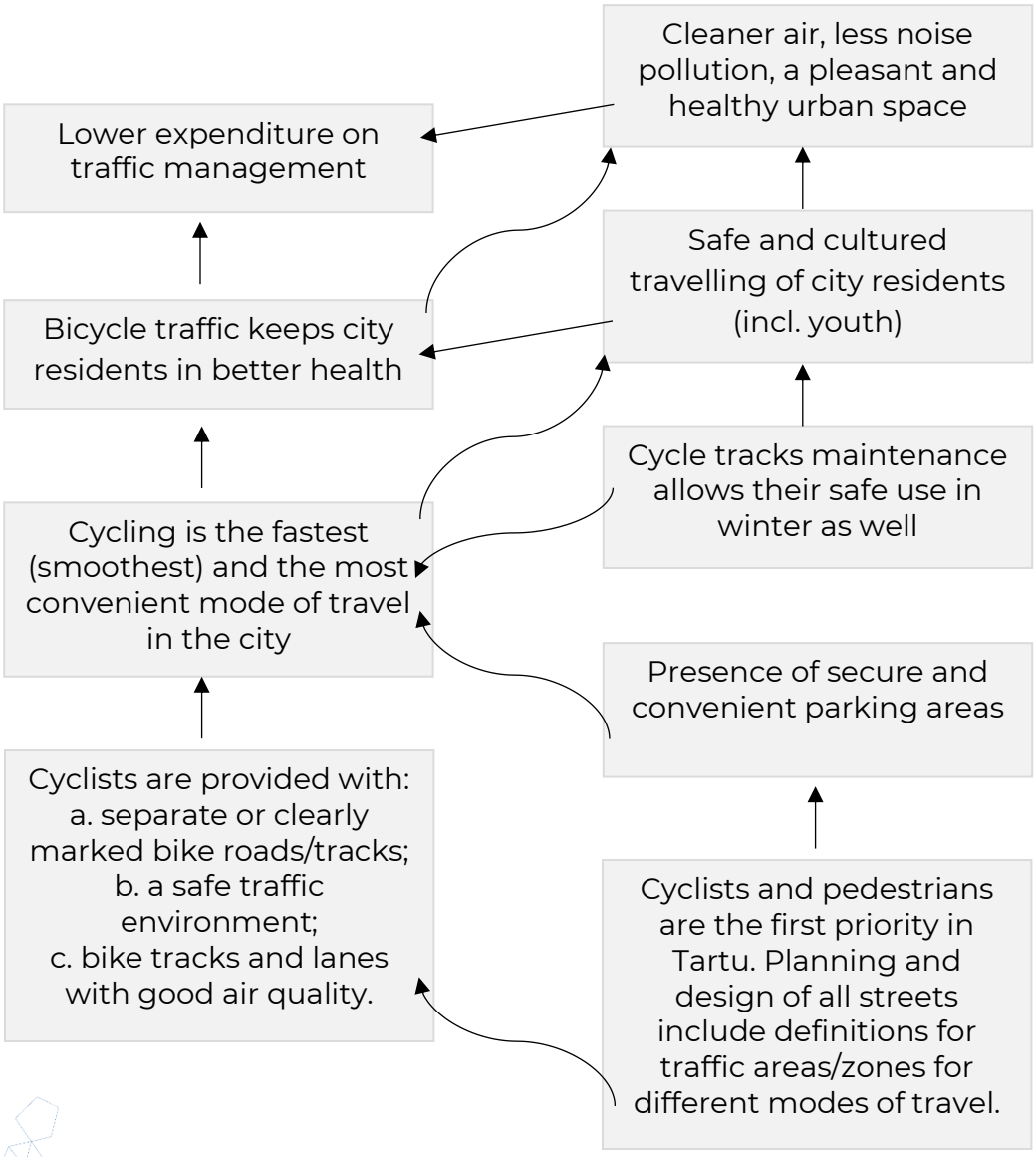
7. Increased average speed and safety of cycling.
8. Less drastic decline in cycling in winter.
9. Cycle tracks are safe to use for a greater number of days.

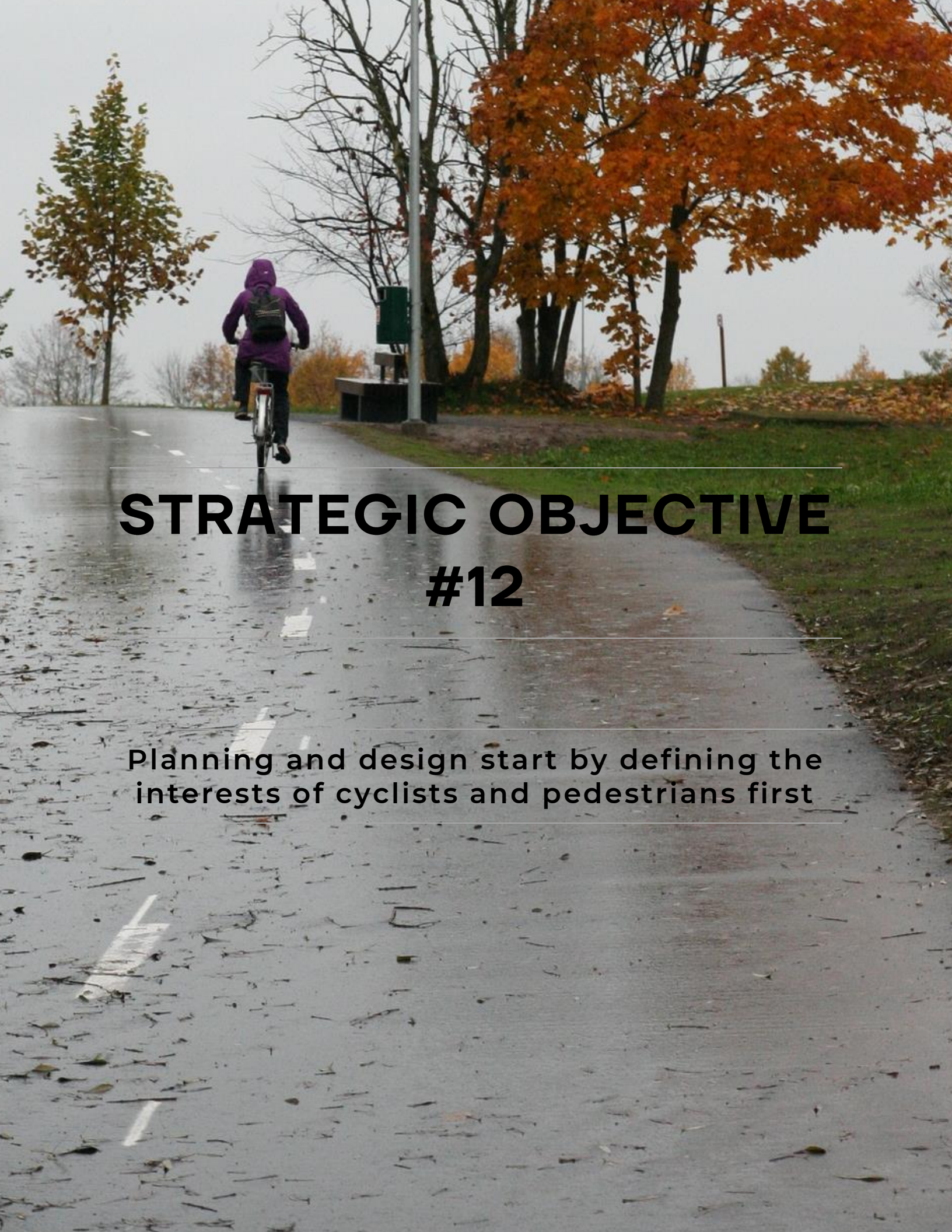
Education and development (planning and building): Objective 4

10. Secure bicycle parking facilities are provided for work places, near educational institutions and apartment buildings.
11. The number of roads intended only for cycling increases and cycle tracks to the recreational areas in the vicinity of Tartu city are established (e.g. Elva, Vooremaa lakes, Otepää, Vooremäe).
12. Planning and design starts by defining the interests of cyclists and pedestrians first.

CRITICAL SUCCESS FACTORS

Relying on international experience, the cause-and-effect diagram below describes **critical success factors**. These are areas of activity that have a significant impact on achieving the end result; they help to focus on only strategically significant key activities.





STRATEGIC OBJECTIVE #12

Planning and design start by defining the interests of cyclists and pedestrians first

Indicators defining the achievement of strategic objective #12:

Indicator	Target results			
	Currently 2018	2020	2030	2040
BYPAD index	2.33	2.5	3	**3.5**

Activities for achieving objective #12 and target results:

59. Communication ensures that developers and designers of terms of reference are aware that light traffic is a top priority. The information on the city webpage regarding light traffic is constantly updated and light traffic statistics displayed (e.g. data from existing counters). ***Department responsible ASO.***

58. A communication strategy supporting the implementation of bicycle policy will be prepared. Awareness raising campaigns for different target groups are organised in cooperation with educational institutions, employers, stores and other partners. ***Department responsible ASO.***

57. Launching a light traffic forum in social media. ***Department responsible ASO.***

56. An additional position for a bicycle traffic coordinator will be created. ***Departments responsible LMO, KANTS.***

55. The light traffic committee is made permanent and the specialist of pedestrian and cycle tracks communicates the joint opinion of the committee regarding road construction plans and projects and in the early stages, also for terms of reference. ***Department responsible LMO.***

54. The Statutes of the light traffic committee will be developed. ***Department responsible LMO.***

53. Preparation of the agenda for the development of the cycle track and bike lane network. ***Departments responsible LPMKO, LMO.***

52. Preparation and implementation of guidelines for planning (e.g. height of curbs, road repair overlay, cycle track ending and crossing, etc.). ***Department responsible LPMKO.***

51. Preparation of the light traffic plan, which will later be linked to the comprehensive plan of the city. According to the strategy, the objectives and basic principles of the preparation of the plan are as follows:

a. Pedestrians and cyclists must be given priority in urban traffic.

b. It is necessary to create conditions in which walking and cycling would ensure safe, fast, easy, shortest, uninterrupted and convenient daily “door to door” travel and healthy mode of travel in the city and between the city and suburbia.

c. It is necessary to create conditions for facilitating all-year-round cycling and walking by developing uninterrupted, maintained, secure footpaths, cycle tracks and hiking trails both in the city and the suburbia. Street renovation must shape the street space through not only fixing up the street but also turning it into a part of the greenery and recreational areas.

d. In order to promote walking, the main network of footpaths covering the entire city and its surroundings must be planned, as well as fitness and hiking trails in the rural areas.

e. The design of footpaths and cycle tracks and bike lanes must take into consideration the needs and specifics of various target groups (commuters, university students and pupils, parents with children, holidaymakers and persons engaged in leisure activities, shoppers and visitors to cultural events). To this end, it is necessary to design safe tracks for road users travelling at different speeds. The design of these roads must also ensure safe and convenient travel of the visually impaired, skateboarders, scooter riders, rollerbladers, people using wheelchairs, etc.

f. The expected placement of the pedestrian and cyclist in a shared traffic space must be clear and unambiguously understood by all parties involved.

g. The main network of cycle tracks and bike lanes is intended for fast cyclists travelling the distance of 2 to 10 km and its main function is to allow fast and convenient connections between the starting point and destination on a city-wide scale. The main network must be established near the roads entering the city and head to the city centre via cycle tracks. Additionally, the main network must be established between university campuses and as radial connections between urban regions. The main network must be located on basic roads or on individual light traffic roads with clear connection between destinations.

h. The secondary network is intended for travels not exceeding 2 km and its main functions involve connecting destinations with the main network and to provide opportunities for local travels.

i. Occasionally, commonly used area principles must be used in the downtown and city centre, i.e. areas with no defined tracks or lanes for pedestrians, cyclists, cars or service transport.

j. Network of pedestrian and cycle tracks must be planned for leisure or sports travels exceeding 5 km.

k. Shortcuts must be planned for easier and shorter connections (railway crossings, bridges, tunnels, allowing two-way bicycle traffic in one-way street, maintaining and development of walking directions also on private land, etc.).

l. City centre is the destination of pedestrian and cycle tracks.

m. Planning solutions must take into account the overall perspectives of spatial development established in the comprehensive plan of the city, expected population in urban regions, future land use and the traffic scheme.

n. Bus stops within 100 m from the schools and the tracks from the main and secondary network must allow convenient and safe travel to school on foot and by bicycle. Streets within that area must have calm car traffic.

o. Ensuring convenient and secure bicycle parking facilities near schools. Shopping centres, markets, bus station, railway station, etc. must have planned sheltered bicycle parking areas.

p. Construction priorities. Construction priorities are the main grid and connecting to the city centre. All street repairs (incl. renewal of road surface markings) must consider the needs of bicycle and pedestrian traffic.

q. The development of the street network is based on the speed and ease of traveling by bicycle – shortcuts, cycle of traffic lights, etc.

Department responsible LPMKO.

STRATEGIC OBJECTIVE #11

Increased length of roads intended for cycling only, establishment of cycle tracks to the recreational areas in the vicinity of Tartu city (e.g. Elva, Otepää, Vooremäe, Vooremaa lakes)

Indicators defining the achievement of strategic objective #11:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Share of combined traffic roads	80%	75%	50%	**0%**

Activities for achieving objective #11 and target results:

50. There will be no combined cycling and pedestrian tracks built in the street corridor.

Department responsible Tartu LV LPMKO, LMO.

Picture 1. Comparison of the road surface marking of current combined traffic (on the left) and road surface marking of planned separated lanes (on the right).

Indicators defining the achievement of strategic objective #11:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Length of marked bike lanes (km)	0 km / 0%	-	50%	**100%**

Activities for achieving objective #11 and target results:

49. Bike lanes are marked after every 15 metres and at intersections, after 5 metres. The visibility of the road surface marking is ensured during all seasons. ***Department responsible LMO.***

Picture 2. Light traffic road with clear marking.

Indicators defining the achievement of strategic objective #11:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Length of cycle tracks (km): a. separate light traffic road; b. cycle tracks on carriageway.	 a. 82 km b. 6 km			

Activities for achieving objective #11 and target results:

48. If cycle tracks and bike lanes are on the same level as the carriageway, right-side bicycle traffic between the carriageway and sideway is preferred, because that makes it easier for a cyclist to cross intersections. ***Department responsible LMO.***

47. Cycle tracks and paths represent separate lanes in the street corridor, where one side of the street has one-directional traffic similar to car traffic. The principle of right-side traffic will be followed. ***Department responsible LMO.***

46. The old combined light traffic roads are rebuilt and the existing combined light traffic roads are widened. Development of the concept of shared space in the city centre. ***Department responsible LMO.***

STRATEGIC OBJECTIVE #10

Secure bicycle parking facilities are provided for work places, near educational institutions and apartment buildings

Indicators defining the achievement of strategic objective #10:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Number of secure parking areas established annually with the help of the city	4 parking areas annually	10 parking areas annually	16 parking areas annually	**26 parking areas annually**

Activities for achieving objective #10 and target results:

45. Organisers of major events are required to ensure secure bicycle parking. ***Department responsible KO.***

44. Establishment of a requirement to provide bicycle parking facilities when issuing building and renovation permits for buildings. ***Department responsible AEO.***

43. Launching of bicycle sharing near multi-storey apartment buildings. ***Department responsible LMO.***

42. Establishment of modular parking houses with simplified procedure near homes (especially apartment buildings), workplaces, schools, child care institutions and stores. The public financial support for building parking houses has been available since 2014. Increased awareness raising regarding the support measure among the housing associations. Support will be increased if necessary and the co-financing of housing associations will be reduced if the city budget allows it. ***Departments responsible LMO, LVO.***

41. Preparation of a plan for establishing a city-wide guarded and unguarded bicycle parking areas (incl. in large apartment building areas). ***Departments responsible LPMKO, LMO.***

STRATEGIC OBJECTIVE #9

Cycle tracks are safe to use for a greater number of days

Indicators defining the achievement of strategic objective #9:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Length of cycle tracks maintained in winter (km): a. separate light traffic road; b. cycle tracks on carriageway.	a. 40 km b.			
Satisfaction with cycle tracks in winter				

Activities for achieving objective #9 and target results:

40. Maintenance of light traffic roads (especially in winter) is given a priority or at least the same attention as other roads. ***Department responsible LMO.***

STRATEGIC OBJECTIVE #8

Less drastic decline in cycling in winter

Indicators defining the achievement of strategic objective #8:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Percentage of bicycle traffic in January compared to May/June	14%	20%	33%	50%

Activities for achieving objective #8 and target results:

39. Improvement of winter maintenance of cycle tracks, bike lanes and sidewalks. ***Department responsible LMO.***

Picture 3. Winter maintenance of a cycle track in Holland.

STRATEGIC OBJECTIVE #7

Increased average speed and safety of cycling

Indicators defining the achievement of strategic objective #7:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Number of traffic accidents involving cyclists	20	19	18	**17**

Activities for achieving objective #7 and target results:

38. Distribution of safety accessories with Tartu logos (e.g. cyclist vest, (direction) indicators, reflectors, etc.). ***Department responsible LMO.***

37. At the border of Tartu, drivers are notified of the fact of having many cyclists and pedestrians in city traffic. ***Department responsible LMO.***

36. Compilation of the Good Practice of Traffic in Tartu in addition to traffic regulations. ***Department responsible LMO.***

35. Development of signposting, establishing a signpost system for cycle tracks. ***Departments responsible LMO, AEO.***

Indicators defining the achievement of strategic objective #7:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Satisfaction with the safety of bicycle traffic				

Activities for achieving objective #7 and target results:

34. Awareness-rising activities. Organising the opening event of annual cycling season and Car-Free Day. ***Departments responsible LMO, ASO.***

33. Constant collection of statistical data on accidents and preparation and publication of annual reviews. Analysis of traffic safety information and consideration thereof when establishing new structures – the city should have an overview of typical errors and such information must be accessible to the planners. Establishment of a relevant database. ***Department responsible LMO, Police Board, Road Administration.***

32. Promoting traffic culture (campaigns). ***Departments responsible HO, LPMKO, LVO, Road Administration, Police Board.***

31. Reviewing difficult and problematic spots in terms of traffic situations. ***Departments responsible LMO, ASO.***

Picture 4. Opening of the cycling season in May 2017.

Indicators defining the achievement of strategic objective #7:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Satisfaction with the speed of travel				

Activities for achieving objective #7 and target results:

30. Building of significant safe and fast direct connections for bicycle traffic from suburbia to the centre. ***Departments responsible LMO, LPMKO.***

29. A pilot project will be organised at Riia street, where one traffic lane is granted to public transport and bicycle traffic to increase the speed of public transport and bicycle traffic and show drivers that public transport and biking allow safe and fast travel. ***Departments responsible LMO, LPMKO.***

Picture 5. Suburban light traffic road.

Indicators defining the achievement of strategic objective #7:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Average speed of cycling at rush hour compared to car (test rides)	Slower	Equal speed	10% faster	**20% faster**

Activities for achieving objective #7 and target results:

28. Regular test rides are organised annually for the most common routes during rush hour and compared to the speed of car traffic. ***Department responsible LVO.***

27. Intersections have separately planned tracks for all road user groups, with relevant marking and/or regulated with traffic lights, logical and comprehensible (incl. right of the way, etc.). ***Departments responsible LMO, AEO, LPMKO.***

26. Shorter waiting time at the traffic lights for cyclists and pedestrians (e.g. the crossing at Vabaduse pst and Kaarsild). Traffic lights cycles are adjusted to benefit the light traffic user. ***Department responsible LMO.***

STRATEGIC OBJECTIVE #6

Increased number of students using the bicycle

Indicators defining the achievement of strategic objective #6:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Number of students of a school divided by the number of bicycles at the bicycle parking area of the school (ratio at the end of September, in February, at the beginning of May)	Autumn: 30%	35%	45%	**65%**
	Winter: 10%	15%	25%	**45%**
	Spring: 30%	35%	45%	**65%**

Activities for achieving objective #6 and target results:

25. Secure sheltered bicycle parking areas near schools and other child establishments. ***Department responsible LVO.***

24. Organising student and parent hikes from the school to sights and suburban recreational areas. Hikes also include cycling training. ***Departments responsible KO, HO, schools.***

23. Ensuring safe traffic near schools, creating sufficient space for cycling. Agreement between the schools and the city for reconstruction of cycle routes and school surroundings and development of a school transport plan. ***Departments responsible LMO, LVO.***

22. One perspective of bicycle sharing consists of establishing parking areas near schools with the possibility of renting children's bicycles. ***Departments responsible LMO, LVO.***

21. Schools will be provided with facilities for letting children use bicycles in specific city districts and towns and major urban regions. Schools will use, on a regular basis, unowned bicycles given to the City Government of Tartu by the police. ***Department responsible LVO, schools.***

20. Using bicycles in school lessons (e.g. physical education; visits to the museum during history and literature lessons, etc.). ***Department responsible HO, schools.***

19. In order to ensure high quality, bicycle training programmes are analysed to map bottlenecks and make improvement proposals. ***Departments responsible HO, LVO, LMO, schools.***

18. Schoolchildren have training programmes for bicycle traffic, at the completion of which they get a bicycle licence. Introduction of traffic education and cycling training in school programmes, including practical training in actual traffic situations. ***Departments responsible HO, LVO, LMO, schools.***

STRATEGIC OBJECTIVES #5 AND #4

Increased satisfaction of cyclists and reduced number of sick leave days

Indicators defining the achievement of strategic objectives #5 and #4:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Based on the study "Tartu and residents of Tartu", the level of satisfaction with: 1. Condition of cycle tracks 2. Sufficiency of cycle tracks 3. Traffic situation from the cyclist's point of view	XVIII position XXIV position XXV position	XVIII XXIV XXV	XV XX XX	**X** **XV** **XV**
Decreased number of sick leave days				

Activities for achieving objectives #5 and #4 and target results:

17. Organisation of annual satisfaction surveys regarding bicycle traffic. ***Department responsible LMO.***

16. More extensive involvement of active or willing cyclists in annual review of bicycle traffic strategy and preparation and distribution of so-called *bicycle account* on an annual or biannual basis. ***Departments responsible are all departments of the City Government.***

15. Daily idea gathering by using a mobile app (similar to the "Let's Do It!" waste clean-up app), where cyclists can operatively point out the bottlenecks in bicycle infrastructure on a map. ***Department responsible LVO.***

14. Operating expenditure budget contains separate resources for the repair of cycle and pedestrian tracks and lanes. ***Departments responsible ASO, RO, LMO.***

13. Participatory budgeting approach is used to improve bicycle traffic. ***Departments responsible ASO, RO, LMO.***

12. Sidewalks are fixed. No curbs at intersections. ***Department responsible LMO.***

11. Mapping of various global methodologies that study and assess the benefits of bicycle traffic on the health of the residents of the city. These are used on a regular basis to assess the average number of sick leave days and reasons thereof and the effects of bicycle traffic on health. Information on these effects is distributed on a wider scale. ***Department responsible LMO.***

STRATEGIC OBJECTIVE #3

Increased number of cyclists

Indicators defining the achievement of strategic objective #3:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Average share of cyclists in traffic according to study "Tartu and residents of Tartu" (%)	8%	10%	17%	**26%**

Activities for achieving objective #3 and target results:

10. Periodic communication with employers in the city of Tartu to ascertain potential forms of cooperation to increase the use of bicycles among their employees. ***Departments responsible LMO, EVO.***

9. Promotion of the bicycle sharing system. ***Departments responsible LMO, ASO.***

8. Creation of videos of cycling in Tartu and distributing them in spinning halls to introduce Tartu, motivate people to cycle in Tartu and increase cyclists' confidence in traffic. ***Departments responsible ASO, KO.***

7. Establishment of a branding concept for Tartu bicycle traffic, based on various user groups, creating prerequisites for consistent awareness raising and improved traffic culture and popularising the use of bicycles. ***Department responsible ASO.***

6. Annual counts. Installation of light traffic counters at major traffic junctions. ***Department responsible LMO.***

5. Implementation of pilot projects to test more secure and wider travel options for light traffic users. For example:

- Opening certain areas to bicycles or creating temporary cycle tracks on the carriageway at weekends;
- Partially closing Vabaduse pst for car traffic at weekends, etc.;
- Integrating bicycles in recreational and entertainment events, e.g. hikes and secure free of charge bicycle parking areas during major events;
- Motivating people to come and participate by bicycle in city events.

Departments responsible LMO, AEO, ASO.

STRATEGIC OBJECTIVES #2 AND #1

Reduced number of cars in traffic, improved air quality and reduced noise level

Indicators defining the achievement of strategic objectives #2 and #1:

Indicator	Target results			
	Currently 2018	2020	2030	2040
Indicators of air cleanliness and noise level (CO_2, PM)				
Share of cyclists during rush hour in main routes (all bridges and railway crossings)	4%	5%	10%	**15%**

Activities for achieving objectives #2 and #1 and target results:

4. Planning and construction of “park and ride” junctions at the borders of the city or city centre, where car user can switch to bicycle or bus.

3. Comprehensive plan of the city centre reduces the number of parking places for cars and improves light traffic facilities.

2. Old Town is partially closed to car traffic; city centre is primarily open to light traffic users.

1. Reduced speed limit for vehicles in the city centre and near its vicinity.

Departments responsible LMO, LPMKO.

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